NEC

ATTENDANT MANAGEMENT SYSTEM

OPERATIONS MANUAL

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Chapter 1 Introduction

The Attendant Management System (AMS) is a dynamic, on-screen computer emulation and enhancement of the business attendant console. AMS combines the NEC HDAC or D^{term} phone with a keyboard and color ANSI monitor that are connected to a computer. The computer is equipped with the multi-tasking UNIX System V operating environment, the NEC Applications Manager support platform, and a comprehensive package of internal software components.

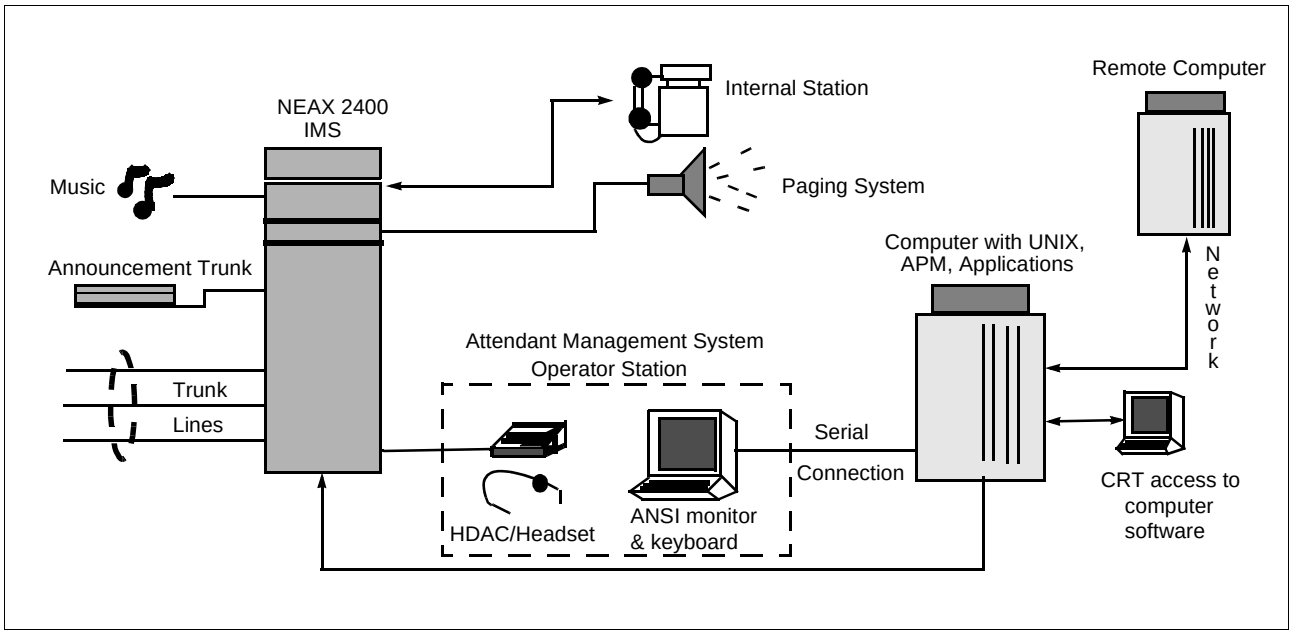

Figure 1-1 Attendant Management System

The NEC Open Applications Interface (OAI) enables communication between the AMS and the NEAX2400 IMS. When the HDAC or D^{term} is connected to the NEAX2400, the OAI allows the screens on the ANSI monitors to show call processing information and the attendants to issue call processing requests from the keyboard.

Manual Organization

This manual is organized around the AMS Main Menu, as follows:

Chapter 2 – Installation

This chapter describes the hardware and software installation of AMS as well as the configuration files, databases, and other data and equipment assignments required by AMS.

Chapter 3 – Call Processing Option

This chapter provides an illustrated reference and procedural guide to all of the functions provided to AMS attendants. If attendants are not authorized for database management, entering an attendant login name and password moves the attendant directly onto the Operator Menu.

Chapter 4 – Database Administration Option

This chapter describes management of the various types of database records required by AMS, including employees, internal locations, external numbers (ANI), route numbers, attendant stations, and speed-dial keys.

Chapter 5 – Extension Maintenance Option

This chapter describes management of all of the extensions that may be needed for the Directory Assistance function or for those that contain more information useful to an attendant when answering calls from an extension.

Chapter 6 – Login Name Maintenance Option

This chapter describes the functions available for assigning and maintaining the login names and passwords.

Chapter 7 – Real-Time Screening Option

This chapter describes how the supervisor can display attendant call processing activity, with real-time display of changes as they occur in the system.

Chapter 8 – System Configuration Option

This chapter describes modifiable configuration parameters that are basic to the entire AMS system, including several that affect call processing activity, incoming routes to each attendant, and the priority system by which incoming calls are answered.

Chapter 9 – Display Configuration Option

This chapter describes the processes by which the supervisor can define the fields that are displayed for input and for information during daily operation within the AMS. You can use this option to make the AMS on-screen displays site-specific.

Chapter 10 – Platform Management

This chapter provides illustrated instructions for performing various tasks in the software platform that supports AMS, including backing up the database, managing database indexes, resetting AMS screen colors, and displaying AMS records.

Chapter 11 – Process and Error Messages

This chapter presents an alphabetical list of the messages that may appear throughout AMS screen operations, with a brief description of their meaning and recovery measures, if needed.

Chapter Layout

Most often, Main Menu options are pathways to second-level menus of options, new series of command functions, or Call Processing screen functions. The chapters in this manual describe tasks in the same order as the tasks are presented on the Main Menu and its submenus. Each multi-level chapter begins with an overview of the entire chapter. Then, each second-level menu option, command, or function is described in a separate section. Each section includes an illustration of the screen(s) or window(s) you use to perform a procedure, information related to the procedure, and step-by-step instructions.

The graphics in this manual show both what is displayed on the terminal screens and the movement from screen to screen, as shown below in Figure 1-2.

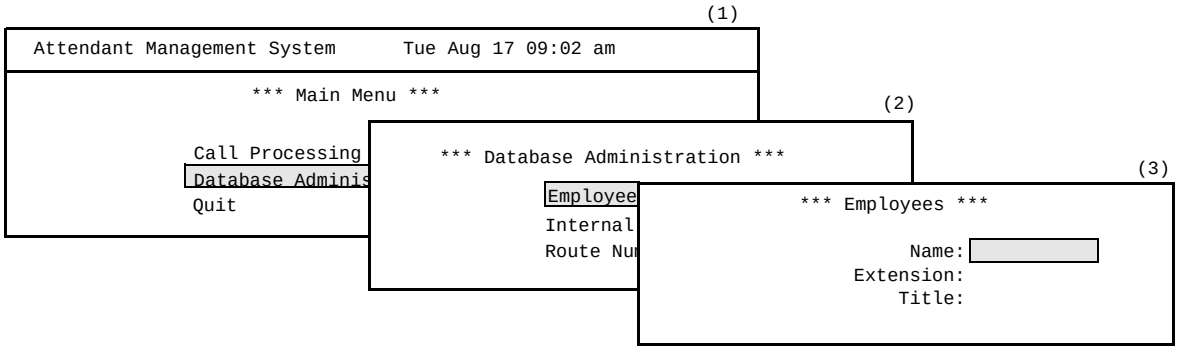

Figure 1-2 Screen to Screen Movement

This manual shows movement between screens by numbers in parentheses beside each screen in the graphic. This movement is shown in the same way in each procedure where the screens are discussed.

Procedures

Each description includes step-by-step instructions on how to select and move to the required screen and how to perform all possible actions. The procedures are presented in a two-column layout. The left column contains the action to be taken and the right column shows the results of that action. This manual also provides the field names on the left and the corresponding definitions on the right for screens that require field entries.

Action	Result
On the Main Menu, select the Database Administration option. (1)	The Database Administration menu appears. (2)
On the Database Administration menu, select the Employees option.	The Employees data entry screen appears for data entry. (3)

General Key Use

Throughout AMS, the following keys generally serve the purposes shown for each:

- Enter – Accepts a highlighted selection or field entry.
- Esc – Generally exits the current screen or action and redisplays the last screen or action.
- Arrow keys – Move the cursor in the direction shown.
- Space Bar – Selects an option when more than one is available in a field; serves to toggle among scrolled or side-by-side options in a field.
- Backspace – Erases any existing data in a field.
- Tab key – Expands on-screen information about entries to a highlighted field.

Note: *These keys generally work as noted above. However, certain procedures use these keys differently or use other keys and key combinations. This manual notes the situations where these keys may differ.*

Operator Features

AMS attendants experience the speed and accuracy of computer-enhanced call processing. The AMS interactive on-screen interface makes it possible to perform the functions common to a business attendant console, including:

- Display and retrieve call destinations from a computer database for automatic call placement.
- Park incoming calls on an announcement trunk for paging purposes and subsequent retrieval.
- Enter messages for employees for later retrieval.

Supervisor Features

AMS provides the following user-friendly, menu-driven supervisory capabilities, secured by password security, for managing AMS attendant resources:

- Administration of the large variety of database records that are required by the AMS attendant features, including internal/external telephone numbers, employee data, and speed-dial keys
- Management of extension assignments within the AMS environment
- Management of system configuration information that affects data storage and management as well as attendant call processing
- Administration of the AMS password security system and assignment of access levels
- Viewing of an on-screen display of real-time attendant activity

Unique Features

AMS offers unique features not available previously on the attendant consoles it emulates. These features make it possible to custom-fit AMS services to each organization's needs. With AMS, you can tailor the database records to site requirements and select the information displayed on the attendant screen for source and destination callers.

Password Security

Login Name

Login names can be configured with or without supervisor privileges. A login name configured with supervisor privileges can access the Main Menu for managing the system and the database. Other login names allow the user to access call processing functions and can be configured for Database Administration privileges.

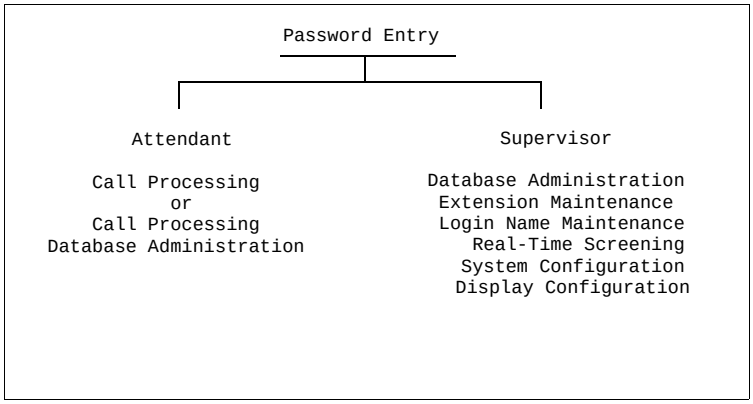

Figure 1-3 Supervisor and Attendant Password Access Privileges

Attendant ID

If the attendant enters **0** at the Attendant ID prompt in the password entry screen from a network terminal, the login name must have supervisory privileges. Otherwise, the attendant will not be allowed to log in to the AMS. When a login name without supervisor privileges is entered with the Attendant ID of "0," the message "Does not have supervisory privileges" appears at the bottom of the screen and the attendant must attempt to log in again. (See "Logging In From a Network Terminal" on page 7 for more information.)

Entering and Exiting AMS

Logging In To a Static Terminal

Type **ams** at the login prompt and press **Enter** to log in at the UNIX level. Enter the password at the prompt if a password prompt appears. (Some systems do not use access security at this level.)

Note: *The UNIX login may not be required if the AMS is configured to automatically display the AMS login screen. (See "Constantly Display The Login Screen" on page 32 for more information.)*

Once you are logged in to the static terminal, the AMS password entry screen appears as shown in Figure 1-4 below.

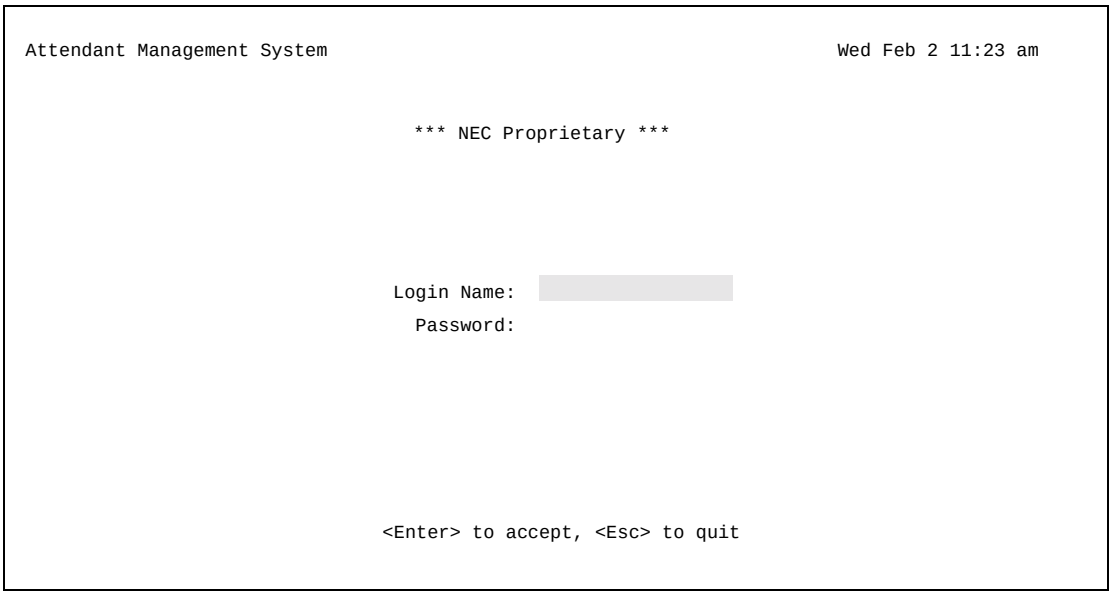

Figure 1-4 Password Entry Screen for Static Terminals

Note: *To enter AMS, you must type your login name and password exactly as configured by the Supervisor through the Login Name Maintenance option on the AMS Main Menu. (See Chapter 6, "Login Name Maintenance," on page 95 for more information.)*

At the Login Name prompt, type your login name and press **Enter**. The cursor moves to the password prompt. Type your password and press **Enter** to enter the AMS.

Logging In To a Static Terminal (continued)

Depending on access privileges set up for the login name and the AMS configuration at the site, one of the following appears:

- If the login name has Supervisor privileges, the full AMS menu appears, as shown in Figure 1-9 on page 10.
- If the login name has Attendant privileges and the system is configured to display the Call Processing screen, the Call Processing screen appears, as shown in Figure 3-1 on page 37.
- If the login name has Database privileges, the Main Menu appears allowing the attendant to enter Call Processing, Database Administration, or exit the system.
- If the system is not configured to automatically display the Call Processing screen, entering a login name with Attendant privileges displays a menu giving only the options to enter the Call Processing screen or exit the AMS.

Logging In From a Network Terminal

Type **ams** at the login prompt and press **Enter** to log in at the UNIX level. Enter the password at the prompt if a password prompt appears. (Some systems do not use access security at this level.)

Once you are logged in at the UNIX level, the AMS password entry screen appears as shown in Figure 1-5 below.

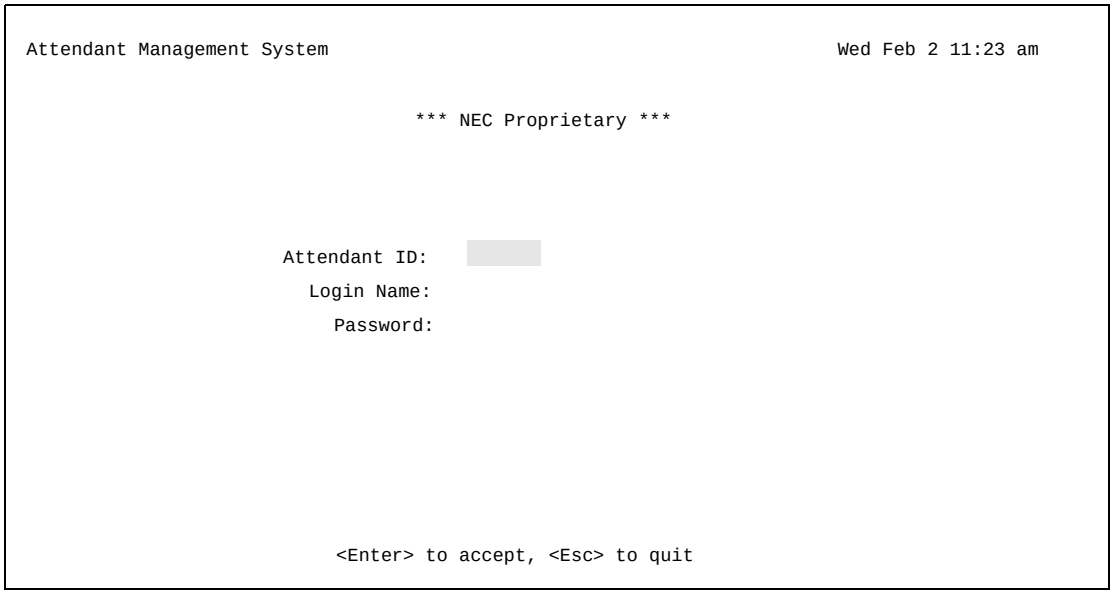

Figure 1-5 Password Entry Screen for Network Terminals

The AMS checks to see if the attendant is logging in from a static terminal or a network terminal. If the AMS determines that the attendant is logging in through a network, it checks the attendant's unique Attendant ID in the database for the attendant's information.

Logging In From a Network Terminal (continued)

At the Attendant ID prompt, type your Attendant ID and press **Enter**. If the Attendant ID is found in the AMS database, a window displays the information associated with that Attendant ID to confirm that the Attendant ID is correct, as shown in Figure 1-6 below.

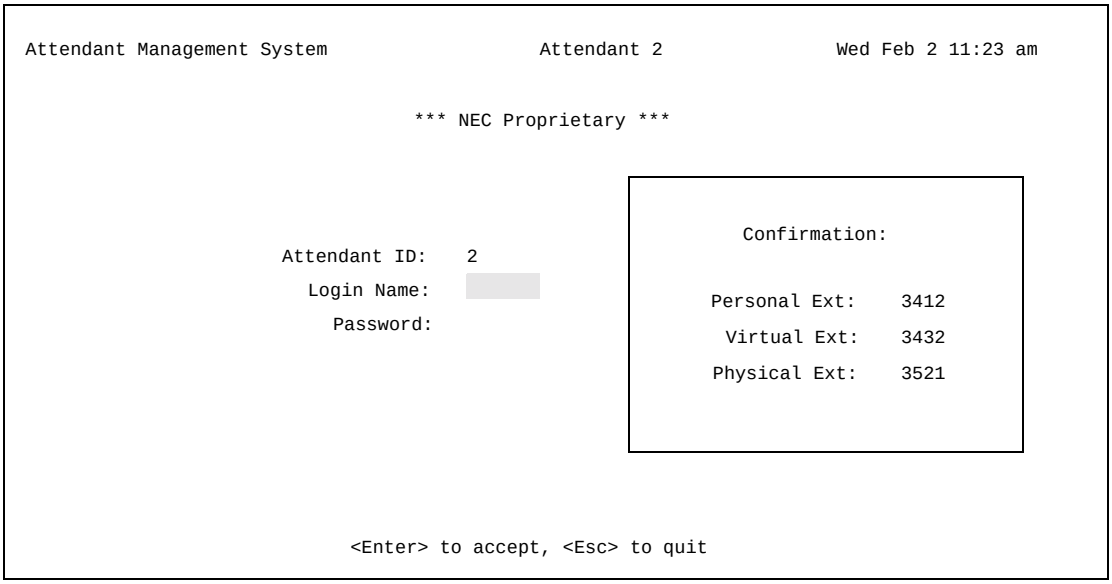

Figure 1-6 Attendant ID Confirmation

If the information is not correct, use the available terminals are listed as shown in Figure 1-7.

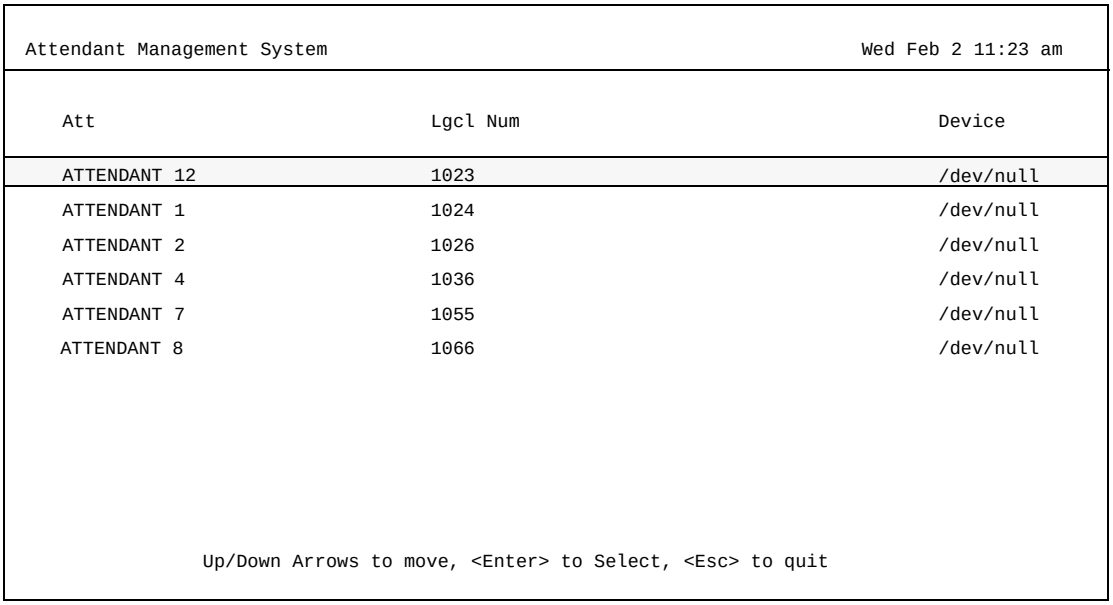

Figure 1-7 Selecting the Attendant ID

Logging In To a Network Terminal (continued)

Use the arrow keys to highlight the entry that corresponds to your physical location and phone and press **Enter** to select the Attendant ID. If there is not an Attendant ID displayed for your physical location and phone, press **Esc** and exit the program. Contact the Supervisor to add a new entry for this location.

Note: *To enter AMS, you must type your login name and password exactly as configured by the Supervisor through the Login Name Maintenance option on the AMS Main Menu. (See Chapter 6, "Login Name Maintenance," on page 95 for more information.)*

At the Login Name prompt, type your login name and press **Enter**. The cursor moves to the password prompt. Type your password and press **Enter** to enter the AMS.

Depending on access privileges set up for the login name and the AMS configuration at the site, one of the following appears:

- If the login name has Supervisor privileges, the full AMS menu appears, as shown in Figure 1-9 on page 10.
- If the login name has Attendant privileges and the system is configured to display the Call Processing screen, the Call Processing screen appears, as shown in Figure 3-1 on page 37.
- If the login name has Dababase privileges, the Main Menu appears allowing the attendant to enter Call Processing, Database Administration, or exit the system.
- If the system is not configured to automatically display the Call Processing screen, entering a login name with Attendant privileges displays a menu giving only the options to enter the Call Processing screen or exit the AMS.

Note: *If you entered **0** at the Attendant ID prompt, your login name must have supervisory privileges. (See "Password Security" on page 5 for more information.)*

Logging Out

To exit the AMS, press **Q** or **Esc** from the main menu, as shown in Figure 1-9 on page 10.

The supervisor can configure the AMS to log out inactive attendants after a specific amount of time through the *Inactivity Time-out (mins)* field in the Timer Configuration screen. If a key is not pressed on the attendant's keyboard after the specified amount of inactivity and the attendant is not processing a call, a warning message appears alerting the attendant to the amount of time left before being logged out. The supervisor can also configure the number of seconds of warning before automatic logout. (See "Timer Configuration" on page 110 for more information.)

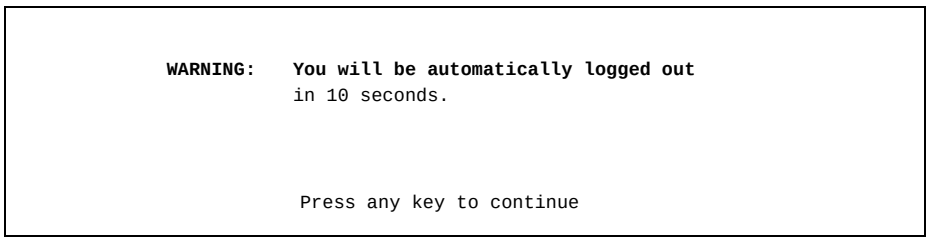

Figure 1-8 Inactivity Advance Warning Message

Screen Format

The AMS Main Menu displayed in Figure 1-9 illustrates the areas of the screen that are common to all levels of the menu hierarchy. These areas are identified in the figure by letter and described below.

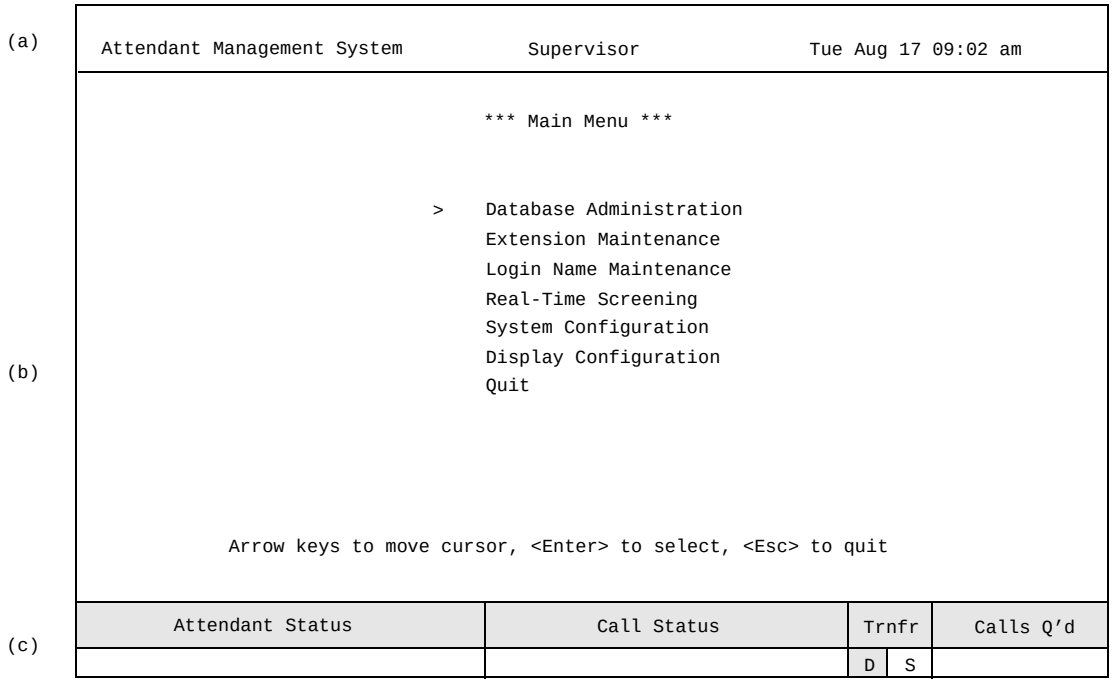

Figure 1-9 AMS Main Menu

Header (a)

The top line contains the name of the menu system (Attendant Management System), identification of the attendant console (in this case, supervisor), and a time and date notation.

Interactive Window (b)

This is the working area of the screen where many different formats are displayed, including lists of choices, data input windows, and information displays. When the Call Processing option is displayed, this area is further divided into multiple working areas, depending upon the function selected. This section, and its subsections, display available commands, or actions, and instructions in the use of the screen display. (See Chapter 3, "Call Processing," on page 37 for more information.)

Screen Format (continued)

Status Area (c)

The bottom portion of the screen contains labeled areas with notes on functional status and messages about call processing. This portion of the screen is always displayed during a login session, whether the attendant or supervisor is performing call processing or administrative functions. This area includes the following subsections:

- Attendant Status – generally used for continuous display of messages that reflect call processing selections or current database or system administration functions. For instance, this area would display the name of the person who does not answer in the direct transfer of a call. It would also show the “on-line” or “off-line” status of the system. Error and function completion messages also appear in this area.
- Call Status – displays messages about all current call events. For instance, the message “Extension Busy” shows an attempt to perform a Directory Assistance transfer to an off-hook extension.
- Trnfr (Transfer) – makes it possible to select either of these two types of transfers:

  Screened (S) – A screened transfer places the source caller on hold with music while the attendant call is being placed to the destination number. The attendant hears a ring-back tone (RBT) while the destination station phone is ringing. The attendant is connected to the destination station when it is answered.

  Direct (D) – A direct transfer causes the source caller to hear a RBT while the destination station phone is ringing. The attendant is automatically disconnected from both parties. The source caller is directly connected to the destination party without attendant screening of the transfer.

  The default transfer type is set through the Configuration Management option on the supervisor Main Menu. The type of transfer in effect is highlighted.

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Chapter 2 Installation And Setup

Introduction

This chapter provides a step-by-step description of the installation and setup of the Attendant Management System. The following steps must be taken before AMS can be installed:

1. Install SCO UNIX.
2. Install hardware and software for the:
   (a) Workstation
   (b) Tape drive
   (c) Modem
3. Install the Applications Manager (APM).
4. Install Informix Online Database Version 5.0 and in accordance with the Informix On-Line Database Installation Manual.
5. Create AMSSPACE.

Installation and setup of AMS is presented in the following sections:

Software Installation
This section discusses installation and configuration of the AMS software components on the User Application Processor (UAP).

APM Application Configuration
AMS is internally supported by the APM and must therefore be set up in the APM environment. This section presents a detailed description of the required setup. Use the instructions provided in the *APM Operations Manual* to make the entries described in this section.

APM Database Support
AMS provides three default APM databases which are loaded during software installation. These databases can be changed through the APM Database Administration option. This section defines the fields and entries that are contained in this database. Use the instructions provided in the *APM Operations Manual* to make any required changes to the database presented in this section.

MAT Assignments
Specific data settings must be assigned at the NEAX2400 Maintenance Administration Terminal (MAT) before AMS will function. This section specifies the required commands and the values at which they are to be set.

Preparing Attendant Stations
Initialization of the AMS components begins in the APM menus. Then, the first attendant station must be configured. These two steps enable you to enter the AMS menus described in this section. This section also details how to display the AMS login screen at all times and how to change hot-key access to enhancement applications.

Introduction (continued)

Checking Installation

The *Applications Manager Operations Manual* provides detailed instructions for using the APM menus and for completing the data entry screens shown in this manual. NEAX2400 IMS system manuals provide the procedures for making the data assignments at the NEAX MAT.

Software Installation

This section describes the installation of AMS software from the release media and describes the required AMS software configurations. Required input is shown in **boldface** type.

Begin installation of AMS software from the Applications Manager (APM) Platform Administration Main Menu. To display this menu, type in the login **apmadm** at the UNIX prompt and press **Enter**. When prompted, type the assigned password and press **Enter**. Using instructions in the *APM Operations Manual*, select and implement the Installation of Applications/Packages option from this menu to load AMS software from release media. As the installation process executes, follow the steps described below as they correspond to the screen display and enter information as directed.

Step 1: Super User (Root) Password

```
Installation requires Super User (root) privileges.
Press Enter root Password: <Enter>
```

Figure 2-1 Super User Root

Enter the assigned root password. If an invalid password displays, the message "Error entering su password. Installation failed" appears, and the installation aborts.

If a valid password is entered, the following four prompts appear. (A few seconds pass between each one.)

```
Checking Informix Database installation
```

Figure 2-2 Status Message (1 of 4)

Step 1: Super User (Root) Password (continued)

```
Installing Informix boot up script
```

Figure 2-2 Status Message (2 of 4)

```
Starting Infomix Database engine
```

Figure 2-2 Status Message (3 of 4)

```
Installing amsadm getty definition on SCO UNIX.
```

Figure 2-2 Status Message (4 of 4)

Step 2: ams/amsadm Login Names

The *ams* and *amsadm* login names are installed with the same user IDs. (Defaults are 4020 and 4021, respectively.) Any change in the user ID value must be made for both login names. Press **Enter** at the user ID prompt to accept the default value.

```
Installing ams user on SCO UNIX.
Enter (ams) user id {4020}: <Enter>
```

Figure 2-3 Login Name Installation (1 of 4)

After entering the AMS user ID, the following status messages appear:

```
Installing ams user on SCO UNIX.
Enter (ams) user id {4020}: <Enter>
User (ams) installed.
```

Figure 2-3 Login Name Installation (2 of 4)

Step 2: ams/amsadm Login Names (continued)

Then AMS prompts for entry of an amsadm user ID. Press **Enter** at the user ID prompt to accept the default value:

```
Installing amsadm user on SCO UNIX.
Enter (amsadm) user id {4021}: <Enter>
```

Figure 2-3 Login Name Installation (3 of 4)

After entering the amsadm user ID, the status messages shown below appear, with a few seconds elapsing between lines:

```
Installing amsadm user on SCO UNIX.
Enter (amsadm) user id {4021}: <Enter>
User (amsadm) installed.
```

Figure 2-3 Login Name Installation (4 of 4)

The following status messages then appear:

```
Updating application crontab files
```

Figure 2-4 Status Message (1 of 2)

```
Installing application files [******   ]
```

Figure 2-4 Status Message (2 of 2)

Step 3: Automatically Configuring the APM Components

If this is the first time the installation is run, the following messages appear for the AMS_Deamon, AMS_ParkMgr, MSG_CLEAN and AMS_Server. These messages require no response.

```
Autocfg running...
Autocfg: AMS_Daemon application configure
Autocfg terminated normally
```

Figure 2-5 Configuring the APM Components (1 of 2)

If this is an upgrade, the installation asks if each component should be reconfigured to use the default values. We recommend that you type **n** to avoid overwriting any previous configuration changes.

```
Autocfg running...
autocfg: AMS_Daemon is already configured.
Autocfg: Reconfigure (y/n)?
```

Figure 2-5 Configuring the APM Components (2 of 2)

Step 4: Installing Informix Database

If this is a new installation, type **y** and press **Enter** at the following prompt:

```
Continue with installation of AMS/Informix Database? (y/n)
```

Figure 2-6 AMS/Informix Prompt

Step 4: Installing Informix Database

The screen shown below appears. If your system requires a database password, type the Informix password and press **Enter** at the prompt. If your system does not require a password, the screen illustrated in Figure 2-8 displays automatically.

```
Creation of AMS Database requires Informix privileges.
If you have an error logging in as informix in the
next step and you have not yet created the AMS database,
built the database indices, and/or clustered the tables,
you may log in as amsadm and

   *Install Database
   *Build Database Indices
   *Cluster Database Tables

after this installation but prior to configuring the
attendant terminals or logging in as ams.
Please Enter Informix Password: <Enter>
```

Figure 2-7 The Informix Password

If this is not an upgrade, type **n** and press **Enter** at the following prompt:

```
Does the AMS Database already exist? (y/n) n <Enter>
```

Figure 2-8 AMS Database Prompt (1 of 2)

If this is not an upgrade, type **n** and press **Enter** at the following prompt:

```
Do the AMS Database Indices already exist? (y/n) n <Enter>
```

Figure 2-8 AMS Database Indices Prompt (2 of 2)

The following prompt signals that installation is complete.

```
AMS Installation complete.
```

Figure 2-9 Installation Complete Status Message

Step 5: SCO UNIX Subsystem Database

The SCO UNIX Subsystem Databases must be updated to accept the new AMS information. Following this update, the passwords for the *ams* and *amsadm* login names should be deleted.

Log into the SCO UNIX system as the superuser (root) and execute the SCO UNIX Subsystem Database authorization checking program (*/tcb/bin/authck-s*) and password deletion program (*passwd -d*) as shown in Figure 2-10 below.

Answer **yes** when asked to fix the subsystem databases. This ensures that the SCO UNIX Subsystem Databases are left in a proper state. If passwords are deleted for the *ams* and *amsadm* login names, the system will ask for new passwords when a user is first logs on using these names.

```
Sysname
Welcome to SCO System V/386
sysname!login: root
Password: <root password>
# /tcb/bin/authck -s
The following users have Protected Password Database entries
that do not match their Subsystem Database entries:
Fix them (y/n)? y <Enter>
# passwd -d ams
Deleting password for user: ams
.
.
.
Last Unsuccessful password change for ams: NEVER
# passwd -d amsadm
Last successful password change for ansadm: xxxxxxxxxx
Last Unsuccessful password change for amsadm: NEVER
#
```

Figure 2-10 SCO UNIX Subsystem Database

This completes the loading of AMS software in the APM. Proceed to "Application Configuration" on page 20 to configure AMS components in the APM.

Application Configuration

Since the APM internally supports AMS, the three components of AMS must be configured in the APM environment. (If you choose the autocfg option in "Step 3: Automatically Configuring the APM Components" on page 17, the application and its components will already be configured for you. However, you may wish to review the parameters. These parameters can be changed based on the needs of your site.) This section provides the information that must be entered into this APM configuration file.

Note: *AMS is configured into the APM system using the Add function of the Application Configuration option on the APM System Administration menu.*

1. Enter the APM option from the APM Platform Administration Main Menu.
2. Enter the System Administrator password at the APM password screen.
3. Enter the Application Configuration option from the System Administration menu.

This section contains the information that should be entered to the configuration file for AMS. These components must be configured:

- Daemon – Manages the incoming call queues, call counts, and abandons. Once this component is initialized, it starts up the Server(s) and ParkMgr components.
- Server – Processes attendant commands from the menu (such as cancel, answer, and transfer) using the OAI. More than one Server can be configured
- ParkMgr – Manages call parking, orbit numbers, and joins and recalls used in Meet-me Paging.
- MsgCleaner – Removes all delivered employee messages from the Informix database after a preconfigured amount of time. (See “Basic Configuration” on page 104 for more information.)

For specific instructions on what these parameters mean and how to make these entries, refer to the *APM Operations Manual*.

Step 1: Application Characteristics (all components)

In adding AMS to the APM Application Configuration file, characterize each of its components **EXACTLY** as follows:

Parameter	Daemon	Server1	ParkMgr	MsgCleaner
OAI Application	Y	Y	Y	N
CRT Application	N	N	N	N
Communication Queue	N	N	N	N

Parameter Definitions:

OAI Application – Shows whether or not this component communicates with the NEAX2400 using OAI processes.

CRT Application – Indicates if this component runs on the same screen as the APM, rendering the APM temporarily inaccessible.

Communication Queue– Indicates if this non-OAI application needs an IPC queue to communicate with other processes.

Step 2: Primary Configuration Parameters

On the APM Configuration Entry screen, make the entries for the parameters shown for each component. For parameters designated with a (†), make the entries **EXACTLY** as shown. The other entries shown here are the recommended values.

Parameter	Daemon	Server	ParkMgr	MsgCleaner
Application Name†	Ams_Daemon	Ams_Server1	Ams_Parkmgr	Msg_Clean
Executable Filename†	/oai/app/ams/ bin/amsdmn	/oai/app/ams/ bin/amssrv	/oai/app/ams/ bin/amspmg	/oai/app/ams/ etc/msgcln
Group†	AMS	AMS	AMS	(blank)
Response Mode†	N(otify)	N(otify)	N(otify)	I(gnore)
Initialization Batch	Y(es)	N(o)	N(o)	N(o)
Termination Mode†	M(essage)	M(essage)	M(essage)	K(ill)
Standard Output	/oai/log/dbg/ amsdmn.out	/oai/log/dbg/ amsrv.out	/oai/log/dbg/ amspmg.out	/oai/log/dbg/ msgcln.out
Number of Restarts	*	0	0	0

Step 2: Primary Configuration Parameters (continued)

Parameter Definitions

Application Name† – Shows the name displayed in the APM menus. This name will appear as it is entered here. You can enter lowercase letters and punctuation, but not spaces.

Executable Filename† – Designates the path name of the executable file.

Group† – Shows the group to which the component is tied.

Response Mode† – Indicates the action that the APM takes with the component should a member of the group terminate.

Initialization Batch – Designates the component that will be initialized automatically when the OAI system is initialized.

Termination Mode† – Indicates how the APM is to notify the component to terminate.

Standard Output – Shows the file into which component output is redirected.

Number of Restarts – Designates the number of times the APM may restart the component after it terminates in error.

(*) designates that APM will attempt to automatically restart the component **each** time it terminates abnormally. Since the Daemon will attempt to initialize the Server and ParkMgr after it is initialized, the number of restarts for these components should always be **0**.

Step 3: Facilities

According to instructions in the *APM Operations Manual*, choose the following NEAX2400 facilities for each of the components (Daemon, Server, Parkmgr). Use the **Facilities** command on the APM Configuration Entry screen:

Facility Name	Ams_Daemon	Ams_Server1	AMS_Parkmgr
SCF – Switch Control	X	X	X
SMFN – Status Notification (N)	X	X	X
SMFR – Status Request (R)	X	X	X
SSFR – Service Request (R)		X	
SSFM – Status Service Facility Monitor		X	
RCF – Restriction Control Facility		X	

Step 4: OAI Configuration

Using the **OAI-Conf** command on the APM Configuration Entry screen, make the following entries required for the Ams_Daemon, Ams_Server1, and Ams_Parkmgr components. For parameters designated with a (†), make the entries **EXACTLY** as shown. The other entries shown here are only examples. Use the instructions provided for this option in the *APM Operations Manual*. Be prepared to enter the parameters listed below for the Ams_Daemon, Ams_Server1, and Ams_Parkmgr components.

Ams_Daemon Component Parameters

The following table lists the parameters for the Ams_Daemon component. Remember that parameters designated with a (†) must be entered **EXACTLY** as shown.

Parameter	Entry	Description
Database Name #1†	/oai/db/cur/Amscfg	The path name of the database containing configuration information.
Database Name #2†	/oai/db/cur/Amsfile	All the directory and files names needed by the AMS.
Timeout Value #1	10	The number of seconds to wait before determining if the ParkMgr and Server are both online with the PBX.
Timeout Value #2	1	Number or retries after a rejection or timeout of an OAI message sent to the PBX.
Tenant Number	1	The number of the PBX tenant that AMS serves. This is used for ANT and monitored numbers.
Source Link Name	OAI1TCP	The port on the source side of the communication link; entry should correspond to a link name in the APM system configuration file.
Destination Link Name	PBX1TCP	The port on the destination side of the communication link; entry should correspond to a link name in the APM system configuration file.
Association Recovery	10	The number of seconds *Ams_Daemon* waits before trying to re-establish a tie with the NEAX that has been released.
User Defined #1		The name of any OAI application running on the system. It will start automatically after AMS comes up.
User Defined #2	Stat_Logger	The application name of the AMS statistics package. Include this name only if the separate application AMS Statistics Package is also installed on the System.
User Defined #3 - 14		The name of any additional OAI applications running on the system. They will be started automatically after AMS comes up.

Ams_Server1 Component Parameters

The following table lists the parameters for the Ams_Server1 component. Remember that parameters designated with a (†) must be entered **EXACTLY** as shown.

Parameter	Entry	Description
Database Name #1†	/oai/db/cur/Amscfg	The path name of the database containing configuration information.
Database Name #2†	/oai/db/cur/Amsfile	All the directory and files names needed by the AMS.
Timeout Value #1	(no entry)	Not used.
Timeout Value #2	1	Number or retries after a rejection or timeout of an OAI message sent to the PBX.
Tenant Number	1	The number of the PBX tenant that AMS serves.
Source Link Name	OAI1TCP	The port on the source side of the communication link. Entry should correspond to a link name in the APM system configuration file.
Destination Link Name	PBX1TCP	The port on the destination side of the communication link. Entry should correspond to a link name in the APM system configuration file.
Association Recovery	10	The number of seconds Ams_Server1 waits before trying to re-establish an association with the NEAX that has been released.

Ams_Parkmgr Component Parameters

The following table lists the parameters for the Ams_Server1 component. Remember that parameters designated with a (†) must be entered **EXACTLY** as shown.

Parameter	Entry	Description
Database Name #1†	/oai/db/cur/Amscfg	The path name of the database containing configuration information.
Database Name #2†	/oai/db/cur/Amsfile	All the directory and files names needed by the AMS.
Timeout Value #1	20	The number of seconds to wait before trying to place a call on an ANT again.
Timeout Value #2	1	Number of retries after a rejection or timeout of an OAI message sent to the PBX.
Tenant Number	1	The number of the PBX tenant for the AMS attendants.
Source Link Name	OAI1TCP	The port on the source side of the communication link; entry should correspond to a link name in the APM system configuration file.
Destination Link Name	PBX1TCP	The port on the destination side of the communication link; entry should correspond to a link name in the APM system configuration file.
Association Recovery	10	The number of seconds Ams_Parkmgr waits before trying to re-establish an association with the NEAX that has been released.
User Defined #1		Meet-me Paging station, if any. This is a D^{term} reserved for joining parked parties with paged parties who have just dialed an orbit number. It must be set in offhook suppress with the handset offhook when it is used for this purpose. Not needed for J 4.9 HDS or Version E ICS (or higher).
User Defined #2	3	The maximum number of times to play the delayed announcement configured. (See “Announcement Configuration” on page 108 for more information.) If the announcement is configured and this field is equal to 0, the message will play one time. If there is not an announcement configured, this parameter has no effect.

Step 5: Control Options

Set up the Msg_Clean application for automatic startup:

1. Choose the Control Options option from the APM System Administration menu.
2. Choose the **Application** command from the Control Options menu.
3. Choose **Msg_Clean**.
4. Use the **Initialize** command to define the time at which the application will start automatically.
   To start Msg_Cleaner at 3:05 every morning, enter:

   Minute: 5
   Hour of Day: 3
   Day of Month: *
   Month of Year: *
   Day of Week: *

This completes the configuration of AMS in the APM. Proceed to "Database Requirements" on page 27 to learn how to prepare its database support.

Database Requirements

AMS requires three APM-based databases that were installed with default values when the software was loaded from the release media. One (amscfg) can be modified to meet site requirements using the APM Database Administration option on the APM System Administration Menu. The amsfile default database should not be modified at all without first consulting with an NEC representative; it needs only to be configured as a database name. (See "Software Installation" on page 14 for more information.) *The only field entry that may be changed without first contacting an NEC representative is the One-Key-Stroke Commands field. This field can be changed from Yes to No.*

Note: *Remember to process and install any database in which any of the following field information has been modified through the Build Master Database option.*

amscfg Database Information

The **amscfg** database structure and contents are described below. If this database must be modified or another one created for another Server component, follow the instructions provided in the *APM Operations Manual* to access the Database Administration option on the APM System Administration Menu. Any messages displayed during these steps are addressed in the "Process and Error Messages" section of the *APM Operations Manual*.

Field Name	Master File Definition (amscfg)				App. File Definition (Amscfg)	Master Database (amscfg)
	Type	Size	Min. Value	Max. Value		
Server Base Name	A	24			ASCII	Ams_Server#
Park Manager Name	A	24			ASCII	Ams_Parkmgr
Max Number of Operators	N	3	0	255	Integer	12
OMP Queue Maximum	N	3	0	255	Integer	10
OMP Queue Load	N	3	0	255	Integer	5
OMP Queue Key	N	5	0	32767	Integer	2766
Shared Memory Key	N	5	0	32767	Integer	2766
Semaphore Key	N	5	0	32767	Integer	2766
Logging Level [1-5]	N	1	0	9	Integer	5

Field Definitions

Server Base Name – The application name of the Server component as set up in "Software Installation" on page 14. The # (pound symbol) is replaced by the actual number of the Server process.

Park Manager Name – The application name of the ParkMgr component as set up in "Software Installation" on page 14.

Max Number of Operators – The maximum number of attendants in the system. The absolute maximum is 50, but you should only configure for the maximum number of attendants needed due to speed considerations.

OMP Queue Maximum – The maximum number of messages allowed on the AMS IPC queue at any given time. *Do not modify this value without first consulting an NEC representative.*

OMP Queue Load – The maximum number of messages that can be outstanding for an attendant process at any given time.

OMP Queue Key – The number of the queue key assigned to the attendant menuing process.

Shared Memory Key – The number of the shared memory key used by this AMS process.

Semaphore Key – The number of the semaphore key used by AMS process.

Logging Level [1-5] – The level at which system process and error messages are logged, ranging from 1 (least) to 5 (greatest detail).

amsfile Database

The **amsfile** database structure and contents are described below. These are path and filenames required by the AMS software. *Do not make any changes to this database without first contacting an NEC representative.*

Field Name	Master File Definition (amsfile)		Appli File Definition (Amsfile)	Master Database (amsfile)
	Type	Size	Data Type	Default Entry
Configuration File	A	25	ASCII	/oai/app/ams/cfg/ompcfg
Shared Statistics File	A	25	ASCII	/oai/db/cur/Attcfg
Daemon Name File	A	25	ASCII	/oai/app/ams/cfg/daemfile
Screen Definition File	A	25	ASCII	/oai/app/ams/cfg/isdcfg

attcfg Database

The **attcfg** database structure and contents are described below. These are path and filenames required by the AMS software. *The only field entry that may be changed without first contacting an NEC representative is the One-Key-Stroke Commands field. This field can be changed from Yes to No.*

Field Name	Master File Definition (attcfg)		Appli File Definition (Attcfg)	Master Database (attcfg)
	Type	Size	Data Type	Default Entry
Att. Activity Rpts.Dir.	A	25	ASCII	/oai/app/ams/log
Color File	A	25	ASCII	/oai/app/ams/cfg/colors
Attendant File	A	25	ASCII	/oai/app/ams/cfg/passwd
Multiscreen Directory	A	25	ASCII	/oai/app/ams/cfg/scrn
Temporary Directory	A	25	ASCII	/oai/app/ams/tmp
Statistics Logger Name	A	25	ASCII	Stat_Logger
One Key-Stroke Commands	A	1	ASCII	Y

This completes the database support in the APM. Proceed to "MAT Assignments" on page 30 to learn how to make the necessary MAT assignments.

MAT Assignments

This guide assumes that the data settings that affect the operation of all OAI software on a system-wide basis have already been assigned on the NEAX Maintenance Administration Terminal (MAT). Such settings include system index values and assignment of Interface I/O port data in the Interface Processor (IP). For more information about these system data settings and the MAT commands described below for AMS, refer to the *OAI System Manual*.

ACNO – Assignment of Conversion Number Data

Use this command to make ring-down trunks go to the monitor number assigned to the operator.

ACSA – Assignment of Connection Service Index A

Use this assignment with the ACNO command. If the monitored number used in ACNO for ring-down trunks is not monitored by AMS, the ring-down trunks are not downgraded. The ACSA must be used to assign the downgrade number for ring-down trunks. This is usually the pilot number of the attendant UCD group.

AMNO – Assignment of Monitored Number

Use AMNO to assign the monitored numbers tied to incoming call types, orbit numbers, and the attendant logical extensions. (The AMS queues require monitored numbers.) Monitored numbers must fit into the numbering plan, but cannot be defined as stations. The following conditions apply:

- 0 (zero) must be set up as a monitored number. The main incoming number(s) and 800 number(s) must then be routed to 0. The 800 numbers must allow both incoming and outgoing calls.
- The monitored number index (MNI) must be unique. Usually, the last three digits of the monitored number are used as the value for the MNI.
- The downgrade number is the number called when the AMS is not initialized and a call is made to the matching monitored number. When a call from a ring-down trunk is sent to a monitor number and the AMS is not initialized, the call will not go to the downgrade number assigned in AMNO. Instead, it will go to the downgrade number set up when the ACSA command is used.
- Usually, the downgrade number used for the operator monitored number is the pilot number of the attendant universal call distribution (UCD) group.

ASHU – Assignment of Station Hunting (UCD)

Use this command to assign the attendant's physical extensions to a UCD group.

ASDT – Assignment of Station Data

AKYD – Assignment of Key Data for D^{term}

Use these commands to make station assignments for attendants, the night station, and the Meet-me Paging station. The HDAC or D^{term} Series II or III part of the AMS attendant workstation must be assigned a unique station number and a virtual line set in off-hook suppress. The Meet-me Paging station must be set in off-hook suppress with the handset off-hook and assigned as tenant 1.

This completes the MAT assignments. Proceed to "Preparing Attendant Stations" on page 31 to learn how to prepare attendant stations.

Preparing Attendant Stations

Using an attendant station that is connected as an attendant workstation, log in to the AMS menus by typing the login name **ams** at the SCO UNIX login prompt and pressing **Enter**. The Attendant Station Configuration screen appears for entry of an initial attendant station configuration, using the definitions below:

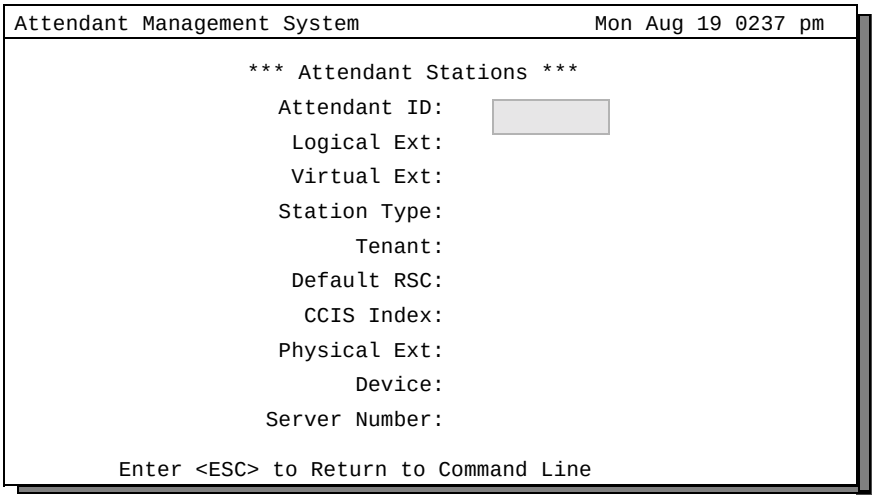

Figure 2-11 Attendant Station Configuration

Field Definitions

Attendant ID – The ID number of an attendant.

Logical Ext – The monitored number set up in the PBX for this individual attendant.

Virtual Ext – The extension number that is set in off-hook suppress.

Station Type – The type of station associated with the physical extension.

Tenant – The number of the tenant served by this physical extension. This must match the PBX tenant and fall in the range from 1 to 255.

Default RSC – The default restriction class index. This must match an index between 0 and 15 that is defined in the PBX. (This value is no longer used.)

CCIS Index – The unique prefix for the extension in a CCIS network. If not in a network, leave this field blank. (This value is no longer used.)

Physical Ext – The real extension of the HDAC–my line vs. Prime Line. If one is not assigned, leave this field blank.

Device – The tty on which this attendant will log in. Type **/dev/null** for network attendant stations.

Server Number –The “Server #” must match the number entered for one of the OAI Server application components that were set up in the APM.

Constantly Display The Login Screen

You can set up certain terminals to always display the AMS login screen rather than return the display to the SCO UNIX login prompt. To do so:

1. Log in as **root** at the UNIX login prompt.
2. Enter single user mode by typing **shutdown -g0 -i1**.
3. Once the system is down, mount the oai partition. Type **mount /oai** and press **Enter**.
4. Type **ksh** and press **Enter**.
5. Type **. /oai/app/ams /.kprofile** and press **Enter**.
6. From the AMS Platform Maintenance menu, shown below in Figure 2-12, type **T** and press **Enter** to choose the Terminal Maintenance option.

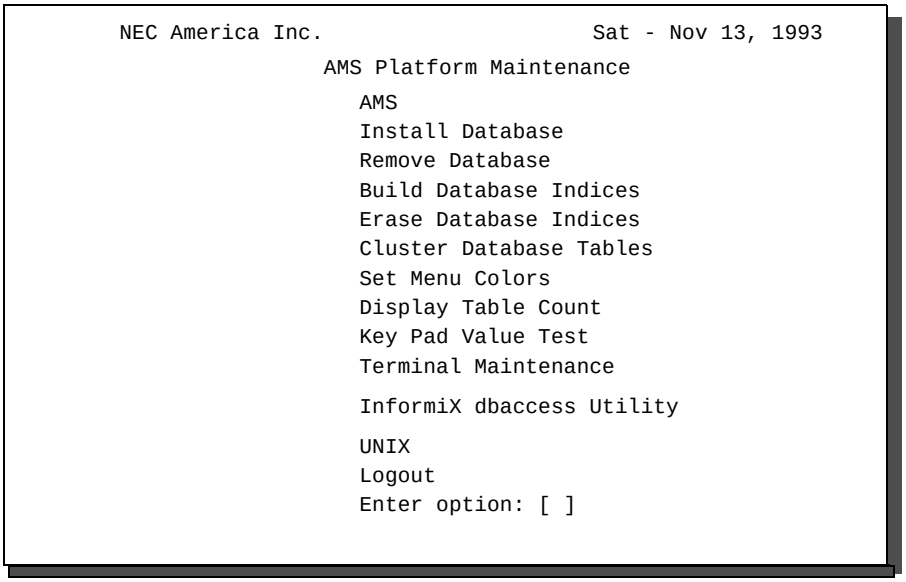

Figure 2-12 AMS Platform Management

7. At the prompt “Install, De-install or Restart an attendant terminal (i,d,r,q)”, type **i** and press **Enter**.
8. At the prompt “Enter name of terminal”, type the name of the device, beginning with **tty**, and press **Enter**.
9. From the AMS Main Menu, type **L** (logout) and press **Enter**.
10. At the UNIX prompt, type **exit** twice to log out.
11. Bring the system back up in multiuser mode. The new AMS terminal will then automatically be brought up displaying the AMS login screen.

If this arrangement is used to allow access to the APM Platform Maintenance menu and the UNIX system from an attendant console, a special attendant login is required. The default login data file contains an entry to allow UNIX access–the login entry name is **unix** and the password is **unix**. If UNIX access from the attendant console is not required, delete the login name **unix** through the Login Name Maintenance option on the Main Menu.

Change Hot Key Access To Enhancement Applications

Each terminal in the AMS has a file in the directory /oai/app/ams/cfg/scrn. Each screencap file is used by OAI applications for switching among applications on the same terminal using a configured "hot key" for each application. This file may be edited to change the hot key. Its format for each key/application combination is:

:label,flags,key_label,key_select,executable,args,dum,sig,pid,status:

where

label – Name of the application. The application uses this to identify the record while reading a single character (getch()).

flags – Bit-mapped flags:

- 0x1 = This application will automatically be started in background.
- 0x2 = This application is to have a pipe opened for it so that the primary application can communicate with it.

key_label–Key label selection for this application.

key_select – Curses keypad value corresponding to the application in decimal notation.

executable – Excutable path name of the application.

args – List of arguments with items separated by spaces. They are passed to the application when executed.

dum – Place holder for new version of AMS. This used to be **esig**.

sig – Switch signal used by the application.

pid – Application's process ID. This should not be altered manually.

status – Application status, which is updated by the screen libraries:

0 = Inactive
1 = Active
2 = Background
3 = Primary is to start this application.

Example:

:Scap,0,F1,109,/oai/bin/apm,@,@,16,0,0:

:APM,2,Shift-F1,109,/oai/bin/apm,@,@,16,0,0:

:Aac,0,F2,112,/oai/app/aac/bin/aamp,@,$,17,0,0:

:CFC,0,Shift-F2,110,/oai/app/cfc,arg1 arg2 arg3,@,2,0,0:

:Exit,0,F10,111,/oai/app/cfc,arg1 arg2 arg3,@,2,0,0:

To configure the F2 key with access to the Att Statistics application, the file should look like this:

: ams,F1,265,@,@,3,16,0:

: stats,F2,266,/oai/app/ams/bin/statmenu,Stats,17,16,0,0:

Change Hot Key Access To Enhancement Applications (continued)

Use the **F1** key to return to AMS from Attendant Statistics.

Configure a hot key in this format using these guidelines:

- Maximum limits for each file are 15 records, record fields of no more than 50 bytes, 20 arguments per application.
- NULL fields are identified with an "@" character or a "0". No fields may be blank.
- Each record begins on a new line.
- The first record (Scap) is the primary application and should always be the first application record in this file. This application must be initialized first.
- If an application has an invalid signal value set for its switch signal or exit signal, it will exit any time it switches. To turn off signals, enter a zero ("0") for these fields.
- "Scap" and "Exit" are predefined labels that must not be used by any other applications.

Finalizing Installation

After installing the system, perform the following steps to complete the setup.

Step 1: Checking System Configuration

Now that at least one attendant station is configured, log into AMS from one of the configured stations. Use **ams** as both the login name and the password. The Main Menu for the AMS system administrator appears.

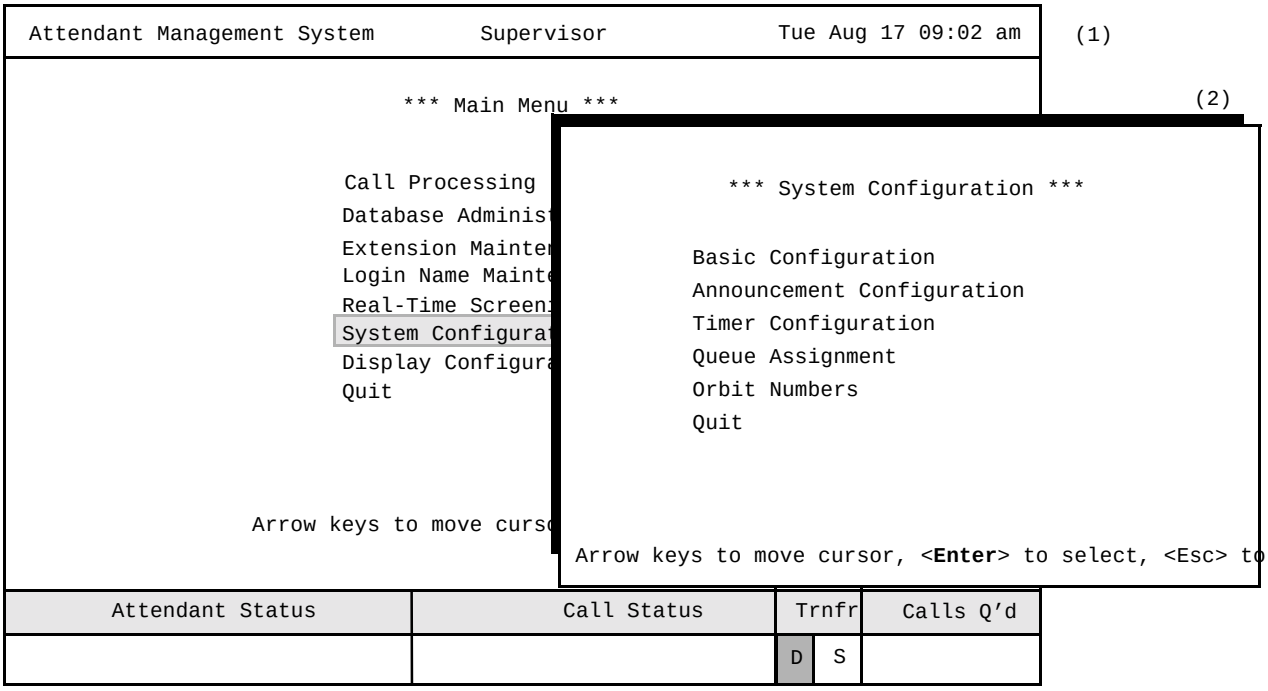

Figure 2-13 System Configuration

Step 1: Checking System Configuration (continued)

Enter each sub-menu of the System Configuration screen. Pay special attention to Timer Configuration and Queue Assignment. Each of these fields must be filled in before the system will come up.

Remember to program the new assignments in the MAT using AMNO. Additionally, you must program the orbit numbers just entered if the Meet-me Paging feature of AMS is going to be used. Change any defaults in Basic Configuration and decide if the site will use announcement trunks.

Step 2: Checking Display Configuration

You may perform this step now or after the system is brought up.

Choose the Display Configuration option from the Main Menu. Change the input fields as desired for each type of database record. The information displayed here will be the prompts for later data input. They will also serve as choices for source caller and directory lookup display.

Step 3: Checking Extension Maintenance

If the existing extensions on the PBX have not been loaded into the system already, enter them using the Extension Maintenance option from the Main Menu.

Step 4: Entering Employees

Enter employees using the Database Administration option from the Main Menu.

If desired, add attendant login names via the Login Name Maintenance option from the Main Menu.

Step 5: Initializing the AMS Daemon

From the APM Operations Menu, choose the Non-CRT Application Control option. If the Ams_Daemon correctly comes on-line, an asterisk (*) will appear next to the Ams_Daemon, Ams_Server1, and Ams_Prkmgr, indicating they are running. Any other application specified in the Ams_Daemon's user definable field will also be initialized.

If error messages appear, use the Log Files option from the APM Operations Menu to look at the **apmlog** file. This file shows all messages that scroll in the bottom APM window.

Step 6: Logging On

When on-line, try to log into a preconfigured attendant station and enter Call Processing. A message should appear in the bottom left corner after a few seconds. If the message does not appear, look at **apmlog** and make sure that the extensions and logical number programmed for this attendant are valid. Otherwise, dial the queue number set up for the attendant and answer the call using the space bar on the console. Use **Cancel** to disconnect.

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Chapter 3 Call Processing

Introduction

To begin processing calls, log in to the AMS, using a login name with Attendant privileges. (See “Entering and Exiting AMS” on page 6 for more information.) If the AMS is not configured to automatically display the Call Processing screen after an attendant logs in, select the Call Processing option from the menu displayed. When “On-line” appears in the Attendant Status Window, the attendant can begin to answer and place calls.

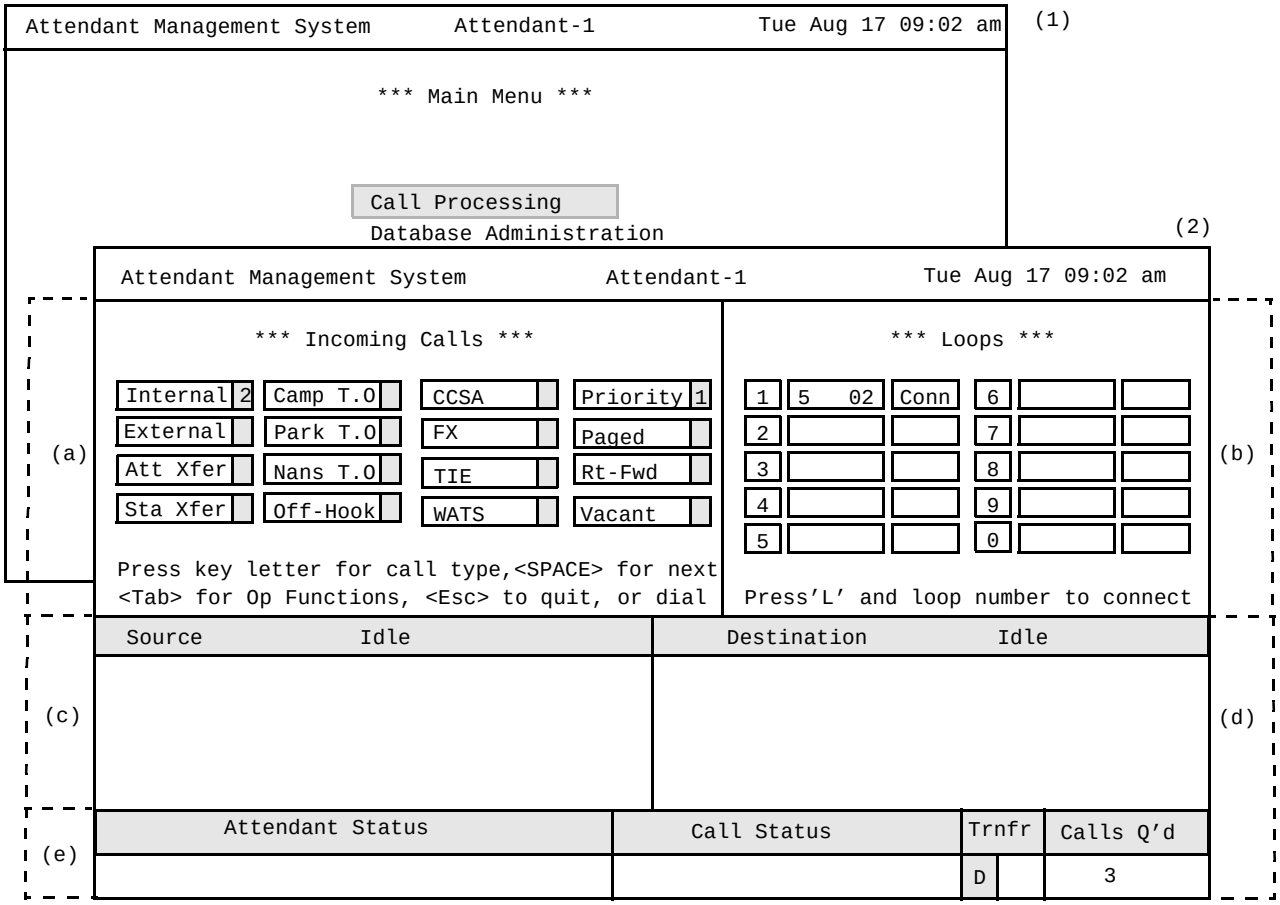

Figure 3-1 Call Processing Screen

The Call Processing screen is divided into several activity areas, shown above in Figure 3-1: Incoming Calls **(a)**, Loops **(b)**, Source **(c)**, Destination **(d)**, and Status **(e)**. Each of these areas is described on the following pages.

Incoming Calls Area

The upper left portion of the screen, as shown in Area **a** of Figure 3-1 on page 37, shows current incoming calls according to their origination, such as Internal, CCSA, and Rt-Fwd. Each incoming call label is followed by a box that shows the number of calls of this type waiting for the attendants. This number increases by one with every incoming call of its type and decreases by one every time an attendant answers one of this type or a caller abandons before the call is answered.

You can configure the AMS station to sound a high-pitched beep when an incoming call is placed in the queue. The Supervisor can implement the beep through the System Configuration option on the Main Menu. (See "Basic Configuration" on page 104 for more information.)

To answer calls in first-come, first-served order, press the space bar. To answer a particular type of call, enter the unique, highlighted letter of the call type, such as **I**nternal, **N**ans T.O., **T**ie. The table below describes each incoming call type and whether it is routed to the global attendant pool or to a specific attendant.

Type	Description	Routing
Internal	Incoming from an internal source	Global
External	Incoming from a central office	Global
Att Xfer	Attendant-to-Attendant transfer	Specific
Sta Xfer	Station-to-Attendant transfer	Global
Camp T.O.	Party has been 'camped on' to a station beyond the allowable time and is rerouted to the attendant who set the 'camp on'; if more than one camped-on caller times out, they are rerouted in the order in which they timed out.	Specific/ Global‡
Park T.O.	Caller has been parked beyond a configured amount of time.	Specific/ Global‡
Nans T.O.	Direct transferred call to an internal extension was not answered; this type is used only if multiple recall is configured.	Specific/ Global‡
Off-Hook	An off-hook alarm has been detected and routed here.	Global
CCSA	Incoming call from the Common Control Switching Arrangement network.	Global
FX	Incoming call via a foreign exchange trunk.	Global
TIE	Incoming call from a distance station.	Global
WATS	Incoming call from across a Wide Area Telecommunications Service.	Global
Priority	Incoming call to a special priority access code. (See "Queue Assignment" on page 113 for more information.)	Global
Paged	Incoming call in response to a page.	Global
Rt-Fwd	Incoming call from a station with Call Forward Feature set; Source area will indicate whether the station feature is set to Busy, No Answer, or All Calls.	Global
Vacant	A call has terminated at an unassigned station number or vacant level.	Global

Note: *(‡) denotes an incoming call type that can have global or specific routing based on the Multiple Recall parameter. (See "Basic Configuration" on page 104 for more information.)*

Loops

"Loops," as illustrated in Area **b** in Figure 3-1 on page 37, show the presence or handling of an answered, incoming call or an outgoing call being placed. Ten loops are available and appear to the right of the incoming calls. When an incoming call is answered, the AMS automatically places it on the next available loop in sequential order. Each loop display consists of three parts, as shown in Figure 3-2 below. The *Loop Number* identifies and selects the loop and ranges from 1 to 10 (0). The *Caller Number* is the extension number from which the currently connected caller originates. For incoming calls from external sources and for outgoing calls, this part of the display carries the route and trunk number. The *Call Status* shows the status of the caller.

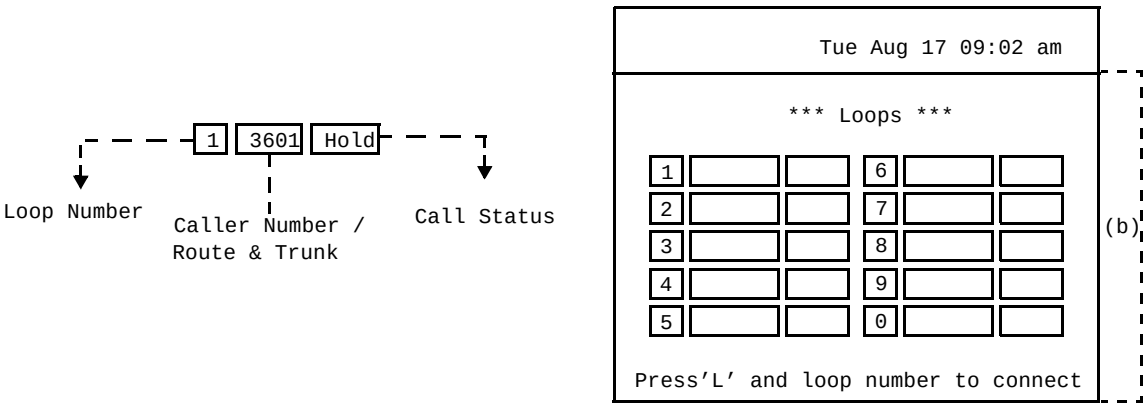

Figure 3-2 Loop Display

Call Status Definitions

Conn – The caller is currently connected to the attendant in a two-way connection.

Hold – The caller is currently on hold and hearing music. After the caller has been on hold for a specified amount of time (configurable through the System Configuration option on the Main Menu), this status blinks. (See "Basic Configuration" on page 104 for more information.)

Src – The caller is in a three-way call with the attendant as the Source caller. The caller can be connected or on hold.

Dest – The caller is in a three-way call with the attendant as the Destination caller. The caller can be connected or on hold.

Conf – The caller is in a conference call with the attendant and a caller on another loop.

Ring – A call has been transferred to a destination station that is ringing.

Manually select a loop by entering an uppercase or lowercase **L** and the number of a loop, such as **L3** or **l3**. When the attendant screen is idle, only loops whose status is "Hold" may be selected. Except for directory assistance, message, and park/join operations, loops always appear on the screen.

Source Area

The AMS monitors all calls that come into an on-line attendant console. When an incoming call is answered, the AMS automatically performs a database search for the calling number and displays the fields that are configured to display in the Source area of the screen, as shown in Area **c** of Figure 3-1 on page 37. When more than one database record is associated with an extension, a message showing the number of additional records appears in the Call Status window. Pressing the **down arrow key** displays the next record and the **up arrow key** displays the previous record.

It is also possible to configure the AMS to display dialed number information in the source window. To do this, a virtual number must be configured in the PBX and forwarded to the monitored number used for the operator. (See "Queue Assignment" on page 113 for more information.) Then, enter the forwarded virtual number in the AMS DID database as described in Chapter 4, "Database Administration", on page 71. Now, when the operator answers a call, he or she can see a database entry specifying the number called, how to answer the call, etc.

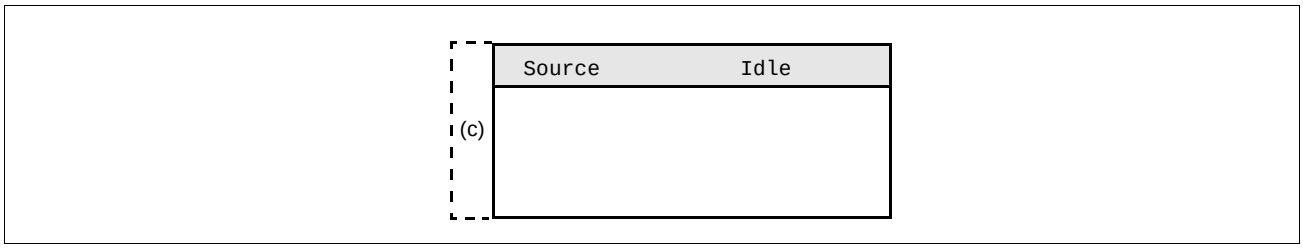

Figure 3-3 Source Area

When a call is answered, the Source label line displays the current status of the source caller in relationship to the attendant. The type of call, corresponding directly to the call types listed in the Incoming Calls area, appears to the right of the status on the label line. The kind of information contained below the label line in the display area depends upon the Source of the call and the fields that have been configured for display for that type of record, as follows:

Extension

An Extension call is from an extension that has no employee or location assigned to it. If a call arrives from an extension that has not been entered to the database, the source area displays only the extension number, a status of "Connected," a type of "Internal," and four configurable fields.

Source	Connected	Internal
Dept:	Marketing	3602
Bldg/Floor:	Admin/3rd	
Tenant:	2	
Address:	1901 Moorway Dr.	

Employee

An Employee call is from an extension that is assigned to an employee. The four fields under the employee name are configurable. Note that the status is "Connected," and the call type is "Internal."

Source	Connected	Internal
Henderson, F.		3601
Title:	VP of Marketing	
Bldg/Floor:	Admin/3rd	
Message:	2	
Comment:	No calls from 9-10 am daily	

Internal Location

An Internal Location call is from an extension that is associated with a specific location such as cafeteria or conference room. The four fields under the employee name are configurable. Note that the status is "Connected," and the call type is "Internal."

Source	Connected	Internal
Cafeteria		3695
Note:	Closed weekends	
Bldg/Floor:	Main/ground	
Comment:	ID Card required	
Comment:	Deliveries to Elm St entrance	

Route Number

A Route Number call arrives on a trunk of a particular route. For calls arriving from a central office, the display includes route and trunk numbers and four configurable fields. Calls arriving from CCSA, FX, TIE, or WATS routes carry those notations on the Source label line, and the status is "Connected."

Source	Connected	External
Main Number		5/1
Comment:	"How may I be of service?"	
Comment:	No employee home numbers.	
Comment:	Closed weekends	
Comment:		

External Number

An External Number call arrives on a route/trunk and is accompanied by the calling number that is provided by the central office (ANI data). Database information tied to the ANI data is displayed, and the route/trunk numbers are contained in the Loop display above. If the database has no record tied to the ANI data, just the ANI data is displayed. Note that the status is “Connected” and the call type is “External.”

```
Loop Display = | 6 | 5/2 | Conn |
```

```
 Source          Connected                External
Central Regional Sales           (708) 652-2787
    Address:    3209 Oak Drive
 City/State:    Irving, TX
    Account:    382991793
    Comment:    Paper supplier
```

DID Number

If the operator answers a call which was forwarded from a virtual extension assigned in the PBX, and the virtual number also appears in the DID database for the AMS, the operator will see a “Connected” call of type “External.”

```
  Source        Connected                External
Tenant Bank One                             5/1
    Comment:    “Bank One”
    Comment:    HRS - M-F 9-5
    Comment:
    Comment:
```

Destination Area

To the right of the Source display is the Destination area, shown in Area **d** of Figure 3-1 on page 37. The Destination area displays information about the destination party of the call during a three-party or conference call. The Destination label line shows the current status of the destination caller in relation to the attendant.

```
 Destination      Idle
                                  (d)
```

Figure 3-4 Destination Area

Status Area

The last section of the screen, the Status Area, is shown in Area **e** of Figure 3-1 on page 37. The Status area displays messages and information intended to keep the attendant aware of the current state of the call processing environment.

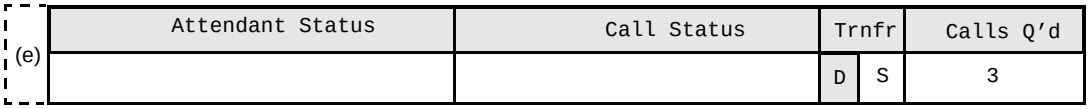

Figure 3-5 Status Area

This status area contains the following displays:

Attendant Status

Attendant Status shows a continuous display of messages that reflect call processing selections, current database administration functions, or system administration functions. For instance, this area displays the name of the person who does not answer in the direct transfer of a call. It also displays the "on-line" or "off-line" status of the system. Error and function completion messages are also shown in this area.

Call Status

Messages about all current call events appear in this area. For example, an incoming call from an extension assigned to more than one person in the company will generate a message here, as will an attempt to perform a Directory Assistance transfer to an off-hook extension.

To change the transfer type on a per-call basis for known extensions, follow the extension number with a **d** or an **s**. Otherwise, use the left or right arrow. If the opposite letter is highlighted, this overrides the default. The default transfer type is a basic configurable parameter accessed through the System Configuration option on the Supervisor Main Menu. (See "Basic Configuration" on page 104 for more information.) The type of transfer currently in effect is highlighted.

Trnfr – This section allows attendants to toggle between the following two types of transfers:

Screened (S) – A screened transfer places the source caller on hold with music while placing a call to the destination number. The attendant hears ring-back tone (RBT) while the destination station phone rings and then is connected to the destination station when it is answered. Thereafter the attendant may use the **Cancel**, **Destination**, **Source**, or **Talk** commands to manipulate both parties.

Direct (D) – A direct transfer causes the source caller to hear RBT while the destination station phone rings, and the attendant is automatically disconnected from both parties. The source caller is directly connected to the destination party without attendant screening of the transfer. Interposition transfers are always direct.

Note: *Operator-dialed transfers to external numbers are always of the screened type. Otherwise, AMS could not determine if the dialed number is busy.*

Status Area (continued)

Calls Q'd (Queued)

When a caller dials the attendant, the call is placed in a global pool of calls that any attendant can access. The Calls Waiting area contains the number of calls that are in this pool, awaiting answer by any attendant.

Call Placement

A call can be placed through the AMS only when the attendant station is "Idle" status. When an outgoing call is placed, the loop display contains the route and trunk that has been seized for the call; otherwise the internal extension displays. The loop is changed to **"Ring"** or "**Conn"**, and the notation "Calling **<phone number>**" appears below.

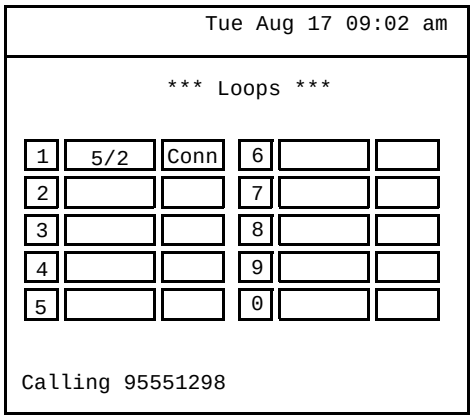

Figure 3-6 Outgoing Call Placement

You can place a call using one of the following methods:

- Dial the destination phone number from the keyboard. The AMS automatically attempts the call, as dialed, on the next available loop. Follow the internal extension number with a **d** or **s** to override the default transfer type, if desired.
- Press the speed-dial key that is configured for the desired destination phone number. The AMS displays the number for verification. Press **Enter** to place the call. The AMS uses the next available loop to place the call to the telephone number associated with the speed-dial key. Speed-dial keys are set up through the Database Administration option on the Main Menu
- If the destination phone number is not known, press the **Tab** key to enter the Operator Functions screen. Use the **Directory** function to select the recipient from the Directory listing for automatic call placement. (See Chapter 4, "Database Administration," on page 71 for more information.)

If a loop is not available, any attempt to place a call elicits an error message, and the attempt fails.

To find another attendant's extension, look up that attendant's label in the directory. The label is shown at the top of the screen–for example, "ATTENDANT1".

Incoming Call Options

To answer an incoming call, press the first letter of the type of call, as displayed in the Incoming Calls area, or press the space bar to retrieve the next call in sequential order from the waiting pool (i.e., the first attendant-specific call or the next in line in the global pool). The AMS connects the call, automatically displaying Source caller information and replacing the Incoming Calls display with the Operator Functions area that is illustrated below:

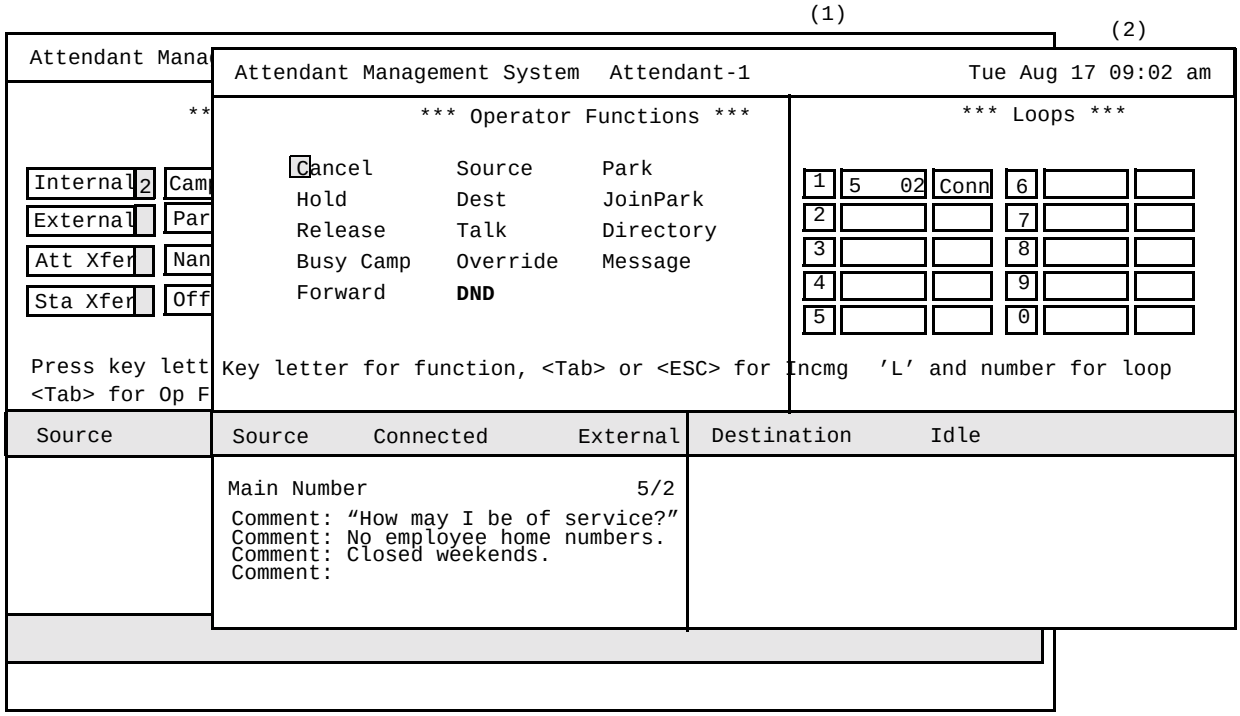

Figure 3-7 Operator Functions for Incoming Calls

When a connection is established with the incoming call and the Operator Functions commands are displayed, the options described in the following sections are available for handling that call:

Join Callers in Consultation Call

Two callers located on two different loops in the source and destination state can be joined in a consultation call. When two callers are joined in this way, the “Src” caller is placed on hold, the “Dest” caller is connected to the attendant, and loop status shows the callers’ “Src” and “Dest” relationships to the attendant.

Once two callers are joined by this method, the following Operator Functions commands can be used:

- Talk – Joins all three persons in a three-way conference call.
- Cancel – Disconnects the “Dest” caller from its loop (disconnecting the call) and reconnects with the “Src” caller. Use this command only with the “Dest” caller and only when connected with the “Dest” caller.
- Release – Releases the connection, thereby connecting the “Src” and “Dest” callers. Returns the two loops to “Idle”.
- Source – Connects with the “Src” caller and places “Dest” on hold.
- Dest – Connects with the “Dest” caller and places “Src” on hold.

Transfer by Speed Dial

While connected in a two-way connection with a source caller, press the speed-dial key that is associated in the database with the destination phone number. The “Src” caller is placed on hold while the new connection is established. If the type of transfer shown below under *Trnfr* is Direct, the two callers are automatically joined and the attendant station is released from the connection. Speed-dial keys are set up through the Database Administration option on the Main Menu. (See Chapter 4, "Database Administration," on page 71 for more information.)

Transfer by Number Entry

If you know the destination number, enter it from the keyboard while connected with the incoming source caller and press **Enter**.

In a direct transfer, the caller is automatically transferred to the dialed number, the attendant station is released from the connection, and the loop status returns to “Idle.” In a screened transfer, the caller hears music while on hold, and the attendant hears a ring-back tone or a busy signal if dialing outside. If a call is dialed internally, an error message appears when the line is busy.

If a number of five digits or less is dialed and this number is routed by the PBX to an outbound trunk such as CCIS, and if the mode of transfer is Direct, the operator sees the following pop-up window.

```
Please wait for ring back or busy tone
   If busy      press “c” to cancel
   To Release   press any other key
```

After ten seconds, the call is automatically released, leaving the calling party connected to the called party and freeing the operator to answer the next call.

For transfers to an internal number, the attendant may override the highlighted *D* or *S* by placing the letter **D** or **S** after the entered extension number.

Select an Operator Functions Command

Choose an Operator Functions command by either entering the highlighted letter of the command or by using the arrow keys to highlight the command and pressing **Enter**. The Operator Functions commands are introduced on the following pages. Some of these commands emulate the action of specific keys on an attendant console and cause a single action, such as place a caller on hold. These emulation commands are:

- Cancel
- Hold
- Release
- Busy Camp
- Source
- Dest
- Talk
- Override

These commands are described briefly in the following section and are referred to throughout the remainder of this chapter.

Other commands are more involved in their use, leading to additional screens or options. These commands require more detailed descriptions and instruction. These commands are as follows:

- Park
- JoinPark
- Directory
- Messages
- DND (Do Not Disturb)
- Forward

They are discussed briefly in the following section and covered in greater detail in the subsequent sections of this chapter.

Cancel

Enter **c** to stop a transaction. The source caller will hear reorder tone and the attendant station will be returned to “Idle”. If the destination party does not answer during a screened transfer or you hear a busy tone after a screened transfer to an outside line, use this command during a screened transfer to rejoin with the source caller.

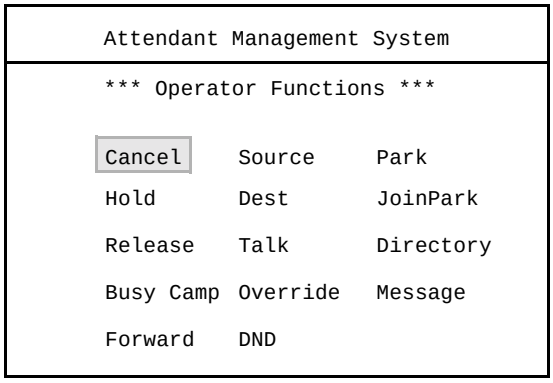

Figure 3-8 Cancel Command

Hold

Enter **h** to place the current caller on hold with music, redisplay the Incoming Calls area, and return to “Idle”. If the call is left on hold beyond a configured amount of time, the *loop status (Hold)* blinks until the call is retrieved or the caller abandons the line. (See “Timer Configuration” on page 110 for more information.) From “Idle”, select the loop to retrieve the held call by pressing **L** followed by the number of the loop from 1 to 9 (using 0 for 10).

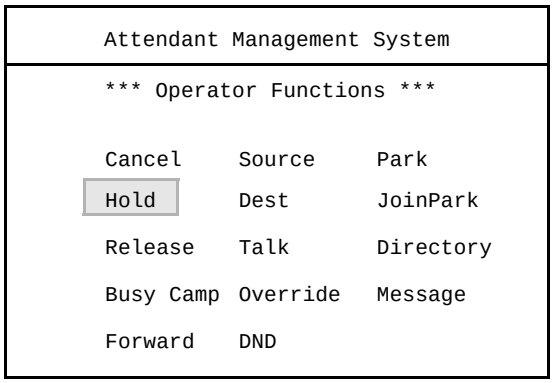

Figure 3-9 Hold Command

Release

Enter **r** to release the attendant station from the current Source and Destination connection and return to an “Idle” state to receive new calls.

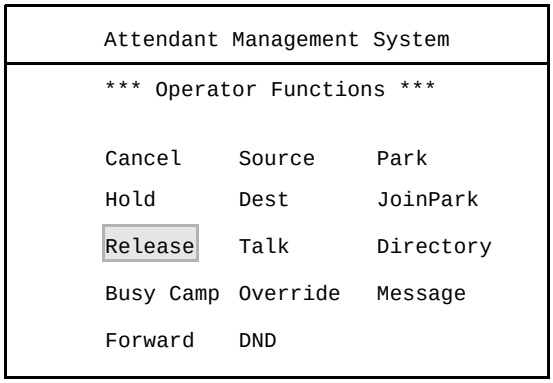

Figure 3-10 Release Command

Busy Camp

If the called party is busy and the caller wants to wait, enter **b** to place the current caller into a waiting state until the called party releases from the other call. The caller will hear music or a ring-back tone, depending on the PBX firmware level at your site:

- If the caller hears music after being camped, the waiting caller will be automatically routed to the called party when they release. If the busy party does not release the extension within the configured Camp Timeout, the waiting caller will be sent back to the Attendant. (See “Timer Configuration” on page 110 for more information.)
- If the caller hears a ring-back tone after being camped, the called party can press the **Ans** key to toggle between their existing call and the new caller. In this case, no recall will occur if the busy party does not press the **Ans** key to answer the new call.

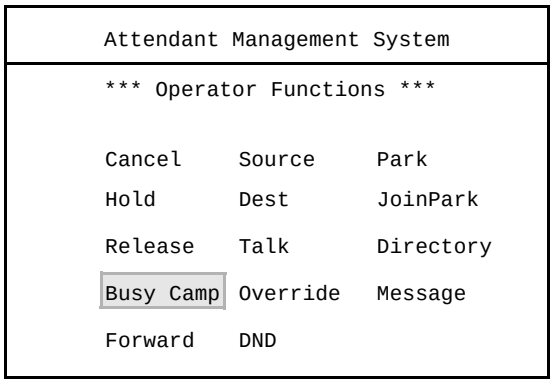

Figure 3-11 Busy Camp Command

Source

Enter **s** to connect to the source caller and place the destination caller on hold. The *Source and Destination label* lines reflect the “Connect” and “Held” statuses of the parties.

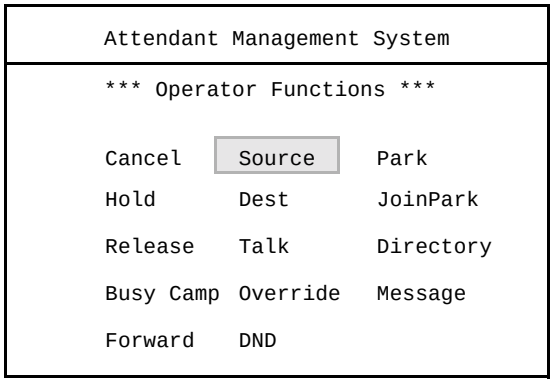

Figure 3-12 Source Command

Dest

Enter **d** to connect to the destination caller and place the source caller on hold. The *Source* and *Destination* label lines reflect the “Connect” and “Held” of the parties.

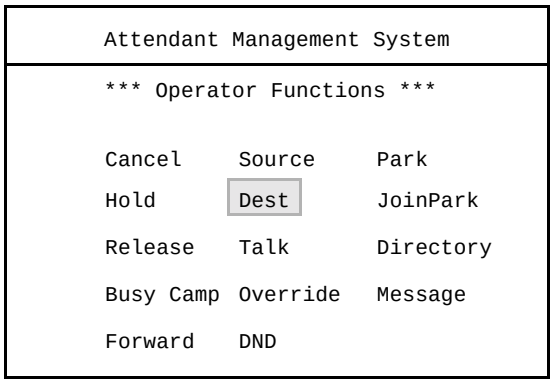

Figure 3-13 Dest Command

Talk

This command can only be selected during a three-way call. Enter **t** to join all three parties in a conference. Both *Source* and *Destination* label lines carry the "Conf" notation. Once all three parties are joined in conference, only the following command can be used:

Release – Disconnects from the conference, leaving the Source and Destination callers in a two-way call.

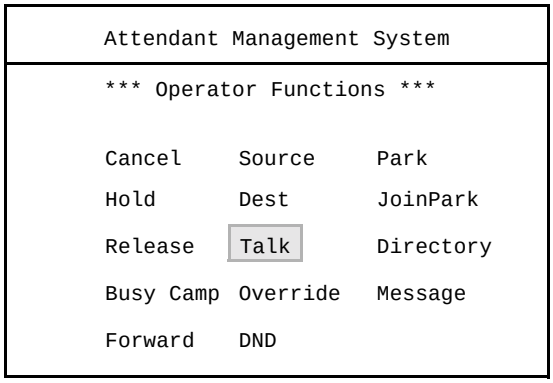

Figure 3-14 Talk Command

Override

To attempt a transfer when the called extension is busy, enter **o** to park the source caller and to interrupt the busy party's conversation and announce the presence of the source caller. When prompted, press **Enter** to confirm the override or **Esc** to cancel it. When the busy party goes on-hook, the source caller is automatically routed to that line.

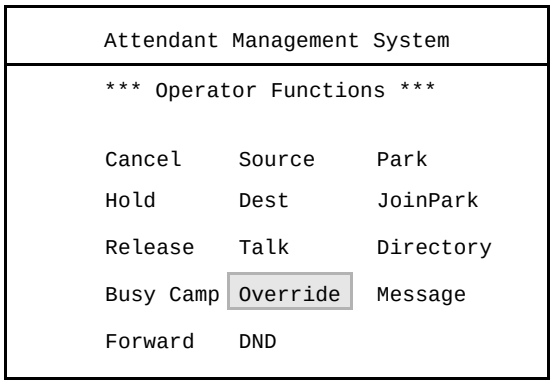

Figure 3-15 Override Command

When the attendant is idle and dials a busy extension, using override will put the attendant into conference with the two-way call and issue a zip tone to the two parties already connected.

If the person at the called extension has just dialed another internal extension and hears a ring-back tone, the operator will connect via conference mode once the called party answers. If the state of the called party prevents conferencing, select **Talk** to try the conference again.

The remaining commands in the Operator Functions screen section involve secondary screens. For this reason, they are each described in the section below:

Park

This command places a source caller on either an announcement trunk or a monitored number for paging purposes. (See “Call Parking” on page 57 for more information.)

Join Park

This command displays the **Join Park** menu where you can join a parked caller to the current source caller. (See “Parked Call Retrieval” on page 59 for more information.)

Directory

This command performs a directory database search for a destination number and automatic call placement. (See “Directory Assistance” on page 61 for more information.)

Messages

This command displays the message window where you can take or retrieve messages for employees. (See “Messaging” on page 64 for more information.)

Forward

This command redirects incoming calls from one number to another number so that any call to the first number will ring at the second number. (See “Call Forwarding” on page 53 for more information.)

DND (Do Not Disturb)

This command blocks incoming calls to an extension. When Do Not Disturb is set, callers receive a busy tone when calling that extension. (See “Do Not Disturb (DND)” on page 55 for more information.)

Call Forwarding

The **Forward** command redirects incoming calls to another location, such as another extension or a voice mail system.

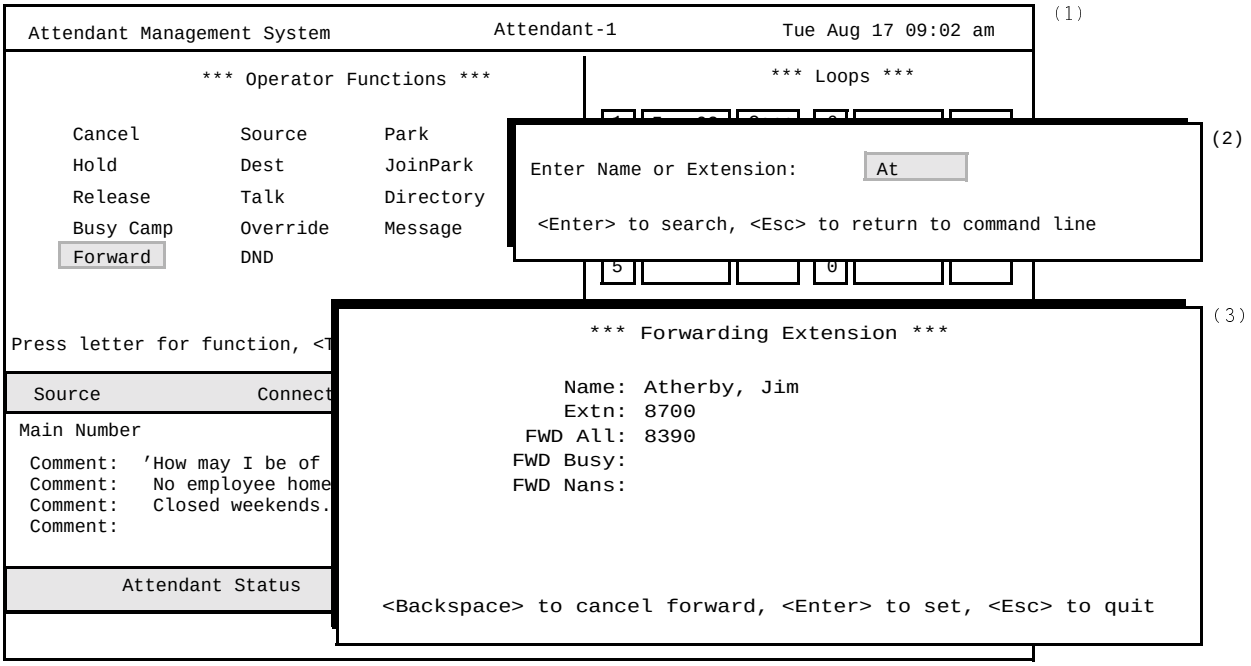

Figure 3-16 Forward Command

General Process

Select the **Forward** command and then enter the name or extension of the party whose calls are being forwarded at the prompt. The AMS searches the directory and alphabetically displays any matching entries. Move the highlight to the desired name using the arrow keys. The Forwarding Extension screen then appears with the selected name and extension displayed. Choose the type of forwarding and then enter the extension that will receive the forwarded calls.

Type of Forwarding

The Forward command gives you the following options:

- FWD All - forward all calls to the specified extension.
- FWD Busy - forward calls to the specified extension only when the forwarded extension is busy
- FWD Nans - forward calls to the specified extension only when the forwarded extension does not answer.

Procedure

Action	Result
Enter **f** to select the Forward command	The "Enter Name or Extension:" prompt appears, highlighted for data entry.
Type all or part of the desired name or extension, and press **Enter**. To display the entire list, press **Enter** when the blank entry field is highlighted.	The database is searched for matches to the letter(s) or number(s) entered. Those names or numbers matching the designated pattern appear in the destination area.
Using the **up** and **down arrow keys**, move the highlight to the desired name or extension. If more than one screen of names is found, press the **down arrow** key to scroll up and the **up arrow** key to scroll down. Press **Enter** to select the desired name.	The Forwarding Extension screen appears with the employee's name in the *Name* field and the corresponding extension in the *Extn* field.
To initiate forwarding: Using the **up** and **down arrow keys**, choose one of the following fields and enter the extension where the calls are to be sent: **FWD All**-forwards all calls to the specified extension. **FWD Busy**- forward calls to the specified extension only when the forwarded extension is busy **FWD Nans**-forward calls to the specified extension only when forwarded extension does not answer. Press **Enter** until the Forwarding Extension screen disappears.	The Operator Functions screen reappears.
To cancel forwarding: Using the **up** and **down arrow keys**, choose one of the following fields and press **Backspace**. Press **Enter** until the Forwarding Extension screen disappears.	The Operator Functions screen reappears.

Do Not Disturb (DND)

The **Do Not Disturb** command blocks an extension's incoming calls. When Do Not Disturb is active, callers will hear a busy tone when they dial that extension.

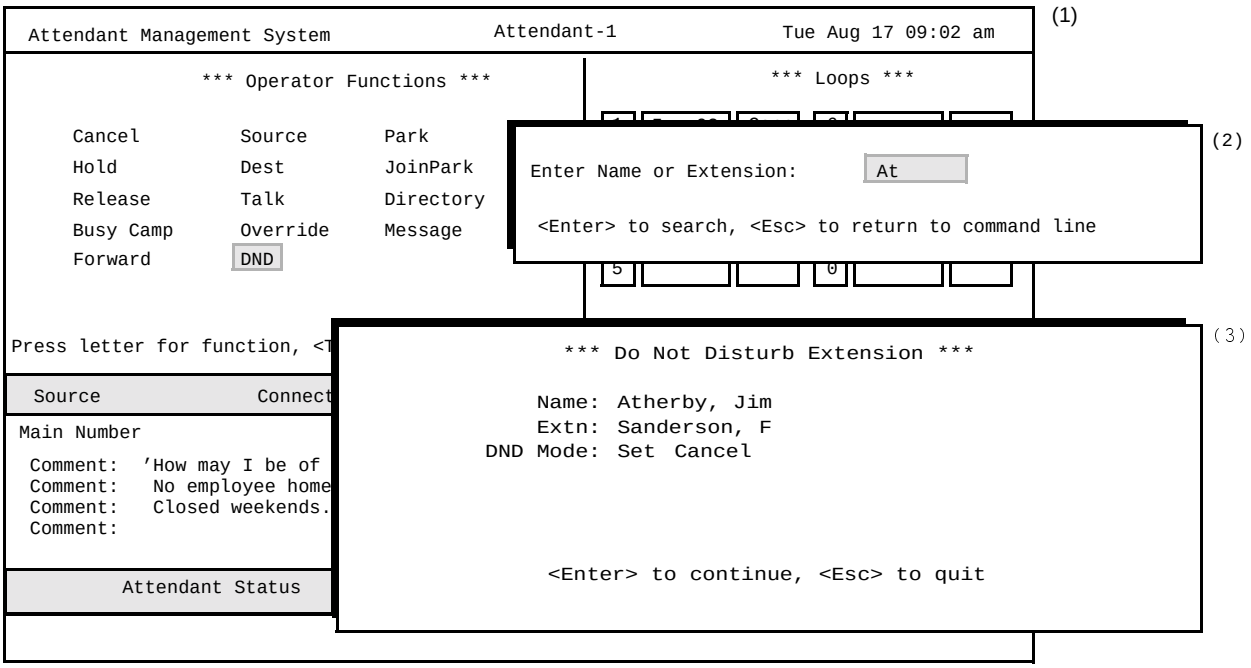

Figure 3-17 Do Not Disturb Command

General Process

Select the **DND** command and then enter the name or extension of the desired party at the prompt. The AMS searches the directory and alphabetically displays any matching entries. Move the highlight to the desired name using the arrow keys. The Do Not Disturb Extension screen then appears with the selected name and extension displayed. Choose the desired DND Mode to set or cancel Do Not Disturb.

Procedure

Action	Result
Enter **n** to select the Do Not Disturb command	The “Enter Name or Extension:” prompt appears, highlighted for data entry.
Type all or part of the desired name or extension, and press **Enter**. To display the entire list, press **Enter** when the blank entry field is highlighted.	The database is searched for matches to the letter(s) or number(s) entered. Those names or numbers matching the designated pattern appear in the destination area.
To initiate Do Not Disturb: Use the **space bar** to choose “Set” in the DND Mode field. Press **Enter**.	The Operator Functions screen reappears.
To cancel Do Not Disturb: Use the **space bar** to choose “Cancel” in the DND Mode field. Press **Enter**.	The Operator Functions screen reappears.

Call Parking

The **Park** command is used to place a source caller on either an announcement trunk or a monitored number for paging purposes. When the **Park** command is used, the Call Parking window is displayed over the Operator Functions screen. The Source area below it contains information about the caller.

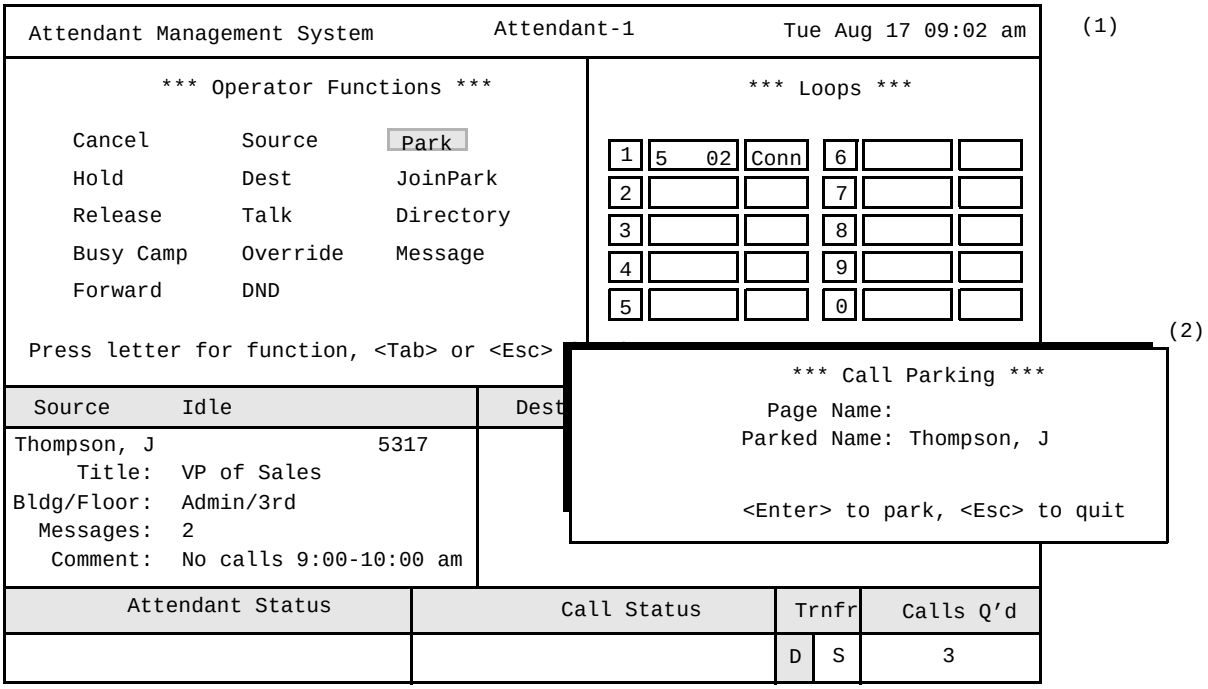

Figure 3-18 Park A Caller

General Information

To park an incoming call, select the **Park** command, type the name of the party to be paged, and press **Enter**. These are the characteristics of call parking:

- Using the name of the party being paged when parking a call makes retrieving the call easier when the paged party responds. This name also appears in the Attendant Status window. If the paged party does not answer the page within the allotted time, the call is recalled and answered.
- The Parked Name field in the window is filled in automatically with the name of the source caller. If the source caller name is not available, the cursor moves to this field. The attendant may type the name or press **Enter** while the field is still blank.
- Parking a call places it in a pool of parked calls on an announcement or music trunk. Any attendant may retrieve the call when the paged party responds. The paged party may also dial a meet-me page number to join automatically with no operator intervention.

Once a caller is parked, the attendant station is released from the call, returned to the Call Processing screen, and ready for the next call. Parking a call does not require an available loop.

Cancel Call Parking

When the Call Parking window is open, press the **Esc** key to cancel the call parking function, close the window, and redisplay the Operator Functions commands without affecting the source caller.

Orbit Number Retrieval

The Orbit Number can be announced in the page as the number for the paged person to call to automatically retrieve the parted call. If this Orbit Number is not included in the page, retrieve the parked call when the paged person responds using the **Join Park** command. (See “Parked Call Retrieval” on page 59 for more information.)

Note: *Orbit numbers are set up through the System Configuration option on the Supervisor’s Main Menu. (See “Orbit Numbers” on page 117 for more information.)*

Procedure

Action	Result
After an incoming call is answered and source information is displayed, enter **p** to select the **Park** command.	The Call Parking window appears.
Type the name to be paged and press **Enter**. **Note:** *Use the up and down arrow keys to move between the two fields in the Call Parking window.*	The cursor moves to the *Parked Name* field for data entry. You can enter new name, leave the existing name, or leave the field blank. Press **Enter** to accept the field as displayed, park the source caller on a music or an announcement trunk, and clear the screen.

Parked Call Retrieval

The **JoinPark** command retrieves a parked caller for connection with a paged party or to an idle attendant.

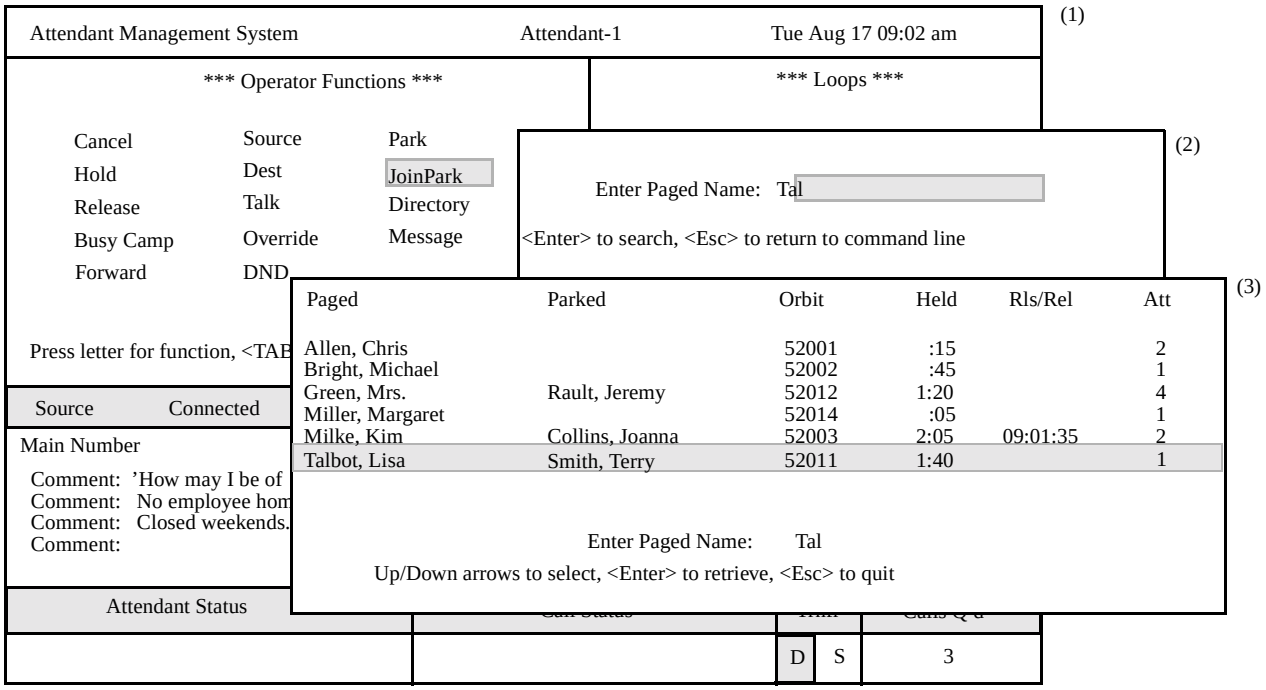

Figure 3-19 Join Park Command

General Process

Retrieve a parked call by selecting the **JoinPark** command and then entering the name of the party who was paged at the prompt. The AMS searches the parked calls and alphabetically displays any that match the entry. Move the highlight to the desired name using the arrow keys.

Direct Join – Press **Enter** to connect the parked party and the paged party, release the connection, and redisplay the Incoming Calls screen.

Attendant Join– If there is no source caller or party responding to a page, and the attendant station is in "Idle" status, press **Enter** to set up a two-way call with the selected parked caller.

Display Fields

The Parked Call display lists each parked call alphabetically by the paged party name. Each parked call record includes the name of the parked caller (if known), the orbit number that can be dialed by the paged party for direct connection (if any), and the number of the attendant who parked the call (*Att*). If a call is being recalled, it has a *Held* and a *Rls/Rcl* time and can be retrieved for a Join. If the parked party has abandoned the call, there is no *Held* time shown—only a *Release* time.

Cancel and Exit

Press the **Esc** key at any time to cancel the call park retrieval function and return the screen to the display from which the retrieval was initiated. Escaping the Call Park Retrieval window, however, does not release the paged caller.

Record Storage

Note that records of successfully joined calls are automatically deleted from the database. Abandoned call records remain for the amount of time configured in the *Clean olddb Records* field of the Timer Configuration option. (See "Timer Configuration Field Definitions" on page 111 for more information.)

Parked Call Recall

If a call is parked beyond the allowed time limit, AMS returns it to the attendant stations as a "ParkT.O." on the Incoming Calls screen. These calls have a *Held* time and a *Rls/Rcl* time and can still be joined.

Parked Call Abandon

If a parked caller hangs up, or abandons, before the paged party is joined, the call continues to be displayed in the Parked Call List for the amount of time that the supervisor configured in the *Clean olddb Records* field of the Timer Configuration option. When the **JoinPark** command is initiated, any abandoned calls have a time entered under the *Rls/Rcl* field that shows when the party abandoned the call. Notice that they do not have a *Held* time entry. This call listing is automatically removed from the display after the amount of time configured in the *Clean olddb Records* field of the Timer Configuration option. (See "Timer Configuration Field Definitions" on page 111 for more information.) If it is deleted by AMS while the list is displayed, the next time the information is updated, the call is no longer included.

Procedure

Action	Result
After an incoming call is answered and source information is displayed, enter **j** to select the **JoinPark** command.	The "**Enter Paged Name:**" prompt appears, highlighted for data entry.
Type all or part of the name of the paged party, and press **Enter**. To display the entire list, press **Enter** when the blank entry field is highlighted.	The parked calls that match the designated pattern appear.
Using the **up** and **down arrow keys**, move the highlight to the desired parked call. If more than one screenful of names is found, press the **down arrow** key to scroll up and the **up arrow** key to scroll down. Press **Enter** to begin retrieval.	The paged and parked parties are connected. The Incoming Calls screen redisplays, ready for the next call.

Directory Assistance

The **Directory** command accesses the AMS directory assistance database to identify the destination of a call. Select this command from **Operator Functions** when the station is in "Idle" status or while the attendant is connected to a source caller.

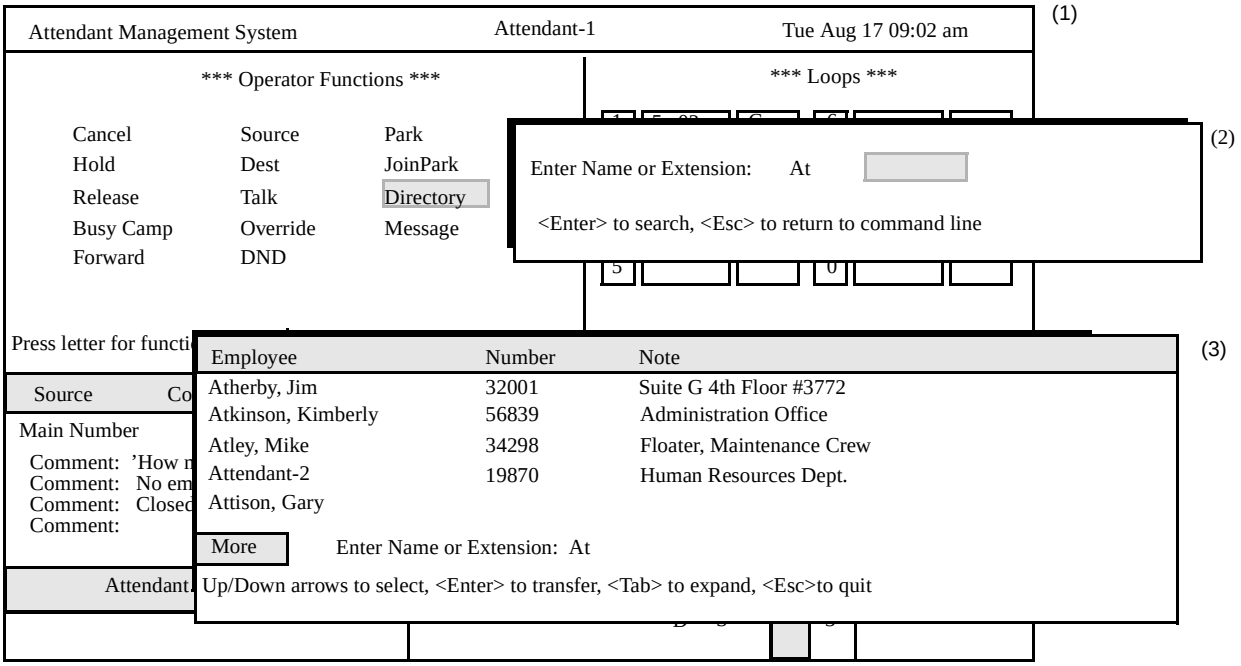

Figure 3-20 Directory Command

General Process

When a call is answered, AMS automatically displays any source information available on that calling number under Source Name. Select the **Directory** command to display a prompt requesting a name or number as a pattern for a database search. This pattern can consist of as much as the entire name or number or as little as the first letter or digit. AMS searches the database and displays the matches that it finds.

Note: *The database of names is case-sensitive. To avoid pressing the **Shift** key, enter the names into the database in all caps. Select the desired destination from the list, and AMS automatically transfers the call.*

Expansion of Current Selection

To display additional information about the current selection, highlight the desired record and press the **Tab** key. Any additional information about the selection appears in a window positioned over the list. Use the **Tab** key to select a numeric field and dial it, and use the **Enter** and **Esc** keys to exit the window.

Type of Transfer

Use the **left** and **right arrow keys** to select between a direct and a screened transfer. If you select a **direct** transfer, press **Enter** to transfer the source caller to the currently selected extension. The attendant is released, and the cleared Operator Functions screen reappears. If you select a screened transfer, the source caller is placed on hold and hears music. The Attendant can stay on the line as long as desired and must release or cancel the call or put the callers into conference by choosing **Talk** from the AMS Operator Function menus. Operator release connects the source and destination parties.

Destination Information

The AMS database contains employee data, internal locations, external numbers, and attendant numbers. The procedure for transferring a call to any of these destinations is the same, such as entering the search pattern, selecting the name from the list, and transferring the call via direct or screened method. The **internal, external,** and **employee** destination information is configurable. **Attendant** information consists of name and number. (See “Directory Window” on page 133 for more information.)

Off-Line Mode

If for any reason the OAI link is down, AMS still performs the Directory Assistance search and displays the destination information, but the call must be placed manually from the attendant station. Once the OAI link is re-established, all functions return to normal.

Procedure

Action	Result
Enter **i** to select the Directory command	The "Enter Name or Extension:" prompt appears, highlighted for data entry.
Type the name or the extension to be called and press **Enter**. **Note:** *The database search can be performed with as little as the first letter of the name or the first digit of the number. The search is case-sensitive.*	The database is searched for matches to the letter(s) or number(s) entered. Those names or numbers matching the designated pattern appear in the destination area.
If destination is displayed in list: Using the **up** and **down** arrow keys, move the highlight to the desired name or number. If more than one screenful of names is found, press the **down** arrow key to scroll up and the **up** arrow key to scroll down. Press **Enter** to begin transfer of the call to the selected destination. **If destination is not displayed in list:** Press **Esc** to position the cursor at the "Enter Name or Number" prompt. Type a new search pattern and press **Enter**. When the results are displayed, use the **up** and **down** arrow keys as described above to select the destination and press **Enter** to transfer the call.	The transfer begins according to the type of transfer shown in the Trnfr window. **If the transfer is Direct:** The attendant station is automatically released from the call and cleared of all information as long as the number dialed is an extension. If the chosen number is an Employee record with a unique extension on a remote PBX, the operator will see a pop-up window allowing him or her to press **c** to cancel. This connects back to the source caller as if the destination dialed is busy. The operator can also press any other key or wait ten seconds to release the call. If the call is external, the AMS forces a screened transfer regardless of Trnfr window display. **If the transfer is Screened:** The call must be released, joined, or cancelled via the operator functions screen. If internal transfer is occurring, the loops reflect "Held" for source and "Ring" for destination until answered. Then they show "Src" and "Dest." External calls are always screen-transferred with the loops reflecting "Src" and "Dest."

Messaging

Use the **Message** command to record messages for employees, display messages for the current source caller, print messages for employees, or delete the displayed messages.

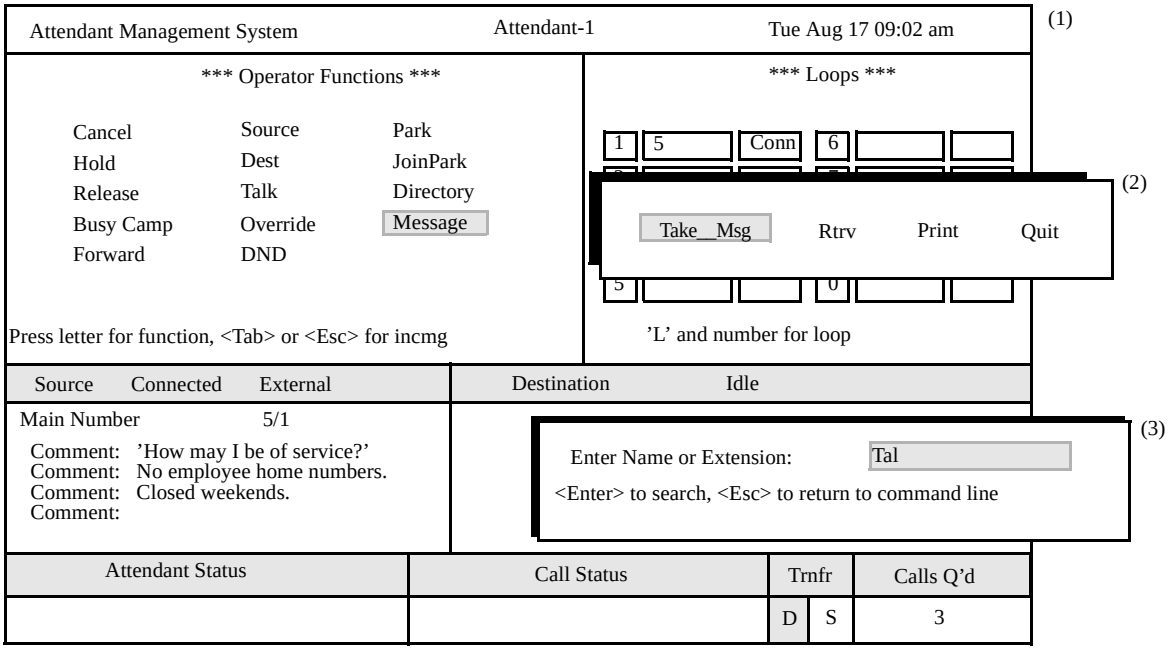

Figure 3-21 Message Command

General Process

Select the **Msg** command and then choose to take, retrieve, or print messages. After selecting the action at the prompt. enter the name or extension of the desired party at the prompt. The AMS searches the directory and alphabetically displays any matching entries. Move the highlight to the desired name using the arrow keys and press **Enter**. The appropriate screen for that action will then appear. Refer to the following pages for a detailed description of these processes.

Procedure

Action	Result
Enter **m** to select the Message function. (1)	Three commands, **Take_Msg, Rtrv**, and **Print**, display. (2)
Refer to the following pages for information about these two commands.	
To exit the function, press **Esc**.	The Operator Functions area appears.

Message Taking

Use the **Take_Msg** command to record a message for an employee. **Take_Msg** uses both free entry of a message and pre-defined messages configured in the Display Configuration option. (See “Predefined Messages” on page 135 for more information.)

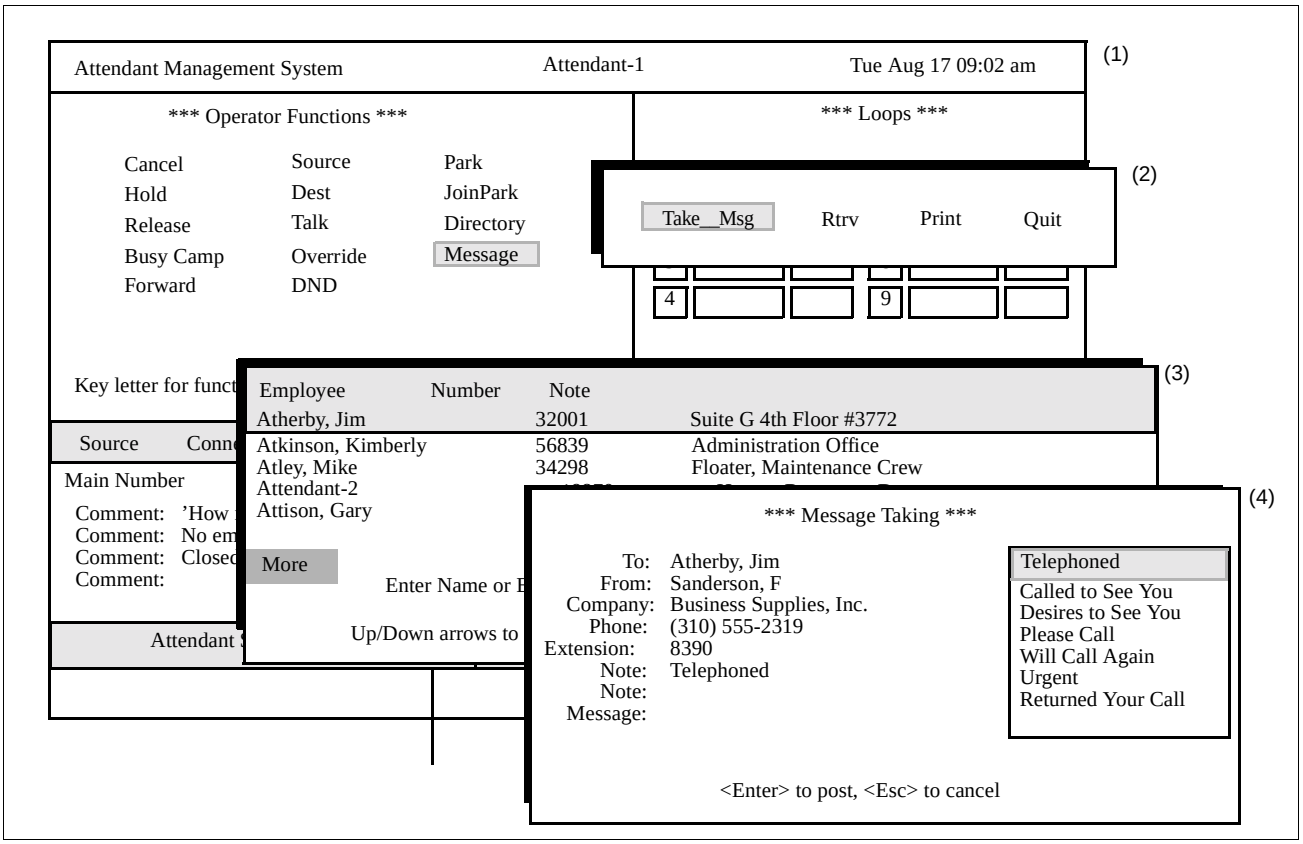

Figure 3-22 Take A Message

General Process

Select the **Take_Msg** command to begin taking a message, then enter the name or extension of the desired party at the prompt. The AMS searches the directory and alphabetically displays any matching entries. Move the highlight to the desired name using the arrow keys and press **Enter**. The Message Taking screen appears, displaying the prompts configured through the Display Configuration option on the Main Menu. Type the information in the *Name*, *Company*, *Phone*, and *Extension* fields. To select a pre-defined message, move the highlight into the first *Note* field, then select the desired message from the pop-up window that contains the list of pre-defined messages configured through the Display Configuration option. (See “Predefined Messages” on page 135 for more information.) The selected message appears in the current *Note* field. To manually type a message, move the highlight into the *Message* field, then type the message in the highlighted area. Press **Enter** to exit the *Message* field, post the message, and return to Operator Functions.

No Caller

If the **Take_Msg** command is selected in the absence of a source caller, the procedure is the same except that the cursor is positioned on the *From* field for entry of the name of the message sender. Leave any fields except the *From* and the first *Note* fields blank by pressing **Enter**.

Procedure

Action	Result
Press **Enter** to select the **Take_Msg** command. (2)	The "Enter Name or Extension:" prompt displays, highlighted for data entry.
Type the name or extension of the employee and press **Enter**. **Note:** *The database search can be performed with as little as the first letter of the name or the first digit of the number.*	The database is searched for matches to the letter(s) or number(s) entered. Those names or numbers that match the designated pattern are displayed in the destination area.
Use the **up** and **down** arrow keys to move the highlight to the desired name or extension. If more than one screenful of names is found, press the **down** arrow key to scroll up and the **up** arrow key to scroll down. Press **Enter** to select the highlighted record.	The Message Taking window appears with the employee's name in the *To* field and any known source caller name in the *From* field.
Type information to the displayed fields, pressing **Enter** after each.	When the highlight moves to the *Note* field, a pop-up window displays the list of pre-defined messages (via the Display Configuration option) with a highlight bar on the first option.
Use the arrow keys to move the window highlight to the desired pre-defined message. Press **Enter** to place that message in the current **Note** field. Continue until all desired pre-defined messages are placed in a field.	When the highlight moves into the **Message** field, the field size expands to allow manual entry of a message.
Manually enter the message. Press **Enter** only after the message has been fully entered.	The Message Taking window disappears, the message is shown as posted, and the screen displays Operator Functions.

Message Retrieval

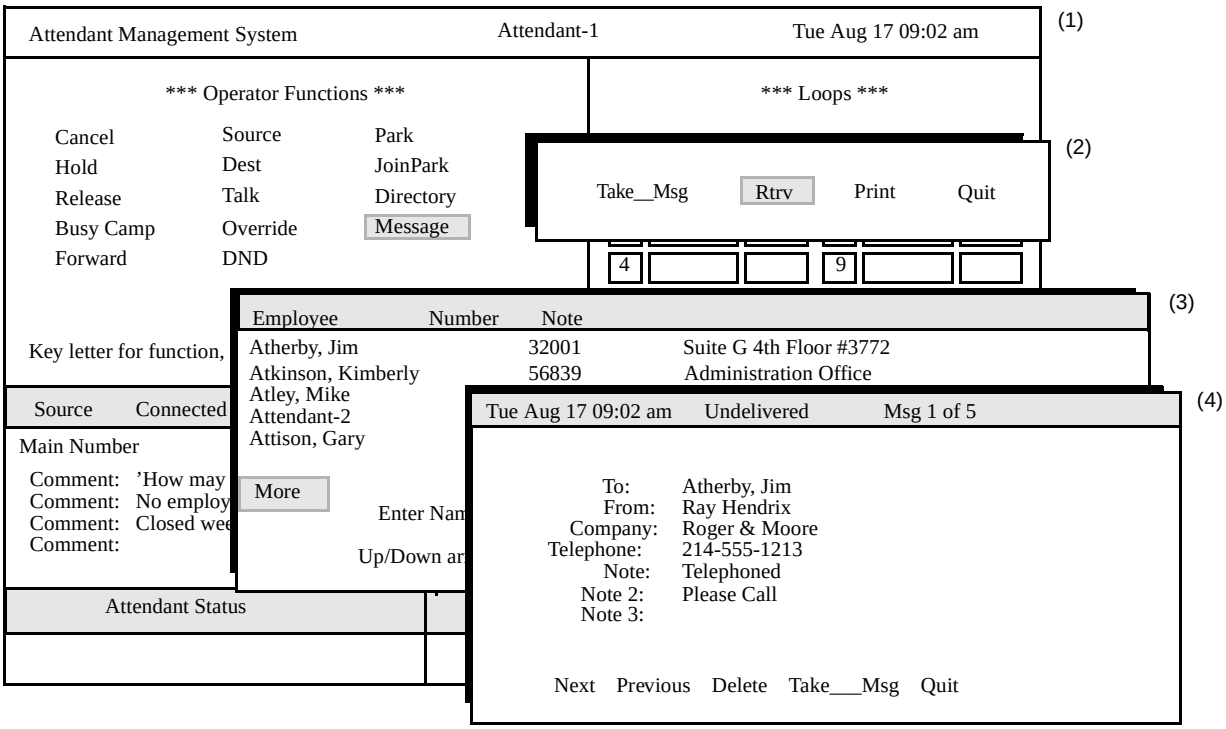

Figure 3-23 Retrieve A Message

General Process

Choose the **Rtrv** command to either begin a directory lookup process for the employee for whom the messages are being retrieved or, if connected to an employee with messages, to display a question asking if messages are to be retrieved for the current source caller. When the directory lookup is complete or "Y" is the answer to the source caller question, the employee's messages are displayed. A new command line makes it possible to move from the current message to the next one, back to the previous one, to delete the displayed message, or to move into the Message Taking window.

Display Contents

When a message is viewed on the screen, it is marked as "delivered". Then, when messages are retrieved and displayed, the display contains first the "unretrieved" messages from the oldest to the newest, and then all "delivered" messages from the newest to the oldest. Old, delivered messages are automatically deleted after a preset amount of time, as described in the field definition for *Clean old db records* in "Timer Configuration Field Definitions" on page 111.

Procedure

Action	Result
Enter **r** to select the **Rtrv** command. (1)	The "Enter Name or Extension:" prompt appears, highlighted for data entry.
Type the name or extension number of the recipient and press **Enter**. **Note:** *The database search can be performed with as little as the first character.*	The database is searched for matches to the letter(s) or number(s) entered. Those names or numbers that match the designated pattern are displayed in the destination area.
Using the **up** and **down** arrow keys, move the highlight to the desired name or number. If more than one screenful of names is found, press the **down** arrow key to scroll up and the **up** arrow key to scroll down. Press **Enter** to select the highlighted record.	The messages are retrieved and displayed in chronological order. (3) Undelivered messages are displayed from oldest to newest, but delivered messages are displayed from newest to oldest. Once a message has been displayed, it is marked as delivered and will be deleted automatically after a configurable number of hours. (See "Menu Options" on page 103 for more information.)
On the Message Retrieval window, select any of the following commands using the left or right arrow key or by entering the first letter of the command: **Next** – Display the next message and increments the message number. **Previous** – Displays the previous message. **Delete** – Removes this message from the list and deletes it permanently from the database. **Print** – Prints this message. **Take_Msg** – Clears the Message Retrieval window and replaces it with the Name or Extension prompt.	 If only one message exists, the console beeps when this command is used. The console beeps when this command is used on the first message. The next message is displayed, but the number of messages in the Source Caller window is not decremented until the window is exited. (See "Message Printing" on page 69 for more information.) (See "Message Taking" on page 65 for more information.)
To exit the Message Retrieval window, enter **q** (quit).	The Operator Functions screen appears.

Message Printing

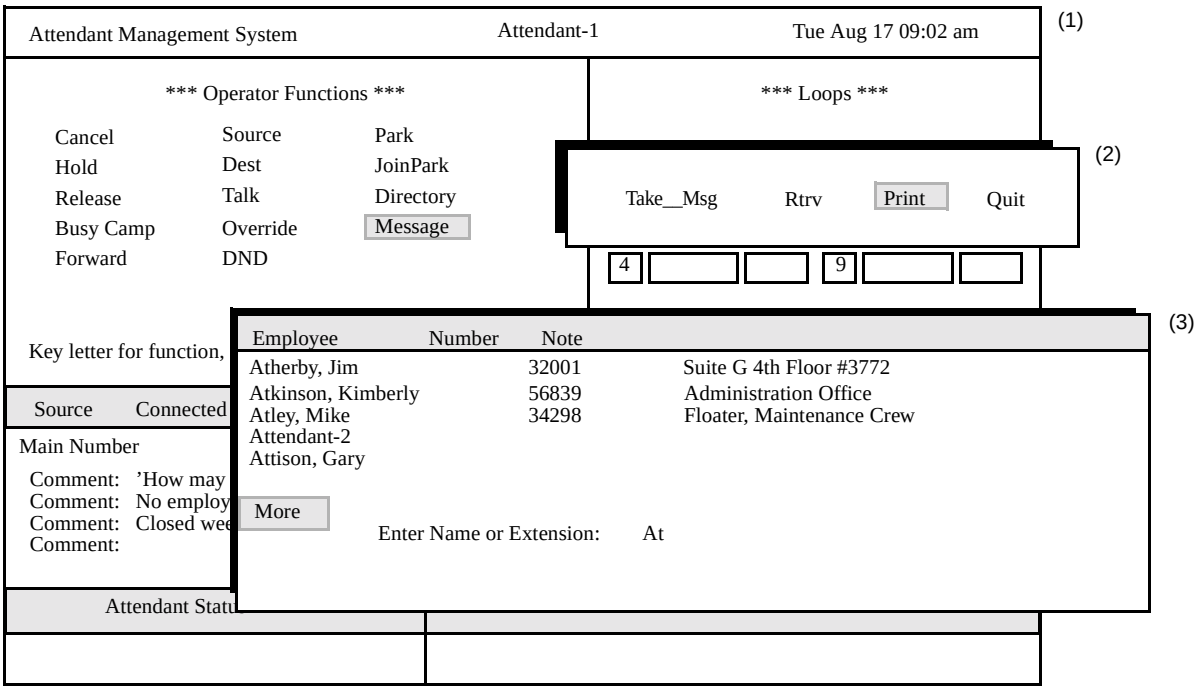

Figure 3-24 Printing A Message

General Process

To print all messages for an extension, select the **Print** command and then enter the name or extension of the desired party at the prompt. The AMS searches the directory and alphabetically displays any matching entries. Move the highlight to the desired name using the arrow keys and press **Enter**. The messages are printed and the Operator Functions screen reappears.

To print an individual message, select the **Print** command from the Message Retrieval screen. (See “Message Retrieval” on page 67 for more information.)

Procedure

Action	Result
To print all messages for an extension: Enter **p** to select the **Print** command. (2)	The "Enter Name or Extension:" prompt appears, highlighted for data entry.
Type the name or extension number of the recipient and press **Enter**.	The database is searched for matches to the letter(s) or number(s) entered. Those names or numbers that match the designated pattern are displayed in the destination area.
Using the **up** and **down** arrow keys, move the highlight to the desired name or number. If more than one screenful of names is found, press the **down** arrow key to scroll up and the **up** arrow key to scroll down. Press **Enter** to print messages for the highlighted record.	The messages are sent to the printer and the Operator Functions screen appears.
To print individual messages: After retrieving the desired message, enter **P** from the Message Retrieval screen. (See "Message Retrieval" on page 67 for more information.)	The message is sent to the printer and the Operator Functions screen appears.

Chapter 4 Database Administration

Introduction

The Database Administration option on the Main Menu is used to add, modify, delete, view, and print any of the types of database records supported by the AMS.

Note: *Use the Display Configuration option to select the fields for each database record type before using this option to enter data to the records. Otherwise only default record fields are displayed for data entry.*

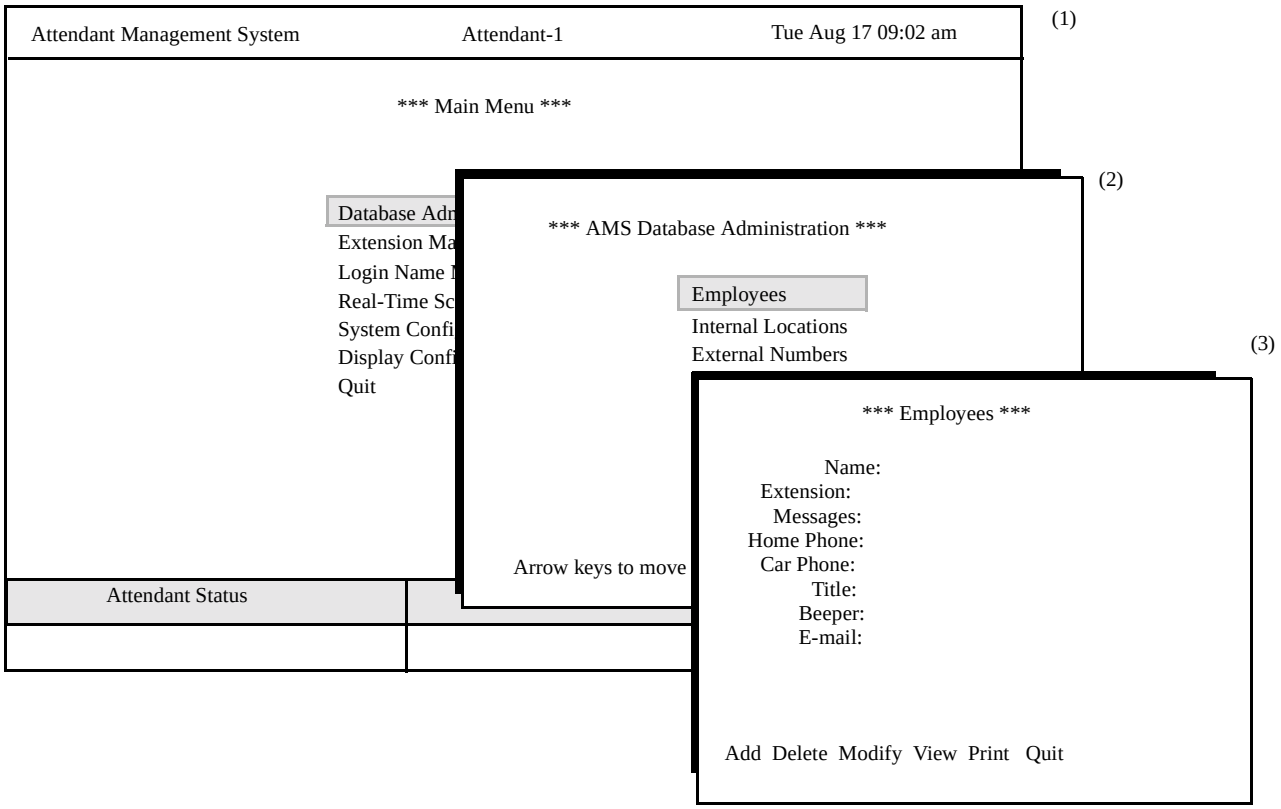

Figure 4-1 Database Administration

Types of Database Records

The AMS Database Administration menu reflects the different records that the database uses to provide all information accessed during call processing. In response to attendant actions, AMS pulls records from the database to display Source Caller information, results of Directory Lookups, and expanded versions of displayed items. To accommodate this variety of information, the database contains different types of records. For instance, the information entered for employees differs from the information entered for internal locations.

Database Record with Configurable Fields

Fields that appear on the data-entry screen for each of the following types of records are configurable. Under password authority, the administrator can select the fields to be displayed through the Display Configuration option on the AMS Main Menu. These configurable record types are listed below along with any information for each that is important to data entry or access. (See Chapter 9, "Display Configuration," on page 121 for more information.) for the fields that are available for each of these types of records.

- Employees – Information can be accessed by either employee name or extension. Note that before extensions can be entered to employee records, they must be assigned through the Extension Maintenance option on the Main Menu. (See Chapter 5, "Extension Maintenance," on page 85 for more information.)
- Internal Locations – Information about internal locations can be accessed through either the *Name* or the *Extension* field. Note that internal location extensions must also have been assigned previously through the Extension Maintenance option.
- External Numbers – Information about external numbers can be accessed by either the name or the ANI number.
- Route Numbers – Route numbers must correspond to the PBX MAT configuration and have names associated with them. They can be accessed by either number or name.
- DID Numbers – Information about DID Numbers can be accessed by either the name or the number itself. These numbers must correspond to virtual numbers assigned in the PBX which are call forwarded-all calls to the monitored number used for the operator (usually “0”). They also must be programmed on the PBX to correspond to direct inward dial numbers. If the DIDs are configured in the database and the DID is called and answered, the operator will see information entered here in the Source Caller window.

Database Records Whose Fields Are Not Configurable

Data-entry fields cannot be configured for Attendant Stations and speed-dial keys. When these options are selected from the Database Administration menu of records, the following non-configurable fields display for data entry:

Attendant Stations

- Attendant ID – Set up as *att #*, where the number uniquely represents this station. Enter only the number of the attendant. When a new attendant number is entered, AMS combines it with the name configured under the Basic Configuration option on the Display Configuration menu. These names appear in Directory Assistance and are used to transfer a call to another attendant.
- Personal Ext – The monitored number configured in the PBX for this individual attendant; must be unique and may not be used for any other kind of incoming call. Use the Personal Ext to call or transfer calls to an individual attendant.
- Virtual Ext – The extension number that should be assigned as the virtual line (Prime-Line) in off-hook suppress mode on the MAT.
- Station Type – The type of station (i.e., HDAC or D^{term}) associated with the primary extension.
- Tenant – The number of the tenant served by this primary extension; must match the PBX tenant and lie in the range from 1 to 255.
- Default RSC – The default restriction class index associated with the primary extension; must match an index between 0 and 15 that is defined in the PBX. This value is not used now.
- CCIS Index – The unique prefix for the primary extension in a CCIS network; if not in a network, leave this field blank. This value is not used now.
- Physical Ext – The physical extension number (my-line) assigned to this station via the MAT.
- Device – The tty that this attendant will log in to. This can be determined by logging in to apmadm from this station and going to the UNIX level. Enter **tty** to find the tty for a static terminal, or enter **tty /dev/null** to find the tty for a network terminal.
- Server Number – "Server #" must match the number entered for one of the OAI Server application components that were set up in the APM.

Speed-Dial Keys

Speed-dial key records in the database associate a key on the keyboard with a specific location and its phone number for speed dialing.

Note: *To determine a keypad value, log in as **amsadm** and select "Key Pad Value Test." (See "Key Pad Value Test" on page 153 for more information.)*

Keypad Value – The curses value associated with this key; up to five characters in length. This is the database key that cannot be altered during modification of the keypad record. To change the value, delete the record and add a new one with the new value.

Keypad Name – The name of this key as shown on the keyboard; up to 25 characters in length.

Number – The phone number dialed when this speed-dial key is pressed; up to 20 characters in length.

Name – The name of the location or entity that is dialed by this speed-dial key. Up to 30 characters in length.

View Command

The **View** command displays a selection, or range, of records. The range is specified by a beginning pattern and an ending pattern. The pattern can be either part or all of a number or word, according to the type of record selected from the AMS Database Administration menu. When the **View** command is selected, a pop-up window prompts for the key by which the records are to be retrieved and the range within which records are to be selected.

Menu Access

The Supervisor is always authorized to enter this menu option. An attendant can enter it only if such access is authorized through the Database Access option when adding an attendant login name and password. (See "Add an Attendant" on page 97 for more information.)

Procedure

Action	Result
On the Main Menu, enter **d** to select the **Database Administration** option.(1)	The Database Administration menu displays the types of database records. (2)
Enter the highlighted letter of the desired type of database record. **Note:** *It is usually the first letter of the word; when the word begins with a letter that has been used before, the second or even third letter may be highlighted.*	The fields of the selected record type and a new command line are displayed. (3)
Refer to the following pages for descriptions of the commands.	
To exit the Database Administration menu, enter **q** (quit).	The Main Menu is displayed.

Add Database Record

Use this procedure to **add** a new record of the type selected, such as employee, route, or attendant station. If an extension is entered to Employee and Internal Location records that is not already assigned through the Extension Maintenance option, the message “Extension does not exist, do you want to add? <Y,N>” will appear. allowing you to add the extension record to the database. (See Chapter 5, "Extension Maintenance," on page 85 for more information.)

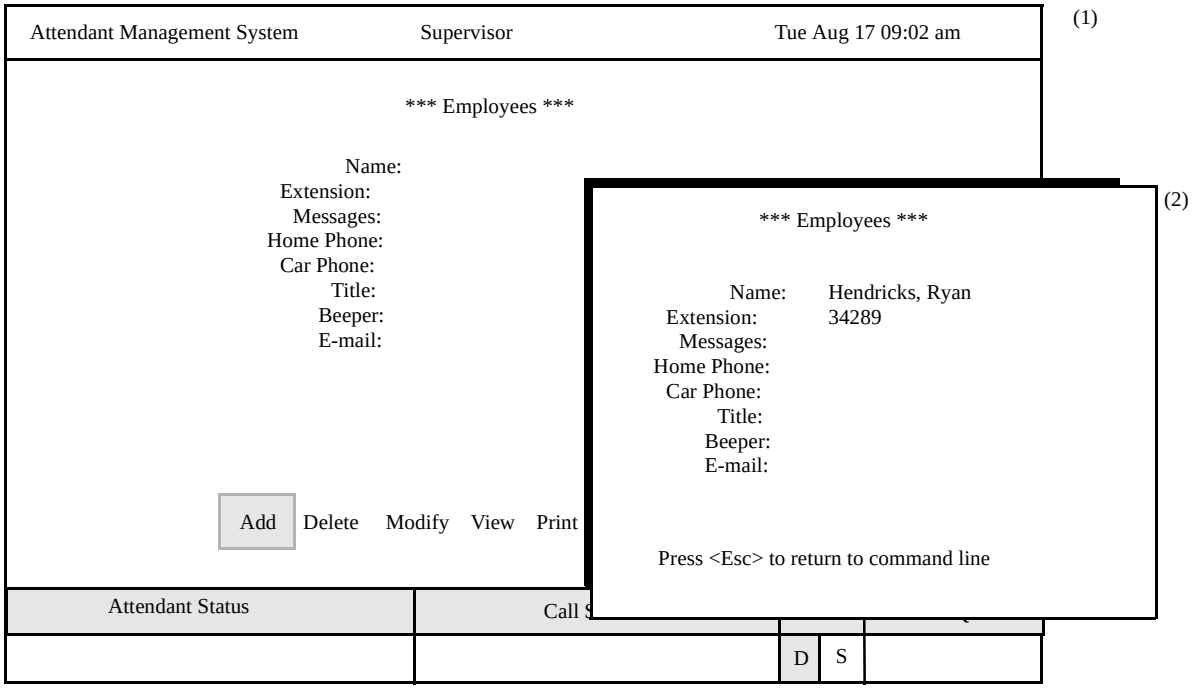

Figure 4-2 Add A Record

Leaving Fields Empty

Even though not all fields in a record require an entry, the record is complete only when the **Enter** key has been pressed in every field. Pressing the **Esc** key before completing a full record erases any data entered up to that point.

Procedure

Action	Result
On the record type screen, press **Enter** to select the Add command. (1)	The first field is highlighted for data entry. (2)
Using the **arrow keys** to move among the fields and the **space bar** to toggle among field options, enter data to each field configured for the record type, according to the field definitions in Chapter 9, “Display Configuration”, on page 121. Press **Enter** after each entry. If you enter an extension in an Employee or Internal Location record that is not assigned through the Extension Maintenance option, the message “Extension does not exist, do you want to add? <Y,N>” appears. • To add the new extension, enter **y** and a second screen appears to enter information for the new extension record to the database. (See Chapter 5, "Extension Maintenance," on page 85 for more information.) • If you do not want to add the new extension record to the database, enter **n** to return to the field and enter a different extension.	The message “**Do you want to insert this? (Y/N)**” appears.
Type **y** and press **Enter** to confirm the addition, or **Type n** and press **Enter** to cancel the addition.	If confirmed, the word “**Inserted**” is displayed in the Attendant Status window to indicate that the record has been inserted into the database. “**Record not inserted**” is displayed if the addition was cancelled. The cursor is positioned on the command line.

Delete Database Record

Use this procedure to delete a record of the type selected from the database. Deleting a record from the database through this option does not affect its assignment via the Extension Maintenance option.

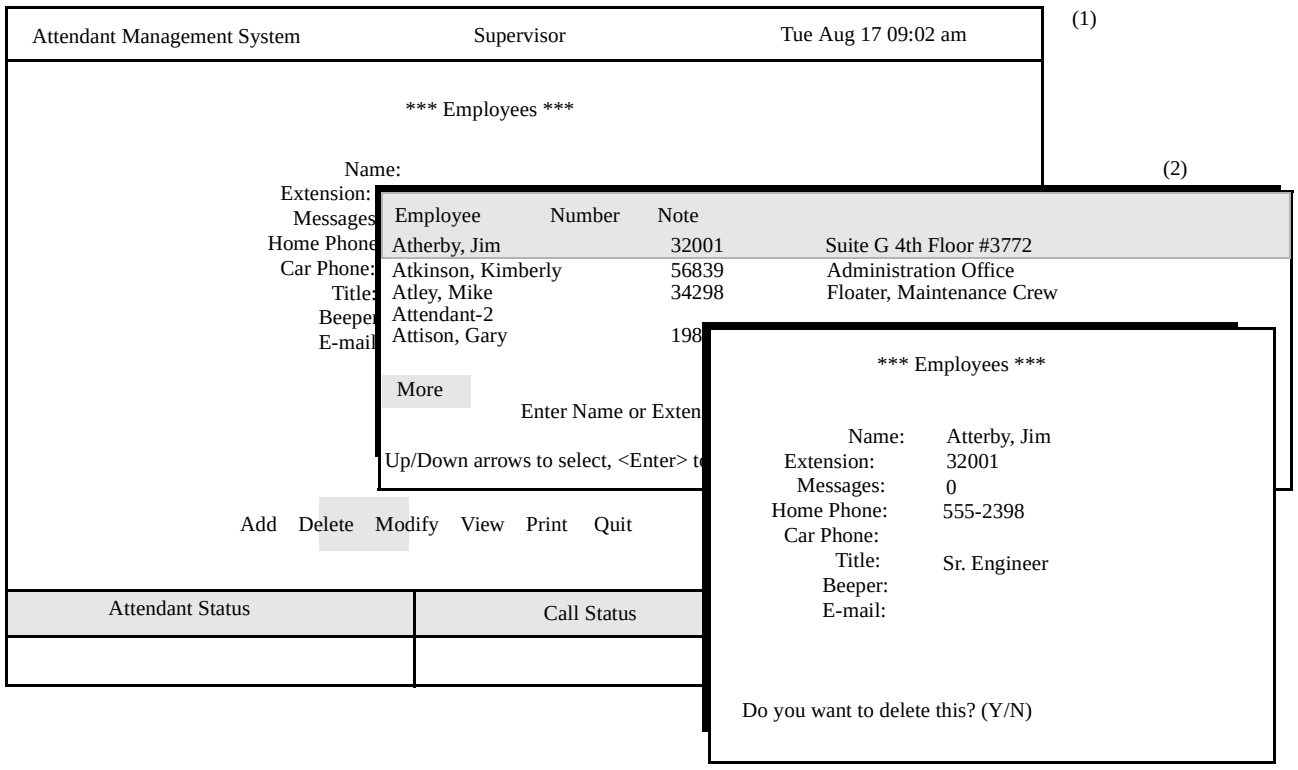

Figure 4-3 Delete A Record

Procedure

Action	Result
Enter **d** to select the **Delete** command. (1)	A name or number entry field appears below. At the top of the screen, a heading is highlighted.(2)
Type part or all of the name or number and press **Enter**. To display all the matching records, press **Enter** when the blank entry field is highlighted.	All of the matching names or numbers in the database appear. (2)
Using the arrow keys, move the highlight to the desired name or number and press **Enter**.	The record type screen is displayed and the field entries of the selected guest are displayed. The message "**Do you want to delete this? (Y/N)**" is displayed below.
Type **y** and press **Enter** to confirm the deletion, or **Type n** and press **Enter** to cancel the deletion.	If deletion was confirmed, the word "**Deleted**" is displayed in the Attendant Status window to show that the record has been deleted from the database. "**Record not deleted**" is displayed if the deletion was cancelled. The cursor is positioned on the command line.

Modify Database Record

Use this procedure to make changes to the field entries of a particular database record. Remember that extensions entered to Employee and Internal Location records must first be assigned through the Extension Maintenance option.

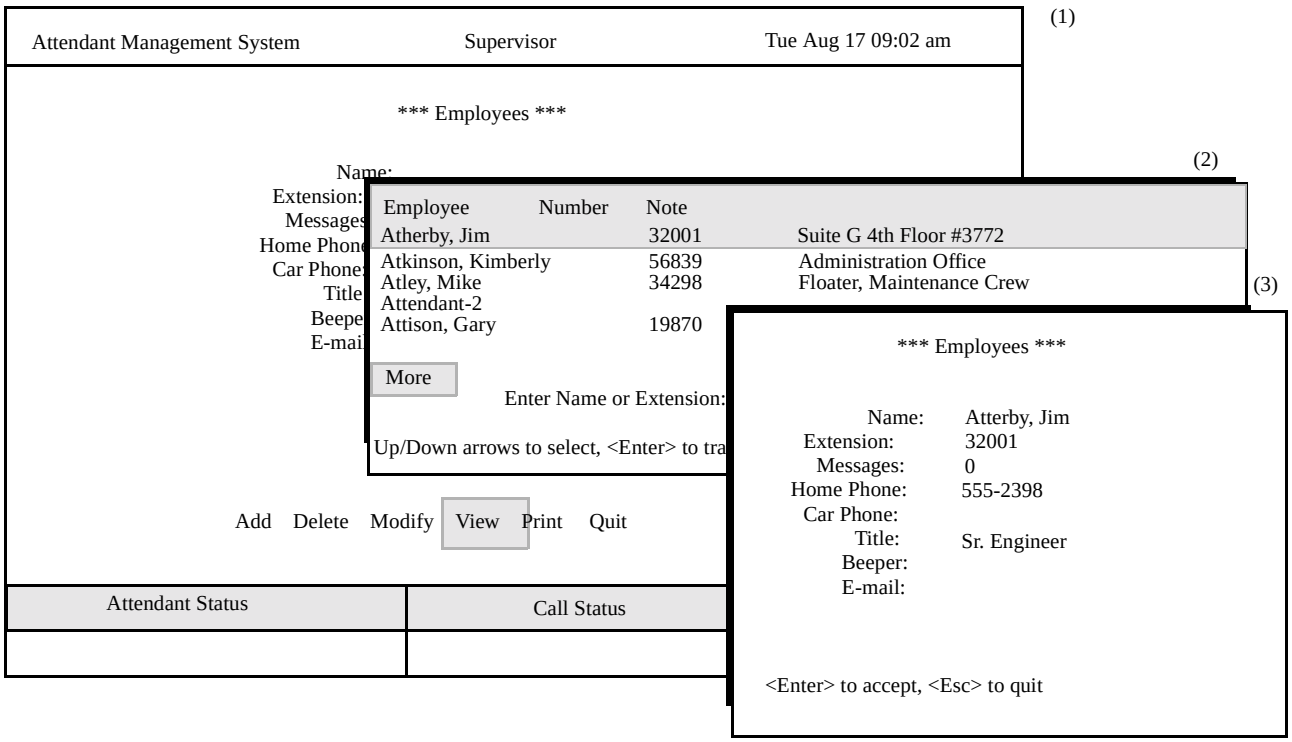

Figure 4-4 Modify A Record

External Numbers

To search for external numbers, enter them exactly as they appear in the database, including parentheses and dashes. The actual *number-called* field should contain any required area code or prefixes, such as “9”—but should not contain non-numeric characters.

Procedure

Action	Result
Enter **m** to select the **Modify** command. (1)	A name or number entry field appears below. At the top of the screen, a heading is highlighted.
Type part or all of the name or number of the record to be modified and press **Enter**. To display all names or numbers, press **Enter** when the blank entry field is highlighted.	All the matching records in the database display. (2)
Using the arrow keys, move the highlight to the desired name or number and press **Enter**.	The contents of the selected record display. (3)
Use the arrow keys to move among the fields, the backspace key to erase existing data, and the space bar to toggle among options within a field. **Note:** *To quickly clear existing data from a field, press **Ctrl** <**W**> together.* Enter new data where necessary, referring to the field definitions described in "Fields by Record Type" on page 125 as needed. Press **Enter** after each entry.	The message "**Do you want to save changes? (Y/N)**" appears.
Type **y** and press **Enter** to save the modifications, or **Type n** and press **Enter** to cancel the modifications.	If changes were saved, the word "**Modified**" is displayed in the Attendant Status window to show that the modified record has been saved in the database. "**Record not modified**" is displayed if the modification was cancelled. The cursor is positioned on the command line.

View Database Records

Use this procedure to display selected database records and print from the screen.

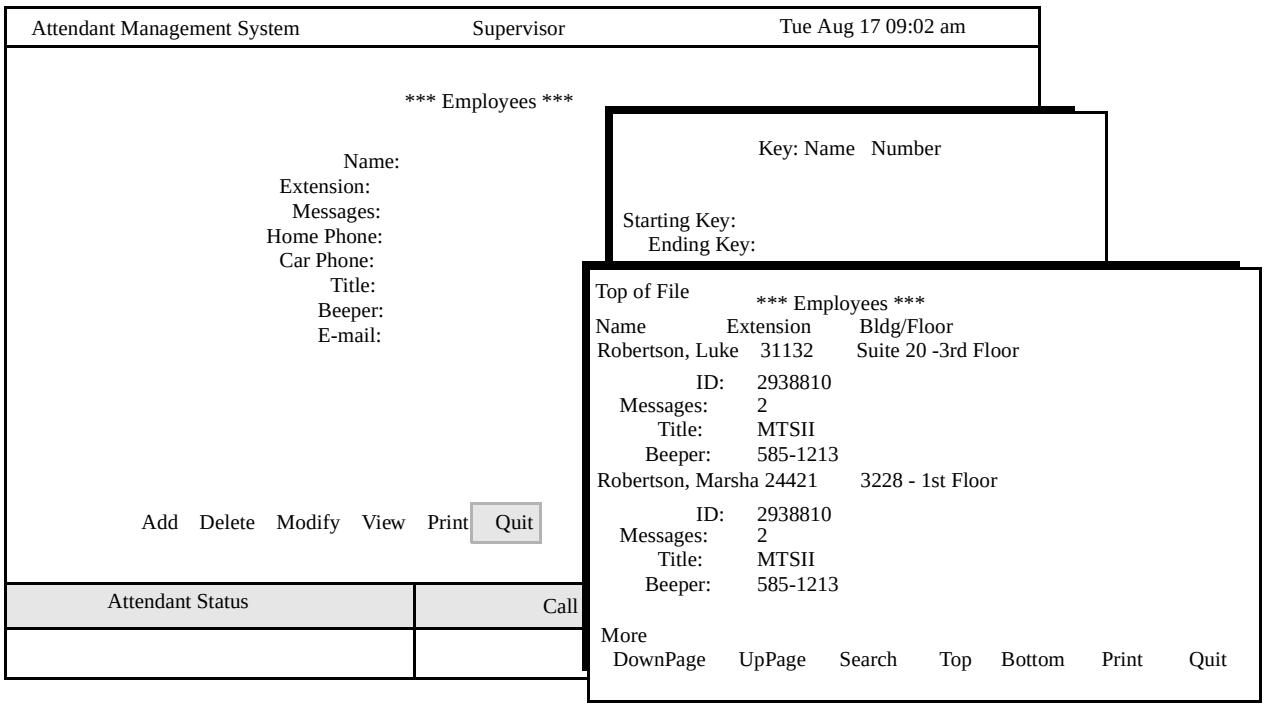

Figure 4-5 View Database Records

Range Values

The first digit of the beginning value must be smaller than the first digit of the ending value. For instance, if “41” is entered as the beginning value and “299” is entered as the end, the search will fail because 4 is greater than 2. Note also that names must be entered exactly as they were entered into the database (e.g., first letter capitalized).

Procedure

Action	Result
On the record type screen, enter **v** to select the **View** command. (1)	A window appears, requesting the search key and the starting and ending values, or keys, for the search range. (2)
Type the first record value and press **Enter** and then the last and press **Enter** to give the range of records to be viewed.	All records within the range shown are displayed. (3)
Use the **DownPage** command to move forward one page, the **UpPage** command to move back one page, the **Top** command to move to the beginning of the display, and the **Bottom** command to move to the end of the display.	
Search the Display: Enter **s** to select the Search command. At the prompt, type the desired pattern and press **Enter**.	All occurrences of the pattern on that page are highlighted.
Print the Display: Enter **p** to select the **Print** command. At the prompt, enter **f** to print the whole file or **s** to print just the screen and press **Enter**.	There is a pause while the file is sent to the printer. Then the command line returns.
To exit the display, enter **q** (quit).	The record type screen reappears, and the cursor is positioned on the command line.

Print Database Records

Use this procedure to print all or part of the records of a selected type in the database.

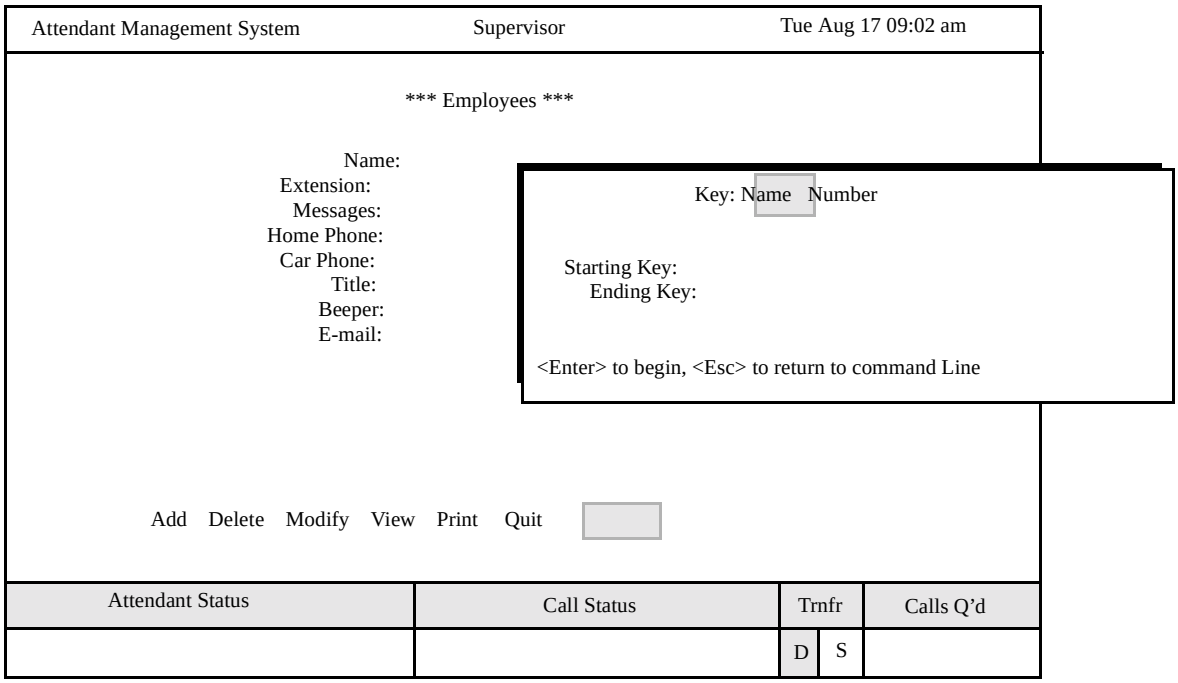

Figure 4-6 Print Database Records

Range Values

The first digit of the beginning value must be smaller than the first digit of the ending value. For instance, if "41" is entered as the beginning value and "299" is entered as the end, the search will fail because 4 is greater than 2. Note also that names must be entered exactly as they were entered into the database (e.g., first letter capitalized).

Procedure

Action	Result
On the record type screen, enter **p** to select the Print command. (1)	A window appears, requesting the search key and the starting and ending values, or keys, for the search range. (2)
Using the space bar, toggle between the displayed keys and press **Enter** to select the desired key. Type the first record value and press **Enter**. Type the last and press **Enter** to give the range of records to be printed.	All records within the given range are sent to the printer. The cursor is positioned on the command line.

Chapter 5 Extension Maintenance

Introduction

The Extension Maintenance option on the Main Menu is used to add, modify, delete, view, and print extension assignments in the AMS. Extension data entered through this option must match assignment data entered for the same extensions at the PBX Maintenance Administration Terminal (MAT).

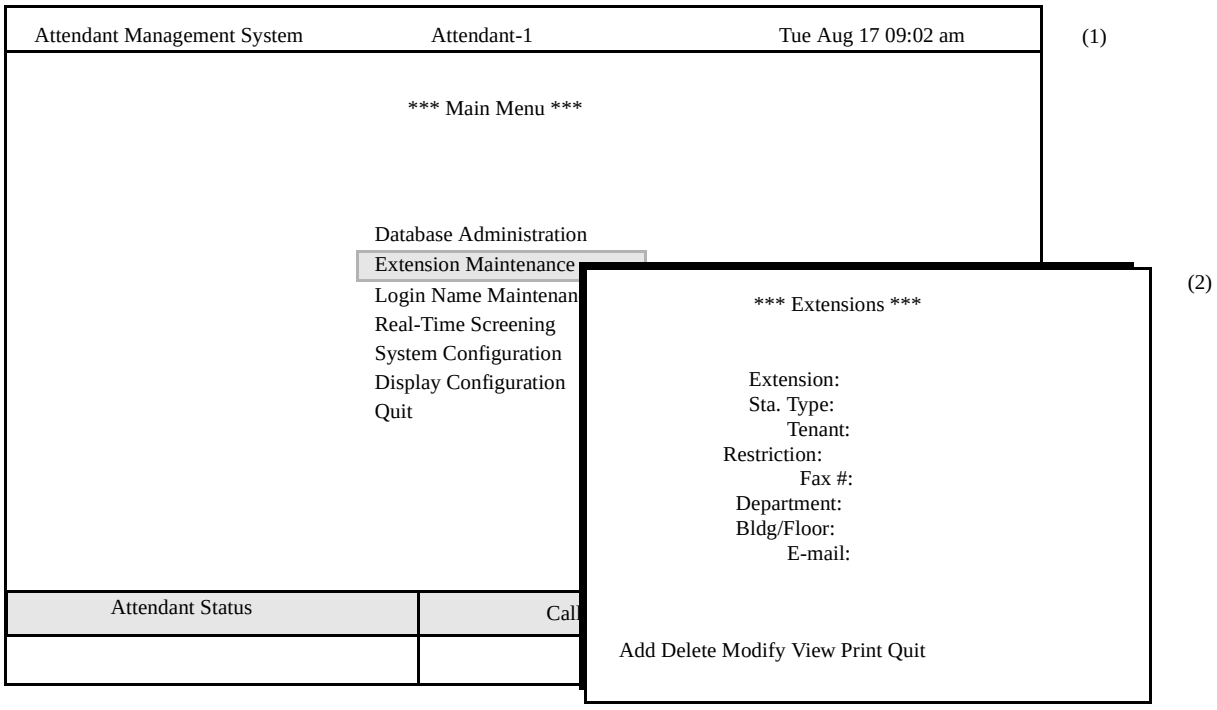

Figure 5-1 Extension Maintenance

Configurable Fields

The fields displayed for data entry to the extension records can be configured with the Input Menu option on the Display Configuration menu, which is accessed from the Main Menu. (See “Fields by Record Type” on page 125 for more information.) for more information about the fields displayed when this option is selected. Note that extension entries must be unique. For instance, a CCIS access code should be entered if it must be “prepended” to the extension during dialing.

View Command

The **View** command displays a selection, or range, of records. The range is specified by a beginning pattern and an ending pattern. The pattern can be either part or all of a number. When the **View** command is selected, a pop-up window prompts for the key by which the records are to be retrieved and the range within which records are to be selected.

Menu Access

The Supervisor is always authorized to enter this menu option. You can grant supervisory privileges to a login name with the Login Maintenance option from the Main Menu. (See Chapter 6, "Login Name Maintenance," on page 95 for more information.)

Procedure

Action	Result
On the Main Menu, enter **e** to select the **Extension Maintenance** option. (1)	The Extensions screen displays. (2)
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Extensions screen, enter **q** (quit).	The Main Menu reappears.

Add Extension

Use this procedure to **add** an extension to the AMS database. An extension must be added through this option before it can be assigned through the Database Administration option.

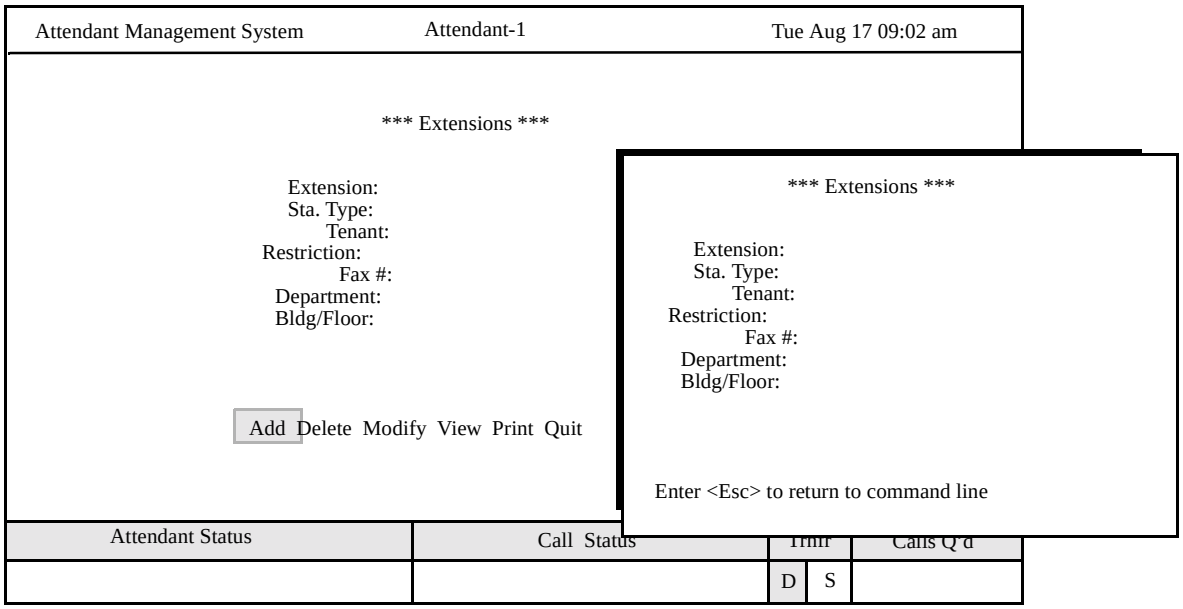

Figure 5-2 Add an Extension

Leaving Fields Empty

Not all of the fields in a record require an entry. However, the record is considered complete only when the **Enter** key has been pressed in every field. Pressing the **Esc** key before completing a full record erases any data entered up to that point.

Procedure

Action	Result
On the Extensions screen, press **Enter** to select the **Add** command. (1)	The first field is highlighted for data entry. (2)
Use the arrow keys to move among the fields, the backspace key to erase data entered in error, and the space bar to toggle among options within a field. Enter data in each field. See "Fields by Record Type" on page 125 for the field definitions. Press **Enter** after each entry.	The message "**Do you want to insert this? (Y/N)**" appears.
Type **y** and press **Enter** to confirm the addition, or **Type n** and press **Enter** to cancel the addition.	If entry is confirmed, the word "**Inserted**" is displayed in the Attendant Status window to show that the record has been inserted into the database. "**Record not inserted**" is displayed if the addition was cancelled. The cursor is positioned on the command line.

Delete Extension

Use this procedure to delete an extension. Make sure to remove an extension from any assignments in the employee or internal database before deleting it from AMS through this option.

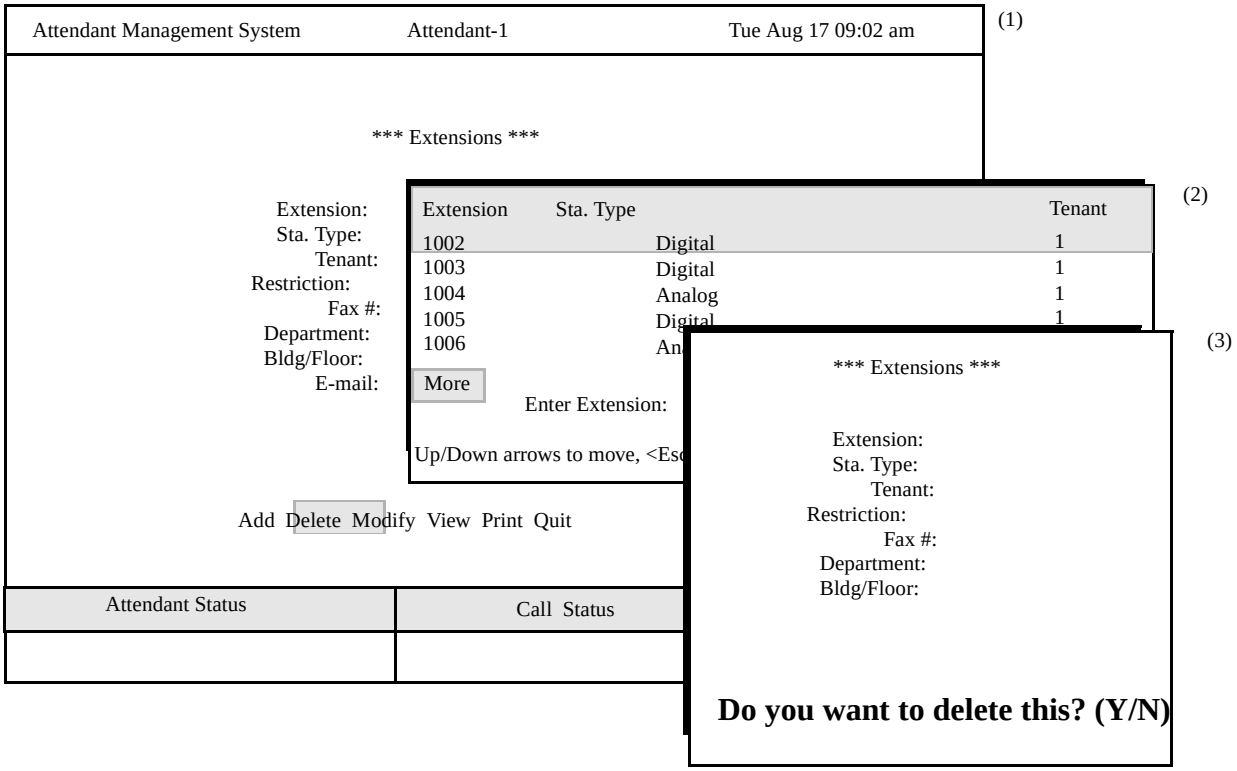

Figure 5-3 Delete an Extension

Procedure

Action	Result
Enter **d** to select the **Delete** command. (1)	A number entry field appears below. At the top of the screen, a heading is highlighted.
Type part or all of the extension and press **Enter**. To display all the matching records, press **Enter** when the blank entry field is highlighted.	All of the matching extensions in the database are displayed. (3)
Using the arrow keys, move the highlight to the desired extension and press **Enter**.	The record type screen appears with the field entries of the selected extensions displayed. The message "**Do you want to delete this? (Y/N)**" is displayed below.
Type **y** and press **Enter** to confirm the deletion, or **Type n** and press **Enter** to cancel the deletion.	If deletion is confirmed, the word "**Deleted**" is displayed in the Attendant Status window to show that the record has been deleted from the database. "**Record not deleted**" is displayed if the deletion was cancelled. The cursor is positioned on the command line.

Modify Extension

Use this procedure to make changes to the field entries of a particular extension. Be sure to coordinate changes to an extension assignment through this option with extension information in the database (i.e., Database Administration option) and at the PBX MAT. All of these assignments for an extension should correspond to one another.

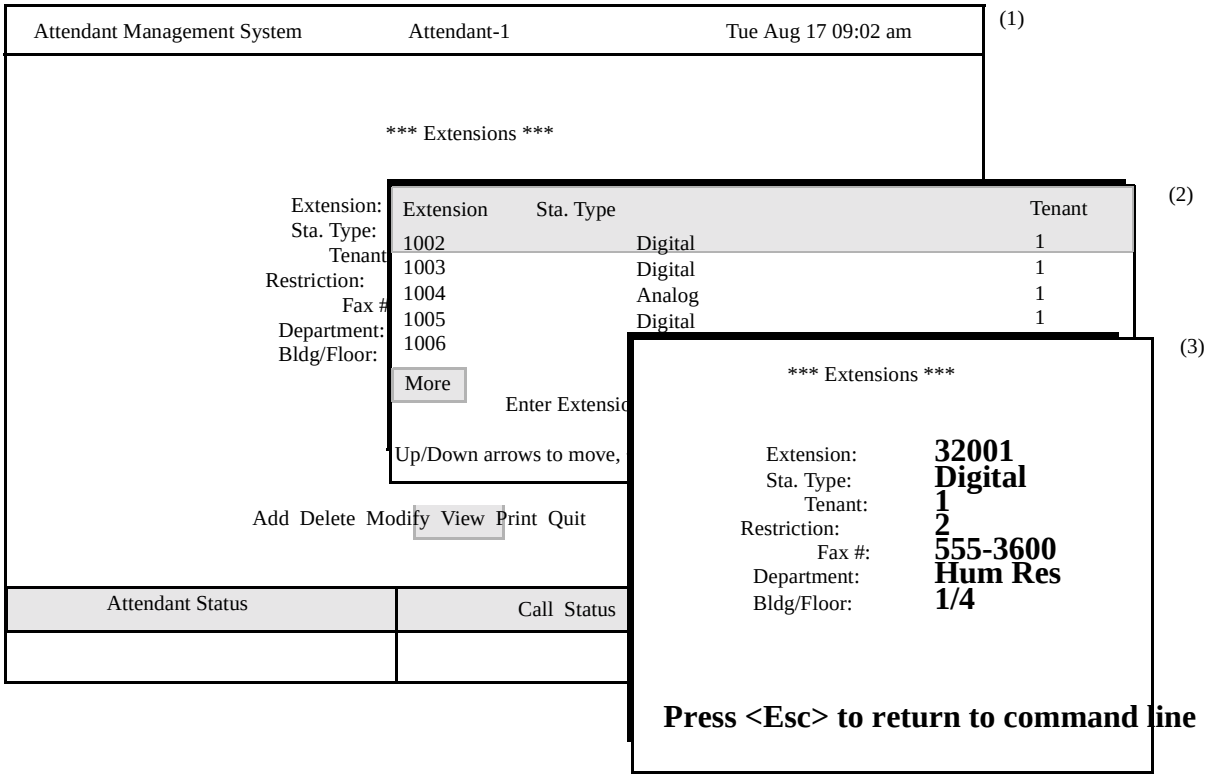

Figure 5-4 Modify An Extension

Procedure

Action	Result
Enter **m** to select the **Modify** command. (1)	An extension entry field appears below. At the top of the screen, a heading is highlighted.
Type part or all of the extension of the record to be modified and press **Enter**. To display all extensions, press **Enter** when the blank entry field is highlighted.	All the matching extensions in the database display. (2)

View Extensions

Use this procedure to display selected extensions for on-screen viewing or printing.

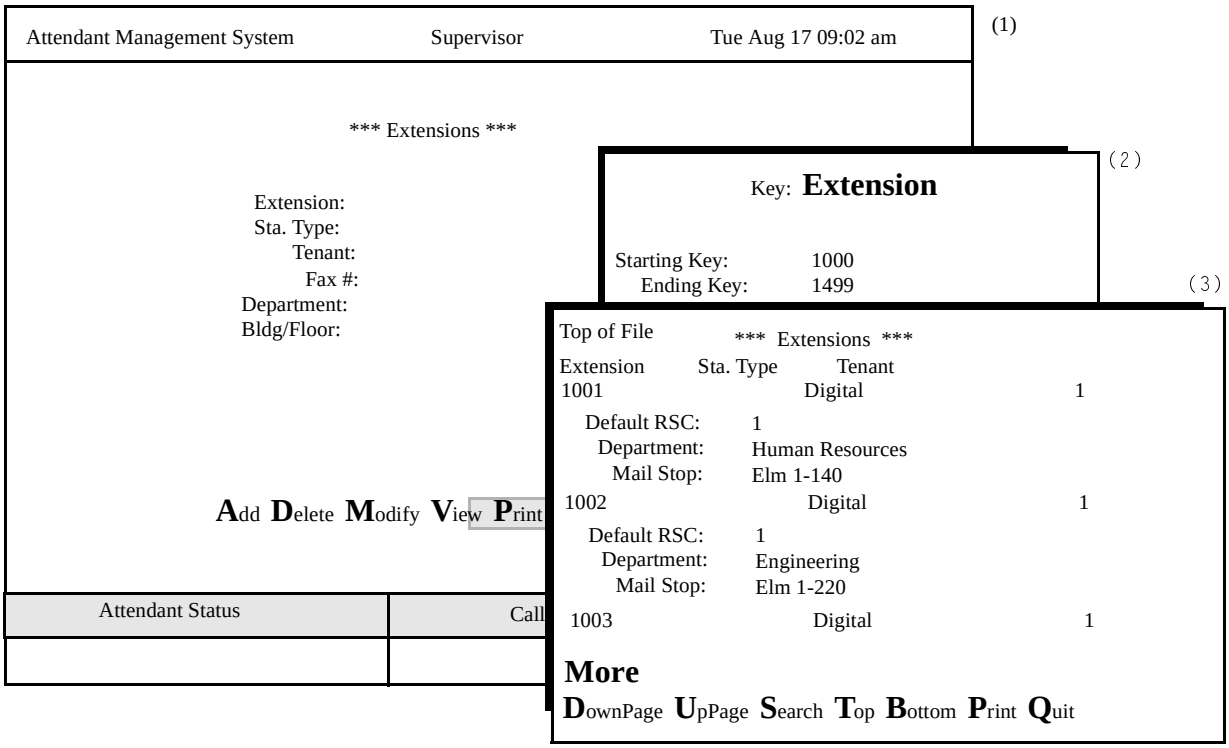

Figure 5-5 View Extension

Range Values

The first digit of the beginning value must be smaller than the first digit of the ending value. For instance, if “41” is entered as the beginning value and “299” is entered as the end, the search will fail because 4 is greater than 2.

Procedure

Action	Result
On the record type screen, enter **v** to select the **View** command. (1)	A window appears, requesting the search key and the starting and ending values, or keys, for the search range. (2)
Type the first record value and press **Enter** and then the last and press **Enter** to give the range of records to be viewed.	All records within the range shown are displayed. (3)
Use the **DownPage** command to move forward one page, the **UpPage** command to move back one page, the **Top** command to move to the beginning of the display, and the **Bottom** command to move to the end of the display.	
Search the Display: Enter **s** to select the Search command. At the prompt, type the desired pattern and press **Enter**.	All occurrences of the pattern on that page are highlighted.
Print the Display: Enter **p** to select the **Print** command. At the prompt, enter **f** to print the whole file or **s** to print just the screen and press **Enter**.	There is a pause while the file is sent to the printer. Then the command line returns.
To exit the display, enter **q** (quit).	The Extensions screen reappears, and the cursor is positioned on the command line.

Print Extensions

Use this procedure to print all or part of the AMS extension assignments.

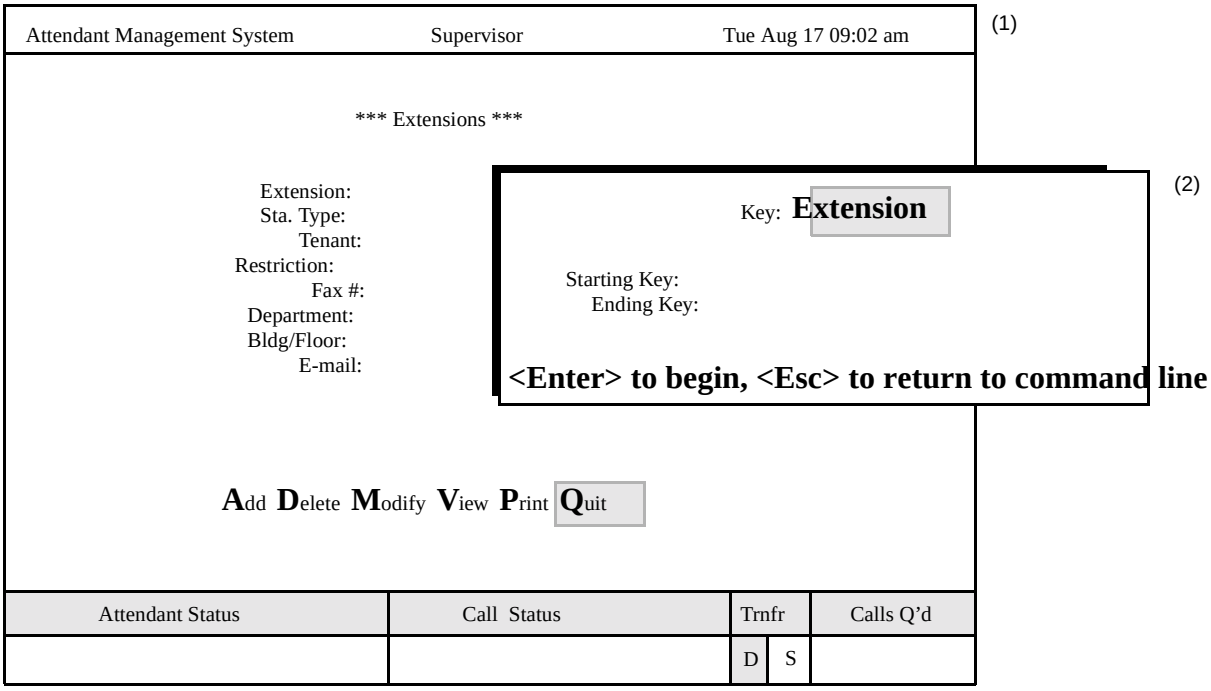

Figure 5-6 Print Extensions

Range Values

The first digit of the beginning value must be smaller than the first digit of the ending value. (For instance, if 41 is entered as the beginning value and 299 is entered as the end, the search will fail because 4 is greater than 2.)

Procedure

Action	Result
On the record type screen, enter **p** to select the **Print** command. (1)	A window requests the search key, and the starting and ending values, or keys, for the search range. (2)
Using the space bar, toggle between the displayed keys and press **Enter** to select the desired key. Type the first record value and press **Enter**. Type the last and press **Enter** to give the range of records to be printed.	All records within the given range are sent to the printer. The cursor is positioned on the command line.

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Chapter 6 Login Name Maintenance

Use the Login Name Maintenance option on the Main Menu to add, delete, and modify login names and passwords and to print and view attendant names. Login names are also used when generating reports in the AMS.

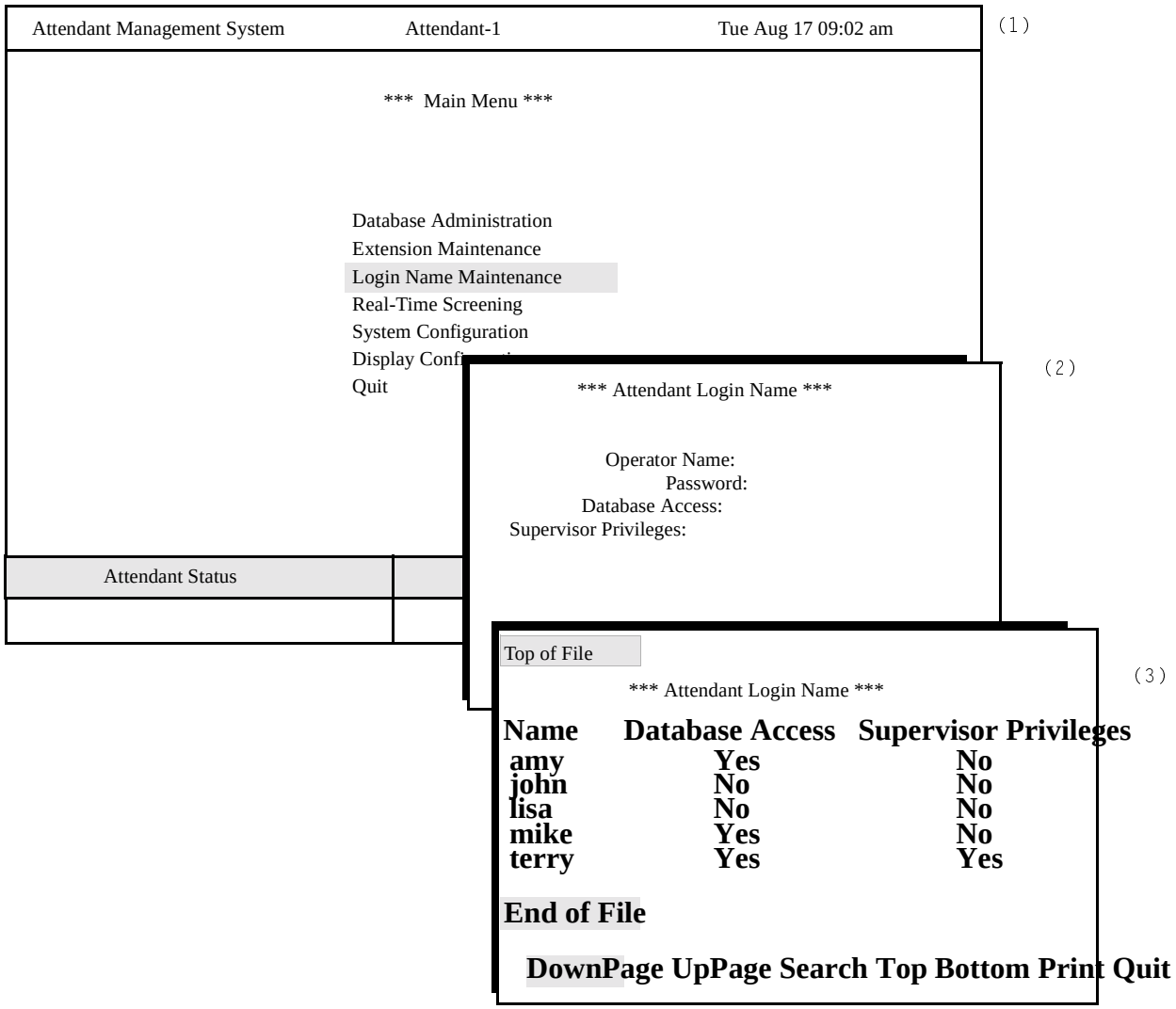

Figure 6-1 Login Name Maintenance

Introduction

Use this option to maintain names, passwords, and access privileges for all attendants. You can add, delete, change, view, and print any number of attendant names. There must be at least one supervisor login name and password in the system at all times. AMS is installed with a default supervisor login name and password, whereas all attendant names and passwords must be entered via this option.

Search Function

AMS can search for a specific name from the full list of attendant names when you enter *the full attendant name*. Names are not retrieved and displayed from partial entries.

Procedure

Action	Result
On the Main Menu, enter **l** to select the Login Name Maintenance option. (1)	The first Attendant Login Name screen displays. (2)
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Extensions screen, enter **q** (quit).	The Main Menu reappears.

Add an Attendant

Use this option to add an attendant.

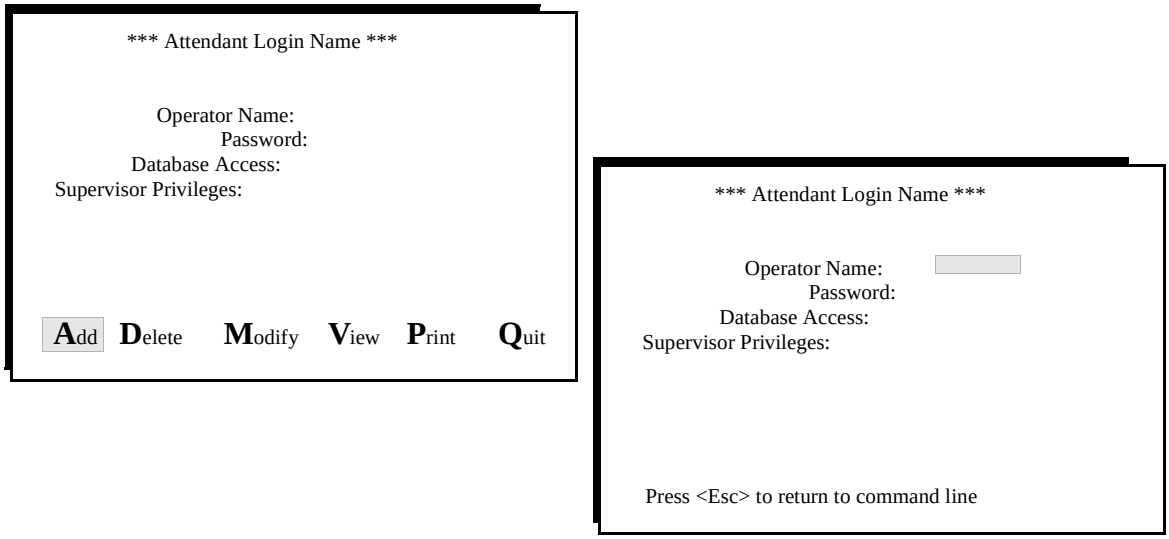

Figure 6-2 Add an Attendant

Procedure

Action	Result
Enter **a** to select the **Add** command.	The cursor moves to the *Operator Name* field.
Type the *full* name or number of the new operator, up to eight alphanumeric characters, and press **Enter**. Then type the password, up to ten alphanumeric characters, and press **Enter**. **Note:** *You will not see the password when you type it.*	The message "Do you want to insert this? (Y/N)" is displayed.
Type **y** and press **Enter** to confirm the addition, or **Type n** and press **Enter** to cancel the addition.	If entry is confirmed, the word "**Inserted**" is displayed in the Attendant Status window to show that the record has been inserted into the database. "**Record not inserted**" is displayed if the addition was cancelled. The cursor is positioned on the command line.

Delete an Attendant

Use this option to delete an attendant. This will prevent anyone from using this operator name to log in to the AMS.

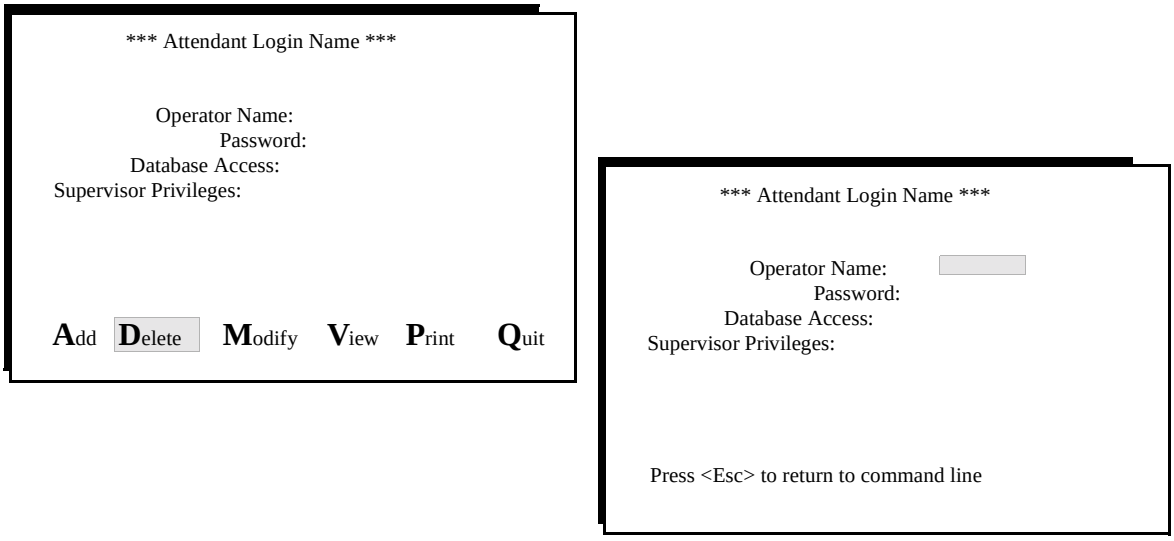

Figure 6-3 Delete an Attendant

Search Function

The AMS can search for a specific name from the full list of attendant names when you enter *the full attendant name*. Names are not retrieved and displayed from partial entries.

Procedure

Action	Result
Enter **d** to select the **Delete** command.	The cursor moves to the *Operator Name* field.
Type the *full* name or number of the operator to be deleted and press **Enter**.	The message "Do you want to delete this? (Y/N)" is displayed.
Type **y** and press **Enter** to confirm the deletion, or **Type n** and press **Enter** to cancel the deletion.	If deletion is confirmed, the word "**Deleted**" is displayed in the Attendant Status window to show that the record has been deleted from the database. "**Record not deleted**" is displayed if the deletion was cancelled. The cursor is positioned on the command line.

Modify an Attendant

Use this option to change the information associated with a particular attendant.

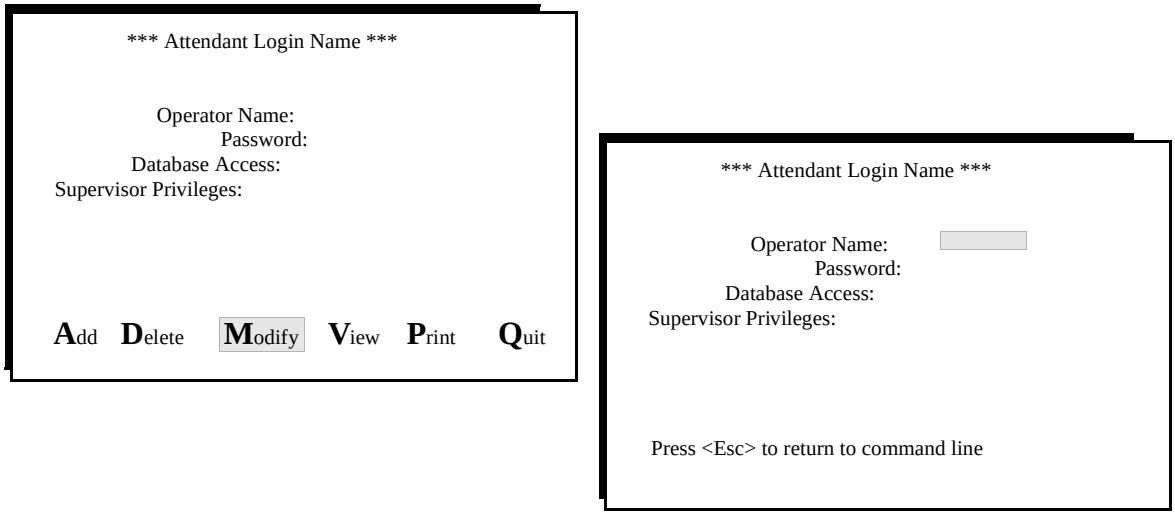

Figure 6-4 Modify an Attendant

Search Function

AMS can search the full list of attendant names for one in particular when *the attendant name is entered in full*. Names are not retrieved and displayed from partial entries.

Procedure

Action	Result
Enter **m** to select the **Modify** command.	The cursor moves to the *Operator Name* field.
Type the *full* name or number of the operator to be modified and press **Enter**.	If the entry is valid, the cursor moves to the password field for data entry.
Make a new entry to the password field as required and press **Enter**.	The message “Do you want to save changes? (Y/N)” is displayed for confirmation before saving the changes.
Type **y** and press **Enter** to save the changes, or	If the modification is confirmed, the notation “Modified” or “Record not modified” is displayed under Attendant Status to show that the record has been modified.
Type **n** and press **Enter** to cancel them.	“Record not modified” is displayed under Attendant Status to show that the modification has been cancelled. The cursor is positioned on the command line.

View Attendants

Use this procedure to display all attendant login names for on-screen viewing or printing.

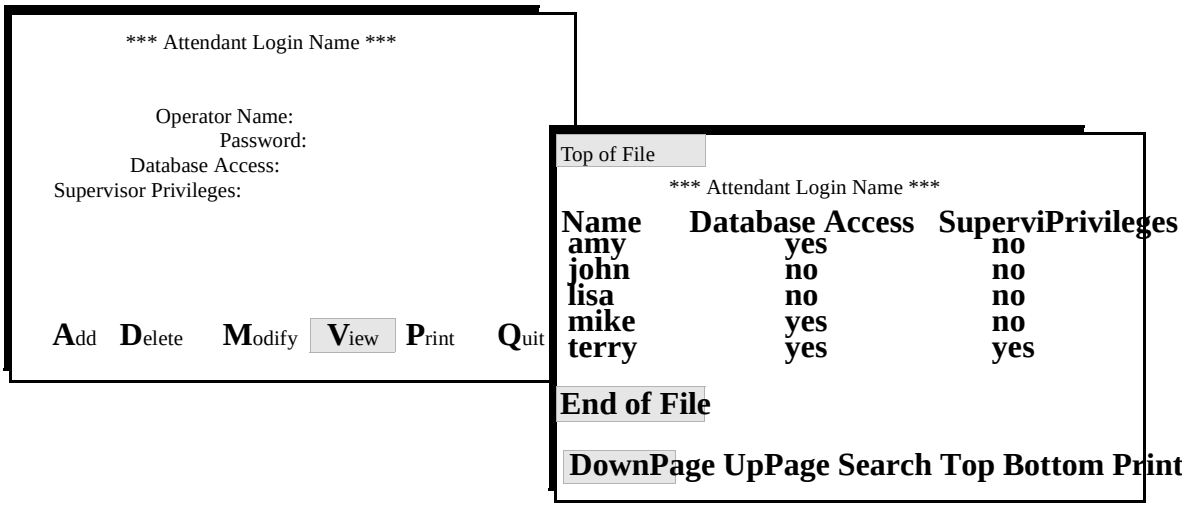

Figure 6-5 Modify an Attendant

Procedure

Action	Result
Enter **v** to select the **View** command.	The second Attendant Login Names screen displays the list of attendants by name with their Database Access and Supervisor Privileges status. (3)
Use the **DownPage** command to move forward one page, the **UpPage** command to move back one page, the **Top** command to move to the beginning of the display, and the **Bottom** command to move to the end of the display.	
Search the Display: Enter **s** to select the Search command. At the prompt, type the full name or number of the desired operator and press **Enter**.	The display moves to highlight the desired name or number.
Print the Display: Enter **p** to select the **Print** command. At the prompt, enter **f** to print the whole file or **s** to print just the screen and press **Enter**.	There is a pause while the file is sent to the printer. Then the command line reappears.
To exit the second Attendant Login Names screen, enter **q** (quit).	The first Login Name Maintenance screen reappears with the cursor positioned on the command line.

Chapter 7 Real–time Screening

The Real-Time Screening option on the AMS Main Menu displays current attendant call processing activity for on-screen viewing and printing.

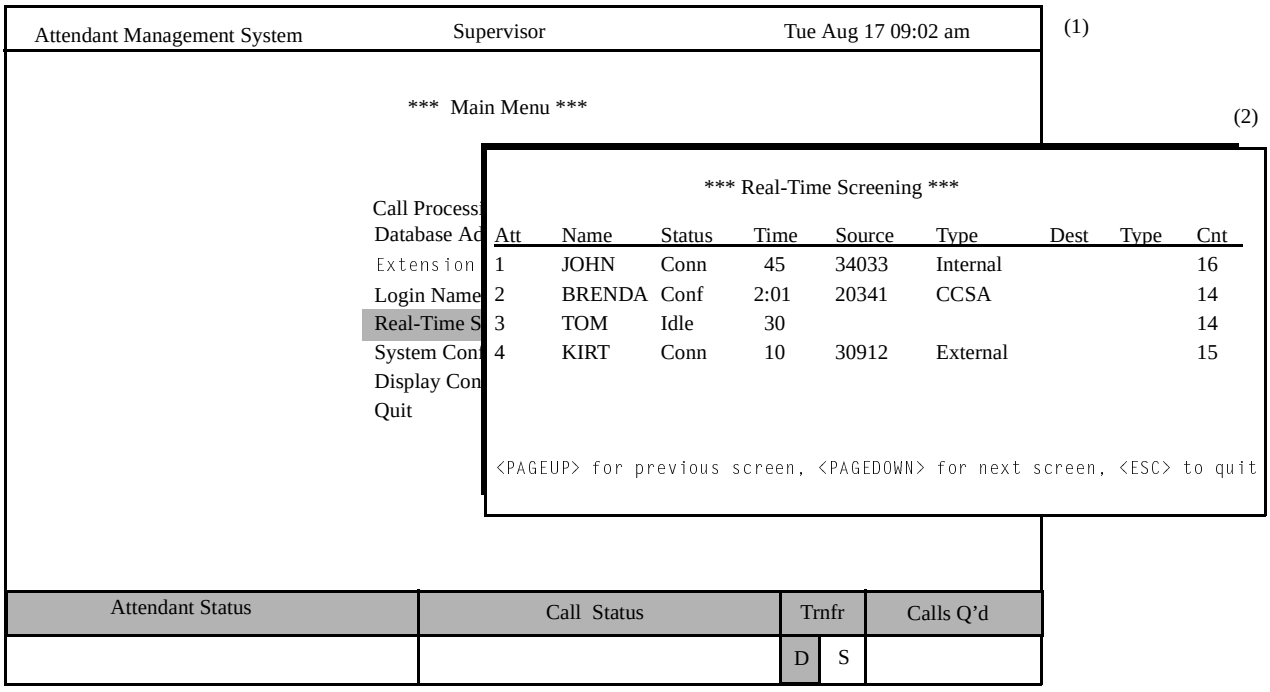

Figure 7-1 Real-Time Screening

Display Fields

The field information displayed on the Real-Time screen is updated every second. The fields in the display are:

Att – Number of the attendant station.

Name – Name of the attendant currently logged onto the station.

Status – Status of the attendant at the station

- Idle, RBT - hearing ring-back tone or originating a call
- RBTH - transferring a call to an external extension that has not been answered, so that the source caller is on hold
- Conn - connected to one caller
- Dest - connected to the destination
- Src - talking to the source caller with the destination on hold
- Conf - in conference call with both source and destination

Time – Number of minutes that the attendant has been in that status.

Source – Current source caller.

Type – Type of call that the attendant is now processing.

Dest – Current destination caller.

Type – Destination caller's equipment type.

Cnt – Number of calls this attendant has processed since login; this can vary due to recalls.

Note: *NEC recommends that this screen not be left unattended because it consumes processing power otherwise used in real-time operations.*

Procedure

Action	Result
On the Main Menu, enter **r** to select the Real-Time Screening option. (1)	The Real-Time Screening display appears with changes in attendant status updated every second. (2)
Use the **down arrow** and **up arrow** keys to see the screens previous and following screens.	Data for ten attendants is displayed on each screen, with five screens total.
To exit the Real-Time Screening display, enter **q** (quit).	The Main Menu reappears.

Chapter 8 System Configuration

The System Configuration option on the Main Menu modifies configurable parameters that affect AMS functions.

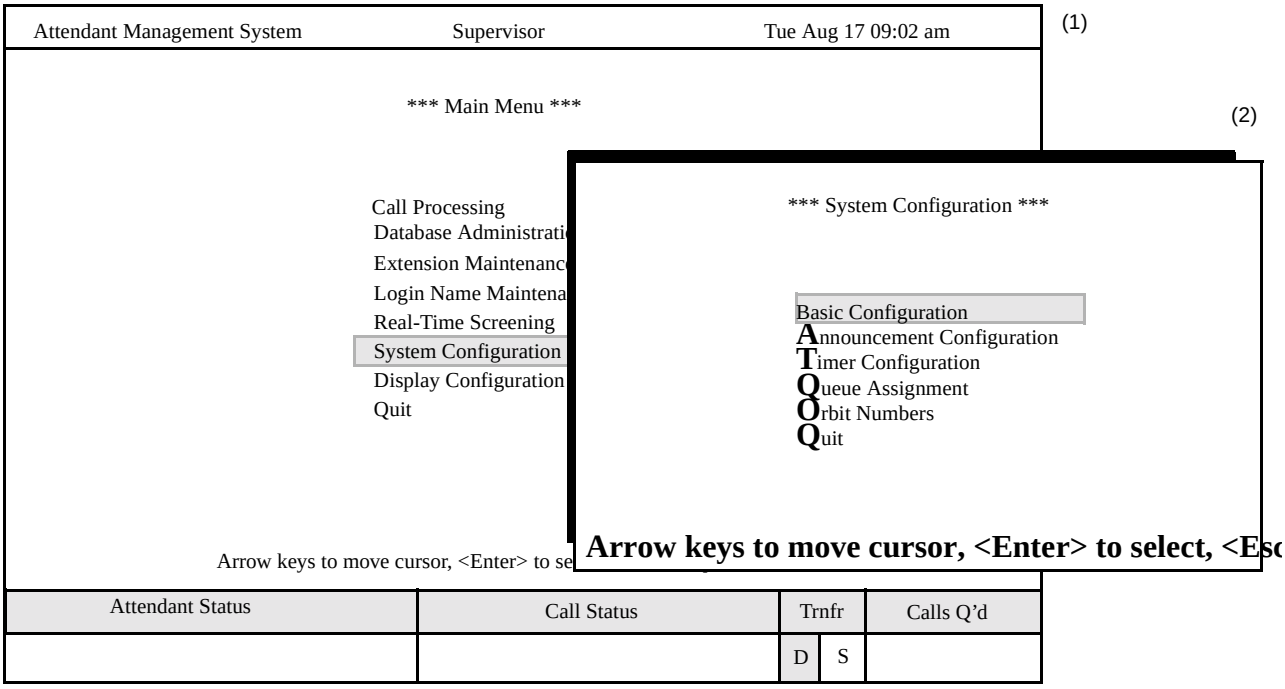

Figure 8-1 System Configuration

Menu Options

The configurable parameters are grouped into three categories; Basic, Announcement, and Timer. Each category is an option on the System Configuration menu, which has the following options:

- Basic Configuration – Parameters for data storage and management.
- Announcement Configuration– Announcement trunks for held and parked calls, delays, and uncovered night hours.
- Timer Configuration – Configuration of various time-out values that govern the length of time a call can be parked, camped-on, remain ringing, etc.
- Queue Assignment – Assignment of queues to incoming routes and monitored numbers to enable attendants to receive incoming calls.
- Orbit Numbers – Assignment of the numbers to be announced in paging for the paged parties to call to retrieve their calls automatically.

Each of these parameter categories is discussed in a section of this chapter.

Procedure

Action	Result
On the Main Menu, enter **s** to select the **System Configuration** option.	The System Configuration menu displays.
Refer to the following pages for information about each menu option.	
To exit the System Configuration menu, enter **q** (quit).	The Main Menu reappears.

Basic Configuration

Use the Basic Configuration option on the System Configuration menu to modify parameters that affect the way in which AMS supports attendant functions.

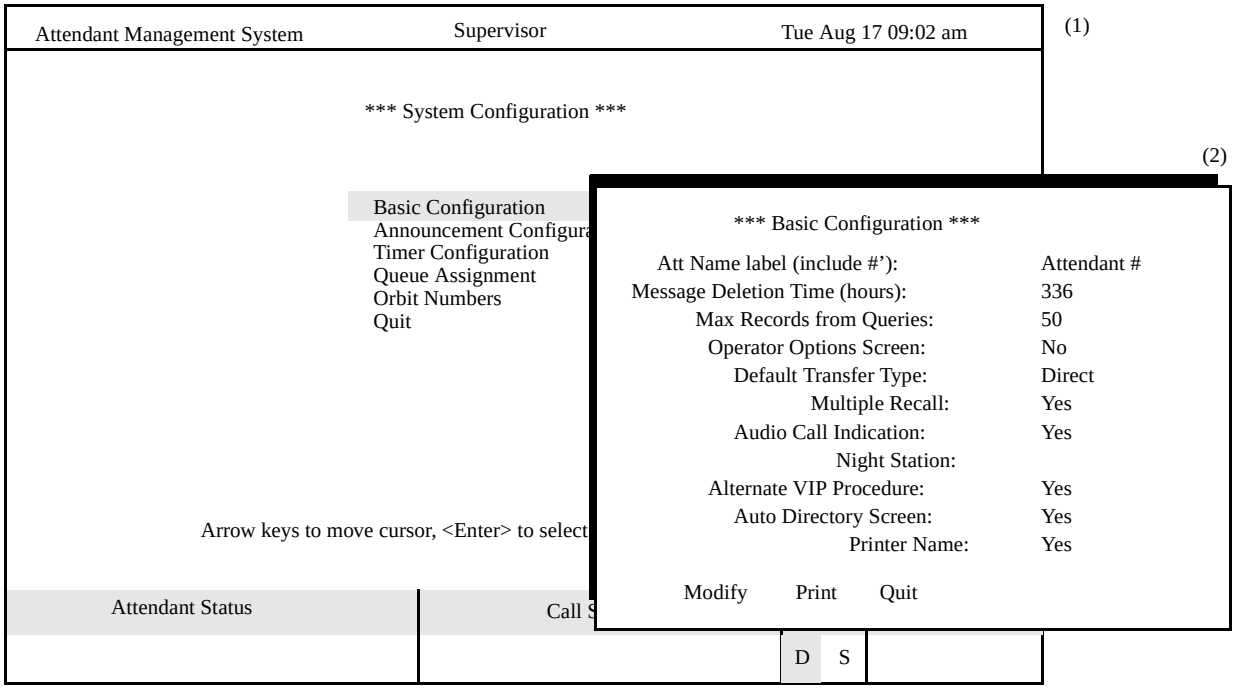

Figure 8-2 Basic Configuration

Procedure

Action	Result
On the System Configuration menu, enter **b** to select the **Basic Configuration** option.	The Basic Configuration screen appears.
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Basic Configuration screen, enter **q** (quit).	The System Configuration Menu appears.

Modify the Basic Configuration

Action	Result
Enter **m** to select the **Modify** command.	The first field is highlighted. Use the arrow keys to move among fields, the space bar to toggle between field options, and the backspace key to erase previous entries.
Type new data according to the field definitions listing in the following section, pressing **Enter** after each entry.	After the last **Enter**, the message "Do you want to save changes? (Y/N)" appears.
Type **y** and press **Enter** to save any changes, or	If the changes are saved, the word "Modified" is displayed under Attendant Status to indicate that the change has been saved.
Type **n** and press **Enter** to cancel them.	"Record not modified" is displayed if the change was cancelled. The cursor is positioned on the command line.

Basic Configuration Field Definitions

Field Name	Field Definition
Att Name Label	The form in which the attendant name is notated throughout AMS. This must contain a pound sign (#).
Message Deletion Time	The amount of time in hours after which AMS deletes messages that have been delivered.
Max Records from Queries	The maximum number of records that are displayed as a result of a Directory Lookup.
Operator Option Screen	Whether an attendant with no supervisory or database privileges should first enter one option screen or go straight into call processing: **Yes**: Will have one option menu first. This option saves time if you need to go offline and then right back online due to error. **No**: Go right into call processing after entering the name and password. There is one less keystroke than if the answer is "yes."
Default Transfer Type	The type of transfer, whether direct or screened, that serves as the default selection.
Multiple Recall	Whether timed-out calls are sent to all attendants or are recalled to the individual attendant, using the following options: **Yes**: Send to all attendants as *xxxxxT.O.* incoming calls. **No**: Recall to individual attendant. If the individual attendant is not logged in, the call will be routed to another attendant.
Audio Call Indication	Whether the attendant CRT is to sound a beep.

Basic Configuration Field Definitions

Field Name	Field Definition
Night Station	The “night mode” number where all incoming calls are rerouted when no attendant station is logged on and no night ANT is configured. If a number is not specified here and no night ANT is configured, all incoming calls hear ring-back tone until they hang up.
Alternate VIP Procedures	The VIP procedures. **Yes**: When a VIP employee is selected from the directory, the attendant is asked if a message should be taken instead. If the second comment in the employee record contained an alternate number, the attendant may call that number. The attendant may always call the VIP’s extension. **No**: The call is transferred to the VIP extension without using additional options.
Auto Directory Screen	Whether the Directory screen displays automatically when a call is answered.
Printer Name	The desired network printer

Print the Basic Configuration

Action	Result
Enter **p** (print).	The displayed configuration is sent to the printer.

Announcement Configuration

The Announcement Configuration option on the System Configuration menu specifies the required announcement trunks.

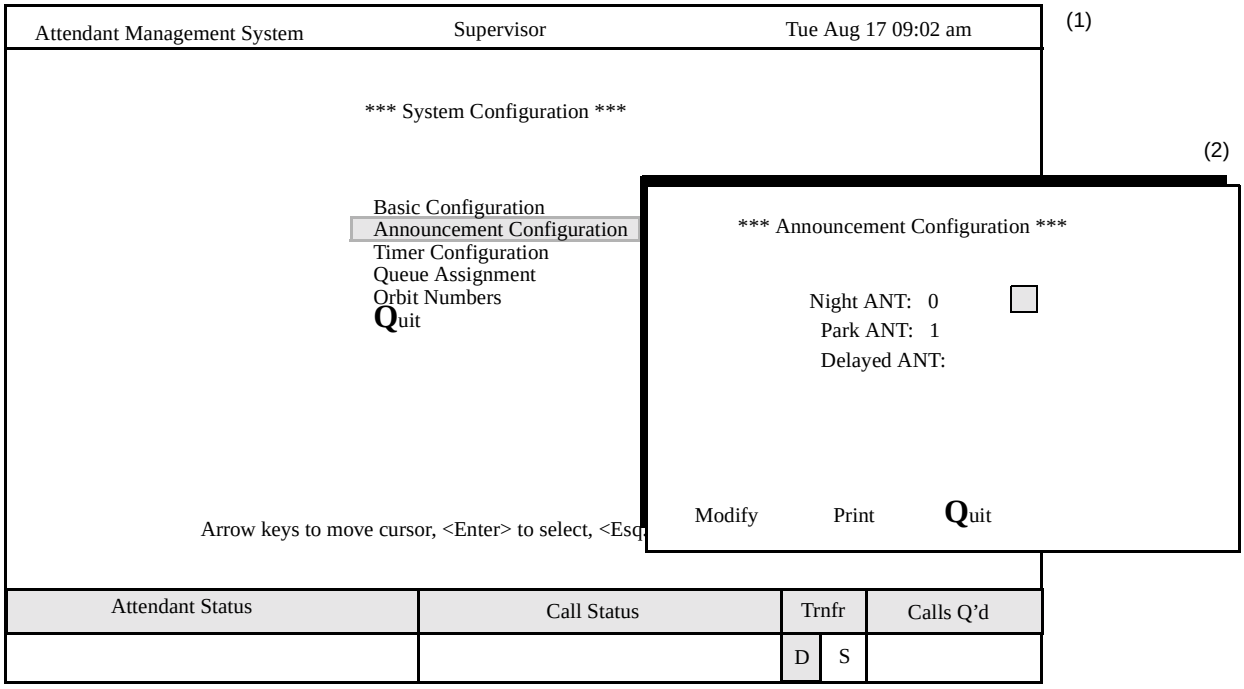

Figure 8-3 Announcement Configuration

Procedure

Action	Result
On the System Configuration menu, enter **a** to select the **Announcement** Configuration option.	The Announcement Configuration screen appears.
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Announcement Configuration screen, enter **q** (quit).	The System Configuration Menu appears.

Modify the Announcement Configuration

Action	Result
On the Announcement Configuration screen, enter **m** to select the **Modify** command.	The first field is highlighted. Use the arrow keys to move among fields and the backspace key to erase previous entries. Revise data as needed according to the field definitions below. Press **Enter** after each entry.
Type new data according to the field definitions listing in the following section, pressing **Enter** after each entry.	After the last **Enter**, the message "Do you want to save changes? (Y/N)" appears.
Type **y** and press **Enter** to save any changes, or Type **n** and press **Enter** to cancel them.	If the changes are saved, the word "Modified" is displayed under Attendant Status to indicate that the change has been saved. "Record not modified" is displayed if the change was cancelled. The cursor is positioned on the command line.

Announcement Configuration Field Definitions

Field Name	Field Definition
Night ANT	The announcement number to which all incoming calls are routed when no attendant station is logged on and there is no Night Station number configured. If a number is not specified here and no night station number is configured, all incoming calls hear ring back tone.
Park ANT	The announcement message played for parked callers. It should correspond directly to the message number assigned at the MAT.
Delayed ANT	The announcement message played for incoming calls waiting beyond the delayed time (See "Timer Configuration" on page 110 for more information.)

Print the Announcement Configuration

Action	Result
Enter **p** (print).	The displayed configuration is sent to the printer.

Timer Configuration

The Timer Configuration option on the System Configuration menu is used to specify the various time-out values required by AMS for call processing purposes.

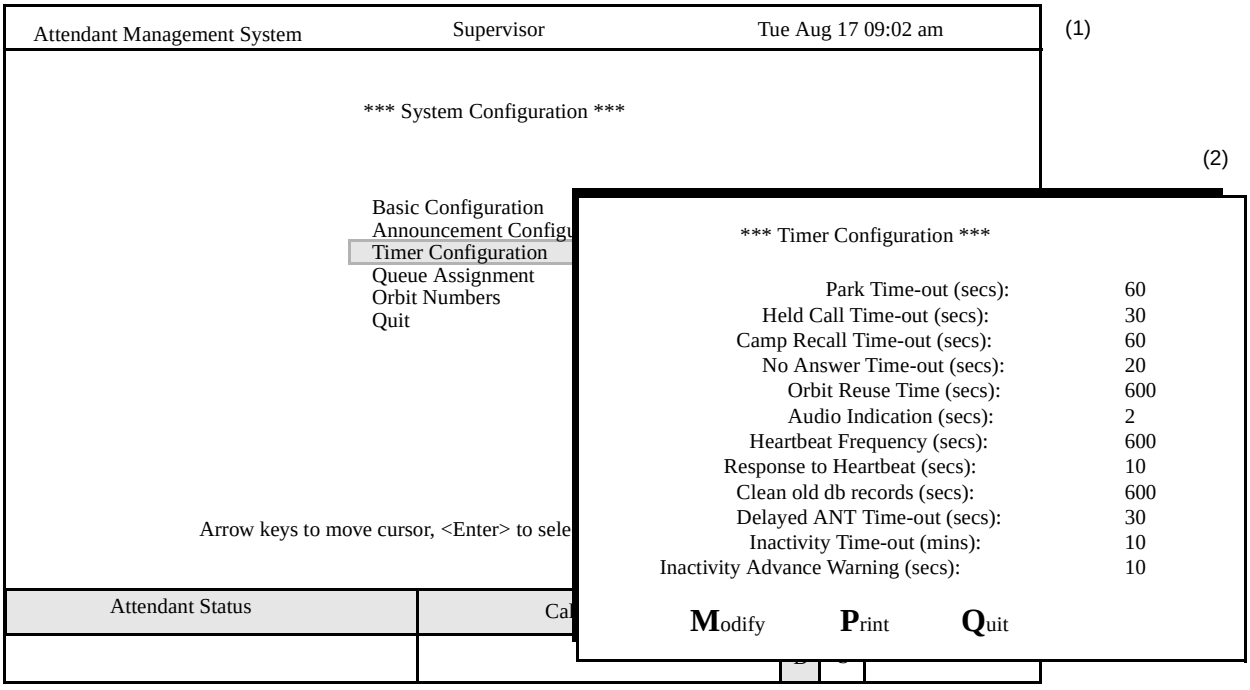

Figure 8-4 Timer Configuration

Procedure

Action	Result
On the System Configuration menu, enter **t** to select the **Timer** Configuration option.	The Timer Configuration screen appears.
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Timer Configuration screen, enter **q** (quit).	The System Configuration Menu appears.

Modify the Timer Configuration

Action	Result
On the Timer Configuration screen, enter **m** to select the **Modify** command.	The first field is highlighted. Use the arrow keys to move among fields and the backspace key to erase previous entries. Revise data as needed according to the field definitions below. Press **Enter** after each entry.
Type new data according to the field definitions listing in the following section, pressing **Enter** after each entry.	After the last **Enter**, the message "Do you want to save changes? (Y/N)" appears.
Type **y** and press **Enter** to save any changes, or Type **n** and press **Enter** to cancel them.	If the changes are saved, the word "Modified" is displayed under Attendant Status to indicate that the change has been saved. "Record not modified" is displayed if the change was cancelled. The cursor is positioned on the command line.

Timer Configuration Field Definitions

Field Name	Field Definition
Park Time-out	Amount of time in seconds that a caller can remain parked before being rerouted back to an attendant as a *ParkT.O.* call.
Held Call Time-out	Number of seconds that a caller can remain on hold before the loop key blinks.
Camp Recall Time-out	Number of seconds that a caller can remain camped on a busy station before being rerouted to an attendant as a *Camp T.O.* call. See *Multiple Recall* in "Basic Configuration Field Definitions" on page 106 for more information.

Timer Configuration Field Definitions

Field Name	Field Definition
No Answer Time-out	In a Direct transfer, amount of time in seconds that a caller waits for the destination station to answer before being rerouted back to an attendant as a *NansT.O.* call. See *Multiple Recall* in "Basic Configuration Field Definitions" on page 106 for more information.
Orbit Reuse Time	Number of seconds an orbit number remains unavailable between uses in paging.
Audio Call Indication	Number of seconds between beeps if the basic configuration specifies “Yes” for Audio Indication. See *Audio Indication* in "Basic Configuration Field Definitions" on page 106 for more information.
Heartbeat Frequency	Number of seconds between heartbeats transmitted from the Daemon. The absence a heartbeat transmitted during this time may indicate a problem with the Daemon.
Response to Heartbeat	Number of seconds within which the AMS is expected to respond to the heartbeat from the Daemon before a problem with the application is suspected.
Clean old db records	Number of seconds between database sweeps by AMS to clean out old records.
Delayed ANT Time-out	Number of seconds before an incoming caller hears the delayed announcement.
Inactivity Time-out	Number of minutes of keyboard inactivity before the operator is automatically logged off. (See “Entering and Exiting AMS” on page 6 for more information.)
Inactivity Advanced Warning	Number of seconds before automatic log off to warn the operator that automatic log off will occur. (See “Entering and Exiting AMS” on page 6 for more information.)

Print the Timer Configuration

Action	Result
Enter **p** (print).	The displayed configuration is sent to the printer.

Queue Assignment

The Queue Assignment option on the System Configuration menu allows the user to specify the OAI-monitored numbers needed by the AMS to queue calls.

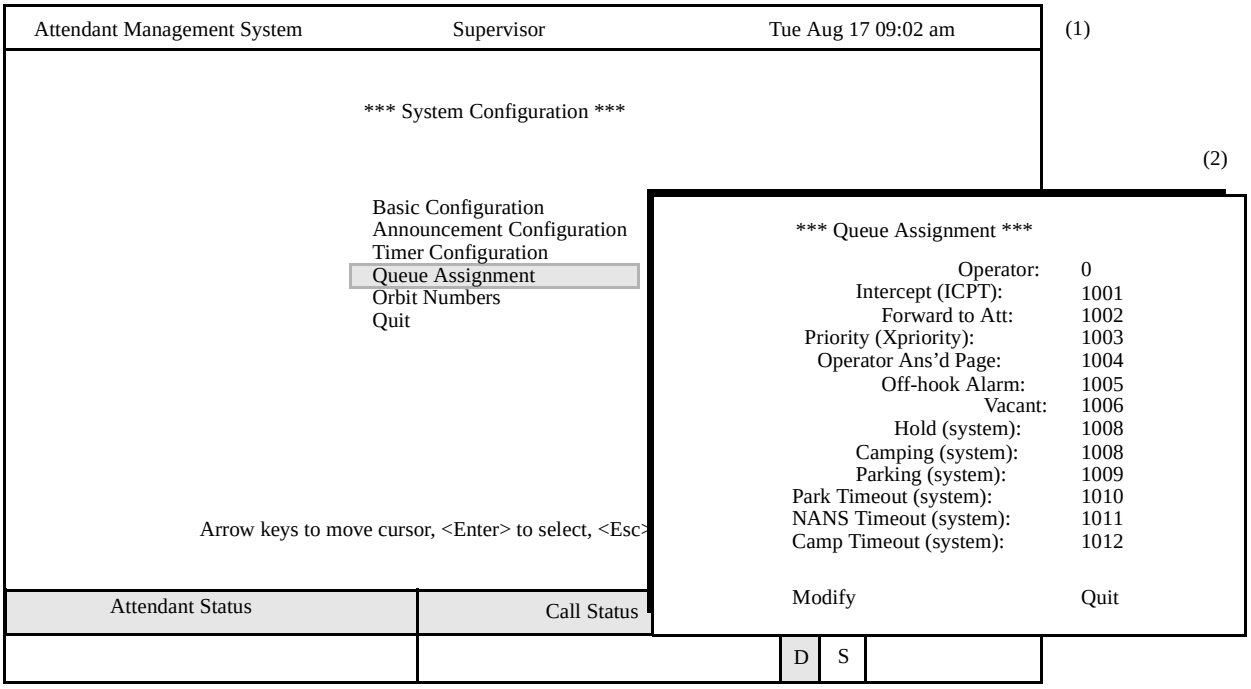

Figure 8-5 Queue Assignment

About Queues

AMS monitors the OAI-monitored numbers assigned on the PBX for incoming calls. When an incoming call arrives at a monitored number, AMS detects it and updates the queue information that corresponds with the monitored number. Calls then wait in the queue to be answered by the attendants. This is how AMS connects calls coming in to the PBX to the attendant stations. The Queue Assignment option associates AMS queues with the numbers assigned on the PBX MAT for AMS monitoring. (See "MAT Assignments" on page 30 for more information.) Any queue left unassigned in the PBX prevents the AMS from initializing. The numbers entered to this option must be unique and numeric, meaning that they cannot contain symbols such as * or #, and must not already be in use for an attendant's logical number or any record's extension.

Procedure

Action	Result
On the System Configuration menu, enter **q** to select the **Queue Assignment** option.	The Queue Assignment screen appears.
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Queue Assignment screen, enter **q** (quit).	The System Configuration Menu appears.

Modify the Queue Assignment

Action	Result
On the Queue Assignment screen, enter **m** to select the **Modify** command.	The first field is highlighted. Use the arrow keys to move among fields and the backspace key to erase previous entries. Revise data as needed according to the field definitions below. Press **Enter** after each entry.
Type new data according to the field definitions listing in the following section, pressing **Enter** after each entry.	After the last **Enter**, the message "Do you want to save changes? (Y/N)" appears.
Type **y** and press **Enter** to save any changes, or Type **n** and press **Enter** to cancel them.	If the changes are saved, the word "Modified" is displayed under Attendant Status to indicate that the change has been saved. "Record not modified" is displayed if the change was cancelled. The cursor is positioned on the command line.

Queue Assignment Field Definitions

Field Name	Field Description
Operator	The queue that receives the following calls: • Dialed to the operator number • RingDown trunks (MAT command ACNO) • Recalls when station transfers an outside call to ATT (RCL). These are queued as Internal, External, and StaXfer.
Intercept (ICPT)	The queue that receives calls from unassigned station numbers or vacant level to Vacant. This number must be assigned on the MAT as the ICPT number as well as an OAI monitored number.
Forward to Att	The queue that receives calls for stations with Call Forward Busy set to the attendant. Calls are queued as "Rt-Fwd" and are identified as "Call Forward Busy" under Source information when they are answered. **Note:** *The individual station must assign this specific number as the Call Forward-Busy number so that AMS can recognize it.*
Priority (Xpriority)	The queue that receives incoming calls to these numbers (Xpriority).
Operator Ans'd Page	The queue that receives calls that are responses to pages, to be answered by the operator.
Off-hook Alarm	The queue that receives all Off-hook alarms, forwarded to this number from the actual station to which Off-hook alarms are routed.
Vacant	The PBX can be programmed so that vacant level calls will be routed to this monitored number. Example: Calls arriving at the PBX for an invalid extension.

Queue Assignment Field Definitions

Field Name	Field Description
Hold (system)	The queue in which calls are held.
Camping (system)	The queue in which calls are camped.
Parking (system)	The queue in which calls are parked.
Park Timeout	The queue that receives timed-out parked calls.
NANS Timeout	The queue that receives calls that timed-out while waiting for an answer.
Camp Timeout	The queue that receives timed-out camped calls.

Orbit Numbers

The Orbit Numbers option on the System Configuration menu specifies the numbers that are announced in paging as the meet-me page numbers. Paged parties can dial these numbers to retrieve their calls without attendant help.

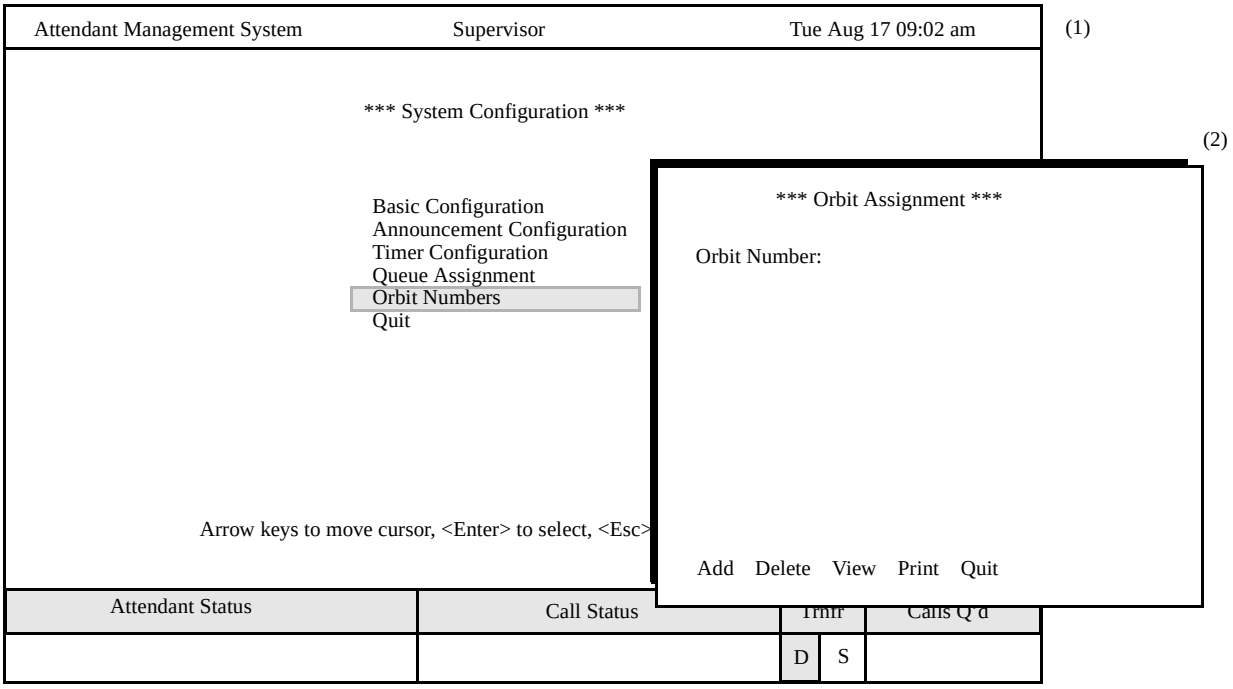

Figure 8-6 Orbit Numbers

About Orbit Numbers

When an attendant parks a call, the AMS finds the next available orbit number, displays it to the attendant under *Attendant Status*, and inserts it into the parked call record. When the paged party calls the orbit number, the AMS retrieves the parked call record, joins the two parties, and frees the orbit number to be used again. The AMS also frees the orbit number when the attendant joins the parties from the attendant screen. If the parked party is never joined to the paged party, the orbit number is retained for a configured length of time, after which the AMS frees it to be used again. (Refer to *Orbit Reuse Time* in "Timer Configuration Field Definitions" on page 111 for more information.) If the parked call is abandoned and the paged party calls the orbit number, the caller is routed to the attendant.

Like call queues, orbit numbers must be assigned on the MAT as monitored numbers.

Orbit numbers are added by range. A beginning number and an ending number are shown, and all numbers within this range are added to the system. Orbit numbers are deleted one at a time.

Procedure

Action	Result
On the System Configuration menu, enter **o** to select the **Orbit Numbers** option.	The Orbit Assignment screen appears.
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Orbit Assignment screen, enter **q** (quit).	The System Configuration Menu appears.

Add An Orbit Number

Action	Result
Press **Enter** to select the **Add** command.	A window displays prompts for the *Starting Key* and the *Ending Key.*
Type the first orbit number to be added and press **Enter**. Then type the last orbit number to be added and press **Enter**.	A message shows the number of orbit numbers within the specified range that have been added to the system

Delete An Orbit Number

Action	Result
Enter **d** to select the **Delete** command.	An orbit number entry field is displayed below. At the top of the screen, a heading is highlighted.
Enter the orbit number to be deleted and press **Enter**. To display all orbit numbers, press **Enter** when a blank field is highlighted.	All matching orbit numbers are displayed.
Using the arrow keys, move the highlight to the desired orbit number and press **Enter**.	The Orbit Assignment screen displays the number selected with the message "Do you want to delete this? (Y/N)".
Type **y** and press **Enter** to confirm the deletion, or	If confirmed, the word "Deleted" is displayed in the Attendant Status window to show that the record has been deleted from the database.
Type **n** and press **Enter** to cancel it.	"Record not deleted" is displayed if the deletion was cancelled. The cursor is positioned on the command line.

Viewing An Orbit Number

Action	Result
Enter **v** to select the timed-out command.	A window displays prompts for the *Starting Key* and the *Ending Key.*
Type the first orbit number to be added and press **Enter**. Then type the last orbit number to be added and press **Enter**.	All matching orbit numbers are displayed for on-screen viewing.
Use the **DownPage** command to move forward one page, the **UpPage** command to move back one page, the **Top** command to move to the beginning of the display, and the **Bottom** command to move to the end of the display.	
To Search the Display: Enter **s** to select the **Search** command. At the prompt enter the desired pattern and press **Enter**.	All occurrences of the chosen pattern on that page are highlighted.
To Print the Display: Enter **p** to select the **Print** command. At the prompt, enter **f** to show the whole file or **s** to show just the screen and press **Enter**.	There is a pause while the file is sent to the printer, then the command line is returned.
To exit the display, enter **q** (quit).	

Print An Orbit Number

Action	Result
Enter **p** (print).	A window displays prompts for the *Starting Key* and the *Ending Key.*
Type the first orbit number to be printed and press **Enter**. Then type the last orbit number to be added and press **Enter**.	All orbit numbers within the shown range are sent to the printer.
To exit the Orbit Assignment screen, enter **q** (quit).	The System Configuration menu displays.

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Chapter 9 Display Configuration

Introduction

The Display Configuration option on the Main Menu defines the fields to be displayed on various data entry screens and display windows in the AMS.

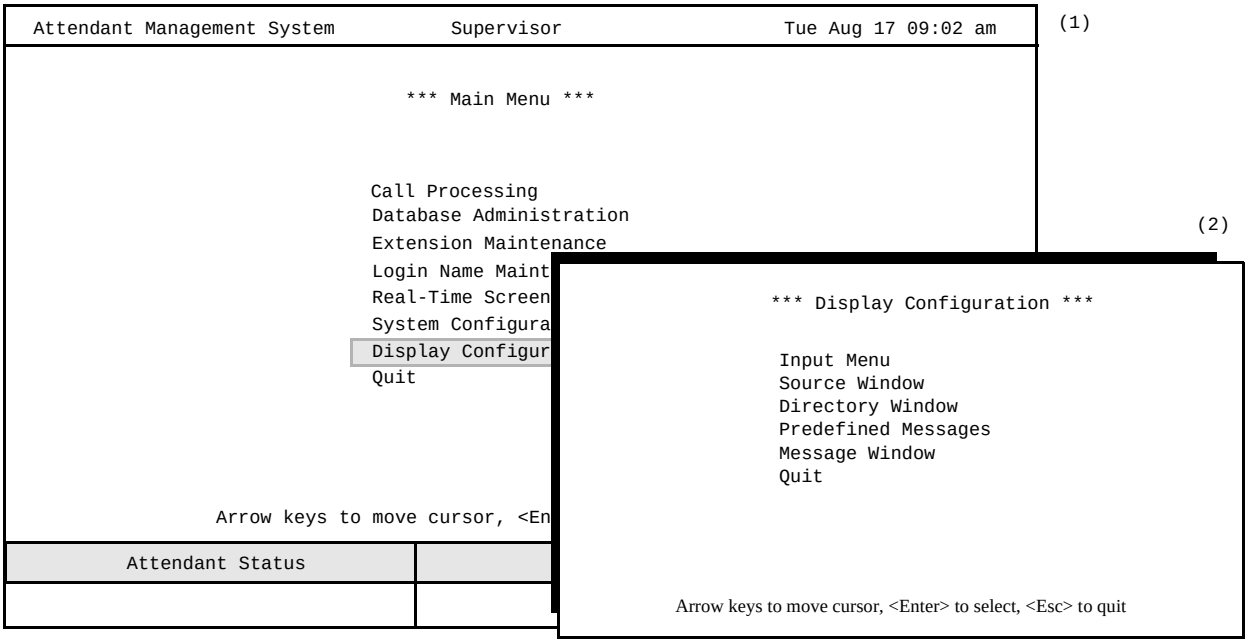


Figure 9-1 Display Configuration

Sequence of Configuration

The AMS database contains different types of records–Employee, Extension, Internal Locations, etc. Each record type in the database contains different information. For instance, the information entered into an employee database record might include the employee's title, E-mail address, and car phone number. Information entered to an external number record, such as a supplier or contractor, might show an account number or product line. The Input Menu option is first used to select the fields for each record type, defining what information is entered for the record. You can then define which of the input fields are to be displayed in the Source Window and the Directory Lookup Display during call processing.

Menu Options

Input Menu	–	Used to define the fields displayed for data entry into the database, including *Comment* fields that can be re-labeled to meet site-specific needs. Fields configured through this option may then be chosen to display in both the Source Window and the Directory Lookup Display on the call processing screen.
Source Window	–	Used to specify the four lines of information displayed in the Source Window of the call processing screen to identify an incoming call. These lines are selected from the fields already defined through the Input Menu.
Directory Window	–	Used to select the three fields from among those defined through the Input Menu option to be displayed at Directory Lookup. Also used to select up to eight fields to be displayed when a Directory Lookup record is expanded.
Predefined Messages	–	Used to define the menu of predefined messages used by an attendant when taking a message on the call processing screen.
Message Window	–	Used to select the prompts to be displayed in the Message-Taking window and the manner in which attendants will enter messages.

Procedure

Action	Result
On the Main Menu, enter **i** to select the **Display Configuration** option. (1)	The Display Configuration menu appears. (2)
Refer to the following pages for descriptions of each menu option.	
To exit the Display Configuration menu, enter **q** (quit).	The Main Menu appears.

Input Menu

The Input Menu option on the Display Configuration menu is used to select the fields to enter information in the database for each record type. The fields configured through this option can then be displayed in both the Source Window and the Directory Lookup display on the Call Processing screen.

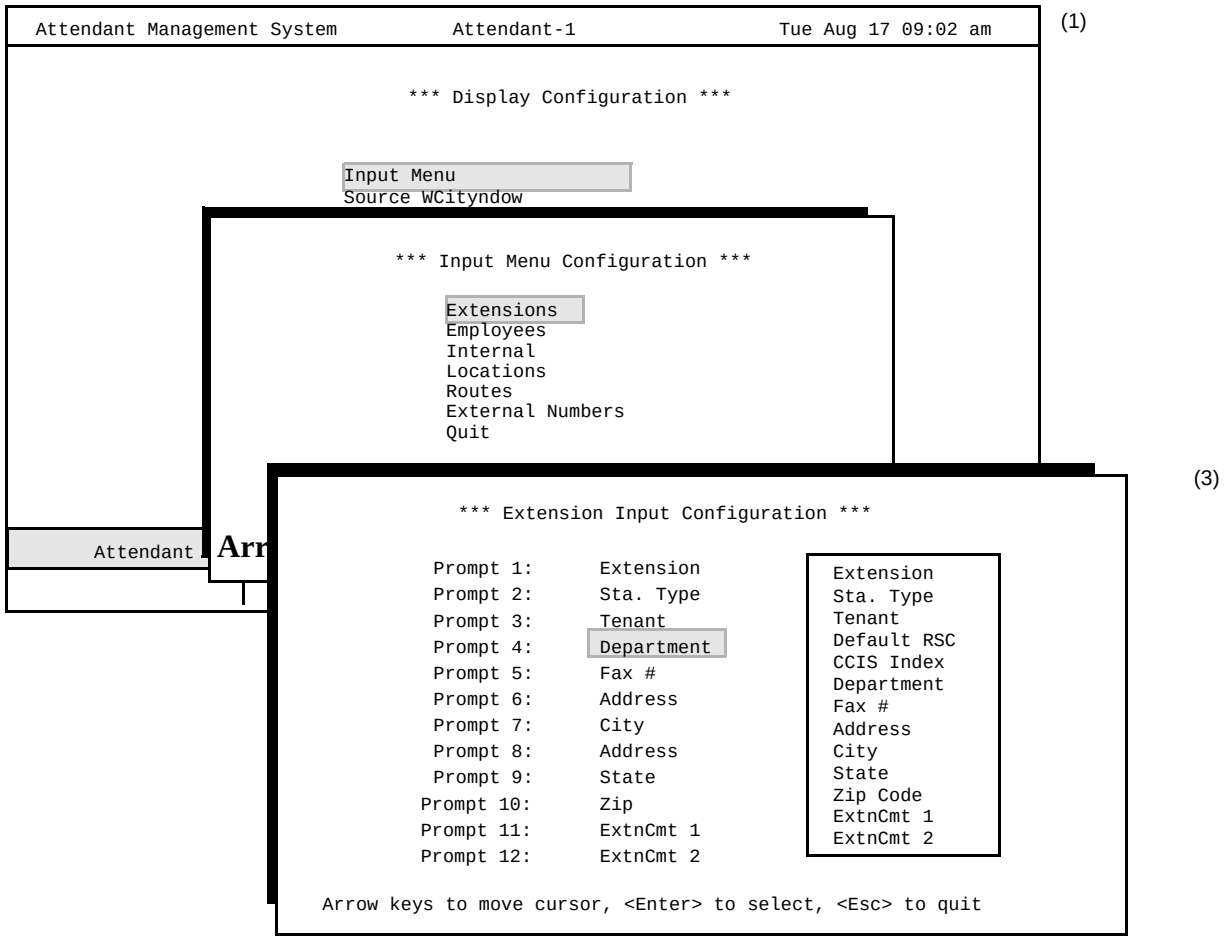


Figure 9-2 Input Menu

About Input Menu

The Input Menu option displays a list of prompts (e.g., Prompt 1, Prompt 2, etc.) with a pop-up window to the right containing labels for all of the available fields for the selected record type.

Every prompt has a default field entry, as shown in Figure 9-2 on page 123, but only the first three field entries, *Extension*, *Sta. Type*, and *Tenant*, are required.

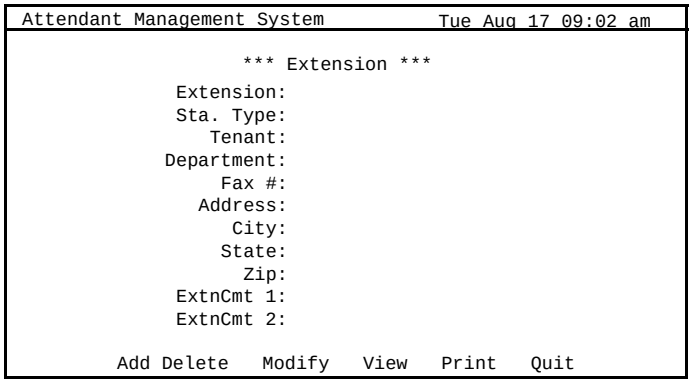


Figure 9-3 Database Administration Data Entry Screen

Note that the order of selection is the same order in which the field labels appear on the data entry screen under the Database Administration option.

When the Extension Input Configuration screen is first displayed, the highlight is positioned on the fourth prompt. To select a different field label for any prompt between Prompt 4 and Prompt 11, move the highlight down the list in the pop-up window until it is positioned on the desired field. Press **Enter** to accept it. The field label is automatically placed at the highlighted prompt. Continue this process until each desired field label is positioned next to the desired prompt. To keep a field label at the prompt where it already appears, such as Fax # at Prompt 5, select the same field label (Fax #) from the pop-up window when the highlight is positioned on the prompt (Prompt 5).

If you do not need to enter data in all eleven prompts, place the cursor in the last prompt choice and press the **Space** bar. The prompt will become blank and the cursor will move to the previous prompt. When you have finished entering data in the necessary fields, press **Esc** to save the changes.

Fields by Record Type

Fields that can be chosen from the pop-up window differ according to the record type for which choices are being made. The record types shown on the Input Menu Configuration screen are listed below, with the optional and required fields for each record defined, as well as on the primary line seen when performing a Directory Lookup.

Extension:

Fields for extension records are used in the Source Window display to identify incoming calls from internal and external extensions. They appear in a pop-up window during data entry to an employee and internal location record. Every extension in the system should be entered into the AMS database so that attendant displays and call processing are complete.

Extension	–	The extension number of the station, up to five digits in length (Required)
Sta. Type	–	The type of station (analog or digital) assigned to this extension (Required)
Tenant	–	The tenant number (from 1 to 255) assigned to this extension in the PBX (Required)
Default RSC	–	The Restriction Class (from 0 to 15) assigned in the PBX to which this extension defaults when not otherwise assigned.
Department	–	The department in which this extension is located or to which it is assigned, up to 25 characters long
Address	–	The street address where the extension is located, up to 30 characters
City	–	The city in which the extension is located, up to 25 characters
State	–	The state in which the extension is located, up to 2 characters.
Zip Code	–	The zip code associated with the address, up to 10 characters
Fax #	–	A 15-character ID for the FAX machine that is closest to this extension
CCIS Indx	–	The five-digit prefix to this number that identifies the PBX in a centralized attendant configuration. Used with extension to place a call.
ExtnCmt 1/2	–	Two fields containing 25 characters each that can be defined to meet site-specific needs. When either of these fields is selected, a prompt requests entry of its label. Each displayed label can be preceded by an asterisk to show that it is user-defined.

Employees:

Fields for employees are used in the Source Window display to identify incoming callers. These fields can be selected for display in an expanded Directory Lookup record as well as on the primary line seen when performing a Directory Lookup.

Employee	–	A unique 30-character area for the employee name (Required)
Name Disp	–	The employee name as it should appear on the D^{term}., up to 16 characters.
Extension	–	The employee's office phone number consisting of up to five digits. This number must first be entered through the Extension Maintenance option. (Required)
Title	–	The employee's company job title, up to 25 characters long.
Account	–	The account number associated with this location, up to 10 characters long.
Beeper	–	The beeper number where the employee can be paged, up to 15 characters long
Car Phone	–	The employee's car phone number, up to 15 characters
E-mail	–	The employee's electronic mail box address, up to 50 characters.
VM Box	–	The employee's voice mail address, up to 15 characters
ID	–	A unique 10-digit employee ID number
VIP	–	A one-character (Y or N) indicator, differentiating this employee from other employees (See "Basic Configuration" on page 104 for more information about alternative VIP procedures.)
Home Addr	–	The employee's street address, up to 30 characters
Home City	–	The city in which the employee lives, up to 25 characters
Home Phone	–	The employee's home phone number, up to 15 characters, including area code
Home State	–	The state in which the employee lives, up to two characters
Home Zip	–	The zip code associated with the address, up to 10 characters
Comment1/2	–	Two fields of 25 characters each that can be defined to meet site-specific needs. When either of these fields is selected, a prompt is displayed for entering its label.

External Numbers:

External Number records are used for both incoming and outgoing calls. If an incoming call contains the external calling number (ANI), AMS displays its configured fields in the Source Window. Outgoing calls can be placed via Directory Assistance by selecting the external number in the Lookup display. These records require name and number fields. Prompts are displayed for up to nine other field choices, including up to four user-defined labels. Selecting a user-defined label displays a prompt at the bottom of the screen that requests the field label.

External Name– A unique name associated with this location or entity, up to 30 characters long. (Required)

Num to Call – The telephone number to be dialed to this location, up to 21 characters. Enter any necessary access codes such as **9** or **91xxx** where xxx is the area code. (Required)

Num to Dspl – The telephone number that is displayed for this location, up to 15 characters for this location or entity. This number identifies the calling party. Include symbols ("–") for readability. (Required)

ANI Number – Digits sent from the Central Office that identify the number calling.

Account – The account number associated with this location, up to 10 characters

Address – The street address of this location or entity, up to 30 characters

City – The city in which this street address is located, up to 25 characters

State – The state in which this city is located, up to 2 characters

Zip Code – The zip code associated with the preceding address, up to 10 characters

Comment 1-4 – Four fields of 25 characters each that can be defined to meet site-specific needs. When any of these is selected, a prompt is displayed for entry of its field label.

Internal Locations:

Internal Location records are available when calls must be directed via Directory Assistance to an extension that is not associated with an employee. These records contain only a name and extension number and up to four fields that can be defined to meet specific site needs. A prompt at the bottom of the screen requests the next field label. When the field label is entered, it moves to the next available prompt.

- Name – The name of an internal location or entity, such as conference rooms, cafeteria, or lobby, up to 30 characters long. (Required)
- Extension – The five-digit extension number that is assigned to this location or entity at the NEAX MAT. This was previously entered through the Extension Maintenance option. (Required)
- Comment 1-4 – Four fields of 25 characters each that can be defined to meet site-specific needs. When any of these is selected, a prompt is displayed for entry of its field label.

Routes:

Route records provide the attendants with additional information when answering calls from the routes. These records also contain a required name and route number and up to four fields that can be defined to meet specific site needs. There is a prompt at the bottom of the screen for entering labels associated with the user-defined fields.

- Route Name – A unique name by which this route is known, up to 30 characters (Required)
- Route Num – The 3-character number of this route, corresponding to a route number configured at the NEAX2400 MAT (Required)
- CCIS Indx – The 5-digit number that prefixes this route to identify the PBX in a centralized attendant configuration
- Comment 1-4 – Four fields of 25 characters each that can be defined to meet site-specific needs; when any of these is selected, a prompt is displayed for entry of its field label.

DID Numbers

DID Numbers are used to identify incoming calls only. When an incoming call arrives on a Direct Dial Number that is assigned in the PBX as a virtual number, this virtual number is forwarded to the main monitored number used for the operator, usually "0". When the operator answers, the matching DID record will display in the Source Caller Window, along with up to four predefined fields. These records require the name and number fields. Up to four comment fields may be entered to meet specific site needs. A prompt at the bottom of the screen requests the next field label. When the field label is entered, it moves to the next available prompt.

DID Num – The unique five-digit virtual extension assigned at the NEAX MAT which identifies the called number. (Required)

DID Name – The name associated with this location, up to 30 characters in length (Required)

Comment 1-4 – Four fields of 25 characters each that can be defined to meet site-specific needs; when any of these is selected, a prompt is displayed for entry of its field label.

Procedure

Action	Result
On the Display Configuration menu, enter **i** to select the **Input Menu** option. (1)	The Input Menu Configuration screen displays the types of database records. (2)
To select the desired type of database record, enter the highlighted letter. **Note:** *In most cases, it is the first letter of the word. When the word begins with a letter that has been used before, you can highlight the second letter.*	A list of prompts appears with the fields of the selected record type in a pop-up window to the right.
Using the arrow keys, move the highlight to the desired field title and press **Enter**.	On most record type configuration screens, the AMS automatically prompts for the label of a user-defined field. The selected field title is placed in the next available **Prompt:** field.

Procedure (continued)

Action	Result
Continue until all desired field titles are selected and displayed in the *Prompt:* fields. If you do not need to enter data in all eleven prompts, place the cursor in the last prompt choice and press the **Space** bar. The prompt will become blank and the cursor will move to the previous prompt. When you have finished entering data in the necessary fields, press **Esc** to save the changes.	The Input Menu Configuration screen displays the types of database records. (2)
Type **y** and press **Enter** to save the field titles, or Type **n** and press **Enter** to cancel the selections.	The Attendant Status area displays "**Modified**" to show that the change has been saved. The Attendant Status area displays "**Record not modified**" if the change was cancelled.
To exit the Input Menu Configuration screen, enter **q** (quit).	The Display Configuration menu reappears.

Source Window

The Source Window option on the Display Configuration menu selects the fields from those configured in the Input Menu option to be displayed in the Source Window for answered calls.

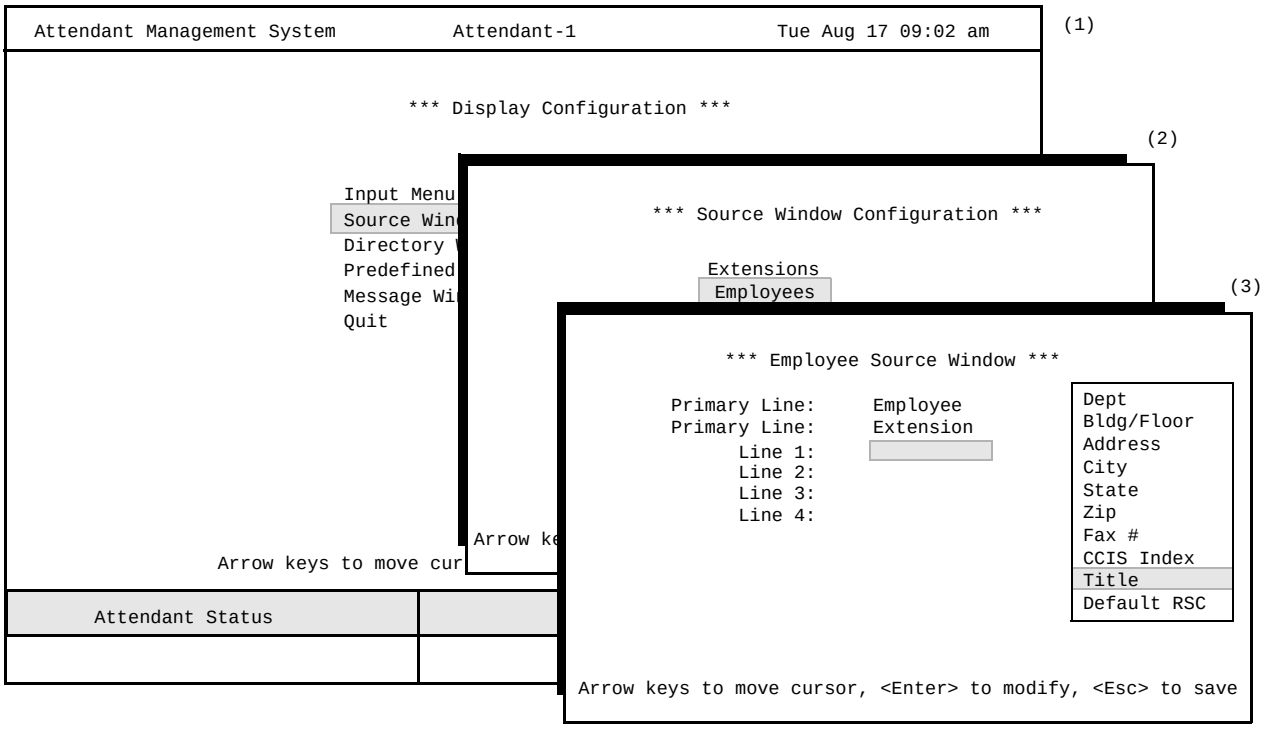
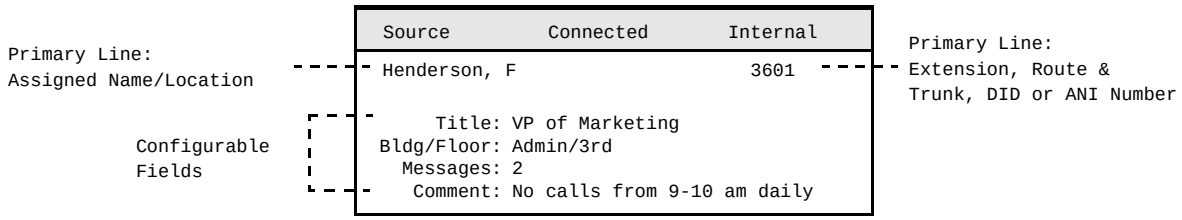


Figure 9-4 Source Window Configuration

Source Window Display

The first line of the Source Window on the call processing screen always displays the extension, the route and trunk, DID number called, or the ANI data received. If a name has been assigned to the equipment or external number, it is also displayed. The next four lines displayed can be configured by the record type through this option.



About Source Window Configuration

The Source Window Configuration screen lists *Line* prompts representing each line of display in the Source Window on the call processing screen. The *Primary Line* prompts are followed by the field labels that are required for the selected record type. (See Figure 9-4, "Source Window Configuration" on page 131.) A pop-up window contains all of the other field labels configured for the selected record type via the Input Menu option.

To select a field label, move the highlight down the list in the pop-up window until it is positioned on the desired label, then press **Enter** to accept it. The field label automatically moves to the next available *Line* prompt. Continue this process until all desired field labels are selected and positioned next to a prompt. Remember that the order of selection is the order in which the field labels appear in the Source Window. Selections take effect when the next user logs in and enters the call processing screen.

Multi-page Pop-up Window

If more field labels have been configured through the Input Menu option than can fit in the pop-up window, use the arrow or page keys to move among the pages of display.

Procedure

Action	Result
On the Display Configuration menu, enter **s** to select the **Source Window** option. (1)	The Source Window Display Configuration screen shows the types of database records. (2)
To select the desired type of database record, enter the highlighted letter. **Note:** *In most cases, it is the first letter of the word. When the word begins with a letter that has been used before, the second or even third letter may be highlighted.*	A list of line prompts appears with a highlight positioned on the first configurable prompt. The field labels available for the selected record type are displayed in a pop-up window to the right with a highlight positioned on the first field label.
Using the arrow keys, move the highlight in the pop-up window to the desired field label and press **Enter**.	The selected field label is placed in the next available **Line#:** field.
Continue until all desired field titles are selected and displayed in the **Line#:** fields. If you do not need to enter data in all lines, place the cursor in the last line choice and press the **Space** bar. The prompt will become blank and the cursor will move to the previous prompt. When you have finished entering data in the necessary fields, press **Esc** to save the changes.	The message "**Do you want to save changes? (Y/N)**" appears.
Type **y** and press **Enter** to save the field titles, or Type **n** and press **Enter** to cancel the selections.	The Attendant Status area displays "**Modified**" to show that the change has been saved. The Attendant Status area displays "**Record not modified**" if the change was cancelled.
To exit the Source Window Display Configuration screen, press **Esc**.	The Display Configuration menu displays.

Directory Window

The Directory Window option on the Display Configuration menu is used to select the three primary fields displayed in a Directory Lookup for employees, internal locations, and external numbers. It is also used to configure the fields that are displayed when a Directory Lookup record is expanded.

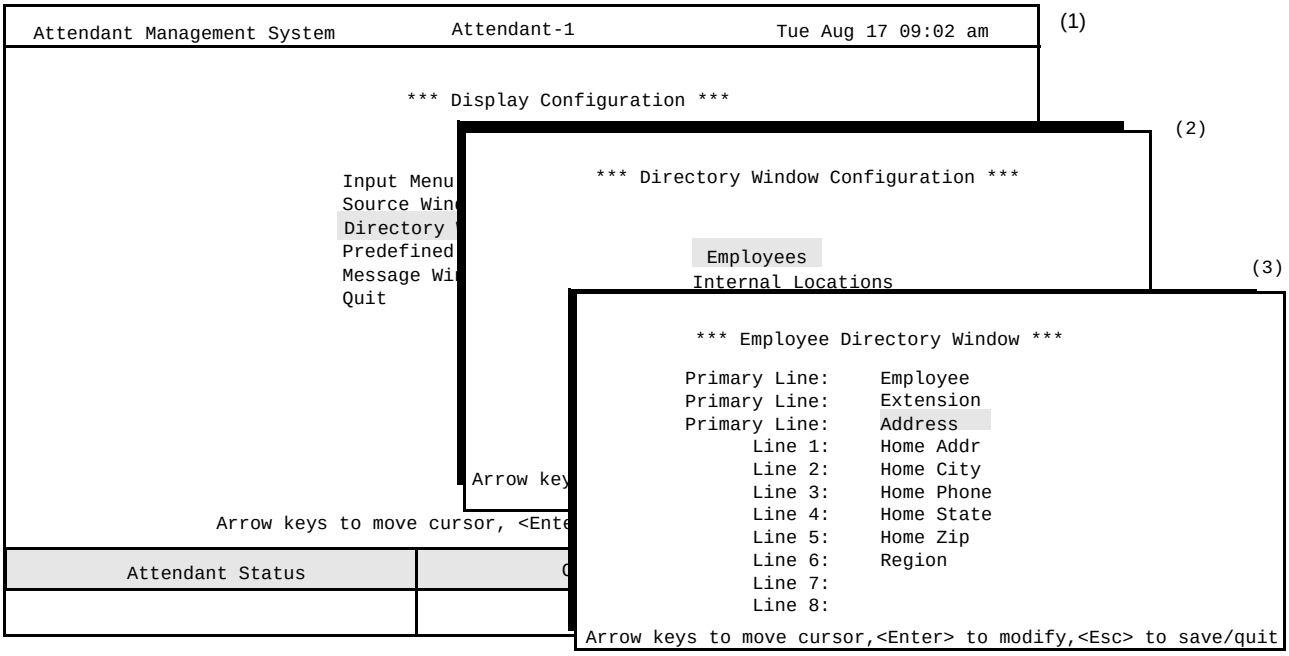


Figure 9-5 Directory Window Configuration Directory Lookup Display

The Directory Lookup display consists of three fields called *Primary Line* fields in this configuration. Two of these fields are required to be Employee (name) and Extension. The third can be defined through this option. When a Directory Lookup record is expanded, using the Tab key, up to eight fields can be displayed. These eight fields are also defined through this option.

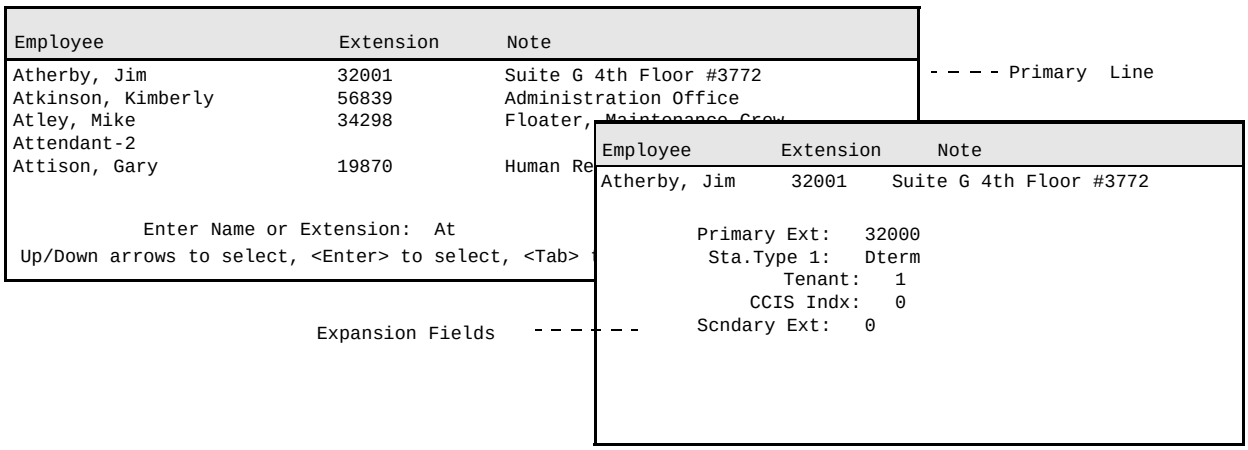


Figure 9-6 Directory Lookup Display

About Directory Window Configuration

The Directory Window Configuration screen lists three *Primary Line* prompts, representing the three fields that are displayed for a record in the Call Processing Directory Lookup screen, followed by eight *Line* prompts. The first two *Primary Line* fields, Employee and Extension, cannot be changed, but the highlight bar is positioned on the third so that it can be changed. The eight *Line#:* prompts represent the fields that display when a selected record is expanded using the **Tab** key. The field labels shown for the third *Primary Line* and six of the eight *Line* prompts are default entries, included in the AMS software.

A pop-up window to the right contains the field labels configured through the Input Menu option for the selected record type and the Extension record type if applicable. To select a field label, move the highlight down the list in the pop-up window until it is positioned on the desired label, then press **Enter** to accept it. The field label is automatically placed at the next available *Line* prompt. Continue this process until all desired field labels are selected and positioned next to a prompt, then press **Esc** to stop the process. Remember that the order of selection is the order in which the field labels appear in the Directory Expansion Window. Selections take effect when the next user enters the call processing screen.

Multi-page Pop-up Window

If more field labels have been configured through the Input Menu option than can fit in the pop-up window, use the arrow or page keys to move among the pages of display.

Procedure

Action	Result
On the Display Configuration menu, enter **d** to select the **Directory Window** option. (1)	The Directory Window Display Configuration screen displays the types of database records. (2)
To select the desired type of database record, enter the highlighted letter. **Note:** *In most cases, it is the first letter of the word. When the word begins with a letter that has been used before, the second or even third letter may be highlighted.*	A list of line prompts appears with the fields configured for the selected record type in a pop-up window to the right.
Using the arrow keys, move the highlight to the desired field label and press **Enter**.	The selected field label is placed in the next available **Line#:** field.
Continue all desired field titles are selected and displayed in the **Line#:** fields. If you do not need to enter data in all prompts, place the cursor in the last prompt and press the **Space** bar. The prompt becomes blank and the cursor moves to the previous prompt. When you have entered data in the necessary fields, press **Esc** to save the changes.	The message "**Do you want to save changes? (Y/N)**" is displayed.
Type **y** and press **Enter** to save the field titles, or Type **n** and press **Enter** to cancel the selections.	The Attendant Status area displays "**Modified**" to show that the change was saved. The Attendant Status area displays "**Record not modified**" if the change was cancelled.
Exit the Directory Window Display Configuration screen, press **Esc**.	The Display Configuration menu reappears.

Predefined Messages

The **Predefined Messages** option on the Display Configuration menu is used to configure up to ten predefined messages which display for attendant selection in the message-taking function.

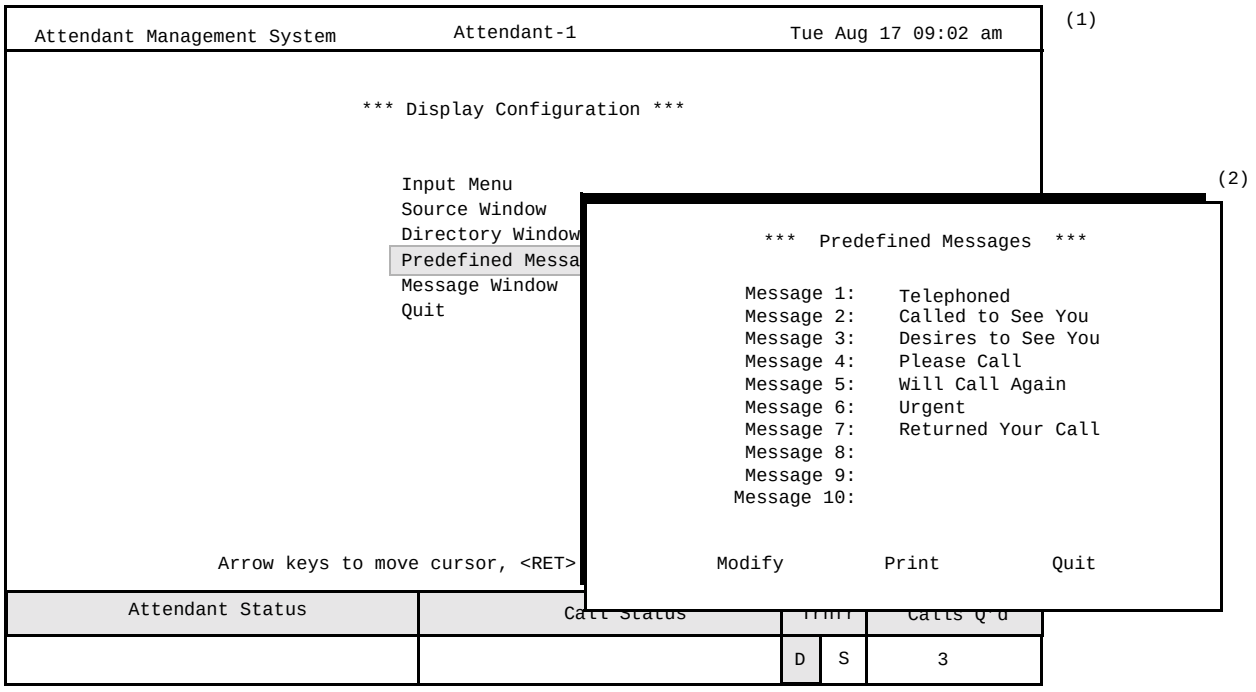


Figure 9-7 Predefined Messages Option

About Predefined Messages

Predefined Messages save the attendant time when recording messages for employees. The Predefined Messages screen lists up to ten prompts for entry of the messages that will be displayed on the call processing screen when the attendant is taking a message, as shown in Figure 9-8. Predefined messages are the most common types of messages that are taken for employees. The first message field serves as the default selection on the Message Taking window.

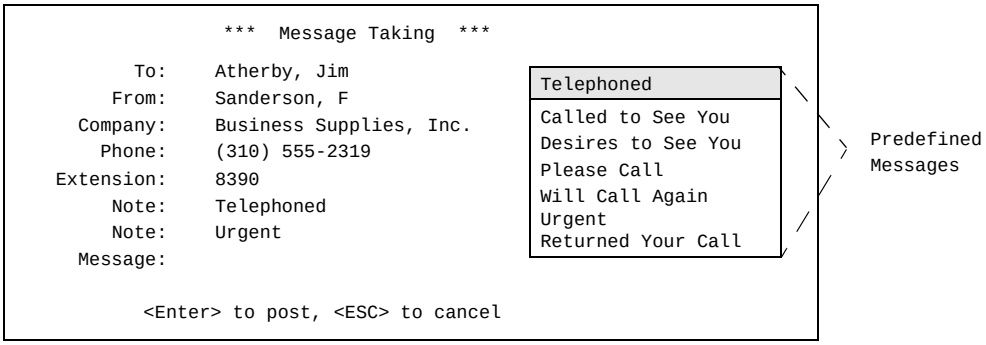


Figure 9-8 Predefined Message Window on Call Processing Screen

Procedure

Action	Results
On the Display Configuration menu, enter **p** to select the **Predefined Messages** option. (1)	The Predefined Messages screen displays prompts for entering the messages. (2)
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Predefined Message screen, enter **q** to select the **Quit** command.	The Display Configuration menu reappears.

Modify the List of Messages

Action	Results
Using the arrow keys to move among the prompts, type one message per prompt and press **Enter** until the desired messages are entered. Then press **Esc**.	The message "**Do you want to save changes? (Y/N)**" is displayed.
Type **y** and press **Enter** to save the messages, or	The Attendant Status area displays "**Modified**" to indicate that the change has been saved.
Type **n** and press **Enter** to cancel them.	The Attendant Status area displays "**Record not modified**" if the change was cancelled. The cursor is positioned on the command line.

Print the List of Messages

Action	Results
Enter **p** to select the **Print** command.	The displayed list of messages is sent to the printer.

Message Window

The **Message Window** option on the Display Configuration menu is used to configure up to eight field labels which attendants can use to enter information when taking messages at the call processing screen.

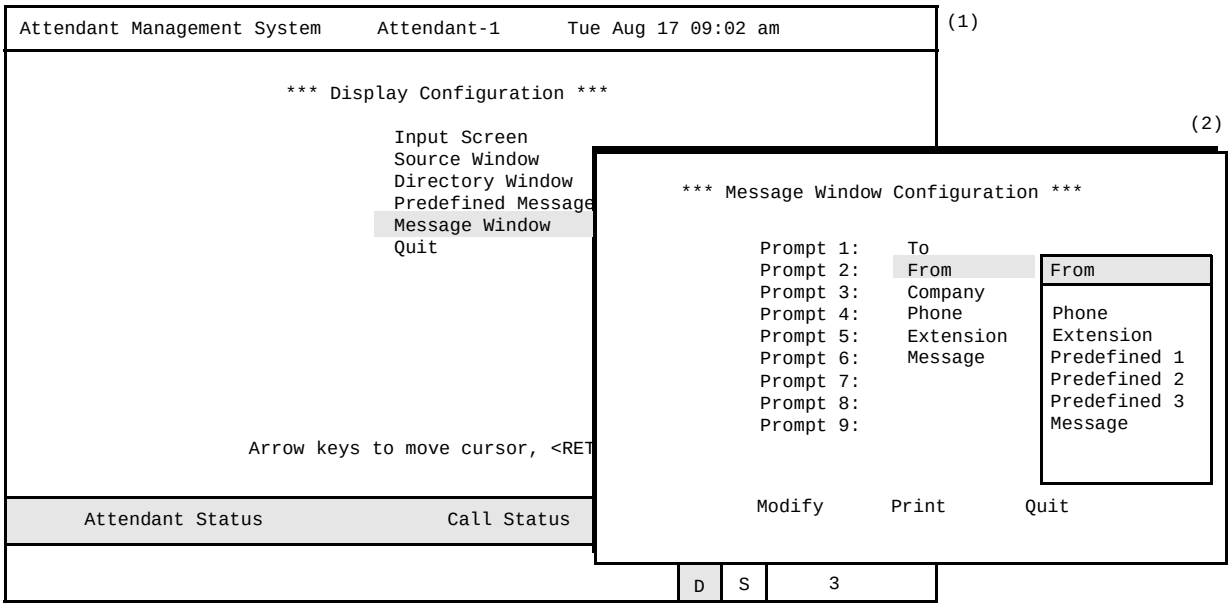


Figure 9-9 Message Window Configuration

About Message Window Configuration

The Message Window Configuration option displays a list of prompts with default field labels and a pop-up window to the right with all of the possible field labels that are available for the Message-Taking window on the call processing screen, as shown in Figure 9-10.

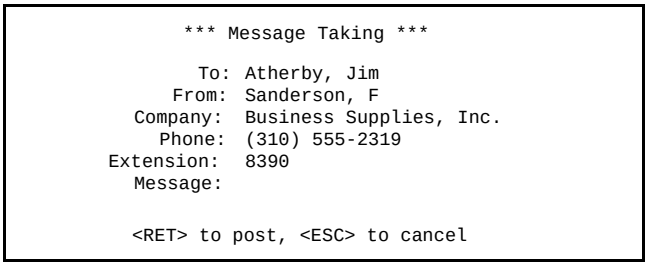


Figure 9-10 Message-Taking Window

Note: *The Message field requires four lines when it is displayed on the Message Taking screen and must therefore always be selected as the last entry on the Message Window Configuration screen.*

To select a field label, move the highlight down the list in the pop-up window until it is positioned on the desired field. Then press **Enter** to accept it. The field label automatically moves to the next available prompt. Continue this process until all desired field labels are selected, then press **Esc**. Note that the order of selection is the order in which the field labels appear on the Message Taking screen. Selections take effect the next time an operator enters the Message-Taking Window.

Procedure

Action	Results
On the Display Configuration menu, enter **m** to select the **Message Window** option. (1)	The Message Window Configuration screen is displayed. (2)
Refer to the following sections of this chapter for descriptions of each function provided by the new command line.	
To exit the Message window, enter **q** (quit).	The Display Configuration menu is displayed.

Modify the List of Fields

Action	Results
Using the arrow keys, move the highlight in the pop-up window to the desired field title and press **Enter**.	The selected field title is placed in the highlighted **Prompt:** field.
Continue in this manner until all desired field titles are selected and displayed in the **Prompt:** fields. If you do not need to enter data in all prompts, place the cursor in the last prompt and press the **Space** bar. The prompt becomes blank and the cursor moves to the previous prompt. When you have entered data in the necessary fields, press **Esc** to save the changes.	The message "**Do you want to save changes? (Y/N)**" is displayed.
Type **y** and press **Enter** to implement the selected prompts, or	The Attendant Status area displays "**Modified**" to show that the change has been saved.
Type **n** and press **Enter** to cancel them.	The Attendant Status area displays "**Record not modified**" if the change was cancelled.

Print the List of Fields

Action	Results
Enter **p** to select the **Print** command.	The displayed list of fields is sent to the printer.

Chapter 10 Platform Management

Introduction

When you enter the **amsadm** login name, the AMS Platform Management Menu appears, as shown below in Figure 10-1.

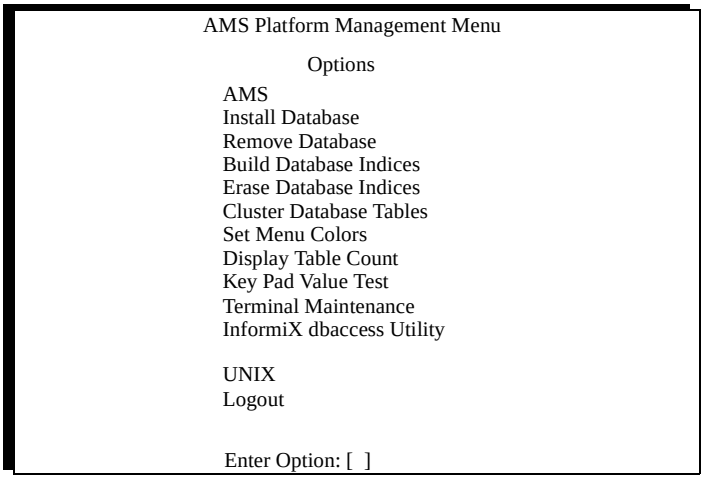


Figure 10-1 Platform Management

Menu Options

The AMS Platform Management Menu provides the following options:

- AMS – Displays the Operator Menu as if the login was **ams**.
- Install Database – Creates new database fields using AMS instructions.
- Remove Database – Removes the entire AMS database.

  Note: *Do not use the Remove Database option without first having backed up the database on tape. Use the Informix guide for instructions.*
- Build Database Indices – Recreates the indexes that control how data is stored, sorted, and retrieved, using instructions embedded in AMS software.
- Erase Database Indices – Erases the indexes that control how data is stored, sorted, and retrieved.
- Cluster Database Indices – Restructures the database indexes to improve efficiency in database access and searches.
- Set Menu Colors – Reconfigures the color of all screens in the AMS and related applications.
- Display Table Count – Lists the internal AMS tables and displays a count of each table's records.

Menu Options (continued)

Key Pad Value Test	–	Displays the keypad value for any key pressed. This value can be used for speed-dial database records.
Terminal Maintenance	–	Sets up a terminal to display the AMS login screen at all times.
InformiX	–	Enters the **dbaccess utility** provided by Informix to allow query and unloading of the AMS database.
UNIX	–	When you select this option, refer to a UNIX reference guide for more information.
Logout	–	Logs out of this user session and returns to the Unix login prompt or the AMS login prompt, if configured. (See “Constantly Display The Login Screen” on page 32 for more information.)

Procedure

Action	Result
At the Login, type **amsadm** and press **Enter**.	The AMS Platform Management Menu appears.
Refer to the following pages for information and instructions for using each menu option.	
To exit the AMS Platform Management Menu, type **l** for Logout inside the brackets and press **Enter**.	The Login prompt reappears.

Install Database

The **Install Database** option on the AMS Platform Management Menu creates new database fields according to AMS instructions.

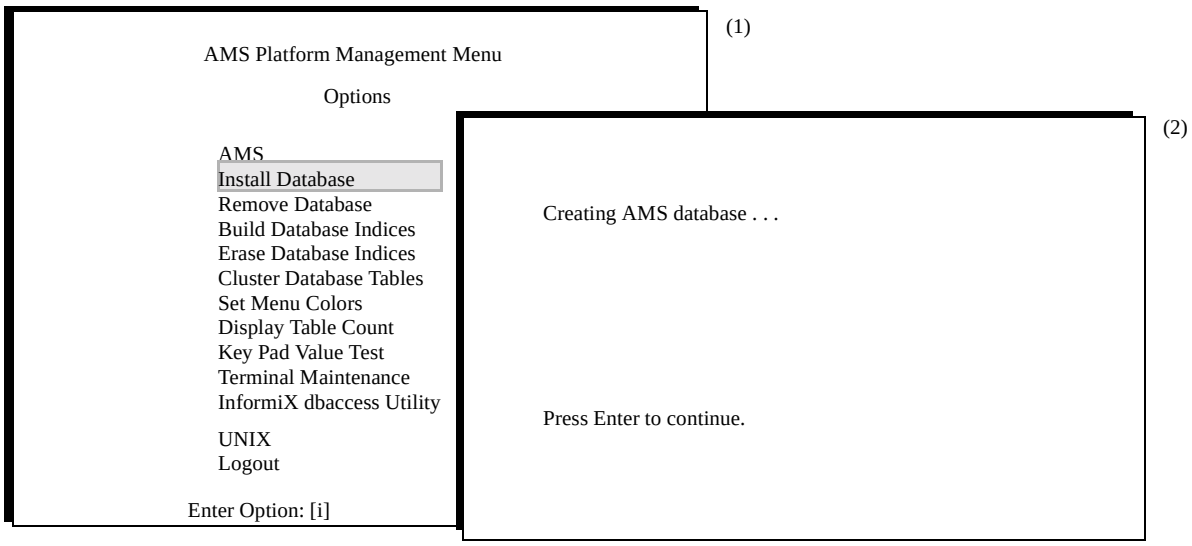


Figure 10-2 Install Database

When to Use Install Database

Use this option only in the event of system failure or after using the **Remove Database** option. Once the new database fields are created through this option, use the **Build Database Indexes** option to identify the order in which the records in the database are stored. Then, if desired, consult an Informix guide to retrieve data from the backup tape that was made before the **Remove Database** option was used.

Procedure

Action	Result
On the AMS Platform Management Menu, type **i** inside the brackets at the prompt and press **Enter**. (1)	The Install Database screen appears, showing the database being created. Afterward, the message "**Press Enter to continue**" displays. (2)
Press **Enter**.	The AMS Platform Management Menu reappears.

Remove Database

The **Remove Database** option on the AMS Platform Management Menu removes the entire AMS database.

WARNING: *To protect the database, do not use this option without first backing up the database on tape through the Backup Database option.*

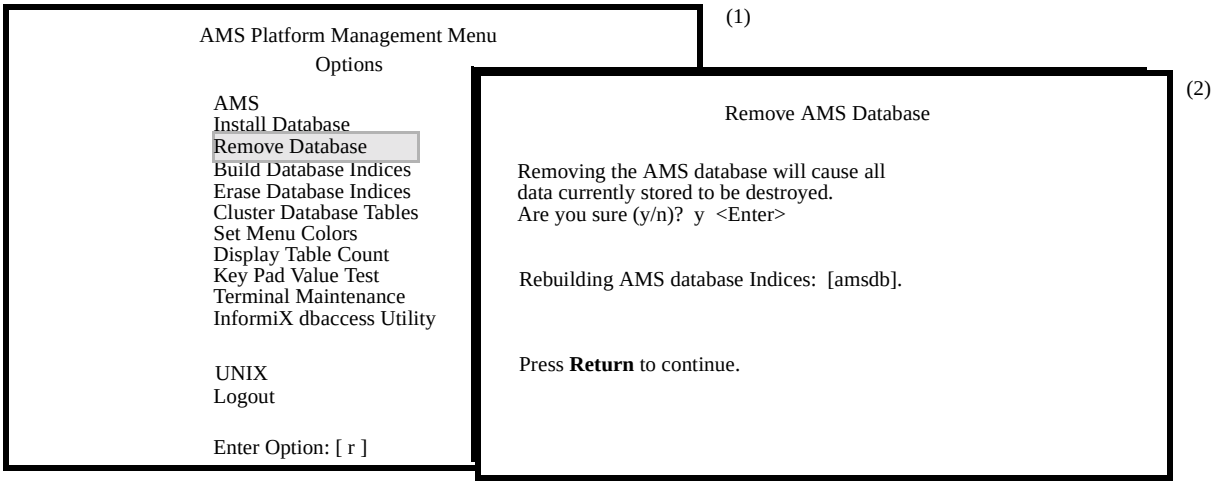


Figure 10-3 Remove Database

When to Use Remove Database

The **Remove Database** option removes all data currently stored in AMS. Use of this option removes *all* extension assignments for employees, internal locations, external locations, etc. Use the **InformiX dbaccess** option first to unload a copy of the database to the hard drive. Then remove the database with this option, create new database fields with the **Create Database** option, identify the order of record storage with the **Make Database Indexes** option, and then reload the stored database copy from the hard drive via the InformiX dbaccess option.

Procedure

Action	Result
On the AMS Platform Management Menu, type **r** inside the brackets at the prompt and press **Enter**. (1)	The Remove AMS Database screen appears with a warning and a confirmation prompt. (2)
At the confirmation prompt, type **y** and press **Enter** to delete the database, or **Type n** and press **Enter** to cancel the deletion.	If the deletion is confirmed, a message shows when the database is being removed. The message "**Press Return to continue**" displays when it is appropriate to exit the screen.
Press **Enter**.	The AMS Platform Management Menu reappears.

Build Database Indices

The **Build Database Indices** option on the AMS Platform Management Menu is used to recreate the order in which the database records are stored.

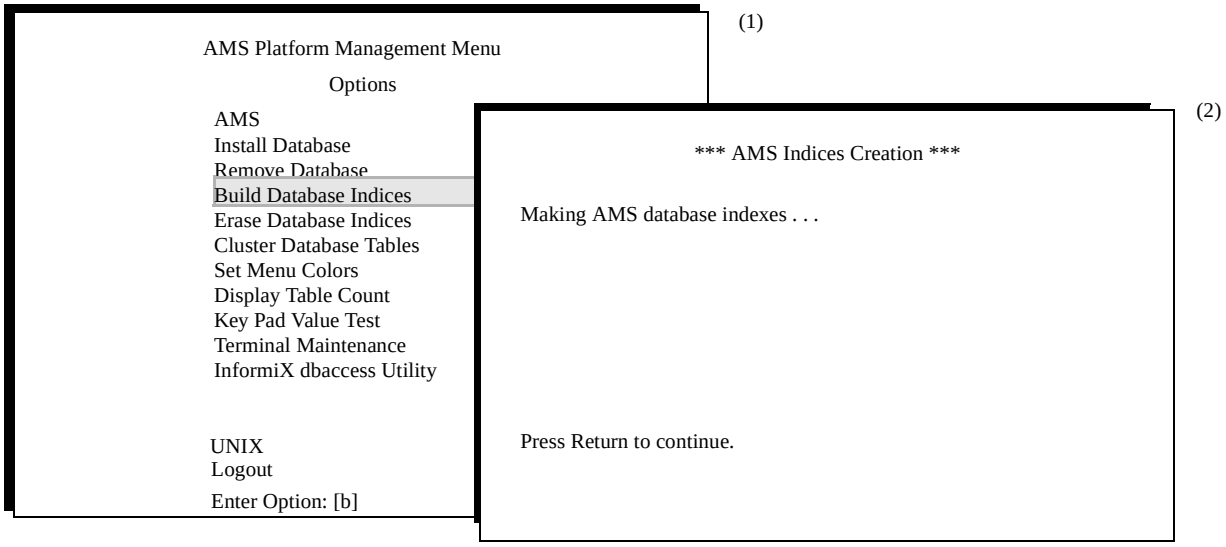


Figure 10-4 Make Database Indexes

When to Use Install Database Indices

Once the **Install Database Indices** option defines the fields of the new database using AMS instructions, the **Build Database Indices** option marks the fields that are to be used as indexes, identifying the order in which records are stored and sorted during lookups. After these two options have been used, data can be re-entered to the database or retrieved from an unloaded copy in the hard drive.

Procedure

Action	Result
On the AMS Platform Management Menu, type **b** inside the brackets at the prompt and press **Enter**. (1)	The Build AMS Database Indices screen appears, showing the database indexes being built. Afterward, the message "**Press Return to continue**" displays. (2)
Press **Enter**.	The AMS Platform Management Menu reappears.

Erase Database Indices

The **Erase Database Indices** option on the AMS Platform Management Menu erases the order in which the database records are stored and sorted.

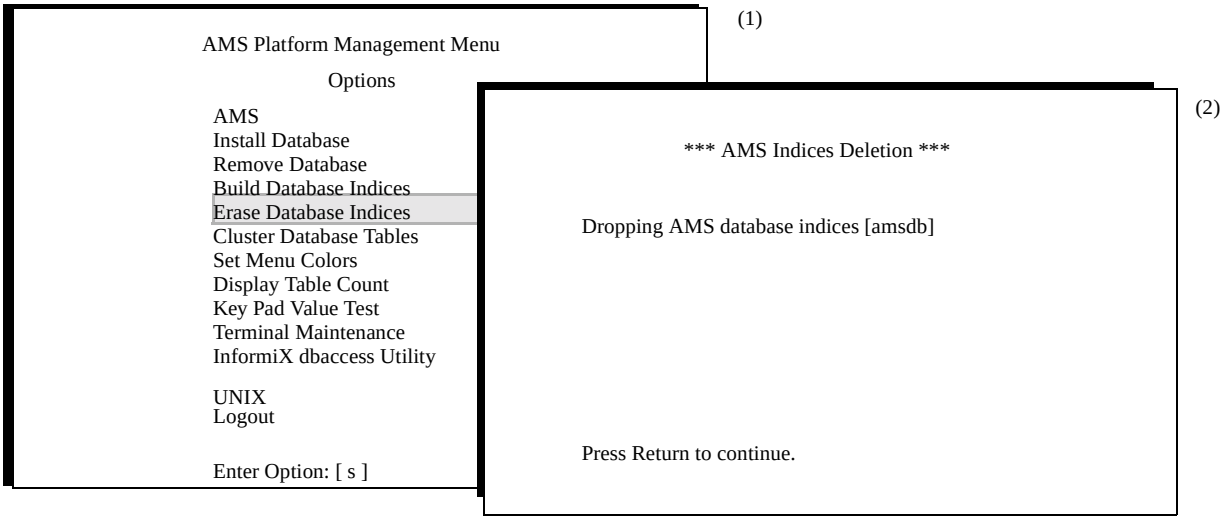


Figure 10-5 Erase Database Indexes

When to Use Build Database Indices

Use of this option is rare. Anytime the indexes are erased, it is necessary to use the **Build Database Indices** option to rebuild them.

Procedure

Action	Result
On the AMS Platform Management Menu, type **e** inside the brackets at the prompt and press **Enter**. (1)	The Erase AMS Database Indices screen appears, showing the database indexes being erased. Afterward, the message "**Press Return to continue**" displays. (2)
Press **Enter**.	The AMS Platform Management Menu reappears.

Cluster Database Tables

The **Cluster Database Tables** option on the AMS Platform Management Menu is used to restructure the database indexes. Restructuring improves efficiency in database access and searches.

Note: *Never use the Cluster Database Tables option while attendants are online!*

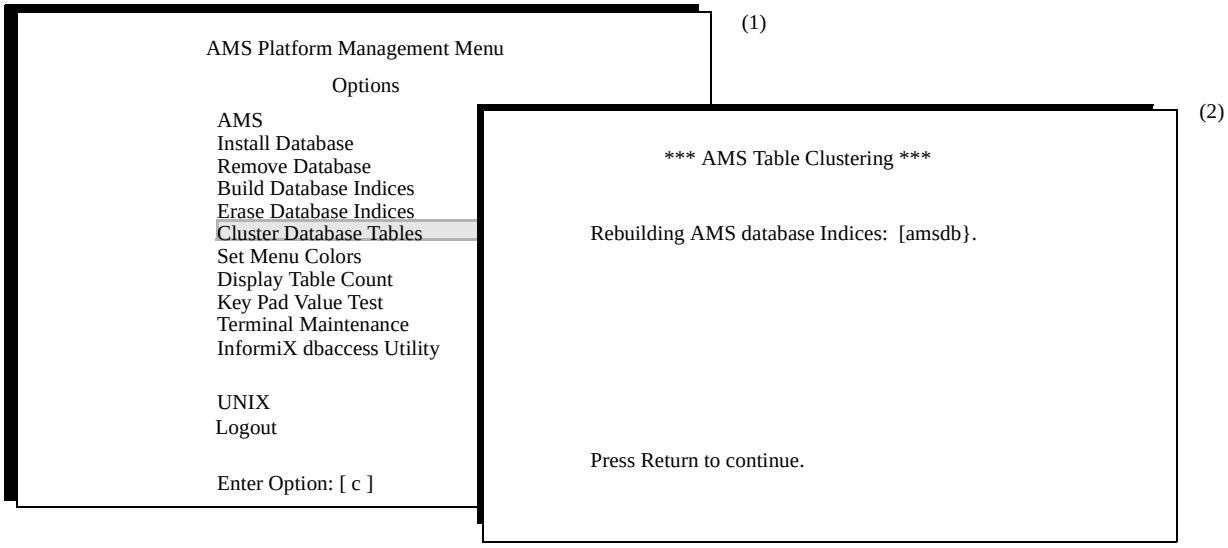


Figure 10-6 Rebuild Database Indexes

When to Use Cluster Database Tables

We recommend that it be performed at least once a week to maintain peak efficiency in database look-ups. You should also use this if attendant look-ups from the attendant screen seem to be taking too long,

Procedure

Action	Result
On the AMS Platform Management Menu, type **c** inside the brackets at the prompt and press **Enter**. (1)	The Cluster Database Tables screen appears, showing the database tables being clustered. Afterward the message "**Press Return to continue**" displays. (2)
Press **Enter**.	The AMS Platform Management Menu reappears.

Set Menu Colors

The Set Menu Colors option on the AMS Platform Management Menu is used to reconfigure the color of all screens within the AMS.

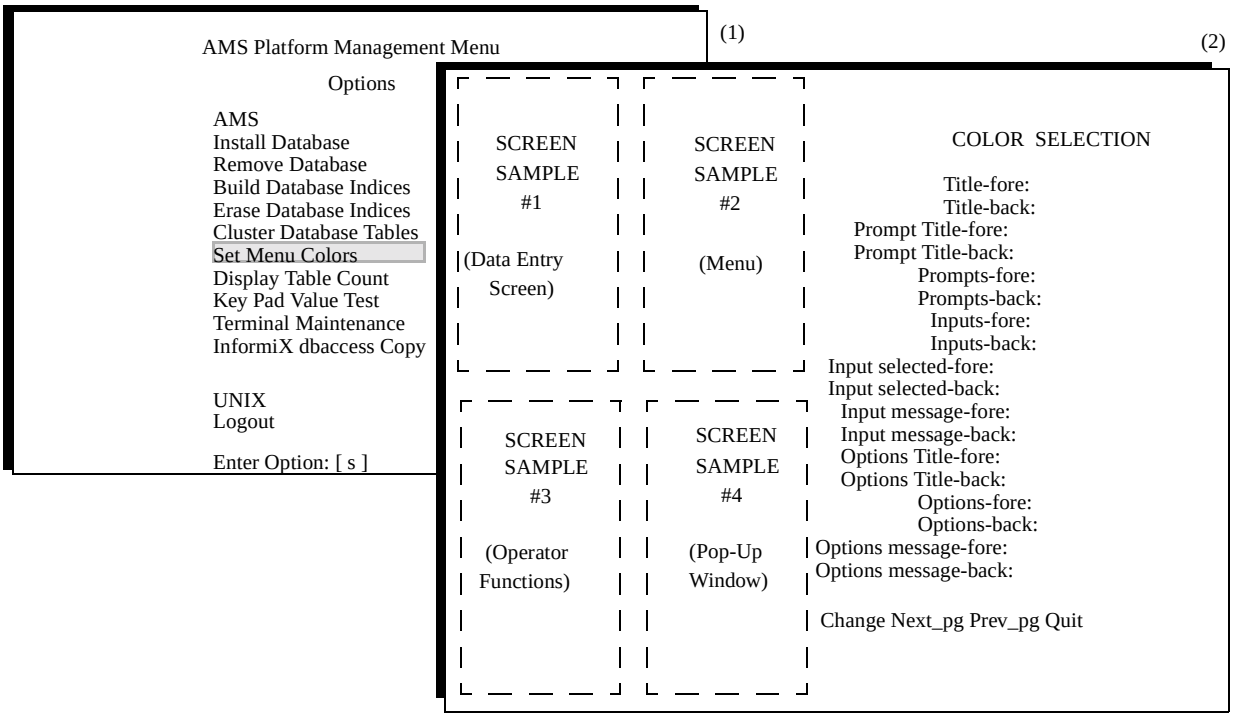


Figure 10-7 Set Menu Colors

About Set Menu Colors

This option brings great versatility to the process of “coloring” the AMS screens. Here’s how it works:

For the most part, each screen contains items, and AMS controls the color of every item according to its foreground and background. The item **foreground** is typically the displayed word(s), such as an option on a menu, a prompt for data entry, or a column title. The **background** of each item is the space around the word(s), which may or may not be visible, depending upon its color. If its color contrasts at all with other adjacent screen item backgrounds, it is visible; if not, it is not visible.

Samples of AMS screens are shown on the left of Screen (2) and a multi-page list of all AMS screen items is shown to the right in the same screen in Figure 10-7 above. Each item is listed twice; once for its foreground color selection (fore) and again for its background color selection (back). Each item has a color square displayed to its right that represents the current color. However, when the cursor moves to an item, a display of several colored squares spreads out to the right of the item with an “X” on the current selection. Changes to the color for an item are made by moving the “X” with the arrow keys to the color of choice. As a change is made to this right-hand list, it is demonstrated on the corresponding sample screen(s) to the left.

Representative Screens

The screens represented in Figure 10-7, “Set Menu Colors” on page 148 are shown in more detail below. Labels show the items from the right-hand list for which they demonstrate color changes:

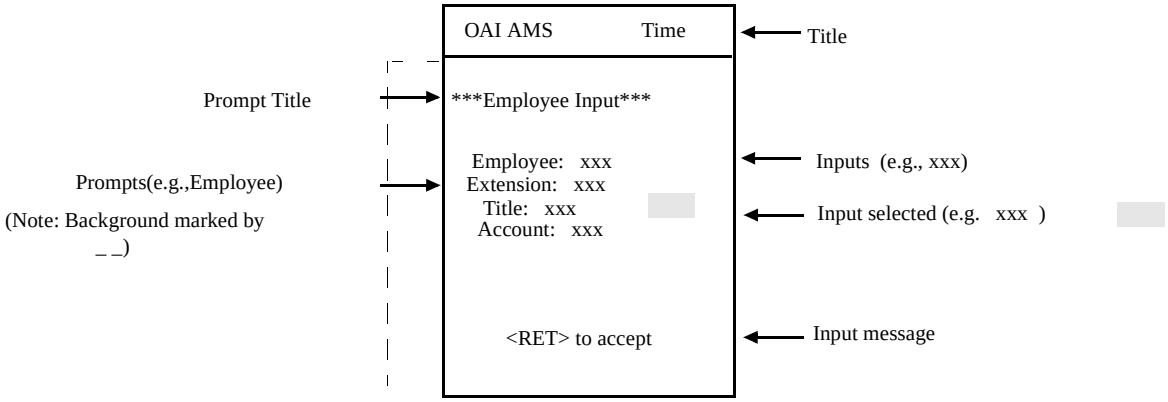


Figure 10-8 (Screen #1 of Figure 10-7) - Data Entry

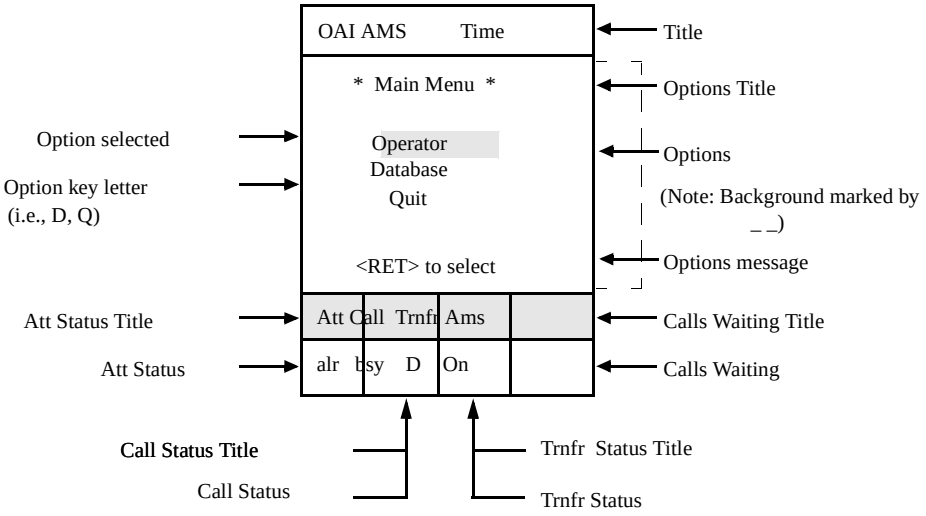
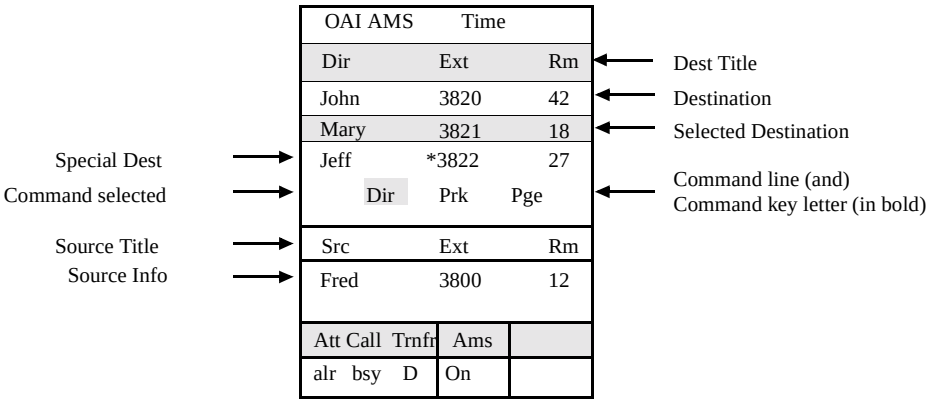


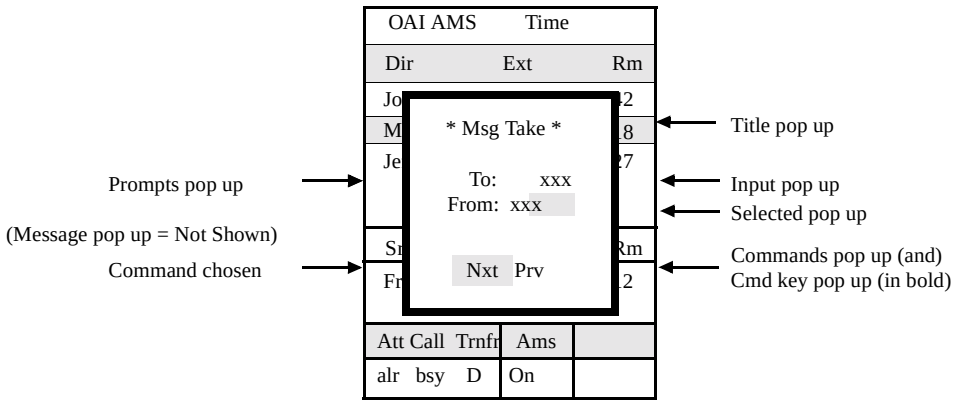
Figure 10-9 (Screen #2 of Figure 10-7) - Menu

Representative Screens (Cont.)



Note: *Changes made to Title, Att Status Title, Att Status, Call Status Title, Call Status, Trnfr Status Title, Trnfr Status, Calls Waiting items in both foreground and background are also reflected on this screen.*

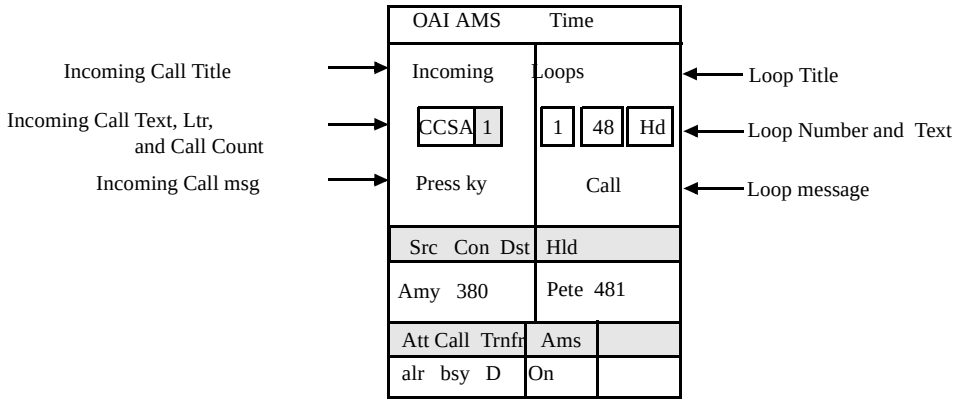
Figure 10-10 (Screen #3 of Figure 10-7) - Directory Lookup Screen



Note: *Changes made to screen items on the Operator Function screen are reflected in this screen, behind the pop-up window.*

Figure 10-10 (Screen #4 of Figure 10-7) - Pop-Up Windows

Representative Screens (Cont.)



Note 1: *Pressing **NextPg** four time replaces Screen #1 with this page, displaying the fifth page of listed items.*

Note 2: *This screen also shows changes made to Title, Source and Destination, Att Status Title, Att Status, Call Status Title, Call Status, Trnfr Status Title, Trnfr Status, and Calls Waiting items in both foreground and background.*

Figure 10-11 (Screen #5 of Figure 10-7) - Call Processing Screen

Procedure

Action	Result
On the AMS Platform Management Menu, type **s** inside the brackets at the prompt and press **Enter**. (1)	The Set Menu Colors screen appears. (2)
Press **Enter** to select the **Change** command.	Color choices spread out to the right of the first screen item under the Color Selection heading. The cursor and an "X" are positioned on the current color selection.
Use the arrow keys or space bar to move the cursor and the "X" to the color of choice. Then press **Enter**.	The screen(s) to the left on which the item is displayed show(s) the change in color, and the cursor is positioned on the next screen item in the Color Selection list.
Make all desired changes to the foreground and background of every AMS screen item. Use **Esc** to return to the first page of Color Selection items. Use the **Nextpg and Prevpg** commands to move among the Color Selection pages of items.	
When all changes are complete, type **q** and press **Enter** to exit the Set Menu Colors option.	The AMS Platform Management Menu reappears.

Display Table Record Count

The **Display Table Count** option on the AMS Platform Management Menu lists the internal AMS tables. For each table, it displays a count of the records it contains.

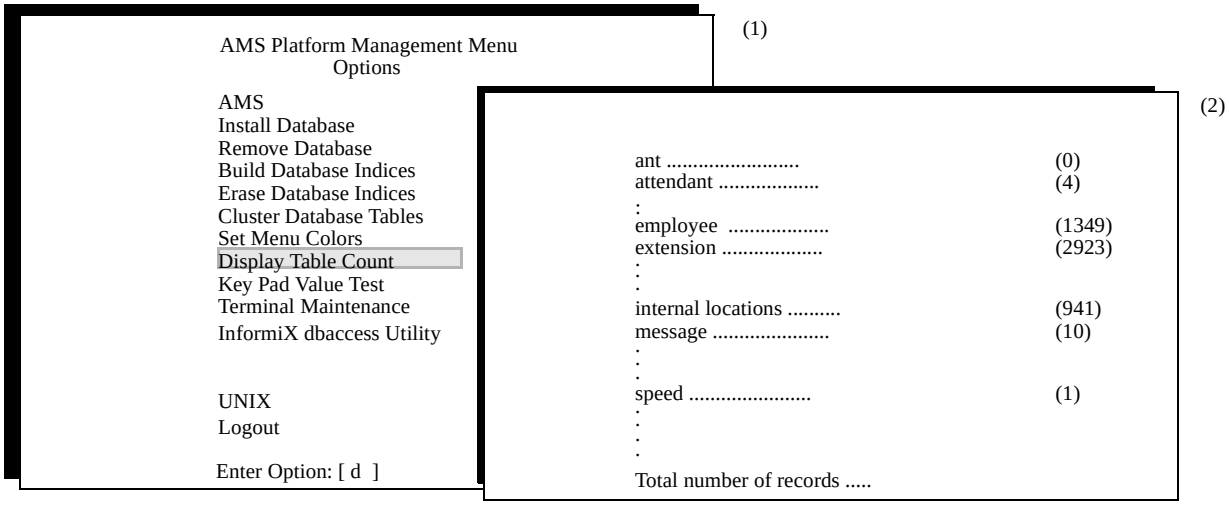


Figure 10-12 Database Table Record Count

Procedure

Action	Result
On the AMS Platform Management Menu, type **d** inside the brackets at the prompt and press **Enter**. (1)	The AMS Database Table Record Count screen appears. (2) After the listing, a total number of records is displayed.
To exit the AMS Database Table Record Count screen, press **Enter**.	The AMS Platform Management Menu reappears.

Key Pad Value Test

The Key Pad Value Test option on the AMS Platform Management Menu shows the key pad values.

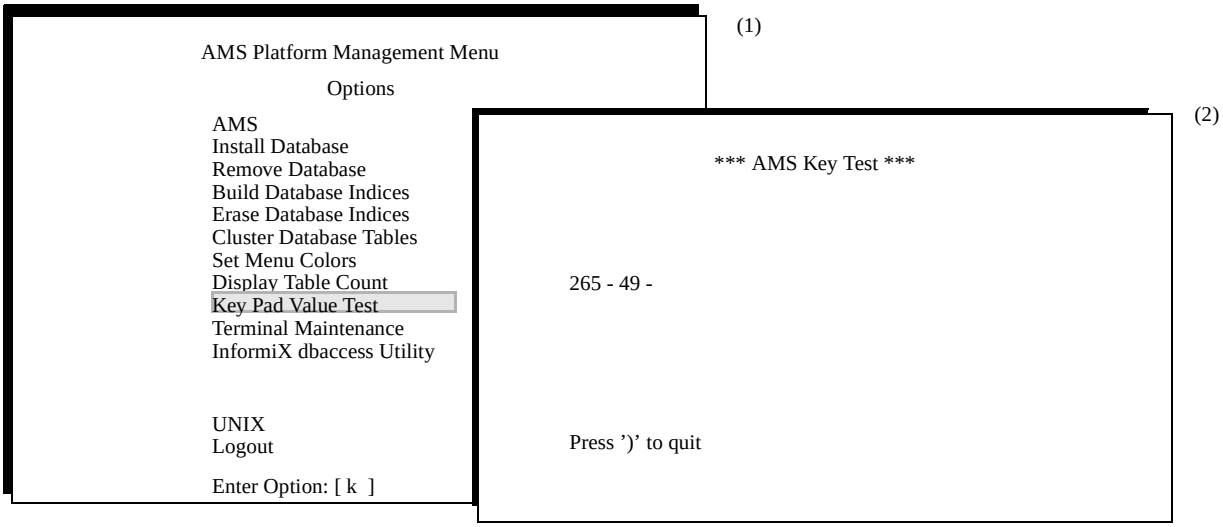


Figure 10-13 Key Pad Value Test

Procedure

Action	Result
On the AMS Platform Management Menu, type **k** inside the brackets at the prompt and press **Enter**. (1)	The AMS Key Pad Value Test screen appears. (2)
Press keys to see numbers displayed. For example, press **F1**, then **1**, etc.	The key pad values are displayed.
To exit the AMS Key Pad Value Test screen, press the right parenthesis ")".	The AMS Platform Management Menu reappears.

Terminal Maintenance

The Terminal Maintenance option on the AMS Platform Management Menu is used to assign or remove specific attendant devices so they automatically start the AMS session on the screen.

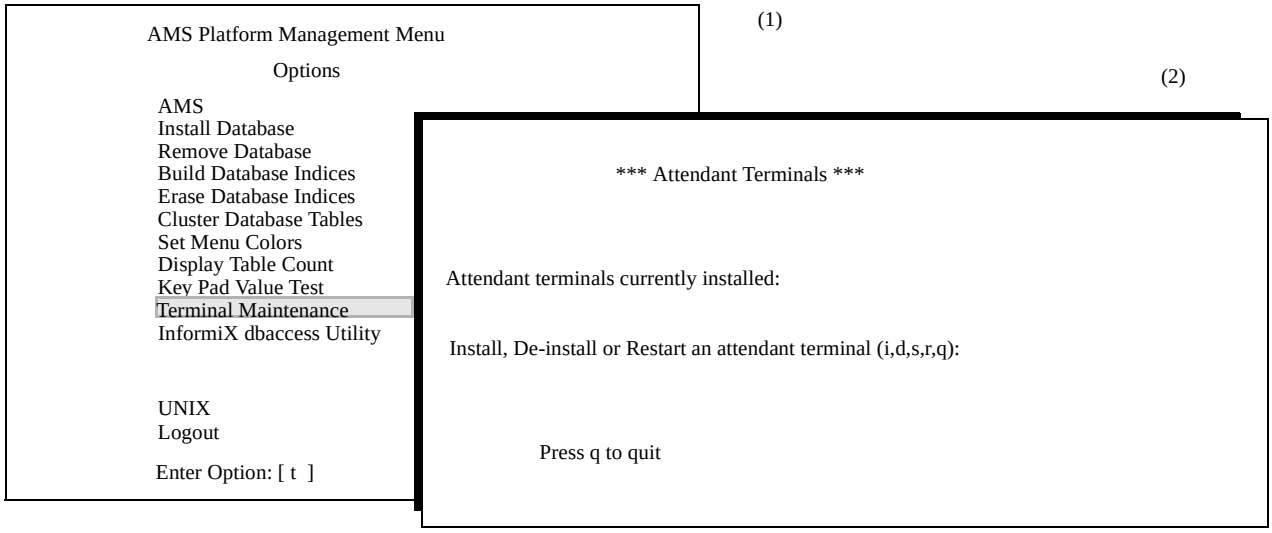


Figure 10-14 Terminal Maintenance

Procedure

Action	Result
On the AMS Platform Management Menu, type **t** inside the brackets at the prompt and press **Enter**. (1)	The AMS Attendant Terminal screen appears. (2)
Press the key for the desired action, then press **Enter**. **Key** **Action** **i** Install **d** De-install **r** Reset **q** Quit	When prompted with "Enter name of terminal," type the name of the device, beginning with **tty**, and press **Enter**.
To exit the AMS Attendant Terminal screen, press **q**.	The AMS Platform Management Menu reappears.

InformiX dbaccess Utility

The Informix dbaccess Utility option on the AMS Platform Management Menu executes Informix's dbaccess application, allowing the user to query and backup the AMS Informix database.

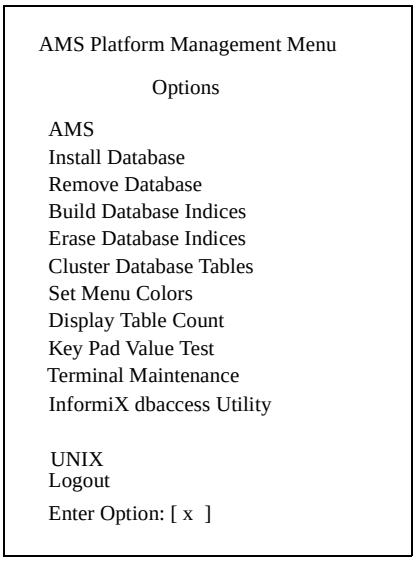


Figure 10-15 InformiX dbaccess Utility

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Chapter 11 Process and Error Messages

Process and Error Messages

The error messages from AMS are listed in alphabetical order. The attendant will also receive messages from UNIX which will change as UNIX changes. Three representative messages are:

"Permission denied"

"No such file or directory"

"File exists"

When UNIX messages are displayed, do the following:

1. From UNIX, log in as **amsadm**.
2. Select **U** for UNIX.
3. Type **tail /oai/app/ams/log/errlog** and press **Enter**.
   The file name will be listed in the errlog to help correct the problem.

AMS Error Messages

[%s] failed to become active within time limit.

The application named between the brackets timed-out. Increase the time-out value found in the application configuration and check the OAI link function.

[%s] must be running before ParkMgr can run.

The application named between the brackets must be initialized before the ParkMgr component can be initialized. Make sure the application name for the Daemon found inside the brackets matches the configured Daemon name in the APM and that the Daemon has been successfully initialized through the APM menus.

[%s] must be running before Server can run.

The application named between the brackets must be initialized before the Server component can be initialized. Make sure the application name for the Daemon found inside the brackets matches the configured Daemon name in the APM and that Daemon has been successfully initialized through the APM menus.

Apinform errored on daemon, see APM log.

An attempt to get OAI application information has failed. Refer to the APM log through the APM Operations Menu.

Apinform errored on prk mgr, see APM log.

An attempt to get OAI application information has failed. Refer to the APM log through the APM Operations Menu.

AMS Error Messages (Cont.)

Apinform errored on server, see APM log.

An attempt to get OAI application information has failed. Refer to the APM log through the APM Operations Menu.

Apmsend error, see APM log records.

An error occurred while a message was being sent to an OAI application. Refer to the APM log on the APM Operations Menu.

Attendant must be logged in to access statistics menu.

The stats function key was pressed before logging in to AMS.

Attendant must have database privileges to access statistics menu.

Only AMS attendants with database privileges may access this menu.

Att's physical info has changed.

The attendant cannot go on-line until the Daemon and Server clear this tty's information from shared memory. Initialize the Daemon and wait for the configured heartbeat time-out to expire before attempting to go on-line again from this tty terminal.

Bad type found in outstanding message list.

The Operator Menu Process (OMP) has received an unrecognized acknowledgment from the Server application. If the problem persists, back the attendant out past the login screen and then log back in.

Call Processing not available.

The OAI application components cannot establish communication with the PBX. Check the APM log file for error detail and make sure that the Ams_Daemon component is initialized.

Call record not found for deletion.

The listed call record cannot be found. This means there is an internal problem or a simple race condition that occurred when the caller abandoned the call just as the attendant attempted to answer it.

Call to be answered by another.

Retry answering the call, if a call still remains on the queue.

Cannot automate report at this time.

A record is being changed by another user. Try this procedure again later.

Cannot cancel automation at this time.

A record is being changed by another user. Try this procedure again later.

Cannot modify record at this time.

A record is being changed by another user. Try this procedure again later.

AMS Error Messages (Cont.)

Configured # of attendants must be below 50.

The configured number of attendants is too high. Enter the APM configuration menu and lower the number.

Could not monitor att.

The application cannot monitor the attendant. Make sure the extensions and logical numbers configured for this attendant are valid.

Could not monitor call queue.

The application cannot monitor the call queue. Make sure the call queue is correctly assigned via the AMNO command on the PBX MAT and that all Monitored Number Indices (MNIs) are unique for every monitored number in the switch.

Could not monitor joining station.

The application cannot monitor the joining station. Make sure the station is valid and not monitored by another application.

Could not monitor orbit number.

The application cannot monitor the orbit number. Make sure the orbit number is correctly assigned via the AMNO command on the PBX MAT and that all Monitored Number Indices (MNIs) are unique for every monitored number in the switch.

Could not obtain status of OMP queue.

The application cannot ascertain the status of the attendant station process. On an attendant station, enter the Call Processing function. From another CRT, initialize the Daemon component.

Could not send message to [%s], inactive (Could not send msg to [%s] because app is inactive).

The application named between the brackets is not receiving messages. Make sure it is initialized and running successfully.

Could not send msg to [%s] because no seq #'s available.

An application cannot send a message to the component named between the brackets. Log out of the menus and log back in. If this does not correct the problem, contact the system distributor.

Count of park timeouts out of bounds.

The OMP has a problem maintaining a count of parked caller timeouts and will attempt to recover automatically. If the problem persists, back the attendant out past the login screen using the **Esc** key and then log back in.

AMS Error Messages (Cont.)

Daemon has no association.

The Daemon cannot get an OAI association with the PBX. Recheck all OAI configurations at the MAT and all OAI configurations in the APM, and then re-initialize the Daemon.

Database error.

This message is displayed only in menus. Check the error with this number in the log file for details.

Db error when finding speed dial.

An error occurred when the application tried to find a speed-dial assignment in the database. If it is a -9000 number, make sure the speed dial is configured. If it is, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Enable timer expired but Enable count invalid.

While trying to recover, the Daemon had a problem bringing up the attendant stations. Terminate the Daemon and re-initialize.

Error acking Attendant.

An attendant logged off before the OAI process could send an acknowledgment. No action is necessary.

Error adding call record.

An error occurred while the application was trying to add a call record to the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error adding call record, no free recs.

The limit of 100 outstanding calls has been reached. Contact the system distributor.

Error allocating memory for [%d] orbit number.

An error occurred while the application was requesting memory from the system for the orbit number. Check UNIX kernel memory parameters.

Error attaching to the database (Error attaching to the database).

An error occurred while the application was trying to communicate with the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code. Make sure Informix is on-line by entering the Informix command *tbmmitor*.

Error changing mode on %s.

This message is accompanied by a UNIX error number. Make sure that the file named (%s) actually exists. Check the error number for more information.

AMS Error Messages (Cont.)

Error closing facilities

The application cannot close the OAI facilities in the PBX, probably because of an error in the PBX. The PBX error code value (xxxx) gives further detail about this error. Refer to the PBX manuals for this information. Check OAI assignments on the PBX MAT and verify the OAI application configurations that were entered during installation. No action is needed if this occurs when the link between the PBX and UAP is down.

Error connecting to Informix database

An error occurred while the application was trying to communicate with the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code. Make sure Informix is on-line by entering the Informix command **tbmmitor**.

Error deleting a record from the database (Database deletion error)

An error occurred while the application was trying to delete a call record from the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error deleting a timer

The application cannot delete a timer, generally because of an interprocess communication failure. Terminate all AMS processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes.

Error deleting call record

An error occurred while the application was trying to delete a call record from the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error deleting tty record.

An error occurred while the application was trying to delete a tty record from the database. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number. If the number is in the 10,000 series, the last three digits are the Informix error code.

Error finding name of paged party

An error occurred while the application was trying to find the name of the paged party in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error finding speed dial rec in database

An error occurred while the application was trying to find the speed-dial record in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

AMS Error Messages (Cont.)

Error getting AMS Daemon name from file.

An error occurred while the application was retrieving the Daemon application name. Make sure that the file configured for the Daemon within the APM Amsfile directory exists, that the name itself exists, and that the directory exists. Check the UNIX error number for more detail.

Error getting call records.

An error occurred while the application was trying to generate statistics from call records. Check the error log for the error number. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number. If the number is in the 10,000 series, the last three digits are the Informix error code.

Error getting queue call records.

An error occurred while the application was trying to generate statistics from queue call records. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number. If the number is in the 10,000 series, the last three digits are the Informix error code.

Error in menu command (Error in menu command)

An error occurred while the application was attempting to implement a menu command such as displaying a file.

Error in type returned from database lookup (Wrong type returned from dblookup)

An error occurred while the application was performing a directory lookup in the AMS Informix database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error initializing. AMS Server is exiting

An error occurred during initialization processes. Check application configurations in the APM file, making sure the logical names are correctly entered. Then retry.

Error initializing multiple screen program (Error in multiple screen prog.)

Ask the administrator to make sure that a file exists for this monitor so that screen switching is possible. (This error is displayed as “Error initializing multiple screen program in errlog” in the error log. Refer to the APM error log through the APM Operations Menu.) This file will be in */oai/app/ams/cfg/scrn*. It will be the name of the *tty*. Make sure it exists and has appropriate read/write permissions for the AMS user.

AMS Error Messages (Cont.)

Error initializing shared memory

The application cannot initialize recall shared memory. Terminate all AMS processes. Check the AMS configuration database values for the shared memory keys and make sure they are unique among applications running on the system. Reinitialize. If the problem persists, check UNIX kernel shared memory parameters. Then, if the problem still persists, terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm**, and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes.

Error initializing. AMS Server is exiting

An error occurred during initialization processes. Check application configurations in the APM file, making sure the logical names are correctly entered, then retry.

Error initializing the OMP Daemon.

An error occurred while the application was either reading the AMS database configuration files or writing process information to the disk. Verify that AMS databases were correctly installed in the APM database directories. Check file permissions in the AMS directories so that they are writeable by the AMS user. If the problem persists, reinstall AMS.

Error initializing the OMP Park Manager.

An error occurred while the application was either reading the AMS database configuration files or writing process information to the disk. Verify that AMS databases were correctly installed in the APM database directories. Check file permissions in the AMS directories so that they are writeable by the AMS user. If the problem persists, reinstall AMS.

Error inserting a record into the database (Error inserting record).

The application cannot insert a record into the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error inserting the record into the database.

An error occurred while the application was trying to add a record to the given database. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number. If the number is in the 10,000 series, the last three digits are the Informix error code.

Error locking a record in the database (Error locking a record in the db).

The application cannot lock a record in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

AMS Error Messages (Cont.)

Error locking record in tidx table. Db & automated rpt gen discrepancy.

An error occurred because two people have attempted to add, change, or delete a time index at the same time. This has caused a difference between the Informix database and other internal system tables that must be in agreement. This is a rare but significant error occurring between Informix and the operating system. When this message is displayed, it is necessary to add, modify, or delete a time index record. In the process, Informix and the system "clean up" the results of the previous error.

Error locking semaphore.

The application cannot lock the call records semaphore. Terminate all AMS processes. Check the AMS configuration database values for the shared memory keys, make sure they are unique among applications running on the system, then reinitialize. If the problem persists, check UNIX kernel shared memory parameters. If the problem still persists, terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes.

Error modifying a record in the database (Database error modifying record).

The application cannot modify the record in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error modifying record in time index table.

An error occurred while the application was changing a record in the time index table. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number.

Error opening association.

The application cannot get an OAI association with the PBX. Recheck all OAI configurations at the MAT and all OAI configurations in the APM. Then terminate and reinitialize the application.

Error opening facilities.

The application cannot open the OAI facilities in the PBX, probably because of an error in the PBX. The PBX error code value (xxxx) gives further detail about this error. Refer to the PBX manuals for this information. Check OAI assignments on the PBX MAT and verify the OAI application configurations that were entered during installation.

Error opening OMP queue.

The Daemon cannot open the queue that is configured for the OMP. Verify that the OMP queue key configured for the AMS configuration database is valid.

AMS Error Messages (Cont.)

Error opening semaphore.

The application cannot open the call records semaphore. Terminate all AMS processes. Check the AMS configuration database values for the shared memory keys, make sure they are unique among applications running on the system, then reinitialize. If the problem persists, check UNIX kernel shared memory parameters. If the problem continues, terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes.

Error performing status check on att.

An error occurred while the application was checking the status of an attendant station (i.e., the heartbeat that the Daemon sends to the attendant). Check the APM log for more error detail. If possible, validate the status of the ipc queues.

Error querying att recs.

An error occurred while the application was querying the attendant records in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error querying database for tty record.

An error occurred while the application was querying the database for a tty record. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number. If the number is in the 10,000 series, the last three digits are the Informix error code.

Error querying orbit database.

An error occurred while the application was querying the orbit numbers in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error querying queue database.

An error occurred while the application was querying the queue records in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error querying timer recs.

An error occurred while the application was querying the timer records in the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error querying the database.

An error occurred while the application was querying the database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

AMS Error Messages (Cont.)

Error querying tty table.

An error occurred while the application was querying the tty table. For error detail and required recovery, find the message in this chapter if it is a -9,000 number or in the Informix manual if it is a -10,000 number. If the number is in the 10,000 series, the last three digits are the Informix error code.

Error reading APM database.

The application cannot read the AMS/APM database. Check the file permissions set on AMS/APM databases. Use the APM to verify that changes to these databases have been processed and installed using the APM Database Administration menu options. If the problem persists, reinstall the application.

Error reading from association

This is a PBX error. The PBX error code value (xxxx) means further detail about this error. Refer to the PBX manuals for this information.

Error reading OMP database

The application cannot read the OMP database. Check the file permissions that are set on AMS/APM databases. Use the APM to verify that changes to these databases have been processed and installed using the APM Database Administration menu options. If the problem persists, reinstall the application.

Error reading shared stats database

The application cannot read the AMS/Attendant Statistics shared configuration database. Check the file permissions set on AMS/APM databases. Use the APM Database Administration menu options to verify that changes to these databases have been processed and installed. If the problem persists, reinstall the application.

Error releasing association

The application has been unable to release an OAI association, generally due to a communication failure between the UAP and the PBX. Terminate the application using the Kill option on the APM menus. The number specified in the message is the error detail from the PBX which should explain why the application could not release the association.

Error retrieving employee message (Error retrieving employee's msgs)

An error occurred while retrieving an employee message. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error saving report.

A system error occurred while the report was being saved.

AMS Error Messages (Cont.)

Error sending ack to att [%d]

An error occurred while the application was attempting to send an acknowledgment to the attendant. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error sending Att [%d] a "go online" message

There is an interprocess communication problem between processes. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error sending Att [%d] a handshake message.

There is a communication problem among processes. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error sending message to OMP queue.

There is a communication problem among processes. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error sending problem message to Att.

There is a communication problem among processes. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error sending SCF[%d] for att [%d] [err=0x%x].

This error message is probably caused by a non-critical event such as trying to answer an abandoned call, but it is provided in case of a more consistent OAI communication problem. The number given in the message is a PBX error code; check the PBX manuals for more detail.

Note: *If this site does direct transfers to a hunt group, the error "Error sending SCF[103.[err=0x913a]" will occur often. This means that a no-answer recall was both impossible and unnecessary.*

AMS Error Messages (Cont.)

Error sending SMFR[%d] for att [%d] [err=0x%x].

An error occurred while the application was trying to stop or start monitoring a number. The number given in the message is a PBX error code. Check the PBX manuals for more detail. This is usually non-critical and occurs in a race condition.

Error setting announcement retry timer.

An error occurred while the application was attempting to set an announcement retry timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error setting enable timer.

An error occurred while the application was attempting to set an enable timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error setting heartbeat timer.

An error occurred while the application was attempting to set a heartbeat timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error setting monitoring on rt/trk.

An error occurred while the application was attempting to initiate monitoring on a route/trunk. The number provided in the message gives the PBX error detail. Refer to the PBX system manuals for that information.

Error setting monitoring on sta.

An error occurred while the application was attempting to initiate monitoring on a route/trunk. The number provided in the message gives the PBX error detail; refer to the PBX system manuals for that information.

Error setting oldage timer.

An error occurred while the application was attempting to set an oldage timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

AMS Error Messages (Cont.)

Error setting orbit timer.

An error occurred while the application was attempting to set an orbit timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error setting park timer.

An error occurred while the application was attempting to set a parking timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error setting stat pkg timer.

An error occurred while the application was attempting to set a statistics package timer. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error spawning [%s].

An error occurred while the application was attempting to initialize an AMS process. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

Error stopping monitoring on att.

The application cannot cancel monitoring on an attendant. This can happen if monitoring was cancelled before or if communication with the PBX has failed. If the application does not recover normally, it may be terminated using the Kill option in the APM menu. Once the OAI link is re-established, restart the application.

Error stopping monitoring on call queue.

The application cannot cancel monitoring on a call queue. This can happen if monitoring was cancelled before or if communication with the PBX has failed. If the application does not recover normally, it may be terminated using the Kill option in the APM menu. Once the OAI link is re-established, restart the application.

AMS Error Messages (Cont.)

Error stopping monitoring on orbit.

The application cannot cancel monitoring on an orbit. This can happen if monitoring was cancelled before or if communication with the PBX has failed. If the application does not recover normally, it may be terminated using the Kill option in the APM menu. Once the OAI link is re-established, restart the application.

Error stopping monitoring on page sta.

The application cannot cancel monitoring on a page station. This can happen if monitoring was cancelled before or if communication with the PBX has failed. If the application does not recover normally, it may be terminated using the Kill option in the APM menu. Once the OAI link is re-established, restart the application.

Error stopping monitoring on rt/trk.

The application cannot cancel monitoring on a route/trunk. This can happen if monitoring was cancelled before or if communication with the PBX has failed. If the application does not recover normally, it may be terminated using the Kill option in the APM menu. Once the OAI link is re-established, restart the application.

Error stopping monitoring on sta.

The application cannot cancel monitoring on a station. This can happen if monitoring was cancelled before or if communication with the PBX has failed. If the application does not recover normally, it may be terminated using the Kill option in the APM menu. Once the OAI link is re-established, restart the application.

Error terminating.

An error occurred during the application's attempt to terminate. Use the Kill option on the APM menu, if necessary.

Error when doing directory lookup in database (Directory database lookup error).

An error occurred while the application was attempting to perform a directory lookup in the AMS Informix database. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error when finding attendant in database (Db error when finding attendant).

An error occurred while the application was attempting to find an attendant record in the AMS Informix database. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error when finding recalled park record in db.

An error occurred while the application was attempting to find a recalled park record in the AMS Informix database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

AMS Error Messages (Cont.)

Error when finding route in database (Db error when finding trunk).

An error occurred while the application was attempting to find a route in the AMS Informix database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Error when finding source caller in database (Db error when finding source clr).

An error occurred while the application was attempting to find a source caller in the AMS Informix database. If it is a -9000 number, contact the system distributor. If it is a -10,000 number, check the Informix manual. Use the last three digits as the error code.

Found a configured att server [%d] out of range.

Enter the Database Administration menu as a supervisor and make sure that all Server numbers range from "1" and the total number configured for AMS.

Fatal error.

Refer to the AMS error log for more detail. Enter **apmadm** at the prompt and select the UNIX option from the APM Platform menu. At the UNIX prompt, type **more /oai/app/ams/log/errlog**, then press **Enter**.

Going off-line due to error.

This is a process message. The application has either been requested to go off-line or has an unrecoverable error. The application is closing communications with the PBX and preparing to terminate.

Incoming ack msg had unrecognized code.

An invalid acknowledgment code has been received from the Daemon application. The attendant station will recover automatically. If the problem persists, log the attendant out past the login screen using the **Esc** key and then log back in.

Incomplete tty record(s) found in database.

The OAI link has gone down and a tty record has been lost. This won't cause any problems.

Latent handshake time-out received.

There is an attendant station communication problem. Log all attendant stations out past the login screen using the **Esc** key, and then have all stations go back on-line. If the problem persists, halt and restart the OAI applications.

Logical error, null pointer.

There is a software protocol error in the system pointers. If the problem persists, log the attendant out past the login screen using the **Esc** key and log back in.

AMS Error Messages (Cont.)

Minor error when receiving data.

There is a problem with a UNIX interprocess communication. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, halt and restart the APM system.

No attendants configured in database. Terminating.

Log in as the supervisor to the AMS and configure at least one attendant station through the data entry screen that is displayed.

No color capabilities available.

The monitor being used for the attendant station does not support color capabilities. Make sure the monitor is configured as *ansi.* To configure the monitor as *ansi,* use the UNIX command **TERM=ansi**.

No queues! Enter them via the AMS Sys Admin Menu.

Log in under a supervisor name, enter the System Administration menu option, and select the Queue Assignment option. Then enter unique monitored numbers both here and at the PBX MAT using instructions in the manual.

No 2nd party line info in the SMFN(inc).

An error has been received from the PBX. Contact the system distributor.

No statistics records to format.

This is a process message from the background report utility program. There are no statistical records to process from the attendant stations. No statistics file will be generated for the respective date.

OMP queue has not been initialized.

Log into the application and enter the Call Processing option. This initializes the OMP queue.

Park Manager has no association.

Verify that the name configured for the Park Manager in the APM matches the associated name in the AMS/APM database.

PID of incoming message did not match our PID.

A minor communication problem occurred among AMS background programs. If the problem persists, back the attendant out past the login screen using the **Esc** key and log back in.

PID [%d] of expired enable timer does not match.

A race condition occurred. If the problem persists, back the attendant out past the login screen using the **Esc** key and log back in.

AMS Error Messages (Cont.)

Previous error.

An error was found that is associated with the previously displayed error message.

Problem receiving acknowledgement.

An invalid acknowledgment code has been received from the Daemon application. The attendant station will recover on its own. If the problem persists, back the attendant out past the login screen using the **Esc** key and log back in.

Problem sending request.

An interprocess communication failure occurred while the application was attempting to send a request. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, and then the application processes. If the problem persists, call the system distributor.

Problem with incoming record.

The attendant station software has received an unrecognized data message. If the problem persists, back the attendant out past the login screen using the **Esc** key and log back in. If the problem still persists, verify that the OMP queue set up for the AMS application in the AMS APM configuration database is unique among all other applications executing in this system.

Queue [%d] exceeded maximum outstanding of [%d].

An interprocess communication failure occurred while the application was attempting to send a request. Terminate all application processes and halt the APM system. Log into the AMS Platform Management Menu with **amsadm** and select the UNIX option. Type the command **/oai/utils/rmipc** at the prompt, then press **Enter**. Restart the APM system, then restart the application processes. If the problem persists, call the system distributor.

Received an unknown message.

This typically happens after the attendant answers a recall made directly to the HDA or when call processing events arrive in an unexpected order. This is rarely serious once a system is stable.

Received handshake from wrong OMP.

A minor protocol error occurred. If the application does not recover normally, log out all attendant stations and terminate. Then restart all OAI applications.

Received online for att [%d] which is out of range.

Check attendant IDs in the database for accuracy and make sure they are within the range shown. Process and install the database using the APM Database Administration menu options.

AMS Error Messages (Cont.)

Received srv ack we weren't expecting.

A minor protocol error occurred. If the application does not recover normally, log out all attendant stations and terminate. Then restart all OAI applications.

Received unexpected acknowledgment.

The application has received an unrecognized data message. Verify that no other application is using the same queue key. If the problem persists, terminate and restart the Daemon.

Received unrecognized nonoai msg

The application has received an unrecognized data message. Verify that no other application is using the same queue key. If the problem persists, terminate and restart the Daemon.

Record arrived with an unrecognized type

The attendant station software has received an unrecognized data message. If the problem persists, back the attendant out past the login screen using the ESC key and log back in. If the problem continues, verify that the OMP queue set up for the AMS application in the AMS APM configuration database is unique among all other applications executing in this system.

Resetting parked timeout number

The OMP has a problem maintaining a count of parked caller time-outs and will attempt to recover on its own. If the problem persists, back the attendant out past the login screen using the **Esc** key and log back in.

Server has no association

The AMS Server application cannot go on-line with the PBX through the OAI interface. The Directory service is not available. Check the AMS Server configuration.

SMFN(inc) to unknown monitored number (%s).

The AMS OAI process attempts to correct itself. Note the number provided and verify its use as an incoming call queue, attendant logical number, or orbit number.

Source caller arrived with wrong type.

The attendant station received a source caller message from the Server application specifying the wrong equipment. Back the attendant out past the login screen using the **Esc** key and log back in.

Source caller has wrong type.

The attendant station received a source caller message from the Server application specifying the wrong equipment. Back the attendant out past the login screen using the **Esc** key and log back in.

Unable to handle acknowledgment.

The attendant station software has received an unrecognized acknowledgment from the Server application. If the problem persists, back the attendant out past the login screen using the **Esc** key and log back in.

Unknown att status [%d] in shared memory.

This message may mean a corruption of shared memory. If the problem persists, log everyone out and terminate the Daemon. Enter **apmadm** at the prompt and select the UNIX option from the APM Platform menu. At the UNIX prompt, enter **ipcs-m**, which shows ID of shared memory with key *OXace*. Type **ipcrm –m #**, where **#** is the ID associated with *OX ace*. Make sure that no incoming calls exist before executing this command.

Unrecognized SMFN received, cancelling (Unrecognized SMFN).

This error corrects itself. No action is necessary. It may occur after a direct transfer to a station as determined by the timing of the PBX notifications.

Unrecognized timer.

This error corrects itself. No action is necessary.

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Appendix A AMS Upgrade Procedures

Version 2.0 of the AMS contains new features and changes to the employee database table. In order to correctly install the employee table, you must unload, drop, and reload the database in the new format. The following procedures explain how to accomplish this task.

Before beginning the upgrade procedure, you should make a tape backup of the Informix database and locate your original AMS and Statistics diskettes, in case you need to restore the old system. You will also need to terminate the Ams_Daemon, as described later in this chapter.

Note: *Press **Enter** after typing each command in the following procedures.*

Upgrading Procedures

Step 1: Verifying Operators Are Logged Off

Use the following steps to verify that all of the operators are logged off of the AMS. All operators need to be logged off of the system before you make a taped backup of the Informix database.

1. Type the login **amsadm** at the login prompt and enter **u** to select the AMS directory.
2. Type **etc/vushmem | more**.
3. Type **/** to move the cursor to the bottom of the screen.
4. Type **Operat**, making sure to capitalize only the "O" in this string.
   The operator IDs and status of each operator display, beginning with Operator 0. This operator should have a status of *0*. Dotted lines separate the Operator IDs.
5. Press the **space bar** to page through all 50 Operator IDs. If you see an operator name next to the *Name* = field, log off that user from the SunRiver terminal associated with that operator ID by pressing **ESC** until the AMS login screen displays.
6. You can log into the AMS as the administrator and check the attendant database by selecting the Attendant Database option from the Database Administration menu.
7. To determine if the name is logged in on the operator's secondary screen for database administration, press **ALT+F2** on the SunRiver terminal. Press **ALT+F1** before leaving the terminal to prevent confusion when the operator logs on the next time.

Step 2: Performing a Tape Backup

Performing a tape backup preserves a snapshot of the current AMS database contents and configuration as well as any other database using Informix on the UAP, such as AMS Statistics. You do not want to back up the database during call processing hours because temporary records such as calls just transferred, calls on hold, and attendants logged in would also be backed up. This would cause erroneous data if used to restore the system.

To perform a tape backup, the Ams_Daemon can stay online with the PBX, but the operators must be logged off. Use the following steps to backup the database:

1. Verify that all operators are logged off as described in "Step 1: Verifying Operators Are Logged Off" on page A-1.
2. Verify that you have a tape inserted into the tape drive.
3. Log in at the login prompt by typing **informix**.
4. Type **tbmonitor**.
5. Select *Archive* by typing **a** or pressing the **space bar**, and press **Enter**.
6. Select the **Create** command.
7. After verifying that the tape is inserted, press **Enter**.
8. When asked the level of archive, type **0** and press **Enter**.
9. When the status is 100 percent completed, press **Enter** to continue.
10. Press **e** twice to exit.
11. At the "$" prompt, type **exit**.

Step 3: Terminating the Ams_Daemon

The Ams_Daemon is the OAI application that communicates with the PBX and acts as a monitor for certain AMS processes. The Ams_Daemon must be terminated before you upgrade the AMS. It automatically terminates the Ams_Parkmgr and the Ams_Servers, but it does not terminate Stat_Logger (which is only installed if it has been purchased separately). We recommend that you terminate Stat_Logger when you terminate the Ams_Daemon. To terminate the Ams_Daemon, use the following steps:

1. If you are not already logged in on another screen, log in at the login prompt by typing **apm**. You can verify whether the APM is running on any of your twelve system console ttys by pressing **ALT+F1**, **ALT+F2**, . . ., **ALT+F12**.
2. At the APM Password prompt, type **apm1**.
3. Select **Non-CRT Applications** then **Terminate**.
   Your cursor moves to the area where the applications are listed.
4. Use the arrow keys to select Ams_Daemon and press **Enter**.
   Ams_Daemon is highlighted.
5. Press the **down arrow** key to select Stat_Logger (if it exists), and press **Enter**.
   Stat_Logger is highlighted.
6. Press **ESC**.

7. When the "Terminate selected applications?" prompt displays, type **y** and press **Enter**.

   A series of messages display in the bottom window of the APM.

8. To log out, press **ESC** until the login prompt displays.

Note : *You can use these steps to initialize the Ams_Daemon by choosing "Initialize" in step 3. You do not need to highlight Stat_Logger because it will be initialized automatically by the Ams_Daemon.*

Step 4: Upgrading the AMS Software

Once you have completed the tape backup and terminated the Ams_Daemon, use the following steps to upgrade the AMS software.

1. When upgrading from a version of AMS other than Version 1.7, log in to the AMS as the supervisor by typing **ams** at the login prompt from the correct tty. (Try pressing **ALT+F12** or **ALT+F8** to select the correct tty.)

   If this fails, log in to a SunRiver terminal. The default supervisor name and password is *ams*.

2. When upgrading from a version of AMS other than Version 1.7, choose **System Configuration** then **Timer Configuration**. Write down the settings for each field, and exit from AMS.

3. Verify that all attendants are logged off as described in "Step 1: Verifying Operators Are Logged Off" on page A-1.

4. Halt all AMS logins configured to always run on the SunRiver terminals as described in "Halting Auto-Configured SunRiver Stations" on page A-8.

5. Remove shared memory by typing **amsadm** to log into AMS.

6. Enter **u** to exit to the AMS directory.

7. At the AMS directory, type **ipcs -m**.

   The list of the shared memory of all the applications appears. The AMS uses the shared memory that has the form of:

   m # 0x00000ace --rw-rw-rw- apm apm

8. Log in as root user at the AMS directory by typing **su**, and type the root user password when prompted.

9. Type **ipcrm -m #**, where # represents the unique number AMS uses for its shared memory.

10. Type **exit** to exit root user.

11. Type **exit** again to log out of the AMS directory.

12. Log in as root user by typing **root** at the login prompt. When prompted, type the password, then type **cd /oai/app/ams**.

13. Type **find . -name "*" -exec chmod g+w {} \;**.

14. Type **exit** to log out of the root user. Log in at the UNIX prompt by typing **apmadm**.

15. Choose **Installation**, type **applications**, and type **f** to select floppy disk as the media.

16. Insert the AMS Version 2.0 diskettes when prompted until all five are loaded.
17. When the fifth diskette is loaded, type **y** and press **Enter** when asked if all diskettes have been loaded. The installation script begins after the files are installed and the checksums are verified.
18. During the installation, you will be prompted for the root password, and user and group IDs for the AMS. Press **Enter** to accept the defaults of 4020 and 4021.
19. When asked if you want to reconfigure the Ams_Daemon, Ams_Parkmgr, Msg_Clean, type **n** and press **Enter**.
20. When asked if you want to reconfigure Ams_Server, type **y** and press **Enter**.
21. The installation will then ask if you wish to continue with the installation of the AMS Informix Database. Type **n** and press **Enter**.
22. Log out of the apmadm by selecting **l** at the menu.

The next step is to note the number of records (rows) in each table so that you can verify that the unload of the data is not corrupt before dropping the database.

23. Log in at the login prompt by typing **amsadm**.
24. Enter **d** to select the **Display Table Count** command on the *amsadm* screen.
25. Write down the number of rows for the following tables from the AMS.
    - ant
    - attendant
    - camp
    - did
    - directory
    - employee
    - extension
    - external
    - held
    - internal
    - message
    - orbit_number
    - park
    - queue
    - route
    - speed
    - tmo
    - xfer

Next, you will unload the database. At this point, no data has been removed from the database because the data is being stored in temporary files.

26. Enter **x** at the *amsadm* menu to select the Informix dbaccess Utility option.
27. On the *amsadm* screen, do the following:
    - Choose **Query Language** and press **Enter**.
    - Choose **amsdb** and press **Enter**.
    - Choose **unlams** and press **Enter**.
28. After the list of unload statements is displayed, select **Run**.
29. If you get an error, do one or more of the following:
    - If you get an error regarding permissions, check /tmp and make sure it is writable by the apm group. Also check to see if any of the files we are trying to unload into already exist. If they exist, make sure they are writable by everyone by logging in at a UNIX prompt as root and typing **chmod 666 /tmp/**<filename> for each file we are attempting to write such as "chmod 666 /tmp/directory" "chmod 666 /tmp/extension", etc.
    - If you get any other error, consult your Informix manual or call NTAC. If necessary, reload your old AMS and AMS Statistics diskettes, skipping the database portion of the installation. Then, bring the Ams_Daemon online and reinitialize the disabled operator terminals by typing **enable** followed by each tty, such as "enable tty00a".
30. If the unload is successful, the message "1 row(s) unloaded" displays. Press **e** twice to exit dbaccess.
31. Enter **u** to exit to the UNIX prompt, and type **cd /tmp** at the UNIX prompt.

    Note : *Be sure to include / in the previous procedure. It will bring you back to the home directory.*

32. Type **wc -l * | more** to display the line count of each file. Verify that the number of lines in each table matches the number of lines that you noted earlier for these tables, including the directory table and the employee table. If these numbers do not match, the data did not get properly unloaded. Do not continue with the dropping of the database. Load the original AMS and Statistics diskettes, skipping the Database portion of the installation, and reenable the Ams_Daemon and the operator ttys.

    You can also type **more <filename>**, where <filename> is "directory", "employee", etc. You should see an ASCII version of that table with fields separated by "!"s. Press **Delete** to exit the directory or employee file.
33. Type **Exit** to log out of UNIX and log back in by typing **amsadm**.
34. Enter **r** to select the **Remove the Database** command on each screen. Type **y** and press **Enter** when prompted to verify your choice.
35. Enter **i** to select the **Install the Database** command on each screen. This does not load any data; it simply creates the description for each table.
36. Enter **b** to select the **Build the Database Indices** command on each screen.

    Note : *If you do not do this, your queries will be extremely slow.*

37. Enter **x** at the amsadm menu to select the Informix dbaccess Utility option.

38. When upgrading from a version of AMS other than Version 1.7, choose **Query Language** > **amsdb** > **Choose** > **loadams**.

39. When upgrading from a version of AMS other than Version 1.7, edit the loadams script and delete the 4 lines associated with loading the tmo table. Choose **Modify**, move the cursor to the last paragraph with the arrow key, and press **Ctrl+D** to delete the following 4 lines:

    begin work;

    lock table tmo in exclusive mode;

    load from "/tmp/tmo" delimiter "!" insert into tmo;

    commit work;

    Press **ESC** when you have finished editing the text.

40. When upgrading from a version of AMS other than Version 1.7, enter **e** to exit the current screen.

    The first line of the screen will show " DB-Access: Query-Language Database Table Exit".

41. Choose **Table** > **Alter** > **employee**. Type **s** to select Screen.

42. Write down the settings for the *display* field. (For example, Display Char 16) Move to the *display* field with the down arrow key, and press **d** to drop the field. When prompted, select **yes** to confirm that you want to drop the field.

43. Enter **e** to exit the current screen and **Build-new-table**.

44. Enter **e** to exit.

45. To run the loadams, choose **Query Language** > **amsdb** > **Choose** > **loadams**.

    The message "Data committed" displays at the bottom of the screen.

46. Do the following:

47. Choose **Table** > **Alter** > **employee** > **Screen**. Type **s** to select Screen.

48. Move the cursor to the box below the last line with the arrow key. Type **a** to select the **Add** command. Fill in the appropriate information Step 42.

    Press **Ctrl-C** to exit Add mode.

49. Press **e** to exit the current screen and **Build-new-table**.

50. Exit twice out of dbaccess and return to the amsadm screen.

51. Enter **c** to cluster the database.

52. Enter **d** to display the number of records in each table. These numbers (except the tmo table when upgrading from Ver1.5 of the AMS) should match.

    If there is a problem and the data did not get successfully reloaded, you must load the original AMS diskettes, skipping the Database Installation portion and restore the database from tape.

53. Log out of amsadm by pressing **l**.

54. Log in as root and type **enable tty**<xxx>, where <xxx> is the number of the tty(s) you disabled in inittab (i.e., enable tty00a enable tty00b etc.)

55. When upgrading from a version of AMS other than Version 1.7, log in to the AMS as the supervisor by typing **ams** at the login prompt from the correct tty (try pressing **ALT+F12** or **ALT+F8**) or from the work station that has a telnet utility. If you do not see the Login screen, you are on a tty that is not configured to run the AMS, or if you are using the telnet utility, the network might not be connected. If this fails, log in from a SunRiver terminal. The default supervisor name and password is *ams*.

56. When upgrading from a version of AMS other than Version 1.7, choose **System Configuration** > **Timer Configuration** > **Modify**.

57. When upgrading from a version of AMS other than Version 1.7, fill in the appropriate fields with the information that you wrote down in Step 2. When you reach "Inactivity Time-out" and "Inactivity Advance Warning", make these entries depending on the amount of call getting. (For example, Inactivity (min): 10, Inactivity Advance Warning (sec): 20.)Also make sure the field "Response to Heartbeat" has an entry of value 12.

58. When upgrading from a version of AMS other than Version 1.7, type **y** and press **Enter** when prompted to save the changes.

59. When upgrading from a version of AMS other than Version 1.7, press **ESC** two times and choose **Database Administration** > **Attendant Stations** > **Modify**.

60. When upgrading from a version of AMS other than Version 1.7, press **Enter** to see the list of attendants. When using the telnet session, at least one of the attendant's Device fields needs to have the entry */dev/null*.

61. When upgrading from a version of AMS other than Version 1.7, press **ESC** repeatedly until you have logged out of AMS.

62. Log in as apm and reinitialize the Ams_Daemon.

Halting Auto-Configured SunRiver Stations

At times it is necessary to stop the Operator Menu Processes (OMPs) that have been previously configured to run automatically on one or more SunRiver terminals. This is different than De-installing the tty through amsadm's Terminal Maintenance. The main difference is after this procedure, no UNIX process will be running on that tty. The Terminal Maintenance deinstallation, however, reconfigures the UNIX login to run in place of the AMS. The goal of this procedure is to terminate all running OMPs so that they are no longer attached to the database.

1. Log in as **root** at the UNIX prompt.
2. Type **vi /etc/inittab**.
3. Type **/** to move the cursor to the bottom of the screen.
4. Type **ams** to find the first line that has ams after the tty.
5. Make a note of this tty. You will need to reenable it later using **enable /dev/tty**<xxx>, where <xxx> is the number of the tty (e.g. 00a).
6. Type **b** to backspace until the cursor is on the letter *r* in "respawn".
7. Type **cw** to select the **change word** command. The $ symbol displays at the end of the word.
8. Type **off** and press **ESC**.
9. Type **n** (next) to find the next occurrence of the word "ams" which appears at the end of your current line.
10. Type **n** again to go to the next line.
11. Repeat steps 7-10 for changing the word *respawn* to *off* until all ttys running the AMS are off. Make a note of each tty that you turn off.
12. When you have turned off all of the ttys, type **:wq**.
13. At the UNIX prompt, type **init q**.
14. To verify all menu processes are terminated, type **ps -ef | grep omp**.
15. One line should display with the words "grep omp" at the end. If you see more than one line with "-omp" at the end, note the sixth column which is the tty.
    - If the tty is 01 - 12, you are logged in on the console. Go to that screen by pressing **ALT** followed by the corresponding function key and log off of the AMS.
    - If the tty is 1A, someone is logged in to the AMS via a modem. Ask the user to log off, or type **kill** followed by the process ID, which is the second column on the line of your ps output.
    - If the tty is similar to 00a or 10b, you missed an entry on the inittab, or someone is logged in on a SunRiver terminal that is not configured to be permanently running. Check the inittab, and if all AMS processes are off, log off at the SunRiver terminal.

Restoring Database from Tape

Restoring the database from a tape backup overwrites everything in all Informix databases with the contents of the tape. This means that any modifications made to any Informix database between the backup time and the recover time are lost, including added employees and call statistics.

1. Before restoring from a tape, you must terminate all process attached to the database. To do this, you must first terminate the Ams_Daemon as described in "Step 1: Verifying Operators Are Logged Off" on page A-1, and then halt all running OMPs as described in "Halting Auto-Configured SunRiver Stations" on page A-8.
2. Log in by typing **informix** at the UNIX prompt. Enter the appropriate password, if any. (Try *informix* or *nec486*).
3. Type **tbmonitor** at the $ prompt.
4. Press the space bar until **Mode** is selected, and press **Enter** or type **m**.
5. Press the space bar until **Take-Offline** is selected, and press **Enter** or type **g**.
6. The message "There are no users except the DAEMONS and TBMONITOR" should display at the bottom of your screen. If this message lists other users, you still have processes attached to the database. Attempt to find and terminate these processes. Otherwise, type **y** when the following prompt displays: "Do you really want to shutdown?".
7. You should now be off-line, as indicated on the dotted line. Exit one level.
8. Press the space bar until **Archive** is selected, and press **Enter** or type **a**.
9. Select **Restore**.
10. Make sure the Informix tape is in the tape drive and press **Enter** as instructed.
11. When complete, exit one level and press the space bar until **Mode** is selected, and press **Enter** or press **m**.
12. Select **Startup** to put the database in "Quiescent" mode.
13. Select **On-Line**. The word "On-Line" displays.
14. Exit to the UNIX prompt by pressing **e** twice, and log out by typing **exit**.
15. You can verify that the database is restored by logging in as **amsadm** at the UNIX prompt and choosing **Display Table Count**. The number of records in the tables displays.
16. Log out of amsadm and log in as **root**. Enable each of the OMPs originally terminated by typing **enable tty**<xxx> for each terminal, where <xxx> is the SunRiver tty number such as "00a" or "10b". (Enable tty00a.)
17. Log out of root and log in as **apm**. Type **apm1** at the APM Password screen, choose **Non-CRT Application Control**, and initialize the Ams_Daemon.

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Appendix B AMS Database Maintenance Procedures

In order to ensure that your system runs smoothly, you should perform the following procedures weekly:

- Recluster the database indices.
- Back up the database to tape.
- Check the number of extents.

Each of these procedures is described in detail later in this appendix. Before performing any of these procedures, you must make sure that all users are logged off of the system. You may also need to terminate the Ams_Daemon and deactivate any SunRiver terminals auto-configured to run the AMS operator menu processes (OMPs). Refer to the specific procedure for information on whether to terminate the Ams_Daemon or deactivate SunRiver terminals.

Reclustering the Indices

Reclustering the indices in the database helps query performance. It updates tables internal to Informix based on predefined fields that are often used for queries, such as the *name* field in the directory table. You should recluster the indices after many additions and/or deletions have been made to the database.

To recluster the AMS database indices, the Ams_Daemon can stay online with the PBX, but the operators must be logged off.

1. Verify that all operators are logged off as described in “Step 1: Verifying Operators Are Logged Off” on page A-1.
2. Once all operators are logged off, type **amsadm**.
   The administrator menu appears.
3. Enter **c** to select the **Cluster the Database Tables** command.
4. When this process is complete, enter **l** to log off.
5. Log in at the UNIX prompt by typing **statsadm**.
6. Enter **c** to select the **Cluster the Database Tables** command.
7. When this process is complete, choose **l** to log off.

Performing a Tape Backup

Performing a tape back up will preserve a snapshot of the current AMS database contents and configuration as well as any other database using Informix on the UAP, such as AMS Statistics. You do not want to back up the database during call processing hours because temporary records such as calls just transferred, calls on hold, and attendants logged in would also be backed up. This would cause erroneous data if used to restore the system.

To perform a tape backup, the Ams_Daemon can stay online with the PBX, but the operators must be logged off.

For information on this process, refer to "Step 2: Performing a Tape Backup" on page A-2.

Checking/Decreasing the Number of Extents

An *extent* is a block of the disk used by Informix to store data from a table such as the directory in the AMS. If any table has more than 8 extents, it is becoming fragmented on the hard disk. To correct this problem, you must unload each table to a file, drop the database, then reload the data. Once data is successfully restored, you should perform a tape backup so that the newly organized database can be restored in case of system failure.

You can check the number of extents at any time. There is no need to log off the operators or terminate the Ams_Daemon. To check the number of extents, do the following:

1. Log in by typing **informix** at the login prompt. Possible default passwords are ***informix*** or ***nec486***.
2. Type **tbcheck -pe | more** at the "$" prompt.
3. If the number of extents is getting too high on any one table, you have a warning message displays at the top of the output. Make a note of the tables with too many extents. If *callprc* is the only table exceeding the maximum number of extents, only the statistics are fragmented. If this is the case, follow the instructions pertaining to statsdb and statsadm below.
4. If no tables have too many extents, a DBSpace Usage Report is displayed which is not preceded by any warnings. You do not need to continue with this procedure to decrease the number of extents.

5. Before reorganizing the database, it is useful to find the exact number of extents in each of the fragmented tables. This way, once you reload the data, you can rerun this step to see the improved number.

   To determine the exact number of extents for the fragmented tables, type **tbcheck -pt amsdb | more** and press **Enter**. You can type **/extension** to skip all of the internal informix tables and display AMS tables, including the extension, directory, and attendant tables. You should note the "Number of extents" once you find the table(s) in question.
   You can issue the same command to find the number of extents used by the statistics by changing the database name: **tbcheck -pt statsdb | more**. Type **/callprc** to skip to the pertinent table. Press the space bar to scroll down through the output until you return to the "$" prompt.

   Note: *If you have more than 5000 records in any table (i.e. callprc), the reloading of the data may take several hours. Your system will be down until the load completes. If only callprc is large, you may choose to delete the lines that reload that table from the loadstat script as described later in the procedure. You will loose any current call statistics for the last week.*

6. Terminate the Ams_Daemon via the APM as described in "Step 3: Terminating the Ams_Daemon" on page A-2.

7. Make sure all attendants are logged off as described in "Step 1: Verifying Operators Are Logged Off" on page A-1.

8. Make sure that all of the AMS logins that are configured to always run on the SunRiver terminals are turned off as described in "Halting Auto-Configured SunRiver Stations" on page A-8.

9. Make a tape backup as described in "Performing a Tape Backup" on page B-2 in case any dropped data cannot be restored.

   Note: *The next step is to note the number of records (rows) in each table so that you can verify the unload of the data is not corrupt before dropping the database.*

10. Log in at the login prompt by typing **amsadm**. Log in at a separate login prompt by typing **statsadm**.

11. Enter **d** to select the **Display Table Count** command on both the amsadm and statsadm screens.

12. Write down the number of rows for all tables on the stats menu and for the following tables from the AMS:

    - attendant
    - directory
    - employee
    - extension
    - external
    - internal
    - orbit_number
    - route
    - speed

Next we will unload the database. Even after this step, we have not removed any data from the database. We are only saving it to temporary files.

13. If you do not have the "Informix dbaccess Utility" option on your amsadm or statsadm menu, log out of amsadm and statsadm and log in as **informix** on two screens. Otherwise, enter **x** to activate dbaccess and skip the next step.
14. Type **dbaccess**.
15. Choose **Query Language** then **amsdb** on one screen and **statsdb** and **Choose** on the other.
16. The **unlams** appears as an option on one screen and **unlstat** on the other. Select this script.
17. After a list of unload statements is displayed, select **Run**.
18. If you get an error regarding permissions, check /tmp and make sure it is writable by the Informix. Also check to see if any of the files we are trying to unload into already exist. If they exist, make sure they are writable by everyone by logging in at a UNIX prompt as root and typing **chmod 666 /tmp/** <filename> for each file we are attempting to write such as "chmod 666 /tmp/ directory" "chmod 666 /tmp/extension", etc.
19. If you get any other error, consult your Informix manual or call NTAC. If necessary, bring the Ams_Daemon online and reinitialize the disabled operator terminals by typing **enable** followed by each tty such as "enable tty00a".
20. If the unload is successful, the message "1 row(s) unloaded" is displayed. Press **e** twice to exit dbaccess on both screens.
21. Type **cd /tmp** at the UNIX prompt.
22. Type **wc -l * | more** to display the line count of each file. Verify that the number of lines in each table matches the number of lines that you noted earlier for these tables, including the directory table and the employee table. If these numbers do not match, the data did not get properly unloaded. Do not continue with the dropping of the database. Reenable the Ams_Daemon and the operator ttys.
23. You can also type **more** <filename>, where <filename> is "directory", "callprc", etc. You should see an ASCII dump of that table with fields separated by "!"s.
24. If all files look alright, make a tape backup, if you have not already done so.
25. Log out of UNIX by typing **Exit**. Log back in by typing **amsadm** on one screen and **statsadm** on another.
26. Enter **r** to select the **Remove the Database** command on each screen. Type **y** and press **Enter** when prompted to verify your choice.
27. Enter **i** to select the **Install the Database** command on each screen. This does not load any data; it simply creates the description for each table.
28. Enter **b** to select the **Build the Database Indices** command on each screen. If you do not do this, your queries will be extremely slow.
29. Enter Informix dbaccess utility by selecting from the menu or by logging off and logging in as **informix** and typing **dbaccess** on both screens.

30. Choose **Query Language** then **amsdb** on one screen and **statsdb** then **Choose** on the other. Then choose **loadams** on one screen and **loadstat** on the other.

    Note: *Note that if you Run the loadstat and you have many thousands of records in callprc, this may take several hours.*

31. If you do not need to restore the attendant statistics for the last week, you can edit the loadstat script and delete the 4 lines associated with loading the callprc table. Choose **Modify** and press Ctrl+D followed by **ESC** to delete the following 4 lines:

    begin work;

    lock table callprc in exclusive mode;

    load from "/tmp/callprc" delimiter "!" insert into callprc;

    commit work;

32. Choose **Run**. The message "Data committed" displays at the bottom of the screen.

33. Exit dbaccess, and log into amsadm and statsadm if you have not already.

34. On both screens, choose **c** to select the **Cluster the Database** command.

35. Enter **d** to display the number of records in each table. These numbers should match those that you wrote down in Step 12. However, the numbers for the callprc table will not match if it was not reloaded.

36. If the data did not get successfully reloaded, you must restore the database from tape.

37. Perform Step 5 again to see the new number of extents associated with each table. If the number of extents is more than 5 on any given table, or if the number of extents was originally more than 20, you should increase the next extent size for that table as follows:

    - Log in as **informix**.
    - Type **dbaccess**.
    - Choose **Query-Language**.
    - If *callprc* is the table in question, choose **statsdb** as the database; otherwise, select **amsdb**.
    - Choose **New** and type **alter table *tablename* modify next size *kbytes***, where *tablename* is the table for which you are increasing the extent size, and *kbytes* is the new next extent size. Typically, users double the existing extent size.

38. Log in as root and enter the root password. Type **enable tty**<xxx>, where <xxx> is the number of the tty(s) you disabled in inittab (i.e., enable tty00a, enable tty00b, etc.)

39. Log in as apm and reinitialize the Ams_Daemon.

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Appendix C AMS Database Import Capabilities

The initial AMS database is created by either manually entering the information through the MAS input menus or by importing data from ASCII files. The utilities used to import this information into the AMS database requires the information to be in a predefined format. There are 4 different types of ASCII files from which data can be imported: extension, external numbers, other internal numbers (for example, cafeteria), and employees. The following tables identify the record format for each type of file.

Please note:

- The information should be in upper case.
- Each field must be enclosed by double quotes (example “X”).
- Each field must be followed by a comma.
- Null fields are indicated as ““.
- Enter a null field for those fields not used or for those fields for which no information will be supplied.
- The number of characters in each field of the supplied data can be larger than the size noted in the table, but only the first size number of characters will be imported.
- The ASCII files can be supplied on either a DOS or UNIX formatted diskette. If UNIX is used, please use the *tar* command to copy the files to the diskette.

Extension Record Format

You need to name the extension record format file *extn.txt*.

Table C-1 Extension Record Format

Field Description	Size
Extension	5
CCIS Index	5
Station Type (“s” for Singleline, ““ or any other character entry sets type to DTERM	1
Tenant (1-255)	3
Department	25
Address	30
City	25
State	2
Zip Code	10
Fax #	10
User Definable 1	25
User Definable 2	25

External Record Format

You need to name the external record format file *extl.txt*.

Table C-2 External Record Format

Field Description	Size
External Name (Location/person)	30
Number to Display	15
Number to Call	21
ANI Number	21
Account #	10
Address	30
City	25
State	2
Zip Code	10
User Definable 1	25
User Definable 2	25
User Definable 3	25
User Definable 4	25

Internal Record Format

You need to name the extension record format file *intl.txt*.

Table C-3 Other Internal Record Format

Field Description	Size
Name	30
Extension	5
User Definable 1	25
User Definable 2	25
User Definable 3	25
User Definable 4	25

Employee Record Format

You need to name the employee record format file *empl.txt*.

Table C-4 Employee Record Format

Field Description	Size
Employee Name	30
Extension	5
Title	25
ID	10
Beeper	15
Message Count	4
Account #	10
E-Mail Address	50
Voice Mailbox	15
Car Phone	15
Home Phone	15
Home Address	30
Home City	25
Home State	2
Home Zip Code	10
User Definable 1*	25
User Definable 2*	25

* If the Location Status Information (LSI) application is to be used in conjunction with the AMS, these fields are reserved for LSI.

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