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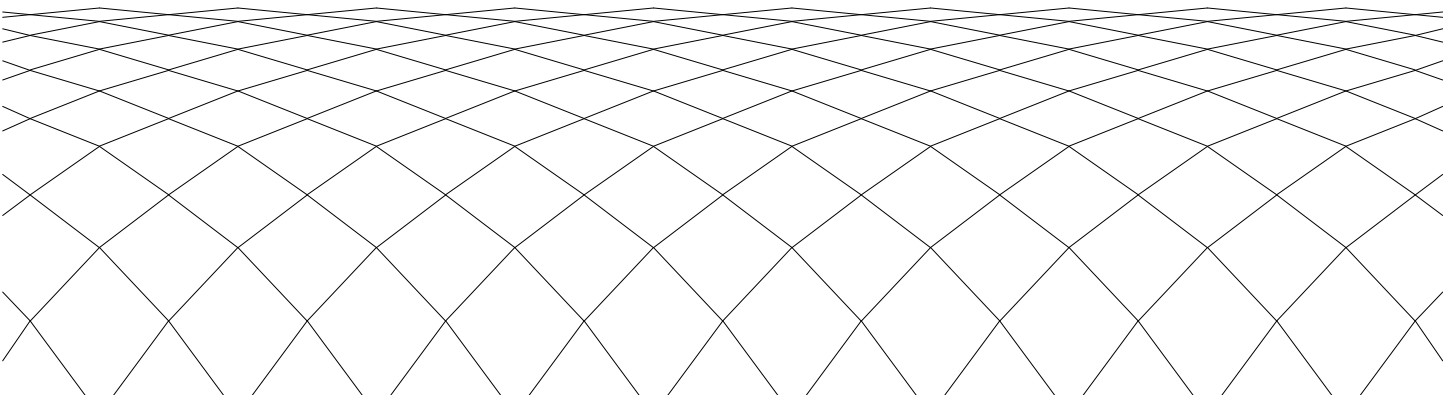
DEFINITY® Manager II
Operation



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About This Document

This document is intended for the system administrator who uses DEFINITY® Manager II software. Manager II is an application that runs on an AT&T-certified PC under the MS-DOS [1] operating system (version 3.2 or later). You may find a list of these certified personal computers in appendix B. You can use Manager II to administer and maintain the AT&T DEFINITY® Communications System Generic 2, System 85 switches, and selected DIMENSION® systems. This document explains how to use this application.

PREREQUISITE SKILLS AND KNOWLEDGE

The details of PC operation are not covered in this document. This document assumes that you are already familiar with your PC and its operating system (DOS). If this is not true, see the user documentation for your PC and for your version of DOS.

This document does not attempt to teach you the details of, nor the philosophy behind, system management. It simply explains the capabilities of Manager II and how to use Manager II as a system-management tool.

This document supplements the administration, maintenance, and feature-translation documents listed later in this chapter that describe the basics of system management, the administrative procedures required to change, add, or remove features on your switch, and the procedures required for system maintenance. (The maintenance-support documents listed in this chapter also cover other areas of the equipment such as test points, wiring data, and power, and include references to other documents used in maintaining your switching system.)

HOW THIS DOCUMENT IS ORGANIZED

This document is divided into the following chapters and appendices.

- Chapter 1, *Introduction to Manager II* — Explains, to new users, the Manager II software; its modes of operation, features, programming capabilities, software components, switch compatibility; and some security considerations.
- Chapter 2, *Getting Started with Manager II* — Explains, to new users, how to begin using Manager II and some of its basic techniques.

1. MS-DOS is a registered trademark of Microsoft Corporation.

- Chapter 3, *Enhanced-Mode Operation* — Explains, to all users, how to use the enhanced mode, which displays procedures as data fields in a full-screen layout.
- Chapter 4, *Basic-Mode Operation* — Explains, to all users, how to use the basic mode, which emulates earlier administration and maintenance devices such as the Maintenance and Administration Panel (MAAP) and the System Management Terminal (SMT).
- Chapter 5, *Enhanced-Mode and Basic-Mode Commands and Keys* — Lists, for all users, the commands and special keys used in the enhanced and basic modes.
- Chapter 6, *Log and Run Files* — Explains, to all users, what run and log files are, how to create them, and how to use them.
- Chapter 7, *Task-Mode Operation* — Explains, to all users, how to use the task mode and shows the various screens that can be used.
- Appendix A, *Customized User Database Form* — Presents a 3-page user database form for customers to complete and return to AT&T. AT&T uses the form to create customized user databases.
- Appendix B, *Connecting Manager II* — Tells what PCs are certified for Manager II operation and explains, primarily to service technicians, how to connect a Manager II PC to a switch.
- Appendix C, *Installing Manager II* — Explains, primarily to new users and service technicians, how to install Manager II software on the PC.
- Appendix D, *Installing the Switch Support Base from Diskette* — Explains, primarily to new users and service technicians, how to install the switch support base on the PC.
- Appendix E, *Changing Defaults* — Gives users who are installing Manager II the defaults that they may change after installation and the directions for changing the defaults.
- Appendix F, *Diagnosing Problems* — Presents, for all users, solutions to common problems that they are likely to encounter during the installation and operation of Manager II.
- Appendix G, *Using MS-DOS Commands* — Lists and describes MS-DOS commands that allow use of many powerful Manager II features.
- *Glossary* — Explains abbreviations and terms used in this document.
- *Index* — Gives a listing and location for key subjects covered in this document.

CONVENTIONS USED IN THIS DOCUMENT

The following typographic conventions are used in this document:

- Terminal keys that you press are shown in rounded boxes. For example, the Home key is shown in this document as:

  Press Home.

- The word *enter* means to type a value and press Enter. For example, an instruction to type `y` and press Enter is shown in this document as:

  Enter **`y`** to continue.

- Two or three keys that you press at the same time (that is, you hold down the first key while pressing the second key and, if appropriate, the third key as well) are shown together in a rounded box and are separated by hyphens. For example, an instruction to press and hold Ctrl while typing the letter *D* is shown in this document as:

  Press Ctrl-D.

- The function keys on your keyboard (such as F1) are labeled on the bottom line of the PC screen while you are using Manager II. These screen labels are depicted in this document as a boxed label with square corners. For example, the screen label for the *HELP* key is printed thus: 5 Help.

- Information that is displayed on your terminal screen — including screen displays, field names, prompts, and error messages — is shown in typewriter-style constant-width type. Information that you enter from your keyboard is shown in constant-width bold type. Here is an example:

  At the `Login ID?` prompt, enter **`snowfox`**

- Variables that the system supplies or that you must supply are shown in italic type. For example, an error message that is displayed on the screen with one of your specific filenames might be shown generically in this document as:

  `Your file` *filename* `is formatted incorrectly.`

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RELATED RESOURCES

This section lists documents that are closely related to the operation of Manager II. This includes material about the systems you will be administering when operating Manager II.

This document is designed as a companion to the administration and maintenance documents that describe the procedures for your system. These documents are listed in table 1.

Part numbers for these documents may differ from table 1 depending on the release and version of your particular switch, but each AT&T switch is supported by a complete library of documents. For background information about your particular switch, ask your AT&T representative to find DEFINITY Generic 2 and System 85 documents in the *Business Communications Systems Publications Catalog* (555-000-010) or the *DEFINITY® Communications System Generic 2 Documentation Guide* (555-104-010) or to find DIMENSION system documents in the *Division Index* (554-000-000).

Table 1. Switch Administration and Maintenance Documents

Switch	Documents
DEFINITY Communications System Generic 2	— Administration Procedures (555-104-506) — Administration of Features and Hardware (555-104-507) — Maintenance Procedures (555-104-117) — Maintenance Repair Strategies (555-104-118)
System 85 (Release 2 Versions 1 through 4)	— System 85 Feature Translations (555-101-107 for R2V1/2) (555-102-107 for R2V3) (555-103-107 for R2V4) — System 85 Maintenance (555-101-108 for R2V1/2) (555-102-108 for R2V3) (555-103-108 for R2V4) — System 85 Features Reference Manual (555-103-301)
DIMENSION 400E DIMENSION 600 DIMENSION 2000	— DIMENSION 400E/600/2000 PBX System Administration Procedures Vol. 1, Part 1 (500-499) — DIMENSION 400E/600/600SN/2000 PBX System Maintenance Procedures Vol. 1, Part 2 (500-497) — DIMENSION 400E/600/2000 PBX Maintenance Support Information Vol. 2 (500-486)

HOW TO MAKE COMMENTS ABOUT THIS DOCUMENT

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1. Introduction to Manager II

Manager II is the name of software that you can use to administer and maintain AT&T DEFINITY Communications System Generic 2, System 85, and selected DIMENSION systems from an AT&T-certified personal computer loaded with the MS-DOS operating system 3.2, 3.3, or 4.01. This chapter gives an overview of Manager II software capabilities. If you would rather begin using the software, go directly to chapter 2, *Getting Started with Manager II*.

MANAGER II SOFTWARE

When an AT&T communications system is installed, AT&T provides software that determines how that system is to function. This software activates the features requested on your original customer order (for instance, class of service, dialing plan, and system features). The software is stored on a tape or disk that can be read into the system when initialization is required (such as in the event of power failure).

As your communications needs change, your communications system must be changed to meet those needs. For example, when a person in your organization changes rooms, your communications system must be changed to reflect this relocation. Numbered administration procedures enable you to view or change the related system-configuration data. The Manager II software makes these numbered procedures available to you. And, because maintenance procedures are accessed in the same way, a qualified technician can also use Manager II to perform system-maintenance operations.

MANAGER II MODES OF OPERATION

You can use Manager II in any of three modes of operation to work on DEFINITY Communications System Generic 2. These are *enhanced, basic,* and *task* modes.

Both the enhanced and basic modes provide access to communications system procedures. Use either mode to make changes in switch translations by accessing procedures one at a time. The enhanced mode displays these procedures in a full-screen layout with labels, encode definitions, equipment location and character mapping, and useful help information. The basic mode displays the same procedures but the layout is simplified and the enhanced features are not available.

Task mode goes a step beyond enhanced and basic modes by combining several administration steps. The task mode aids you in performing administration by collecting the pertinent data and then choosing the appropriate procedures to access.

The enhanced, basic, and task modes are explained more thoroughly in chapters 3, 4, and 7, respectively. Only basic mode is available for System 85 or DIMENSION systems.

MANAGER II FEATURES

The following table summarizes the enhanced-mode, basic-mode, and task-mode features of Manager II. Details on these features appear in chapters 3, 4, and 7, respectively.

Table 1-1. Manager II Features

Feature	Basic-Mode	Enhanced-Mode	Task-mode
Up to 2 simultaneous connections	✔	✔	✔
On-line Manager II help	✔	✔	✔
Extensive on-line switch procedure help		✔	
Screen field labels and encode definitions		✔	✔
Station administration screens			✔
Data entry in fields	✔	✔	✔
Error recovery (cursor automatically placed on screen and field in error)	✔	✔	✔
Automatic equipment-location mapping		✔	✔
Automatic character mapping (names database, ICI, and first digit dialed)		✔	✔
Manual equipment-location mapping via the *el* command	✔	✔	
Recording capabilities	✔	✔	✔
Programming capabilities	✔	✔	
Downloading SSB files from Generic 2.1 (Issue 2.0 or later) to the PC	✔	✔	
Detection and display of switch broadcast messages	✔	✔	✔
Ability to access and change the user database	✔	✔	

PROGRAMMING CAPABILITIES

Most enhanced-mode or basic-mode commands that can be issued from the command line can be issued from a program designed to control your switch. You can streamline operations by writing into a *run file* a script of Manager II commands to be performed in sequence. You can then indicate that the file contains a script to be run when invoking the Manager II software from the DOS command line. Such programs, for example, might be written to perform automatically

such repetitive tasks as collecting system data. See chapter 6, *Log and Run Files*, for an expanded explanation of programming Manager II commands.

SOFTWARE COMPONENTS

Up to three separate software packages combine to make up Manager II:

- *Manager II* contains the Manager II operating software (installation instructions appear in appendix C).
- *Manager II User Database* contains information about your own communications system — including system phone numbers, names, security codes, and baud rates. This custom user database is not delivered with Manager II software. Rather, Manager II is delivered with a default user database that can be used to make hardwired connections to a switch. (See chapter 5 for steps to change the user database, and see appendix A for questionnaires for preparing the user database.)
- *Switch Support Base (SSB)* contains optional files of information specific to your Generic 2 communications system for use by Manager II. It is not available for any system other than Generic 2. The enhanced mode of Manager II, which works exclusively with Generic 2 switches, is available only with the switch support base. The switch support base is not delivered with Manager II software. (See appendix D for information on installing the switch support base.)

Manager II software, supporting documentation, a Manager II-compatible computer, and your switch (with means to connect to the computer) are the only components necessary to perform system management using Manager II. (Manager II supports up to two simultaneous switch connections. So, where necessary, you can maintain as many as two connections to a duplicated switch or two different switches while you work.)

SWITCH COMPATIBILITY

Manager II can connect to three types of AT&T communications systems:
DEFINITY Communications System Generic 2, System 85, and DIMENSION systems that have 3-digit procedure numbers.

If your switch type and requirements are listed in table 1-2, your switch is compatible with Manager II; use this document for Manager II switch administration and maintenance. If your switch type or release is not listed, your switch is not compatible with Manager II and you should use another system-management vehicle (for example, MAAP). Manager II is compatible with special developments for all the switches listed in table 1-2.

Table 1-2. Manager II-Compatible Switches and Requirements

Switch	Requirements
DEFINITY Communications System Generic 2	All releases with PPG and RMATS ports
System 85	All releases (R1 and R2) with RMATS ports
DIMENSION 400E DIMENSION 600 DIMENSION 2000	3-digit procedures and 25-character MAAP with RMATS ports

SECURITY CONSIDERATIONS

Manager II is a powerful tool. The configuration of your communications system can be improved by your conscientious use of Manager II. Or it can be destroyed by the malicious use of the same tool. Manager II must be protected against compromise.

Always be conscious of Manager II security and observe normal security measures. Always quit Manager II before leaving the room. Lock the room while you are out. If your PC has a keyboard lock, lock the keyboard before you leave the room.

AT&T has provided two levels of security within Manager II. First, Manager II recognizes two kinds of users: a regular user and a system administrator entrusted with system security. The system administrator controls Manager II security by controlling the user database through the *udb* command. The *udb* command permits a system administrator to modify parts of the database such as login IDs, passwords, and switch security codes. Regular users are not given this latitude (see *udb* command in chapter 5). Make sure that only one person in your organization is responsible for system security.

Second, Manager II may be initialized to require a password before it will execute. Use the *udb* command (mentioned above) to associate a unique password with each login ID. Regular users may change their own passwords using *udb*; the system administrator may change the password of any login ID. It is necessary that all operators keep their passwords protected (change the password frequently, and memorize it so that it is not written on a slip of paper that an intruder could easily find).

2. Getting Started with Manager II

This chapter explains how to begin using the Manager II software and some of the basic techniques used to work with it. However, before it can be used, particular hardware connections must be made and specific software installed to ensure its correct operation. For example, a certified PC is needed plus hardware to connect that PC to the communications system. In addition, the MS-DOS operating system and Manager II software must be installed on that PC.

The following is a brief checklist of the hardware that must be connected and the software that must be installed before you use Manager II. Accompanying each item is a reference to another document or to an appendix of this document for additional information on the subject.

- *PC hardware*

  Appendix B lists and describes those PCs that are certified for Manager II. Use the PC user's guide as a reference when setting up the PC hardware.

- *Connection hardware*

  Appendix B contains information on the various configurations and components for the connection hardware that links the PC to the communications system.

- *MS-DOS operating system*

  Appendix C lists versions of DOS that are compatible with Manager II. Use the MS-DOS user's guide as a reference when installing MS-DOS.

- *Manager II software*

  Appendix C covers the installation of the Manager II software.

- *Switch Support Base (SSB)*

  Appendix D describes the SSB installation process. An SSB is optional. However, one is required for Manager II to operate in the enhanced mode. SSBs are available only for DEFINITY Generic 2 systems.

- *Manager II user database*

  Appendix A contains information on how to obtain a customized user database. A default version comes with the Manager II software. The default user database contains the user IDs and the default switch names shown in appendix A. The user IDs do not have passwords associated with them. You may use a default switch name if you have a direct connection to your switch. Appendix C covers the installation of a customized user database.

Once Manager II installation is complete, use the remainder of this chapter as an introduction to Manager II operation. If you have used a PC or a communications system-administration program before, some of this material will be familiar to you. Nevertheless, you may want to review each section to learn the details of Manager II operation.

INVOKING MANAGER II

There are several ways to invoke Manager II.

The first, and most simple, way to invoke Manager II is to type **mgrii** on the MS-DOS command line. Then, enter your user identification (user ID) and password in response to Manager II prompts. If the user ID and password are valid, the version screen appears, followed by the screen shown in figure 2-1.

A second, and most common, way to invoke Manager II is to enter your user ID on the MS-DOS command line as part of the *mgrii* command: **mgrii** *userid*. Then enter your password when Manager II prompts for it.

A third way to invoke Manager II is with an input (run) file. Use the *mgrii* command. After *-i* (for input), enter the name of the file to be executed. After *-e* (for errors), enter the optional error limit. The command line would look like this:

mgrii -i *inputfile* **-e** *errorlimit userid*

Normally, an input file ceases execution if an error of any kind is encountered. Specifying an error limit permits the file to tolerate the specified number of nonfatal errors before it stops. Typical nonfatal errors include Manager II syntax errors and error codes returned by the switch. A typical fatal error includes a switch disconnect while a script file is executing. Fatal errors always terminate script file execution. You can also execute a run file while in Manager II by using the *run* command, described in chapter 5.

A fourth way to invoke Manager II may be used if you want to keep a record of your transactions during a Manager II session. You can invoke Manager II with an output (log) file by using the *mgrii* command and entering the name of a log file immediately after *-o* (for output). The command line would look like this:

mgrii -o *outputfile userid*

You can also activate logging while in Manager II by using the *log* command, described in chapter 5.

A fifth way to invoke Manager II is to use the complete syntax of the *mgrii* command:

mgrii -i *inputfile* **-e** *errorlimit* **-o** *outputfile* **-s** *userid*

The *-s* option requests the scroll or line-by-line screen format. You can also request the scroll format while in Manager II by using the *scr* command, described in chapter 5. The default screen format is a visual, full-screen layout.

Initial Screen

When you first log into Manager II, the screen in figure 2-1 appears. The Manager II version number is displayed in the center of the screen for about 6 seconds. You can shorten this time interval by pressing Enter. Figure 2-1 illustrates some characteristics common to all Manager II screens. The first line, the procedure line, typically contains text that identifies the current activity. The status line indicates the state of your switch connection and, when you are connected, the state of the switch itself. The message line displays helpful one-line messages from both the switch and Manager II. The command line is identified by an `enter command:` prompt. On the last line are the labels for function keys F1 through F8. Two keys, 5 Help and 8 Cmds, are active on this initial screen.

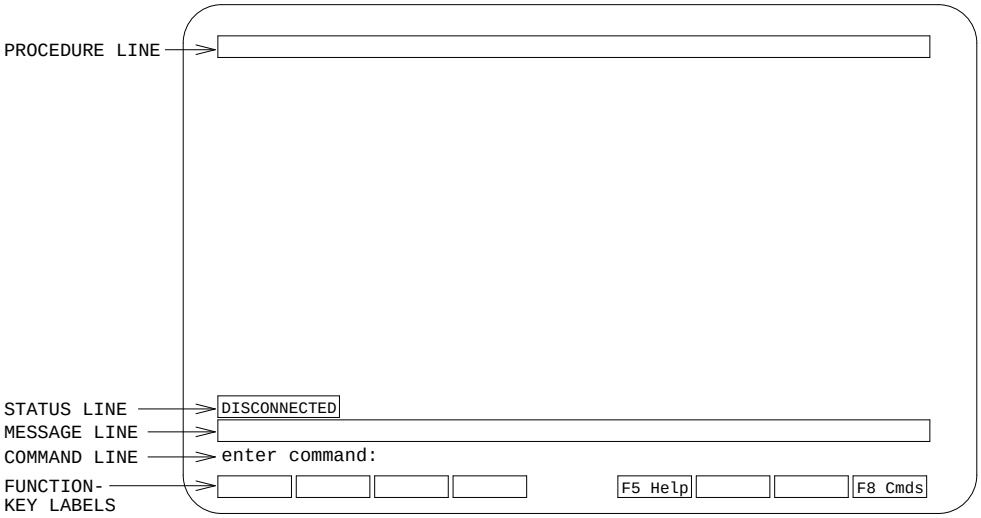


Figure 2-1. Initial Screen

A blinking cursor indicates where characters will be placed as you type.

Adding a Password

After logging into Manager II, you may want to associate a password with your user id to prevent others from using it. You can do this by using the *udb* command, described in chapter 5.

BREAKING OUT OF MANAGER II

Manager II has a break function that is similar to that of MS-DOS. To stop an activity at any time, press either Ctrl-C or Ctrl-Break. If a run file is active, control is returned to the environment from which it was executed, either the MS-DOS operating system or the Manager II command line. If a connection sequence is in progress, it is halted and control is returned to

Manager II. Otherwise, the Manager II software is halted and control is returned to the MS-DOS operating system.

CONNECTING TO A SWITCH

After you log into Manager II, you may connect to any of the switches supported by your user database. To connect, in the sense used here, use the Manager II *con* command to activate a PC communication port (and, perhaps, to dial the number of a switch) and to log into a switch.

There are two ways to connect to a switch. If you know the name of the switch to which you wish to connect, you can enter **con** *switchname* on the command line. The connection process then takes place. Otherwise, simply enter **con** on the command line. For now, enter only **con** on the command line.

By doing so, you access the menu system that will help make your connection. The first display is shown in figure 2-2. Four function keys are labeled. Press [1 Exit] to exit the current menu and return to the command line. Press [4 Clear] to clear any data displayed in the active field. Press [5 Help] to display help information. And press [6 Field] to find help for the active field.

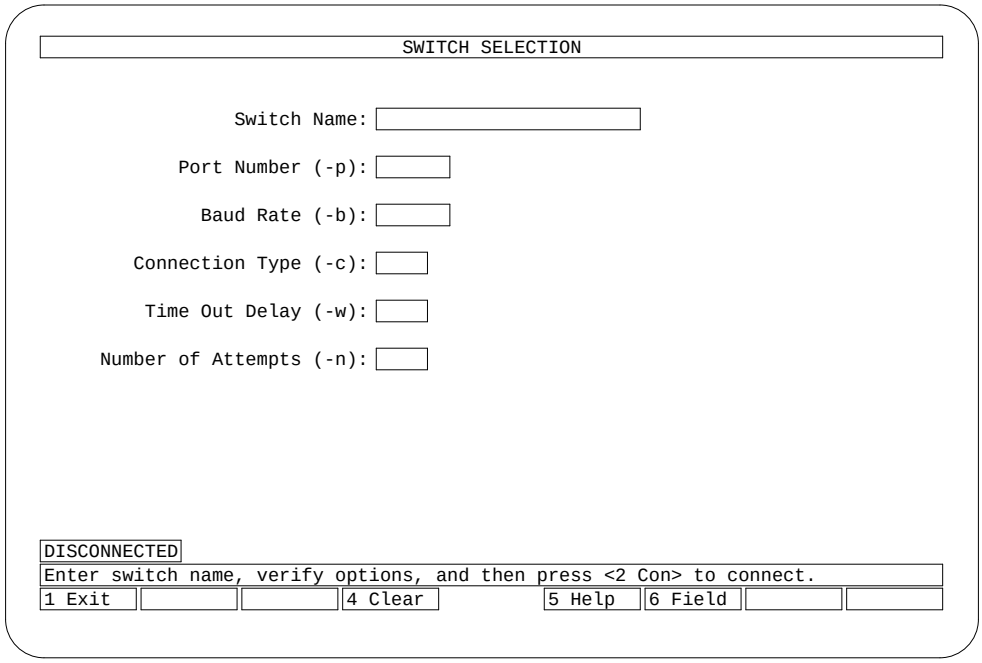


Figure 2-2. Connection Screen

The `Switch Name` field on this display is highlighted. This is typical of fields used in any of the Manager II modes. The field has a descriptive title, and the field may be used to convey or accept information. In this case, the field is used to display the name of one of your switches.

The highlighting indicates that the field is ready to accept information: the name of a switch. Here, you can enter a switch name or access *field help* (as described below).

Press 6 Field to display a list of available switch names. On the resulting display, a highlighted bar emphasizes the first switch name. Press ↓ or ↑ or Page Down or Page Up to position the bar on the switch to which you want to connect. (Please choose a Generic 2 communications system for the purpose of this exercise.) Then press Enter or 3 Select.

At this point, the fields on the menu are filled in with the default data associated with the switch just selected. (A detailed description of these data and of the *con* command appears in chapter 5.) A 2 Con label appears on the screen. Press 2 Con to connect to the switch just chosen. Messages that report on the state of the connection attempt as it proceeds are displayed; a final message informs you when the connection to the switch is successful.

At this time the SWITCH MODE screen of figure 2-3 appears. Use of this screen is covered in detail in chapter 5.

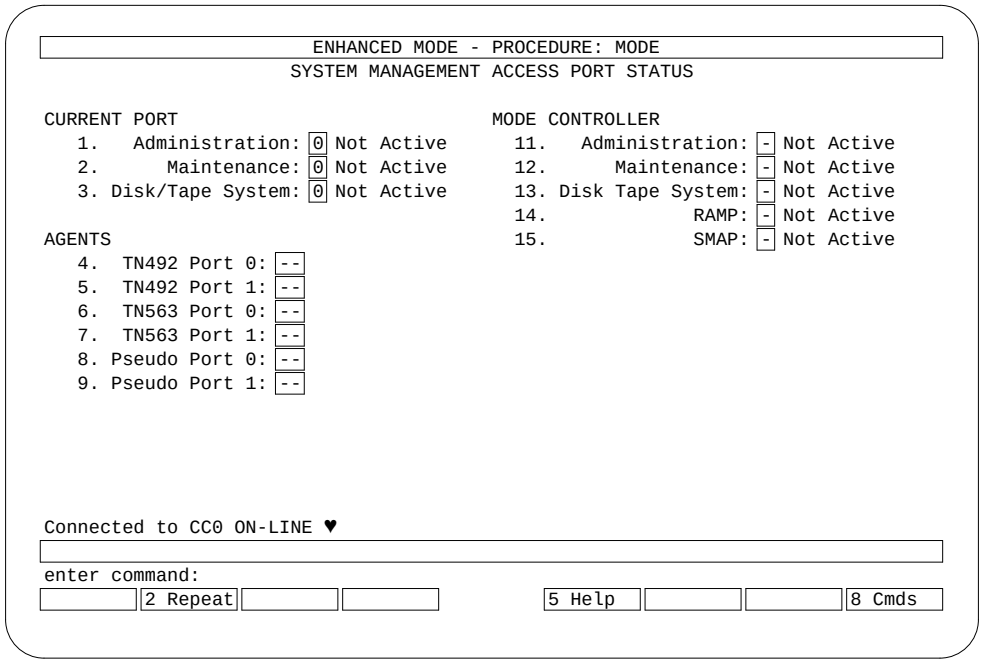


Figure 2-3. Switch Mode Screen

ENHANCED-MODE OPERATION

Now Manager II is connected to the system and is ready to display information for your use. Before you continue, though, you should understand the modes in which the Generic 2 and System 85 (vintage R2V3 and later) systems can be operated.

Communications System Modes

A Generic 2 switch or System 85 (R2V3 and later) can be operated in any or all of three modes. These are the administration, maintenance, and tape modes. Use the *administration* mode to modify the system's configuration. Use the *maintenance* mode to test the system. Use the *tape* mode to write to or read from the system's magnetic media. You need not access the administration mode to display administration procedures on an R2V4 or Generic 2 switch. You cannot access an administration procedure at all on an R2V3 switch unless you have first accessed the administration mode. You cannot access a maintenance procedure on an R2V3, R2V4, or Generic 2 switch unless you have first accessed the *maintenance* mode.

These modes of operation permit more than one person to work on the system at a time. For instance, since the Generic 2 has four ports, as many as four people can access the system at a time. One person could be testing the system in maintenance mode, one could be administering the system in administration mode, and two could be reading administration information from the system without having accessed a mode. (You may be blocked from accessing a particular procedure if someone else is using it at the time.)

Operation of the mode screen is described in detail in chapter 5. Since you will only display data in the following exercise, do not access a mode at this time. Instead, after viewing the mode screen, enter **`p000`** to display Procedure 000. (You could also type **`p0`** instead of **`p000`**.) A screen similar to figure 2-4 appears.

```
                    ENHANCED MODE - PROCEDURE: 000, WORD: 1
                          SINGLE TERMINAL TRANSLATION

1. Extension or VDN:

TERMINAL EQUIPMENT LOCATION
   2.   Module:
   3.  Cabinet:
   4.  Carrier:
   5.     Slot:
   6.  Circuit:

 7.  Class of Service:
 8.         Port Type:
 9. Disable Signaling:

DISPLAY ONLY
  10.          Recent Disconnect:
  11. Use the Procedure(s) Shown:


Connected to CC0 ON-LINE ♥ | MAJOR | MINOR | RUN TAPE | BUSY OUT | IN USE | WAIT |

enter command:
|        | 2 Repeat | 3 Form |        | 5 Help | 6 Field | 7 Input | 8 Cmds |
```

Figure 2-4. Procedure 000 Word 1

Function Keys

As the screen of Procedure 000 appears, it displays some familiar function-key labels. Press [5 Help] to obtain help, as already described. Press [6 Field] to display help information for the active field. In this case, extension number attributes are described. Press [7 Input] to display what input data the current procedure requires before it will accept commands like *dx* (display execute), *ax* (add execute), *cx* (change execute), or *rx* (remove execute). Press [8 Cmds] to display a list of all the Manager II commands with a brief explanation of each. Press [1 Exit] (when it appears) to leave the help displays and return to the procedure display. Finally, press [2 Repeat] to re-execute the previous command line.

System Status

Before leaving the illustration, consider the fourth line from the bottom of the display, the status line. This line indicates the state of the switch and of your connection to the switch. Although all of the indicators are shown in the figure, it is unlikely that they would all be on at once. Here is what they mean:

- `Connected to CC0` indicates whether Manager II is connected to common control 0 (CC0) or common control 1 (CC1) or [DISCONNECTED].
- `ON-LINE` indicates whether common control 0 or 1 is on-line or off-line.
- ♥ indicates that Manager II and the switch are communicating. It is not equivalent to the pass/fail light on the system's control panel.
- [MAJOR] indicates that the system has noted a major problem in its operation. In response, you should call maintenance personnel or take immediate corrective action.
- [MINOR] indicates that the system has noted a minor problem in its operation. In response, you should call maintenance personnel or take corrective action.
- [RUN TAPE] serves as a reminder that translation changes have been made to the system's memory that must be transferred to magnetic media (hence the phrase *run tape*).
- [BUSY OUT] indicates that either a maintenance person or the communications system itself has disabled a circuit by changing its status to *maintenance busy*.
- [IN USE] indicates that the circuit you have chosen to administer is in use, and that you must wait before administering it.
- [WAIT] Do not request any procedure activities of the system while this light is on.

You can display additional, valuable information about the system to which Manager II is connected by typing **`stat`** on the command line to display the status screen. For instance, you can verify that the switch and SSB issues (but not necessarily the dot issues) are the same. Figure 2-5 shows a typical status screen.

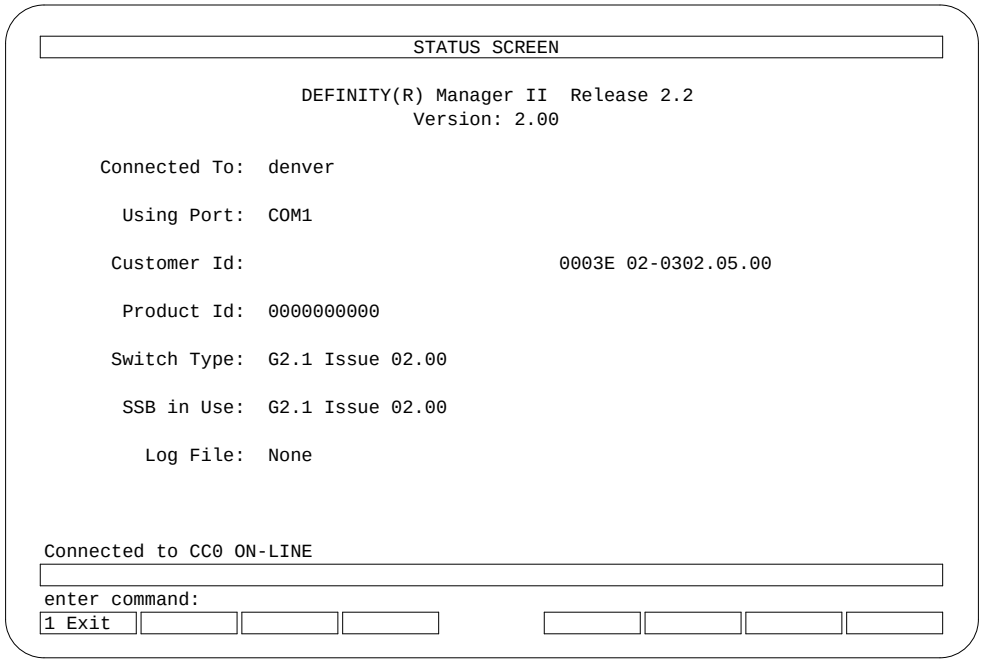


Figure 2-5. Status Screen

A Word about Procedures

You have just seen Generic 2 procedures as they appear in Manager II's enhanced mode. Management of the systems accessible to Manager II is done by administering and testing the system through the system's procedures, identified by 3-digit numbers. There are two types of procedures: administration and maintenance. Administration procedures, numbered 000–499, display, change, add, or remove switch translations. For instance, trunk groups can be administered using procedures like p100 and p150. Maintenance procedures, numbered 500 and greater, display fault data recorded by the switch and run maintenance tests.

As you have seen, procedures are accessed using the procedure command, *p*. The syntax of the command is `p` followed by the procedure number. Leading zeros are not significant to the command. As examples, `p12` is equivalent to `p012` and `p0` is equivalent to `p000`. Procedures are made up of data fields. Different procedures display or test different types of data. Administration procedures work with switch configuration data. For example, `p000` displays information about terminals. Maintenance procedures usually work with data concerning the state of the switch. For example, `p620` executes maintenance tests depending on the data in its fields.

Frequently one procedure is made up of various subprocedures. In administration procedures, these subprocedures are called words. In maintenance procedures, they are called tests. When a procedure is requested via the procedure command, word 1 or test 1 of the procedure is automatically displayed. To view another word or test, use either the word command *w* or the test command *t*. For example, `p150w2` accesses Procedure 150 Word 2 and `p620t3` accesses Procedure 620 Test 3.

Some procedures only display data. Most procedures allow you to enter data in some or all of their fields. For data to be entered in a procedure, there must be an active field. If one exists, the active field is highlighted on the screen to differentiate it from other procedure fields. You can enter data either from the command line or in the active field itself. To enter data from the command line, simply type the data and press Enter. (MAAP users: Manager II automatically enters data for you. You no longer need to end each field with the equivalent of a MAAP Enter button push.) To enter data directly in the active field, move the cursor to that field by pressing 3 Form. To return to entering data on the command line, press 3 Line.

Return to the Procedure 000 display on your PC. At this point, you can enter data either from the command line or from a data field by following the steps below. The command line is currently active (that is, the cursor rests on the command line), and the first field of Procedure 000 Word 1 is highlighted. Enter a familiar extension number followed by the command **dx** (display execute) on the command line. The procedure looks for the terminal data that pertain to the extension number you entered. Notice that the highlighted bar is again on the first field. Next press 3 Form. The cursor moves to the highlighted field. The field is now ready to accept data and is said to be *active*. Blank the field by pressing 4 Clear. Type in another extension number and press Enter. Press 3 Line to return the cursor to the command line. Then enter **dx** to make the system return data for the extension number you just entered. Data can be entered in the field or on the command line but commands can be entered only on the command line.

Depending on the procedure type and its purpose, procedures understand and execute different commands. That is, not all procedures understand every command. Most administration procedures understand commands like *ax* (add translation, execute), *cx* (change translation, execute), *dx* (display translation, execute), *nd* (next data), and *rx* (remove translation, execute). Maintenance procedures rely on commands such as *x* (execute test), *nt* (next test), *s* (stop test), *nc* (move to next circuit), and *nf* (display next fault). Press 7 Input if you have questions about how a particular procedure operates.

Finally, there are a few auxiliary system commands not directly related to individual procedures. Some examples are: *ptx* (park tape, execute — reposition the magnetic tape to its start position), *rtx* (run tape, execute — save the current switch translations on the tape), and *rld* (reload the switch from disk or tape). These commands are described in detail in chapter 5.

BASIC-MODE OPERATION

The basic mode, like the enhanced mode, is used to access switch procedures. The basic mode is similar to VMAAP in that the fields are not labeled (however, they are numbered). The meaning of the field data is not displayed, and procedure help is not available. You can use the basic mode instead of the enhanced mode if you are familiar with the procedures. You must use the basic mode when connected to a switch other than Generic 2; indeed that is its main purpose. Most of the enhanced-mode commands are available in the basic mode.

Manager II comes up in the basic mode if there are no SSB files. However, you can access the basic mode at any time by typing **bas** on the command line. A screen similar to figure 2-6 appears.

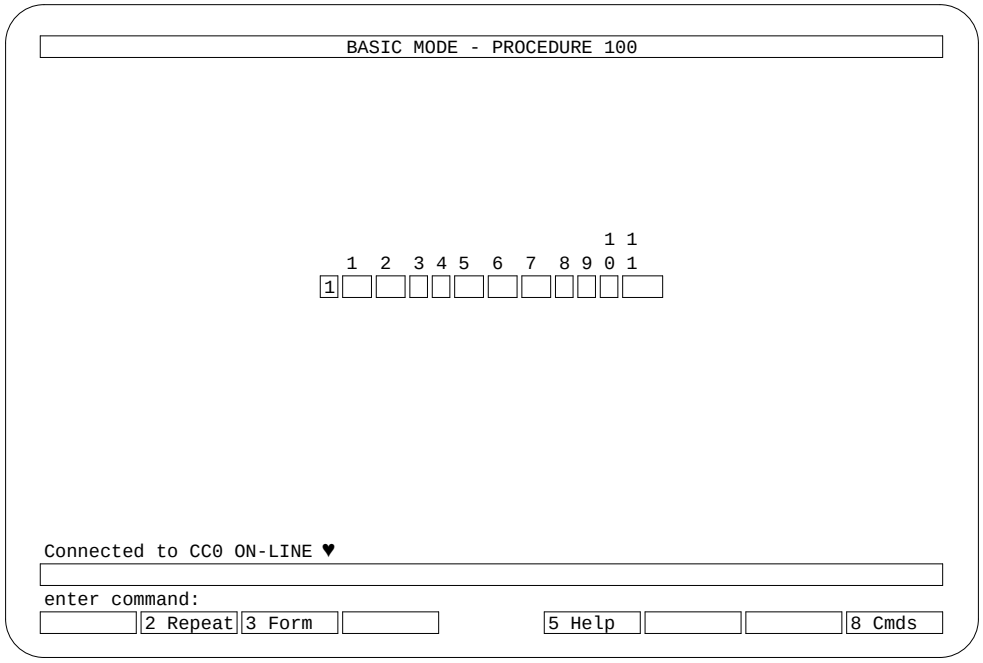


Figure 2-6. Basic Mode Screen

TASK-MODE OPERATION

The Manager II task mode greatly simplifies station administration. It allows you to add, change, display, and remove stations without using the switch procedures. To enter the task mode while in the enhanced or basic mode, type **task** on the command line. The initial screen shown in figure 2-7 appears.

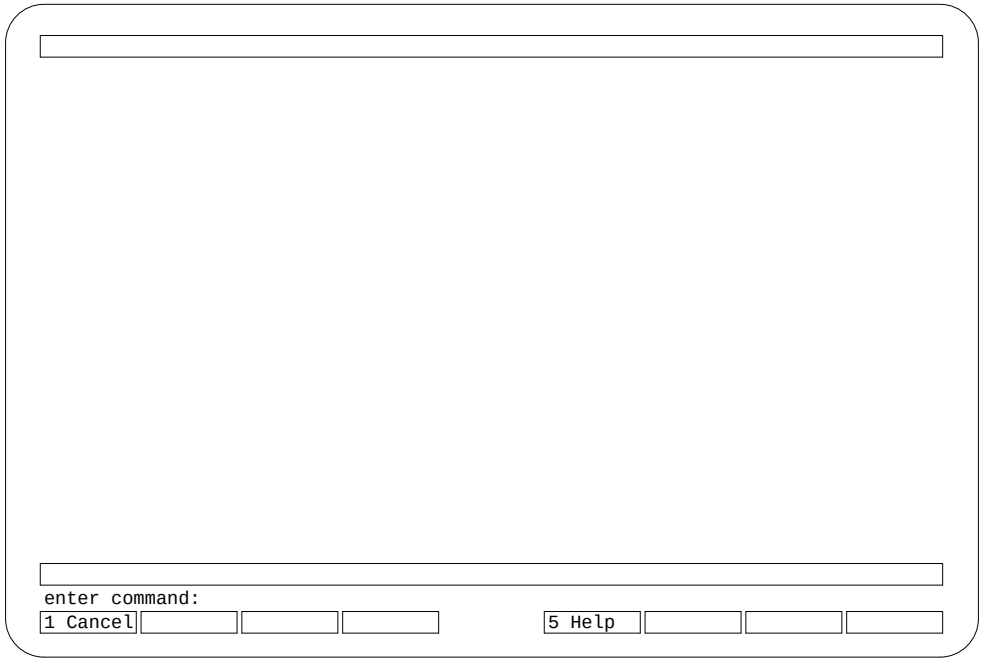


Figure 2-7. Initial Task Mode Screen

To display a known station, type **`display station`** *extension* where *extension* is the station's extension number. A screen similar to figure 2-8 appears.

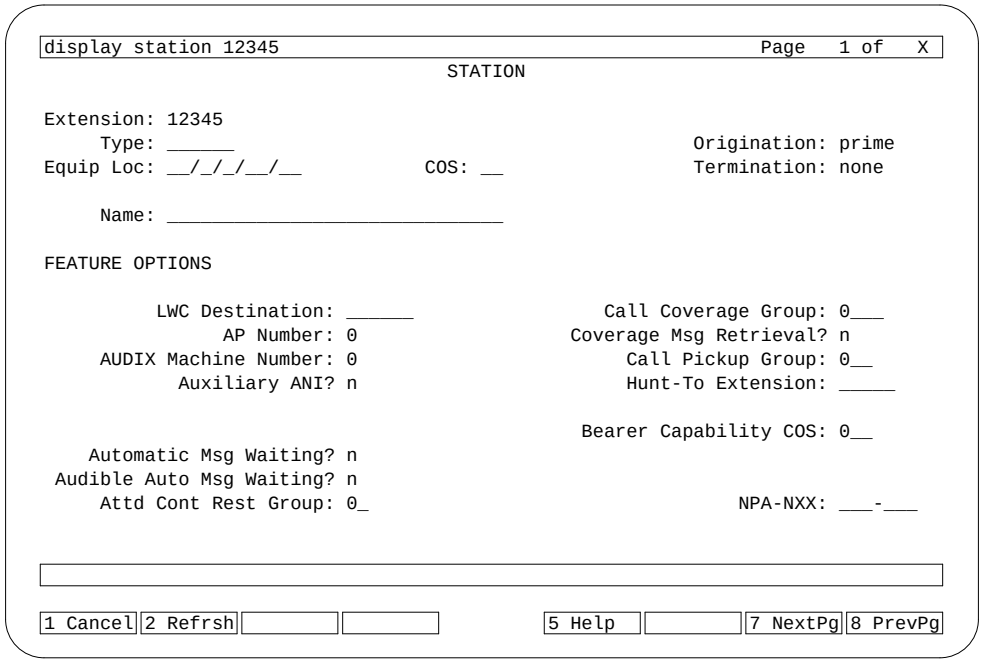


Figure 2-8. Display Station Screen

To return to the enhanced or basic mode, type **`enh`** or **`bas`**, respectively. Manager II starts out in the enhanced or basic mode. Manager II must be in the enhanced or basic mode to connect to a switch.

The task mode also displays function keys. Press 1 Cancel to cancel a command. Press 3 Submit to send an add, change, or remove request to the switch. Press 5 Help at any point on the command line or in a data field to display valid entries. Press 7 NextPg and 8 PrevPg to display the next and previous page.

EXITING MANAGER II

Enter **`quit`** on the command line while in the enhanced, basic, or task mode to make an orderly exit from Manager II. Manager II disconnects any active connections for you.

3. Enhanced-Mode Operation

This chapter describes the principles of Manager II operation in the enhanced mode. The enhanced mode can be used only on the Generic 2 communications system.

The enhanced mode is similar to the basic mode in that numbered procedures in your switch's software are accessed individually and by number. However, the data is displayed along with its meaning in a full screen layout, and each field has a descriptive label. You can enter data either from the command line directly into the field, or from a menu of possible selections (accessed by means of the software's *help* facility). Enhanced mode makes use of a database — the switch support base (described later in this chapter) — that comes with your DEFINITY Communications System Generic 2.

BREAKING OUT OF THE ENHANCED MODE

Manager II has a *break* function that is similar to that of MS-DOS. That is, to stop an activity at any time, press either Ctrl-C or Ctrl-Break. If a run file is active, control is returned to the environment from which it was executed: either the MS-DOS operating system or the Manager II command line. If a connection sequence is in progress, it is halted and control is returned to the Manager II command line. Otherwise, Manager II is halted and control is returned to the MS-DOS operating system.

INVOKING THE ENHANCED MODE

If your PC has the SSB database described above, enhanced mode is active immediately after you log into Manager II. In this case enhanced mode is the default mode of operation. To access enhanced mode from another Manager II mode, simply type **enh** at the command line. If an SSB is available, Manager II switches to enhanced-mode operation.

WORKING WITHOUT A CONNECTION

Before you connect to a switch, several Manager II functions are available to you. For example, you can open a log file with the *log* command. You can modify your user database with the *udb* command. You can access help on how to use Manager II by pressing 5 Help. You can also access an administration or maintenance procedure screen as follows:

1. Press 5 Help.
2. Select `Administration Procedures` or `Maintenance Procedures.`

3. Select a specific procedure by pressing [4 Find] and entering the procedure number.
4. Display the procedure by pressing [6 Field].
5. Move the cursor to the desired field.
6. Press [6 Field] to get help for that field.
7. Press [1 Exit] to return to the command line.

WORKING WITH A CONNECTION

After you log into Manager II, you may connect to any of the switches supported by your user database. If your PC has two communication ports, you can connect to two switches simultaneously. To connect, in the sense used here, use the Manager II *con* command to activate a PC communication port (and, perhaps, to dial the number of a switch) and to log into a switch.

In general, you can connect in either of two ways. If you use the *con* command without an argument, you are presented with a menu that makes it possible to select switch and connection parameters interactively. If you use the *con* command with the switch name as an argument, the connection process begins immediately. Both possible ways of using the *con* command are explained in detail in chapter 5.

Regardless of how a connection is initiated, messages are displayed that report on the state of the connection attempt as it proceeds. When the attempt to connect fails and a run file is executing, the run file is terminated and control returns either to Manager II or the MS-DOS command line. If a connection fails and no script is executing, the switch-selection screen remains on display. You may initiate another connection attempt by pressing [2 Con]. To review the error messages that occurred prior to the failure, press [1 Exit] to escape the switch-selection screen and then enter **`hist`**, the history command. A display appears showing the last nine events, which may consist of command lines, status and error messages, and procedure data. Press [1 Exit] to leave the display. When the attempt to connect succeeds, Manager II displays the active switch modes if the system is a Generic 2 or a System 85 of R2V3 vintage or later and returns the cursor to the command line to await your command. If the system is a DIMENSION or System 85 R1, R2V1, or R2V2, Manager II asks you to enter the procedure you want.

ENTERING DATA

Once you have connected to a switch, you may access switch procedures to enter data into the switch. The switch procedures are numbered with 3-digit numbers. The object of a switch procedure is to send data to and get data from the switch. In enhanced mode, Manager II arranges these data as *fields* (on an orderly display) for you to fill in.

Entering Data on the Command Line

Enter **p** followed by a procedure number to access that procedure. (Type **p 100**, for example, to access Procedure 100.) If you are familiar with the procedures, you can enter data directly on the same command line. For example,

```
p 100 w 2 32 dx cf 3 3 ; 5  cx dx
```

means the following. Summon Procedure 100 Word 2. Enter the number 32 in the first field, then display any information known about that number (`dx`). Change the contents (`cf`) of field three to 3; skip a field (semicolon); and change the next field (field five) to 5. Finally, execute the change (`cx`) and display the results (`dx`). As described in chapter 5, it is possible to eliminate some of the spaces in the command. One of the many equivalent ways the command line could have been entered is:

```
p100w2 32 dx cf3 3 ; 5 cx dx
```

Entering Data in Fields

If you would rather enter data directly in the fields, proceed as follows. Access a procedure and wait for its display to appear. The display usually appears on your screen with the first field highlighted. The highlighted field is ready to accept data and is said to be the *active field*. The cursor is currently on the command line. Press [3 Form] to move the cursor to the highlighted field. Enter data into the field by typing new data while the cursor is in the field. Edit the field with the following keys:

- The (Backspace) key removes a character as the cursor moves backward over it.
- The function key [4 Clear] blanks the entire field.

Having filled in a field to your satisfaction, use the following keys to move to other fields.

- Any of the (Enter), (Tab), (→), and (↓) keys enters the data in the active field and moves the cursor to the next field. (This action leaves data in the new field intact.)
- Any of the (Shift-Tab), (←), and (↑) keys enters the data in the active field and moves the cursor to the preceding field. (This action blanks data in the new field.)

You cannot enter commands (for example, `p0`) while in a data field. You must exit the field and return to the command line by pressing [3 Line].

Earlier system administration devices accepted only numerical data — that is, the digits 0–9. Manager II enhanced mode accepts characters entered directly into data fields. One ASCII character can be entered directly into (for example) each of the name fields of Procedure 012 Word 2. When entered from the command line, these same characters must be double quoted. See chapter 5 to learn how to use double-quoted strings.

Exiting from Fields

Recall that you press [3 Form] to move the cursor to the active field. That act causes the function key label to change to [3 Line]. Press this key again to return the cursor to the command line. The label of the key changes as appropriate to offer access to the command line or the active field.

Entering Data Using Field Help

While a field is active (that is, while it is highlighted), a [6 Field] label is displayed on the screen. Press the corresponding key to get help that pertains to the active field. This help may be in the form of a range of possible values, if appropriate. Or, if more information is called for, this help may take the form of a window with text that you can scroll by means of the arrow and page keys. Each text element consists of a number (an encode) and its meaning in the current field (an encode expansion).

In the latter case, a highlighted bar appears in the window. Use the arrow and page keys to scroll through potential entries until you find the correct one. To select the encode described in the window, place the highlighted bar on the encode you want, and press [3 Select]. Manager II transfers the encode you selected to the current field and exits the field-help facility. To exit the field-help facility without making a selection, press [1 Exit].

Figure 3-1 illustrates Procedure 100 Word 1 with field help active for field 6. In this case the user may have moved the cursor to field 6 and pressed [6 Field]. To find encode 78, the user may have pressed [4 Find] and then entered `2-way`. Now, if the user were to press [3 Select], Manager II would enter encode 78 into field 6. In addition, the encode meaning would be displayed to the right of field 6. So the line surrounding field 6 would look like this:

```
6.  Trunk Type: [ 78 ] Main/Satellite 2-way (17)
```

and the cursor would move on to field 7.

This example illustrates another facet of Manager II's enhanced-mode field help. When you enter an encode in many procedure data fields, whether or not you have pressed [6 Field], the meaning of that encode is displayed to the right of the field. This allows you to verify as you are entering digits that you have chosen the right encode.

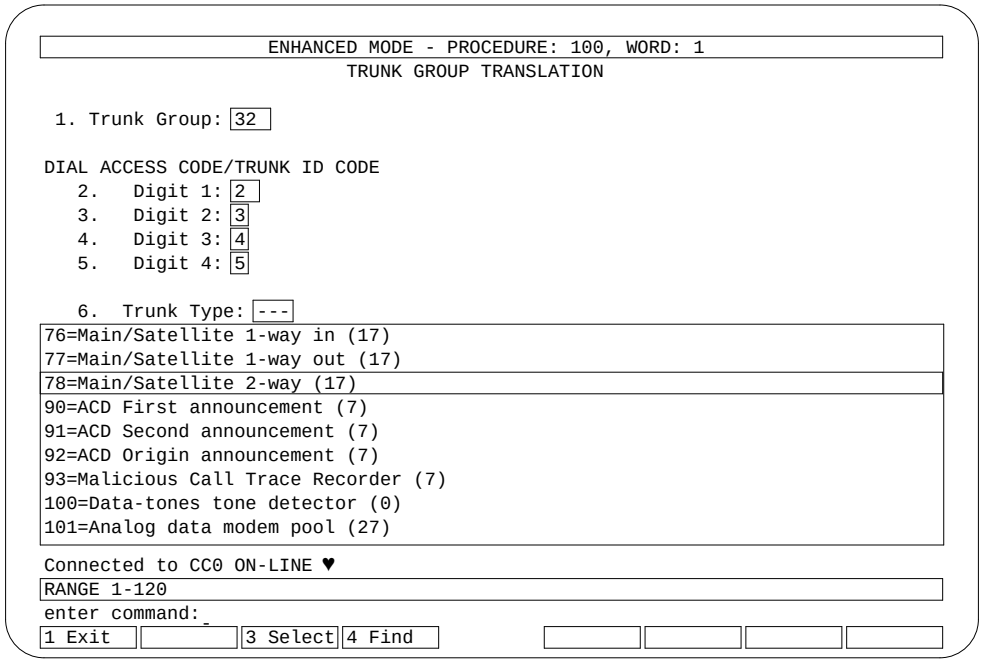


Figure 3-1. Procedure 100 Word 1 with Field Help

Displaying Field Help for Display-Only Fields

You can use the general-help facility to display information about display-only fields in switch administration and maintenance procedures. Simply press 5 Help while in the procedure, then press 6 Field. Then move the cursor to the display-only field and press 6 Field again. Thus you use the 6 Field function key in two different ways. First, after pressing 5 Help on an administrative or maintenance procedure, you press 6 Field to display a duplicate of the procedure screen. Then you press 6 Field to display help pertaining to the highlighted field.

The *help* displays just described are identical to the procedure displays. Be careful, therefore, not to confuse this general-help procedure display with an active procedure display. Data displayed or entered in the general-help display is local to general help and vanishes when you exit the help facility.

Displaying Error-Code Help

You can use the general-help facility to display error codes for switch administration and maintenance procedures. Simply press 5 Help while in a procedure. That act causes the function key label to change to 5 Errors. Press this function key again to display the list of error codes and their meanings. This facility is particularly useful for displaying error codes that span more than one line.

Displaying Specific Fault-Code Help

You can also use the general help facility to display specific fault codes for switch maintenance procedures. Simply press 5 Help while in a maintenance procedure, move the highlight bar to *Specific Fault Codes*, and then press Enter. Press 4 Find and type one space followed by the first digit of the fault code, and then press Enter to find the range containing the specific fault code you are looking for. Press 4 Find followed by Enter until you find the correct range (you do not have to enter the space and first digit again). Once you have found the correct range, press Enter. Once again press 4 Find and this time type the entire fault code and then press Enter. A description of the specific fault code will be displayed.

COMMAND HELP

An on-line help system is available for your use at any time while using Manager II in the enhanced mode. You can view either brief reminders of the meaning of the commands or complete descriptions of the commands and their use. Either press 8 Cmds or type **hc** or **?** at the command line to display the commands and their meanings. To access the complete descriptions, either press 5 Help or type **h** or **help** at the command line; then select *How to Use the Enhanced and Basic Mode*, followed by *Listing of Commands*. The use of this help facility is described in detail in chapter 5.

Also, enhanced-mode commands are described in chapter 5.

SWITCH SUPPORT BASE

The switch support base (SSB) makes it possible for Manager II to describe in detail what may be entered into each of your Generic 2 systems. It is a collection of directories and files containing information that describes your Generic 2 systems. In order for Manager II to execute in enhanced mode, an SSB must be properly installed on your PC (per the instructions given below or in appendix D). Most of the SSB files have information pertaining to the administration and maintenance procedures used by your system. Here are the components of the SSB for a procedure: the field numbers, titles, positions, sizes, and ranges; in many cases, even encode interpretations for the fields are in this database. It is beyond the scope of this chapter to describe the level of detail in this database.

The switch support base is available in two forms for you to put in your PC's file system: on diskette and on magnetic tape in your Generic 2 system.

The diskette version has on the diskette itself an interactive installation program named *ssbmgr*. This program offers you the options of installing a new database, of replacing an old one, or of installing a few files that make your present database capable of describing a different version of Generic 2. You might use the latter capability to make your DEFINITY Manager II capable of administering your present Generic 2 and a new one. (You can also use *ssbmgr* to verify, consolidate, or remove a previously installed database. See appendix D.)

Manager II also has a command that can download SSB files from the Generic 2 disk tape system to the PC. The Manager II *get* program will find and install all SSB files, files that differ from those installed on the PC, or files that are specified by name (either specifically or symbolically). Note that, for you to use the *get* command, your connection to the Generic 2 must use the system's PPG port. SSB files cannot be copied from the switch by way of an RMATS port. Use the mode procedure command *m* to determine the type of switch port to which Manager II is connected.

There are well over 500 files in the switch support base, so it may prove faster to load them from diskette at computer speed than to load them from the Generic 2 at communications speed. Later, when you have your system updated or purchase a new Generic 2, you can either get new diskettes to install the few files necessary to describe the difference between earlier and later systems, or use the *get* command to get the different files from your new switch. However you install the SSB, you should always check with the *get* command to ensure a perfect match between the database on your PC and that of the switch. (There may be slight differences between the distribution diskettes and the switch database, and the SSB stored in the switch is always right for that switch.)

The *get* command has the following format.

`get [-a] [-g] [-s] ["`*filenameexpression*`"]` Enter

Where:

`-a` Means get all of the SSB files. The default is to get only those from the switch that differ from those installed on the PC.

`-g` Means get the specified information immediately. The default is to display a screen through which you can interactively refine the list of files you wish to obtain.

`-s` Means suppress synchronization of the two copies of the SSB, one on the DTS disk and the other on the switch tape. If they are out of sync, the SSB on the switch tape is copied onto the DTS disk unless the *-s* option is specified. This option is for use by qualified technicians only.

filenameexpression Names of files that you want to specify for installation or viewing. Wildcard file-name specifications may be used. See *help* in chapter 5 for the conventions that apply to these specifications.

Here are some examples of how the *get* command works:

- **`get ".hlp"`** produces a screen like figure 3-2 with a list of all SSB files in the Generic 2 that have ''.hlp'' as part of their name and that differ from the files on your PC.

- **`get -a ".hlp"`** produces a screen with a list of all SSB files in the Generic 2 that have ‘‘.hlp’’ as part of their name.
- **`get -g ".hlp"`** makes the *get* command begin downloading all SSB files in the Generic 2 that have ‘‘.hlp’’ as part of their name and that differ from the files on your PC.
- **`get -a "107w[1-4]"`** produces a screen with a list of all SSB files in the Generic 2 that support Procedure 107 Words 1 through 4.

The *get* command generates a screen resembling the one below.

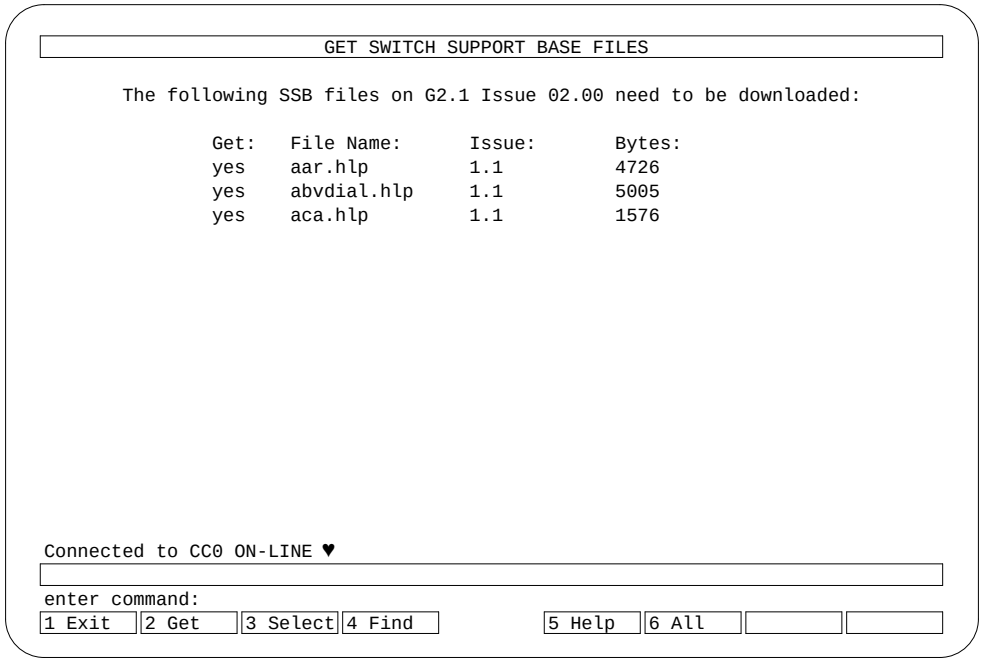


Figure 3-2. Get Menu Screen

Unless the *-a* option was used, only files that differ between your communications system and your PC will be listed on the screen, and they will all be marked for downloading (with a `yes` in the first column). To mark a file so that it will not be downloaded, use the Page Down and ↓ keys to highlight the line on which the file appears and press 3 Select to toggle the first field to `no`. If the menu is extensive, use 4 Find to search for a filename. To use this facility, press 4 Find and then enter an expression of the type described under *help* in chapter 5 (do not quote the expression in this context). Manager II attempts to match your expression with a menu item. If a match is found, the highlight bar is moved to the matched item. Otherwise, the highlight bar is moved to the first item in the menu. To download the files marked `yes`, press 2 Get. To return to the command line without getting files, press 1 Exit. If the file you want to download is not listed, press 6 All.

Pressing 6 All in the context just described has the same effect as using the *-a* option with the *get* command. That is, all files are now available for your perusal, and all entries in the first column become `no`. Using the function keys just described, select the files you want

downloaded by marking them with `yes` in the first column. When all files are listed, the label for the function key changes to [6 Delta], and offers the option of selecting a list of files that differ between the system and PC.

4. Basic-Mode Operation

This chapter describes the principles of Manager II operation in the basic mode. Like enhanced-mode operation, basic-mode operation accesses the numbered procedures in your switch's software. Unlike the enhanced mode, however, the basic mode of Manager II can be used on all DEFINITY Generic 2 and System 85 communications systems, and on certain DIMENSION switches. Also, the basic mode does not access the SSB files even if they exist for the switch to which you are connected.

In basic mode, Manager II makes your PC operate in a way that resembles the earlier system-administration devices, such as the System Management Terminal (SMT) or the Maintenance and Administration Panel (MAAP). That is, data are displayed on the screen in fields that are side-by-side on a single line. And, as with the Visual Maintenance and Administration Panel (VMAAP), data can be entered from the command line. Unlike VMAAP, however, Manager II also offers the option of entering data directly into the fields. Furthermore, the fields on basic-mode displays are numbered, and general help and command help (described below) are available for your use.

Basic mode is very similar to enhanced mode. Most enhanced-mode commands are available in basic mode. The enhanced-mode commands that are not available in basic mode are those that depend on information in an SSB file to function properly. An example is the string command (see chapter 5), which uses an SSB file to determine the type of encodes that a procedure accepts. The various help commands are another example. Most of these commands rely on SSB files for information. In basic mode, the only help available is general help (*help* or 5 Help) and command help (*hc* or 8 Cmds).

The next difference between enhanced and basic mode is the layout of procedure displays. Enhanced-mode screens provide descriptive labels for each field. Also, depending on the field, the meaning of an encode is displayed to the right of the field after data is entered. Basic mode does not have field labels, nor does it display encode meanings. Basic-mode procedure fields are displayed on a single line with field numbers appearing above each field. The active field is highlighted just as is done in enhanced mode. Figure 4-1 illustrates a typical basic-mode display.

Another difference between the two modes involves equipment locations. Enhanced mode accepts universal and XE equipment-location specifications. Basic mode does not. In basic mode, Manager II can accept only the traditional System 85-style equipment-location numbers. Some DEFINITY Communications Systems have universal modules or XE module or both that use a different identification system. The *el* command (described at length in chapter 5) provides translation for you. Use this command to translate universal or XE equipment locations to the traditional equipment-location numbers. Then use the traditional values when working with equipment locations in basic mode.

Thus, except for the differences noted above, enhanced and basic mode are very similar. The following sections review basic-mode operation, but, for the most part, this operation is identical to that of enhanced mode.

Since basic mode does not use the SSB that provides system-specific information, use the documents listed on page xvii of this document or the flipcharts that accompany your switch's MAAP to find information about the procedures. There is no SSB for any communications system other than Generic 2. So you must use basic mode to work on a DIMENSION or System 85 switch. If you are comfortable with the basic mode of system administration or if you have chosen not to load an SSB on your PC, you can also use basic mode to work on a Generic 2 communications system.

BREAKING OUT OF THE BASIC MODE

Basic mode uses a Manager II *break* function that is identical to that of enhanced mode and similar to that of MS-DOS. That is, to stop an activity at any time, press either Ctrl-C or Ctrl-Break. If a run file is active, control is returned to the environment from which it was executed: either the MS-DOS operating system or the Manager II command line. If a connection sequence is in progress, it is halted and control is returned to Manager II. Otherwise, Manager II is halted and control is returned to the MS-DOS operating system.

INVOKING THE BASIC MODE

If your PC does not have an installed SSB, basic mode is active immediately after you log into Manager II. In this case, basic mode becomes the default mode of operation. To access basic mode from another Manager II mode, simply type **bas** at the command line.

WORKING WITHOUT A CONNECTION

Before you connect to a switch, several Manager II functions are available to you. For example, you can open a log file with the *log* command. You can modify your user database with the *udb* command. You can map universal or XE equipment locations to the traditional form in advance of the day's work using the *el* command. (Recall that basic mode accepts equipment locations only in the traditional form.) You can access help on how to use Manager II by pressing 5 Help. However, you cannot access the procedure screens as you can in the enhanced mode since basic mode does not access the SSB.

WORKING WITH A CONNECTION

The Manager II connection command *con* behaves the same whether in basic or enhanced mode. See the enhanced-mode section in chapter 3 and the *con* command section in chapter 5 for more information.

Suppose you are executing Manager II in enhanced mode while connected to one system. Then suppose you connect to another system for which you do not have the appropriate SSB. Manager II automatically changes to basic mode as you connect to the second system. Enhanced

mode is available only if the correct SSB is installed on your PC.

ENTERING DATA

As in enhanced mode, once you have connected to a switch, you may access switch procedures to enter data into the switch. The switch procedures are numbered with 3-digit numbers. The object of a switch procedure is to send data to and get data from the switch. In basic mode, Manager II puts these data in *fields* in a line centered on the screen, for you to fill in.

Figure 4-1 illustrates the initial screen of Procedure 100.

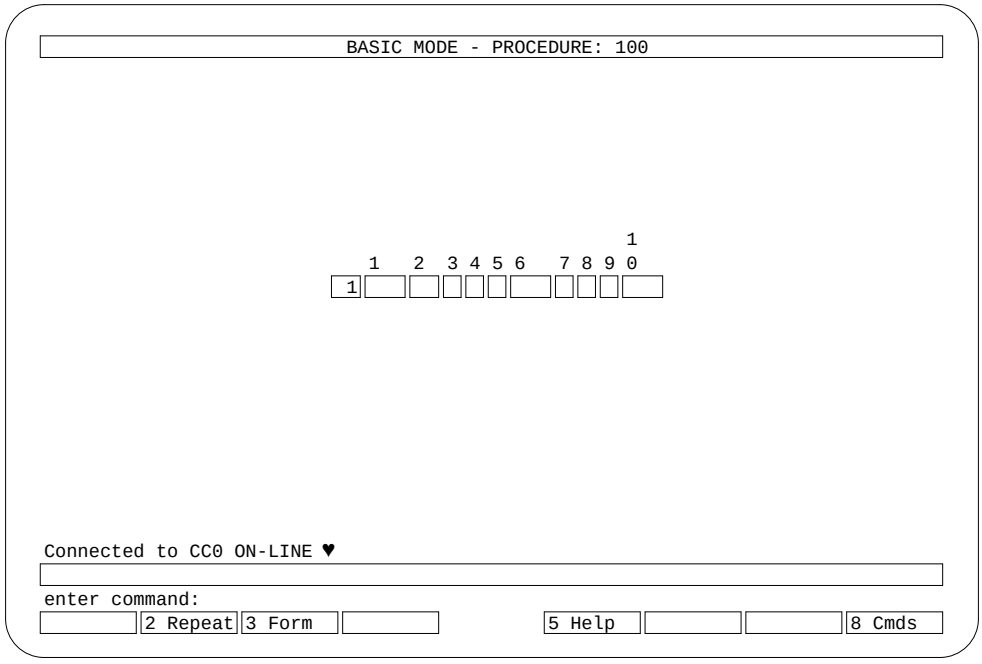


Figure 4-1. Procedure 100 Word 1

Entering Data on the Command Line

Data entry on the basic-mode command line is handled in the same way as data entry on the enhanced-mode command line. The exceptions are that basic mode does not interpret double-quoted string data, nor does it understand universal or XE equipment locations. See the enhanced-mode data-entry section in chapter 3 for further information.

Entering Data in Fields

Again, basic-mode data entry via the procedure fields works in the same fashion as enhanced-mode data entry. Just press 3 Form to move the cursor to the active field. The exception is that basic mode processes only numerical data. Therefore, in procedures like 012, you must enter the numerical codes associated with the character data rather than the characters themselves. See the enhanced-mode data-entry section in chapter 3 for information on entering data in fields. As is the case in the enhanced mode, you cannot enter commands (for example, `p0`) while in a data field. You must exit the field and return to the command line by pressing 3 Line to enter a command.

Exiting from Fields

Recall that you press 3 Form to move the cursor to the active field. That act causes the function key label to change to 3 Line. Press this key again to return the cursor to the command line. The label of the key changes as appropriate to offer access to the command line or the active field.

COMMAND HELP

An on-line help system is available for your use at any time while using Manager II in basic mode. You can view either brief reminders of the meaning of the commands or complete descriptions of the commands and their use. Either press 8 Cmds or type **`hc`** or **`?`** at the command line to display the commands and their meanings. To access the complete descriptions, either press 5 Help or type **`h`** or **`help`** at the command line and then select *How to Use the Enhanced and Basic Mode*, followed by *Listing of Commands*. The use of this help facility is described in detail in chapter 5.

Also, basic-mode commands are described in chapter 5.

5. Enhanced-Mode and Basic-Mode Commands and Keys

This chapter provides a listing of all DEFINITY Manager II enhanced-mode and basic-mode commands for reference purposes. Included are the rules of syntax for Manager II commands and a discussion of the effect of each command. Included also is a listing of function keys and special keys and a description of their use.

Not all commands are available with every version of Manager II. Version 2.0 has all the commands described in this chapter. Use the *stat* command to display a screen that gives the software version you are using.

COMMAND SYNTAX

A command line appears near the bottom of basic-mode and enhanced-mode Manager II screens. When it is appropriate for you to enter a command, the cursor appears immediately after an `enter command:` prompt. Here are the general rules of syntax.

- Always type a space between items of data. (Manager II interprets `123` as data for one field, and `1 2 3` as data for three distinct fields.)
- Enter a series of commands, parameters, and data by pressing Enter (or whatever the equivalent of ‘‘carriage return’’ is called on your keyboard).
- Some commands require that Enter be pressed before another command can be executed. For example, Enter must be pressed immediately after the *task* command.

In general, commands and data are easier to read (for example, in log files) if they are separated by spaces (or tabs or newlines), so it is a good idea to use such space as a rule. However, you will find that Manager II correctly interprets most commands whether they are typed `p150w2` or `p 150 w 2`.

Most basic-mode and enhanced-mode Manager II commands do not accept parameters at all. A few, however, require parameters. A parameter is a way to tell a command to operate in a certain way or to give the command enough information to perform its function. Parameters immediately follow the command itself. For example:

- The procedure command *p* requires a procedure number: `p 100`
- The equipment-location command *el* requires an equipment location: `el 1 0 c 2 23`
- The run file command *run* requires the name of the file in double quotes: `run "cmd-file"`

Parameters are optional for a few commands. For example:

- The *get* command may take an option that modifies its effects or a file designator that specifies in double quotes the files on which it operates or both: `get -a "file"` or `get`

- The *log* command may take the name of a log file in double quotes (otherwise a default file name is used): `log "log-file"` or `log`
- The mode-procedure command *m* may take the number of the mode to be accessed (see the description on page 5-14 for details): `m123` or `m`

COMMAND REFERENCE

All but three of the commands listed below can be used in both basic mode and enhanced mode; the three commands that can be used only in command mode are *string* (interpret a string), *hf* (field help) and *hi* (input help). Some of the commands listed below can be used in *run files* — that is, in command scripts executed by Manager II. All of them can be used on the Manager II command line. Of the commands listed below that apply to procedures, not all apply to every procedure. Some commands work only with administrative procedures (procedures numbered from 000 through 499). Some work only with maintenance procedures (procedures numbered from 500 on). Some are needed only with particular administrative or maintenance procedures. Press 7 Input to see what commands are valid when in a procedure. If a procedure cannot execute a command that you have used, it responds with an error message.

"*string*" — Interpret a String

Name data, incoming-call-identification (ICI) data, and the dial codes * and # must be entered in switch procedures in the form of numeric codes that stand for letters, numbers, and punctuation. If you would rather not enter the codes, you can instead use the Manager II enhanced-mode data-string capability. Note that this functionality is available only in enhanced mode; it cannot be used in basic mode. The Manager II software translates a string of characters between double quotes into its associated numeric codes and sends those numeric codes to the switch. Have Manager II thus interpret a string of characters by surrounding the string with double quotes as you enter it. (Do not enter more characters in a string than you have procedure fields to receive them.) So, to enter *Doe, Jane* starting at (say) field 2 of Procedure 012 Word 2, use the following command.

```
cf 2 "Doe, Jane "
```

Name interpretation is available in Procedure 012 Word 2, Procedure 013 Word 1, Procedure 279 Word 1, and Procedure 497 Word 2. ICI interpretation is available in Procedure 031 Word 1 and Procedure 204 Word 1. Dial-digit interpretation is available in numerous procedures, among them Procedure 100 Word 1, Procedure 175 Word 1, and Procedure 350 Word 1.

You may be puzzled by the problem of quotes within a string. If you have to enter a double quote in a field, do so by escaping the quote with a backslash (\). Therefore, if Jane wants her

nickname (say, *JJ*) appended to her name, so that it appears as *Doe, Jane "JJ"*, access segment 2 of Jane's record in Procedure 012 Word 2 and use the following command.

```
cf 2 "\"JJ\""
```

For double quotes ("), press Shift-". Do not try to use two single quotes or two apostrophes.

"*filename*" — Enter File Name

Use double quotes around a file name when entering it as a parameter to a command. (For instance, both the *run* and *log* commands accept a file name as a parameter.) The backslash character also serves as an escape mechanism in this context. When the backslash itself must be used, as when entering a directory and filename, it must be escaped with another backslash. So the filename C:\MGRII\LOG must be entered as follows.

```
log "c:\\mgrii\\log"
```

The same file may be opened using the following command that employs slashes in place of the double backslashes.

```
log "c:/mgrii/log"
```

@ — One-Second Pause

Use @ to make Manager II pause for one second. You may use the @ command only when Manager II is connected to a switch. For example, use @ on the command line or in a run file to insert a one-second pause between commands. The pause command may be of particular use when including a maintenance procedure in a run file. In such situations it is good practice to place several pauses after the execution of a test. This prevents Manager II from sending the next command while your PBX is executing that test. (The amount of time required for execution varies with the conditions under which a particular switch operates. You will learn with experience how many pause commands are necessary and under which circumstances.) See the description of the *wait* command for more information on executing maintenance procedures within run files.

; — Advance One Field

Use *;* to leave a field's contents as they are. That is, use *;* to advance past the currently active field to the next-higher-numbered field without changing the contents of the field thus passed. If the current field is the last one (and therefore you cannot skip to a next field), use the change-field command *cf* to move to another field.

— Comment

Use # to add nonexecutable comments to a Manager II-executable file. Everything that follows the comment command on that line is part of the comment. The example below consists of a request to access Procedure 100 followed by a comment.

```
p 100  # Summon procedure 100
```

Comments may also be entered from the Manager II command line. If a log file is active, these comments are added to the file. The comments can then be used to mark the start of a new activity within the log file.

add — Add

Use *add* with administration procedures to add displayed data to the switch's translation memory. In most procedures, the *add* command must be followed by an *execute* command, *x*. The shorthand notation for **add x** is **ax**. Always follow an *ax* command with a *dx* command to view the results of your work.

ax — Add Execute

Use *ax* with administration procedures to add displayed data to the switch's translation memory. (See the *add* command description.) Always follow an *ax* command with a *dx* command to view the results of your work.

bas — Basic Mode

Use *bas* to change to Manager II's basic mode. (Find a description of basic mode in chapter 4.)

bo — Busy Out

Use *bo* to place circuit locations in maintenance busy-out status. Use this command from a maintenance procedure that allows a circuit to be busied out. Not all procedures allow this. Those that do are:

Procedure 635 - Cause of maintenance busy-out (on Generic 2 systems only)
Procedure 632 - Carrier busy
Procedure 631 - Trunk group busy-out
Procedure 630 - Busy-out/release busy-out

CAUTION Equipment is removed from service when placed in busy-out status. Consider this effect before using the *bo* command.

cdx — Clear Data Execute

Use *cdx* to resolve alarms — that is, to clear the alarm-sent indication in the error log without clearing the record itself. Clearing the alarm-sent indication of an error record turns off the alarm indicator on the alarm panel and on the Manager II status line if there is no other reason for the indicator to be on. Like certain other commands, *cdx* is effective only when used from within appropriate maintenance procedures (such as Procedure 600).

ce — Clear Entry

Use *ce* to clear the current input field. New data can now be entered in the cleared field. Or, to leave the field blank, use the *;* command (described above) to move to the next input field.

cf — Change Field

Use *cf* followed by a field number to select the specified field — that is, to make it the active one. This clears the specified field and makes it ready for input. For example, **cf4** changes the current input field to field 4 and clears the data in that field (provided, of course, that field 4 exists and accepts data).

chg — Change

Use *chg* with administration procedures to change displayed data in the switch's translation memory. In most procedures, the *chg* command must be followed by an execute command, *x*. The shorthand notation for **chg x** is **cx**. Many procedures require that you issue a *dx* command to display the data you wish to change before you can use the *cx* command. Always follow a *cx* command with a *dx* command to view the results of your work.

con — Switch Connect

Use *con* to establish a connection with a switch. To use the command, type **con** (for *connect*) then a space and a switch name and press Enter. (A switch name is the name of a particular switch, which can be determined by you and included by AT&T in your Manager II user database.) The *con* command refers to the database for the default connection conditions associated with the named switch.

The complete syntax for the *con* command is `con` *options switchname* Enter where the options override defaults in the user database and are described in table 5-1. To specify an option, use its designation in table 5-1 followed immediately by its value — for example, `-b2400` for a baud rate of 2400. For an explanation of the *connection type* option, see appendix B.

Table 5-1. Connection Options Parameters

Name	Designation	Parameter	Comment

Connection type	`-c`	`hw`
		`md`
		`mp`
		`mt`
			hardwired
			modem, digital
			modem, pulse dialing
			modem, tone dialing

Baud rate	`-b`	`300`
		`1200`
		`2400`
		`4800`
		`9600`
		`19.2`
			} baud
			kilobaud

PC port number	`-p`	`1` `2`	COM1 COM2
Wait timeout	`-w`	`10` through `99` `(30 is default)`	the number of seconds that the modem waits from the start of dialing until the return of carrier-detect signal
Number of attempts	`-n`	`1` through `9` `(2 is default)`	to connect

Type **`con`** *without* specifying a switch name to access a menu system that will help make your connection. The `Switch Name` field on this menu is highlighted. Press 6 Field to make Manager II display a list of available switch names. On the resulting display, a highlighted bar emphasizes the first switch name. Press any of the ↑, ↓, Page Up, and Page Down keys to position the bar over another switch to which you want to connect. Then press either Enter or 3 Select.

At this point, the fields on the menu are filled by the default data associated with the switch just selected. You can change the contents of any of these fields by backspacing over the field or pressing 4 Clear and entering new contents or by selecting another switch.

As soon as a switch is selected, a 2 Con label appears on the screen. When you are ready to connect to a switch using the options shown on the screen, simply press 2 Con. You are informed when your connection to the switch is successful.

Having connected to one switch, you might want to alternate between it and another switch as you work. You can connect to up to two switches at one time. To do so, simply attempt another connection as described above. Messages are displayed that report on the status of the connection attempt as it proceeds. If the second switch connection is successful, this switch becomes the currently selected connection. While two connections are established, type **con** without arguments to toggle between the two.

If *con* is issued from the command line and a failure occurs, Manager II returns to the previous connection if one exists. As long as a script file is not executing, the connection screen remains displayed after a failed connection attempt. To attempt the connection again, press 2 Con. To exit the connection screen and return to the previous connection (if one exits), press 1 Exit.

If *con* is issued from a run file and a failure occurs, execution of the command file is always terminated. (This action prevents subsequent commands from affecting the wrong switch in the event of a previously established connection.)

The *connect* command allows you to specify the baud rate for your connection. However, the choices are limited by the hardware used in the link. RMATS ports for DEFINITY Communications System Generic 2 or System 85 work only at 1200 baud. RMATS ports for DIMENSION systems work only at 300 baud. PPG ports (on Generic 2 systems only) offer more flexibility. They can operate at 1200 to 19200 baud. Of course, any modems that are part of the connection must also be able to work at the selected rate.

cp — Customer Procedures

Use the *cp* command followed by a System Management Terminal (SMT) procedure number to simulate the functions of an SMT. This enables access to the procedures that may be invoked from the SMT. This command has the same effect as the *p* command (described below) except that SMT procedure numbers are used. (This command cannot be used on DEFINITY Generic 2 Communications Systems.)

cx — Change Execute

Use *cx* with administration procedures to change displayed data in the switch's translation memory. (See the *chg* command description.) Many procedures require that you issue a *dx* command to display the data you wish to change before you can use the *cx* command. Always follow a *cx* command with a *dx* command to view the results of your work.

disc — Switch Disconnect

Use *disc* to disconnect from the current switch. This command releases the current connection and makes the currently used port and modem available for another *con* command. If you are connected to two switches when you use the *disc* command, then the remaining switch becomes the current connection.

dsp — Display

Use *dsp* to display data for the current procedure. In most procedures, the *dsp* command must be followed by an execute command, *x*. The shorthand notation for *dsp x* is *dx*.

dx — Display Execute

Use *dx* to display data for the current procedure and word. (See the *dsp* command description.) For most administration procedures, data must be displayed using *dx* before it can be changed using *cx* or removed using *rx*. Always follow an *ax* or a *cx* command with *dx* to view the results of your work.

el — Equipment Location

Depending on the mix of features required of it, a given DEFINITY Communications System Generic 2 may contain up to three types of network modules: *traditional*, *universal*, or *XE*. Because of differing hardware, the various types of modules call for different forms of equipment-location codes. Equipment-location codes for traditional modules are of the form used for DIMENSION and System 85 communications systems. Equipment-location codes for universal or XE modules are of the form used for System 75 communications systems.

Use *el* to translate an equipment location from universal or XE to traditional forms or the reverse. The *el* command uses the syntax given below

`el` *module cabinet carrier* `[`*slot* `[`*circuit*`]]`

where *module* may assume the values 0-30 and *cabinet* may assume the values 0-4. The *carrier* is a-e if the equipment location is universal or XE and 0-3 if the equipment location is traditional. The *slot* is 0-21, and the *circuit* is 0-23. The brackets indicate that the slot and circuit are optional, although, to get a complete equipment location, you must specify both slot and circuit. The results of the command are displayed on the message line just above the command line. For instance, the command:

```
el 1 0 e 15 20
```

causes Manager II to display the following message line:

```
Universal or XE 1 0 E 15 20 corresponds to Traditional 1 3 1 0 4
```

The *el* command provides mapping only; there is no attempt to verify that a given equipment location exists on the current switch. Indeed, *el* works whether or not a switch is connected to your PC. Although the *el* command is especially helpful when you are using basic mode to administer the DEFINITY Communications System Generic 2, it is also useful to verify mapping information when you are using enhanced mode.

enh — Enhanced Mode

Use *enh* to change Manager II to the enhanced mode. Enhanced mode is available only if the applicable SSB has been installed on your PC.

get — Get Support Files

Manager II requires many files of switch data to support the switch-specific features of its enhanced and task modes. All Generic 2 systems contain such files on their magnetic storage facilities. These same files are also available on diskettes.

Use the *get* command to install the support files from the currently selected switch, provided that the connection is through a PPG port. Files cannot be copied to the switch by way of an RMATS port. To do so, use a command line of the following type:

`get [-a] [-g] [-s] ["`*filenameexpression*`"]` Enter

Where:

`-a` Means get all of the SSB files. The default is to get only those from the switch that differ from those installed on the PC.

`-g` Means get the specified information immediately. The default is to display a screen through which you can interactively refine the list of files you wish to obtain.

`-s` Means suppress synchronization of the two copies of the SSB, one on the DTS disk and the other on the switch tape. If they are out of sync, the SSB on the switch tape is copied onto the DTS disk unless the *-s* option is specified. This option is for use by qualified technicians only.

filenameexpression Names of files that you want to specify for installation or viewing. Wildcard file-name specifications may be used. See *help* in this chapter for the conventions that apply to these specifications.

The *get* command produces a screen resembling figure 3-2.

Unless the *-a* option was used, only files that differ between your communications system and your PC will be listed on the screen, and they will all be marked for downloading (with a `yes` in the first column). To mark a file so that it will not be downloaded, use Page Down and ↓ to highlight the line on which the file appears and press 3 Select to toggle the first field to `no`. If the menu is extensive, use 4 Find to search for a filename. To use this facility, press 4 Find and then enter an expression of the type described in *help* in this chapter (do not quote the expression in this context). Manager II attempts to match your expression with a menu item. If a match is found, the highlight bar is moved to the matched item. Otherwise, the highlight bar is moved to the first item in the menu. To download the files marked `yes`, press 2 Get. To return to the command line without getting files, press 1 Exit.

If the file you want to download is not listed, press [6 All]. This has the same effect as using the *-a* option with the *get* command. That is, all files are now available for your perusal, and all entries in the first column become `no`. Using the function keys just described, select the files you want downloaded by marking them with `yes` in the first column. When all files are listed, the label for the function key changes to [6 Delta], and offers the option of selecting a list of files that differ between the system and PC.

hc or ? — Command Help

Display a screen that gives a brief description of the Manager II commands by typing **`hc`** or **`?`** at the command line, or by pressing [8 Cmds]. The screen that appears associates each basic-mode or enhanced-mode Manager II command with a descriptive phrase that identifies its function. When you are ready to leave this screen, press [1 Exit] or (Enter).

help or h — General Help

Access help by typing **`h`** or **`help`** at the command line, or by pressing [5 Help]. Use these commands to access a menu of subjects appropriate to the currently selected procedure (or a menu of general subjects, if no procedure is selected). However you choose to get help, the menu that appears will display a highlighted bar over one of its items. Use (↑), (↓), (Page Up), (Page Down), (Home), and (End) to position the bar over the subject on which you need information. Then press [3 Select] or (Enter) to select a subject. This may lead to a screen with information or to a subordinate menu. If a menu is on your screen, proceed as above. If information is on your screen, scroll through it as described above.

As you peruse the available help screens, several function-key labels variously appear and disappear on the screen. These are [1 Exit], [2 Return], [3 Select], and [4 Find]. Use [1 Exit] to exit the help facility. Use [2 Return] to return to the previous menu. Use [3 Select] to select the highlighted menu item. Use [4 Find] to search for a topic within a menu.

The *find* function is most useful when you are confronting a long list of possible topics. For example, there are hundreds of administrative procedures, each one with a set of help screens. Having accessed the administrative-procedure help menu, suppose you want to find Procedure 100. To do so, simply press [4 Find] and type `100` followed by (Enter). Manager II searches the list of procedures and the highlighted bar is moved to the line containing the number `100`.

You can type any string on the command line and have the *find* function look for a match. The function even looks for strings matched by the wildcard conventions described in table 5-2. Therefore, for example, you could type `restrict.*search` to find the following string.

```
Procedure 283 Word 1-Facility Restriction Level Related Searches
```

Table 5-2. Wildcard Character Specifications

Character	Specification
c	A character *c* not listed in this table matches itself.
c*	A character *c* not listed in this table followed by an asterisk matches *zero* or more occurrences of the character.
c+	A character *c* not listed in this table followed by a plus sign matches *one* or more occurrences of the character.
*	An asterisk at the beginning of an expression matches any string — including *.* and the null string.
.	A period matches any single character.
[...]	Characters within brackets match any one of the enclosed characters. A pair of characters separated by a hyphen (-) matches any character that falls between the pair (in ASCII order), including the pair itself. If the first character that follows the opening bracket is a circumflex (^), any character *not* enclosed is matched. (Therefore, for example, [^abc3-7] matches any character except a, b, c, or numbers 3 through 7.)
^	A circumflex (outside of brackets) matches the beginning of a line.
$	A dollar sign matches the end of a line. A specification that begins with a circumflex and ends with a dollar sign, therefore, matches an entire line or filename.

The *find* function is not case-sensitive. That is, it matches both uppercase and lowercase characters regardless of the case specified. This can be seen in the above example in which ''Search'' was found as a result of specifying ''search''.

Having used 4 Find to highlight the topic line, press 3 Select to view help on the highlighted topic.

hf — Field Help

Access descriptions of the active field by typing **hf** at the command line, or by pressing 6 Field.

While a procedure field on your screen is ready to accept input (that is, while the field is active), the 6 Field label appears on your screen. If you press this function key or if you type **hf** at the command line, you will receive a description of the active field. This description may be in the form of a range of possible values, if appropriate. Or, if more information is called for, this description may take the form of a window with text that you can scroll by means of ↑, ↓, Page Up, and Page Down.

In the latter case, a highlighted bar appears in the window. To select one of the encodes described in the window, place the highlighted bar on your choice and press [3 Select]. To exit the field-help facility without making a selection, press [1 Exit].

hi — Input Help

In many switch administration or maintenance procedures, certain data must have been entered before the procedure can execute any given command. For example, to display switch data associated with a given phone, the phone must be identified by the extension number or equipment location. In this case, an identifying number must have been entered before *dx* can be executed.

To display a list of commands and the data required for their execution, either type **`hi`** from the command line or press [7 Input]. Such a list may be much longer than the window it is displayed in. If so, use (↑), (↓), (Page Up), and (Page Down) to scroll through it to find the information you need.

hist — Display History

Use *hist* to display the last nine events that have taken place. Such events may include commands, error messages, or switch data displays. If logging is active, the information thus displayed is identical to the last nine entries in the log file. Remove the history display by pressing (Enter) or [1 Exit].

ign — Ignore Errors

Use *ignore* to ignore errors returned by switch procedures. When the *ignore* command is not used and the switch returns an error code, the current command line is aborted and any commands remaining on the command line are not executed. If a run file is executing, the error count is incremented.

When the *ignore* command is used, command-line processing continues as though no error had occurred and the run file error total remains unchanged. The settings specified by an *ignore* command remain in effect until a *task* command or another *ignore* command is issued.

You may use the abbreviation *ign* for the *ignore* command.

Only switch errors (numbered 0 through 99) can be ignored; other errors (numbered 100 or greater) cannot be ignored.

Either all switch errors or only specified switch errors may be ignored at one time. The errors to ignore are specified as arguments to the ignore command. The error argument may be a one- or two-digit switch error code, a range of codes, or the word *all.*

To ignore all switch errors, issue the *ignore* command as follows:

```
ign all
```

To ignore specific switch errors (in the example below, errors 75,76,77, and 99), issue the *ignore* command as follows:

```
ign 75-77 99
```

To ignore only one specific switch error (in the example below, error 3), issue the *ignore* command as follows:

```
ign 3
```

The settings specified by an *ignore* command will remain in effect until a *task* command or another *ignore* command is issued. To restore the default condition so that all switch error codes are processed, enter the *ignore* command without parameters.

To see the current ignore settings, enter the *ignore* command followed by a question mark as follows:

```
ign?
```

log — Open/Close Log File

Use the *log* command to open or close a file that logs Manager II activity. If you simply type **log**, a default file is opened named *MGRII.LOG*. (The actual name of the default file is specified in Manager II's initialization file, *MGRII.INI*.) If, however, you want to specify a file name for the activity file, do so as an argument (between double quotes) to the command. Thus, the command `log "new.log"` opens a log file named *NEW.LOG*.

Your commands and Manager II displays are written to this file while it is open. By default, the file is created in your current directory unless you specify a different directory with a full path name. It is also possible to specify a directory for log files by setting the MS-DOS environment variable *MII_LOG*. Environment variables are initialized by the MS-DOS *set* command. The *set* command can be placed in the *AUTOEXEC.BAT* file or issued from the MS-DOS command line. For example, the following *set* command causes Manager II to open log files in the directory *C:\MGRII\LOG* unless a complete pathname is specified for the log file:

```
set MII_LOG=C:\MGRII\LOG
```

The output file is closed by simply typing **log** a second time. Once you have created a log file, use commands provided by the MS-DOS operating system to print, view, or edit the file at your leisure. You can turn a log file into a run file by using an editor to remove all but the commands. You can also turn a log file into a report by using an editor to remove all the commands.

If you use the *log* command with the name of an existing log file, Manager II appends its output to that file. To find out the name of the current log file, if any, enter **log ?**

To remove an existing file and start a new log file of the same name, enter

```
log -d "old.log"
```

The *-d* (destroy) option tells Manager II to remove any existing file before creating a log file.

m — Mode Procedure

Use *m* to specify the communications system mode for which you are in contention. Mode specification is only for Generic 2 and System 85 R2V3 and R2V4. Three modes can be requested: *administration* mode (1), *maintenance* mode (2), and *tape* mode (3). Type **m** and then *1*, *2*, or *3* to toggle the corresponding mode between off and on (0 and 1). Type **m** alone (without any arguments) to display the current mode.

A screen resembling figure 5-1 appears. If the displayed mode is 1, it is active; if 0, it is inactive.

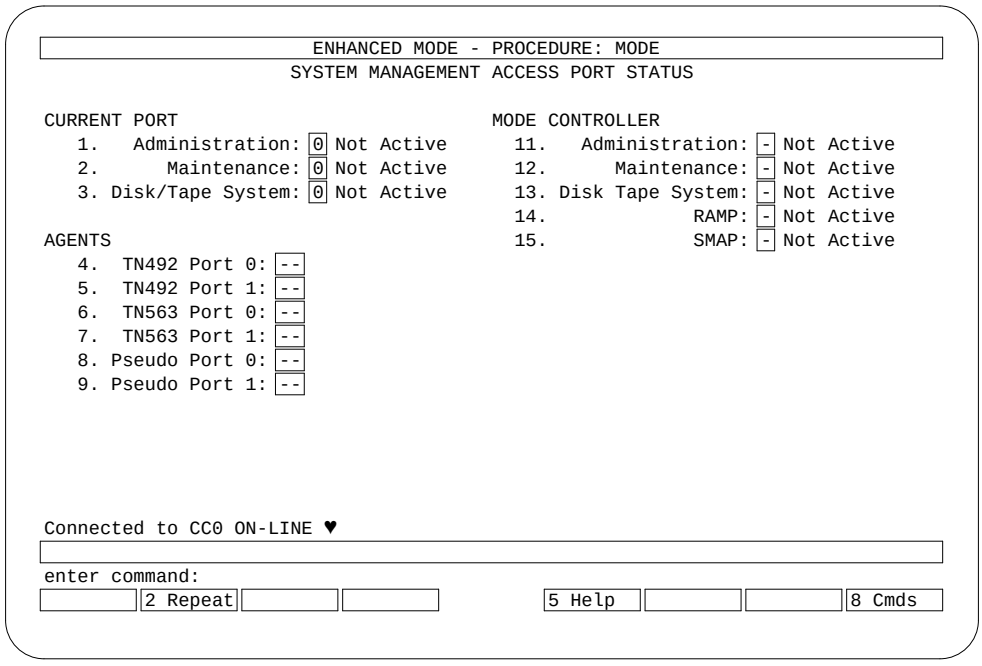


Figure 5-1. Switch Mode Screen

The use of system modes allows several users to access one system at the same time. For example, one user could be executing administrative procedures on Manager II with the *administration* mode set. Another user could be executing maintenance procedures on the same system with the *maintenance* mode set. With Generic 2 or System 85 R2V4, you do not have to set the *administration* mode to use the administration procedures to display data. With System 85 R2V3, you need to set the *administration* mode to display data.

You must have set the *administration* mode to be able to change switch translations. You must have set the *maintenance* mode to access maintenance procedures. You must have set the *tape* mode to copy to or from your switch's tape cartridge (or disk, if your switch is so equipped).

msg — Choose Broadcast Message Port

Use *msg* to enable the display of broadcast messages from your communications system.

Broadcast messages consist of information sent by a Generic 2 communications system to Manager II during a switch reload. These messages convey switch status during the reload. Broadcast messages can reach Manager II only if the link between your PC and the switch is a hardwired connection through an asynchronous data unit to a PPG port. (Hardwired connections are described in appendix B.) Broadcast messages are *not* available through RMATS ports or with any type of connection except hard wired.

Enter **`msg 1`** to display broadcast messages from the system connected to port 1 of your PC (COM1). Enter **`msg 2`** to display broadcast messages from the system connected to port 2 of your PC (COM2). Enter **`msg`** without an argument to turn off the display of broadcast messages. Broadcast messages can be enabled on only one PC port at a time. To find out the current message, enter **`msg ?`**

name — Name

Use *name* to administer an entire string of characters in one step. Also use the *name* command to display, on the message line, the character interpretation of switch procedure names database encodes.

The *name* command has two advantages over double quoted strings. First, it allows the user to ignore the segment boundaries imposed by many of the switch procedures that administer names database character strings. Without the *name* command, those switch procedures that administer character data may require that longer character strings be broken into shorter segments. Each segment is then administered individually. The *name* command saves time since it calculates the segments automatically. Second, no SSB files are required to use the *name* command. Therefore, the *name* command may be used with earlier switches like System 85 R2 or DIMENSION.

The *name* command is available in either basic or enhanced mode, and may be used only with certain switch procedures, each of which use names database encode mapping. This mapping is denoted as NMS MAP in the EFC files. The following table lists the three procedures with which the *name* command may be used.

Procedure Name	Switch Procedure	Word Number
Name database	012	2

Mnemonic dialing	013	1
Customer identification	497	2

Before using the *name* command in procedure 012, word 2, you must do a *display execute* on the desired extension or trunk-group number in procedure 012, word 1.

One additional switch procedure uses names-database mapping; it is procedure 279, word 1 (network-specific facility). Because this procedure does not include segments, the *name* command is not applicable. Also, since this procedure deals with ISDN, it does not exist in pre-G2 switches. Therefore, an EFC file should always be available for this procedure. Thus, enhanced mode provides the ability to administer encodes in that procedure using double-quoted character strings (as opposed to procedure encodes).

You may enter the *name* command when any field is active. The command administers the first segment and then continues through all segments.

To display, on the message line, the entire character-string equivalent of the data in all segments of the current procedure, enter

`name`

To request that the specified string be added in the current procedure, enter

`name -a "`*string*"

(The specified string is converted to procedure names database encodes, divided into segments as necessary, and added, one segment at a time, using *add execute* commands.)

To request that the string in the current display be changed to the specified string, enter

`name -c "`*string*"

(The entire string is changed; all segments are altered. The specified string is converted to encodes, divided into segments as necessary, and used to change each segment using *change execute* commands.)

Note: If an empty string is specified (""), all fields of the segment(s) are dashed.

Whether the *name* command is issued interactively from the command line or from a script (run) file, the result is the same; that is, the output is displayed on the screen and saved in a log file, if one is open. A message typically is displayed on a message line after a *name* command is entered. The message depends on the options used and the current circumstances. This one-line message, contains the current-procedure character string enclosed in double quotes if no arguments were specified. If the procedure encodes are separated by dashed fields (for example, a field that has no value, unlike a field containing the encode for a dash), each section of the string is displayed enclosed in double quotes separated by a dash for each field that is dashed in the display. When the *-a* or *-c* argument is specified, the message contains status information about whether the specified string was added or changed successfully. When the command is issued

while an invalid procedure is active, an error message is displayed stating that the *name* command is invalid for this procedure.

In addition to the output message, when an *add* or *change* option is specified, the Manager II screen is updated to reflect the new field values in the switch-procedure display. Each segment is displayed as it is administered. In enhanced mode, these values are displayed as characters; in basic mode, the names-database encodes are shown.

nc — Next Circuit

Where appropriate, use *nc* to make maintenance procedures select and display the next circuit location. Two uses of *nc* are possible: to display stored circuit information and to select a circuit location for testing.

To display test results or failure history one circuit location at a time, type **nc** once for each new circuit location.

To select a single circuit location for testing, type **nc** to step through and display circuit locations one at a time until the circuit you wish to test appears.

nd — Next Data

Use *nd* to display the next data item. In administration procedures that have an *nd* function, use it to display data for an input field that contains multiple data entries (input field changes). Use *nd* also to step manually through all entries associated with the input field (input field does not change).

For maintenance procedures, type **nd** to display (for example) demand test results, periodic failure history data, and call-processing failure history data. (These records are arranged by circuit location.) Repeatedly type **nd** to display data records one at a time.

nf — Next Fault

Use *nf* to step through maintenance errors that have more than one fault code associated with them.

note — Note

Use *note* to print a message on the message line. The *note* command is particularly useful for providing progress messages during script file execution. The syntax is:

`note` [*"message"*]

where message is the string of characters to be displayed on the message line. The string is limited to a maximum of 80 characters.

The displayed message remains on the line until it is replaced by an error message or another note message. A note message may be blanked out by issuing the *note* command with no argument.

np — Next Procedure

Use *np* to advance to the next administration procedure (only on DIMENSION and System 85 communications systems) while the current procedure is finishing.

nt — Next Test

Use *nt* to advance the maintenance procedure to the next test that can be run. If the current test displayed is the last test that the procedure has, the first test is selected. The new test selected will not start until you type **x** (for *execute*).

nu — Next Unit

Use *nu* to select and display the next unit type for testing when a maintenance test is selected. You can select and display the first circuit of that unit type for testing by typing **nc** (for *next circuit*). When displaying failure history or test results, type **nu** (for *next unit*) to look at the first circuit location for the next unit type in the failure history list.

p — Procedure

Use *p* followed by a procedure number to access that procedure. For multiword administration procedures, Word 1 is automatically accessed first. For a maintenance procedure, Test 1 is automatically selected first. Leading zeros are not significant when specifying procedure numbers. For instance, p12 is equivalent to p012, and p0 is equivalent to p000.

ptx — Park Tape Execute

Use *ptx* to return the switch's tape to the start or ''parked'' position. On all Generic 2 systems and on System 85 R2V4 and R2V3, access the system tape mode in the mode procedure before issuing the *ptx* command.

quit — Exit Manager II

Use *quit* to exit from Manager II in an orderly way. In response, Manager II disconnects any active connections and returns control to the MS-DOS operating system.

r — Repeat

Use *repeat* to display or re-execute previously issued command lines.

You may abbreviate the command as *r*. The syntax is:

`r [-d] [ n | -n | n-n ]` Enter

where *-d* (display) means display the previous command line(s) and *n* means a command line number between 1 and 50 or a number of command lines between 1 and 50.

You must issue a *repeat* command by itself on the command line.

If the *-d* option is specified, command lines are displayed rather than executed. When the *-d* option is omitted, command lines are executed.

Examples of options:

- To re-execute the last command line, enter **`r`**
- To re-execute the command line numbered 49, enter **`r 49`**
- To display the command line numbered 49, enter **`r -d49`**
- To re-execute the last 10 command lines, enter **`r -10`**
- To display the last 10 command lines, enter **`r -d -10`**
- To re-execute the command lines numbered 33 through 38, enter **`r 33-38`**
- To display the command lines numbered 33 through 38, enter **`r -d33-38`**

Only the last 50 command lines are saved. They are numbered chronologically in the order issued. After the first 50 command lines are issued, the command-line numbers recycle, starting with 1 again.

rb — Release from Busy

Use *rb* to release a circuit from maintenance busy-out status. Whenever the BUSY OUT indicator is on, *rb* can be used within an appropriate procedure to release a circuit location from maintenance-busy status. (The indicator does not disappear until all busied-out circuits have been released.)

Use Procedure 635 — the *cause of busy out* procedure — to search for circuits that are in busy-out status. Or you may use this command from any maintenance procedure that allows a circuit to be released from maintenance-busy. See the busy-out command *bo* for further information.

reload or rld — Reload Common Control

Use the *rld* command to reload the switch's common-control memory from its disk (DTS) or program tape. (For System 85 R2V3 and later versions, you must use the *mode* command *m* to set the switch *tape* mode.) This command reloads the common-control (CC) memory of the currently selected connection from the DTS or program tape.

CAUTION Executing *rld* takes the CC that is communicating with your Manager II out of service while the reload is in progress. If this is the only CC, or the active CC in a duplicated system, a service-affecting switch outage will occur. Since the reload causes the switch to disconnect, the currently selected Manager II connection is disconnected as well. Reconnect after the reload completes.

CAUTION As you administer your system with Manager II, translations are stored in the system's CC memory. These translations are lost when you reload the CC from the magnetic medium. Be sure, therefore, to save your work each session with the *rtx (run tape execute)* command. This way, your most recent work is recorded on the magnetic medium and is reloaded when you execute *rld*. Otherwise, a reload loses any translations that you had made.

rmv — Remove

Use *rmv* with administration procedures to remove data from the switch's translation memory. In most procedures, the *rmv* command must be followed by an *execute* command, *x*. The shorthand notation for *rmv x* is *rx*. Many procedures require that you issue a *dx* command to display the data you wish to remove before you can use the *rx* command. Always follow the *rx* command with a *dx* command to view the results of your work.

rs — Reset

rs reinitializes the procedure. All displayed fields are empty. For administration procedures, *rs* reinitializes the currently displayed word. For a maintenance procedure, the nominal start configuration is displayed. Most often, this is Test 1, displayed with blank fields. (Some maintenance procedures require a second reset before all fields are cleared.)

rtx — Run Tape Execute

Use *rtx* to copy translation memory onto your switch's tape cartridge (or to disk, if your switch is so equipped). On all Generic 2, and on System 85 R2V3 and R2V4, access all three system modes (administration, maintenance, and tape) in the mode procedure before issuing the *rtx* command.

Note: On a duplicated system, reset any modes set on the off-line processor before trying to do a run tape on the on-line processor. This prevents the on-line processor from issuing an error 89.

run — Execute a Command Script

Use the *run* command followed by a filename that is surrounded by double quotes to execute commands stored in the named command script.

run reads and executes commands from the named command-script file. The current directory is searched for the file unless you specify the full path name to a file in a different directory. It is also possible to specify a directory for run files by setting the MS-DOS environment variable *MII_RUN*. Environment variables are initialized by the MS-DOS *set* command. The *set* command can be placed in the *AUTOEXEC.BAT* file or issued from the MS-DOS command line. For example, the following *set* command causes Manager II to open run files in the directory *C:\MGRII\RUN* unless a complete pathname is specified for the run file:

```
set MII_RUN=C:\MGRII\RUN
```

Normally, *run* ceases execution if an error of any kind is encountered. If it suits your purposes, however, you can specify the number of nonfatal errors that *run* is to tolerate before it stops. Typical nonfatal errors include Manager II syntax errors and error codes returned by the switch. By way of contrast, typical fatal errors include a switch disconnect while a script-file is executing, an attempt to execute a nonexistent script file, or a script that exceeds the maximum script-file nesting level of 25. Fatal errors always terminate script-file execution. Enter the optional error limit as follows:

`run` [[*-e*] *errorlimit*] **"***filename***"**

You can use the *run* command to execute a previously generated log file. Only the command lines from the log file are executed. All other lines are treated like comment lines. Simplified run files can also be made from log files by removing all but the commands you entered with an editor. For more information regarding script files and their execution, refer to chapter 6.

rx — Remove-Execute

Use *rx* with an administration procedure to remove displayed data from the switch's translation memory. (See the *rmv* command description.) Many procedures require that you issue the *dx* command to display the data you want to remove before you can use the *rx* command. Always

follow an *rx* command with a *dx* command to view the results of your work.

s — Stop

Use *s* to halt test execution when a maintenance procedure test is running. Not all maintenance tests recognize this command. To stop such tests, request another procedure using the *p* command. The *rs* and *nc* commands also stop some tests from executing.

scr — Scroll

Use *scr* in the enhanced or basic mode to switch from visual (full-screen) format to scroll (line-by-line) format. Visual format is the default format. The visual format is illustrated in figure 2-4.

The scroll format displays information one line at a time. The user command line is displayed followed by error messages and switch responses as appropriate. The command prompt is a dollar sign ($). The scroll format is as in the following example.

```
$ p0
> 1 ----- -- - - -- -- -- - - - ---   Proc:000  Err:__  Fld:01
$
```

Scroll format is particularly useful for examining and comparing repetitive data like that found in maintenance procedures using the *nc* command or administration procedures using the *nd* command.

Scroll format can be invoked in either of two ways. Invoke Manager II with the *-s* option, for example, `mgrii -s`, or enter **`scr`** on the command line. To switch back to visual format, enter **`vis`** on the command line. If Manager II is invoked without the *-s* option, the initial screen format is visual.

Continuous field updates are not displayed in scroll format as they are in visual format. Use visual format for maintenance procedures, which update the display continuously.

Either of the screen formats may be selected from enhanced or basic mode. The screen format chosen has no effect upon enhanced-mode features, such as equipment location and character mapping. Only visual format is available in task mode.

stat — Display Connection Status

Use *stat* to display the status of the current connections. This includes switch name, customer id, product id (Procedure 497), switch type (for example, G2.1 Issue 01.00), and SSB (for example, G2.1 Issue 01.00). The first screen displayed contains the status of the active connection. If a second connection has been established, press 2 More to change back and forth between displays for the active and inactive connections. To exit the status screens, press 1 Exit. See figure 2-5

for a typical status screen. The stat screen also displays the currently executing version of Manager II software.

sw — Switch (Change) Common Controllers

Use *sw* to switch the remote end of the currently selected connection to communicate with the other common controller (CC) in a duplicated-CC machine. This command works only if your PC is connected to the RMATS port (TN492) of your system. For example, suppose communication is currently with common control 0 (CC0) through an RMATS port. Issuing the *sw* command switches communication to common control 1 (CC1). This change is reflected on the status line (fourth from the bottom) of the screen.

t — Test

Use *t* followed by the number of the desired test to change from one maintenance procedure test to another. For example, to request Test 2, enter **t2**

Most procedures have either words or tests. Procedures with words are generally used for administration while procedures with tests are used for maintenance. Use the word command *w* to change from one procedure word to another. Requesting a test from a procedure with words or requesting a word from a procedure with tests results in an error. Some procedures need only one screen, and therefore have neither words nor tests. It is not necessary to request Test 1 or Word 1 when calling up a procedure for the first time since Test 1 and Word 1 are the defaults. A command closely related to the test command is the next-test command, *nt* (described elsewhere in this chapter).

task — Task Mode

Use *task* to change Manager II to the task mode. The task mode can be used for station administration without your having to know the administration procedures. Task mode can be used only on Generic 2 switches. See chapter 7 for a description of the task mode.

udb — Change User Database

Use *udb* to change the Manager II user database. Type **udb** at the command line to access a screen that makes it possible to change your password.

Most users are permitted only to change their own passwords. If, however, you are the system administrator entrusted with the security of Manager II, the *udb* command gives you even more control over access to Manager II and to communications systems. You will also be able to administer a user or switch record. Specifically, you can:

- Change the login ID and password of any user
- Add or remove another user's permission to use the administration procedures (administration permission)
- Add or remove another user's permission to use the maintenance procedures (maintenance permission)
- Add or remove another user's permission to use the disk tape system (tape permission)
- Change the switch name and security code in a switch record
- Change the default baud rate and port number in a switch record

A series of screen displays is made available to you for these purposes. Operation of these screens is similar to the operation of other screens in the enhanced mode. However, there is an additional active function key, 3 Change. After the data fields have been modified, the change is added to the user database only if you press 3 Change. To avoid placing the change in the database, simply press 1 Exit or 2 Return. The *udb* command cannot be used to change the telephone number of a communications system. If you wish to change the telephone number of a system, call your AT&T representative to have it done.

WARNING Change a switch security code with care. The security code in the Manager II user database must match the security code translated in the switch using Procedure 497. (Earlier communications systems use Procedure 496 to specify the security code.) If there is a mismatch, Manager II will not be able to connect to the affected switch.

Suppose, for example, that you were to change a system's security code, disconnect from the system, and forget the new code before changing it in the Manager II user database. Then, you would need to have AT&T reinitialize the system's security code before Manager II could connect to the system.

v — Verify Display

Use *v*, if you suspect the validity of any of the procedure data on the screen, to completely redisplay the screen. For Generic 2, this command also gets the data from the switch.

vis — Visual

Use *vis* in enhanced or basic mode to switch from scroll (line-by-line) format to visual (full-screen) format. Visual format is the default format. The visual format, illustrated in figure 2-4, can can be invoked in either of two ways. Invoke Manager II without the *-s* option, for example, `mgrii`, or enter **`vis`** on the command line. To switch back to scroll format, enter **`scr`** on the command line. If Manager II is invoked with the *-s* option, the initial screen format is scroll.

Continuous field updates are not displayed in scroll format, as they are in visual format. Use visual format for maintenance procedures, which update the display continuously.

Either of the screen formats may be selected from enhanced or basic mode. The screen format chosen has no effect upon enhanced-mode features like equipment location and character mapping. Only the visual format is available in task mode.

wait — Wait

Use *wait* to instruct Manager II to wait for the switch **WAIT** indicator to extinguish. The *wait* command is needed to fully exploit maintenance-procedure capabilities while executing Manager II script files.

Typically, procedures turn on the **WAIT** indicator when starting a task and turn it off when that task is completed. Depending on the procedure, further commands may or may not be accepted while the **WAIT** indicator is on. If the procedure is an administration procedure, Manager II always waits for the **WAIT** indicator to go out before sending more commands to the switch. When a maintenance procedure is involved, the scenario may be more complex. For example, a maintenance procedure may turn on the **WAIT** indicator at the beginning of a cyclic test. If Manager II were to wait on the **WAIT** indicator before processing the next user command, no commands would ever again be sent to the switch. Therefore, in many cases, Manager II ignores **WAIT** indicators set by maintenance procedures and continues processing user commands. Interactively, this is not a problem, since the user may decide how long to wait before entering the next command. But when a run file is executed, problems may occur because Manager II does not pause before sending a command to a maintenance procedure. The next command is simply sent. This frequently terminates a maintenance-procedure task before it can complete. Sometimes, it is possible to gauge the amount of time a maintenance task may take and use enough Manager II pause commands (@) within the run file to delay sending the next command for the appropriate length of time. But this is a haphazard approach that often fails. The *wait* command allows the user to avoid such trial-and-error approaches by instructing Manager II to wait for the **WAIT** indicator to extinguish before proceeding.

Consider the following two excerpts from different Manager II run files. The first shows the awkward approach of trying to use the right number of pause commands to allow a maintenance procedure sufficient time to accomplish its task. The second demonstrates how much easier it is to use the *wait* command.

Pause Commands	Wait Command
log "results" #test a particular circuit P620t2x #wait 20 seconds (you hope enough time)	log "results" #test a particular circuit p620t2x #wait for the test to complete

@@@@@@@@@@@@@@@@@@@@	wait
#go to the next circuit and start the next test nc x	#go to the next circuit and start the next tes nc x

Checking the switch **WAIT** indicator immediately after issuing a command like the *execute* command (*x*) can be fraught with potential problems. After receiving the *execute* command, the switch may take its time relating the state of the **WAIT** indicator to Manager II. Given the speed at which Manager II processes run file commands, it is likely that the *wait* command could be processed before the switch even turns on the **WAIT** indicator. Therefore, when the *wait* command is issued in a valid situation (that is, from a run file with an existing switch connection), Manager II pauses one second before examining the switch **WAIT** indicator. This helps prevent the described race condition. An additional advantage is that a valid *wait* command always waits a second regardless of the condition of the **WAIT** indicator.

If the **WAIT** indicator is not on, the *wait* command has no effect other than this pause. Since Manager II automatically waits for the **WAIT** indicator in administration procedures, the *wait* command has no effect when the current procedure is an administration procedure.

There are some restrictions on the use of the *wait* command. Also, situations may occur which necessitate terminating a *wait* condition:

- The *wait* command is permitted only from a run file.
- If the *wait* command is issued when no current switch connection exits, an error message is displayed and Manager II stops run-file processing.
- If a connection initially exists when a *wait* command is issued but is subsequently dropped, an error message is displayed and Manager II stops waiting and stops run-file processing.
- Broadcast messages may interrupt the waiting process. If this happens, Manager II stops waiting, stops run-file processing, and begins displaying the broadcast messages.
- If Ctrl-C or Ctrl-Break is pressed during wait-command processing, Manager II stops waiting and stops run-file processing. The message

  ```
  Execution terminated by user
  ```

  is displayed.

Syntax for the *wait* command is simply:

```
wait
```

Except in error situations such as those mentioned above, use of the *wait* command results in nothing being displayed.

w — Word

Use *w* followed by a word number to access a word other than the currently displayed word when executing multiword administration procedures. For example, to request Word 2, enter `w2`

Most administration procedures have words. The word command *w* is used to change from one procedure word to another. Requesting a word from a procedure with tests results in an error. Some administration procedures need only one screen, and therefore have no words. It is not necessary to request Word 1 when calling up a procedure for the first time since Word 1 is the default.

x — Execute

Use *x* to initiate some activity. The activity will depend on the current procedure. In many cases, *x* is used in conjunction with another command. For instance, administration procedures routinely accept the following command combinations: *ax* (add execute), *cx* (change execute), and *dx* (display execute). Some of these procedures interpret *x* to mean the same thing as *dx* (display execute).

With respect to maintenance procedures, the execute command is usually used by itself. The *x* command typically tells the procedure to display fault information or to start a maintenance test.

Some maintenance procedures call for *x* to be entered twice. (Because of the importance of the test or activity, the procedure requires the execution command to be confirmed.) When performing such a procedure, press Enter after the first execution of *x*. Then enter the second *x* command on the next command line.

FUNCTION KEY REFERENCE

Access the functions listed below by pressing function keys when their labels are present on the Manager II screen.

1 Exit — Exit Menu

Press this key to exit the current menu and return to the command line.

2 Con — Connect to Switch

Having filled in the fields on the Manager II connection menu, press this key to connect to the communications system.

2 Get — Get SSB Files

Press this key to initiate the process of getting SSB files from the system.

2 More — Display More Information

Press this key to bring the next display to your screen.

2 Repeat — Re-execute Previous Command Line

Press this key to re-execute the previous command line.

2 Return — Display Previous Information

Press this key to return to the previous display.

3 Change — Change User Database

Press this key to make a change in the user database.

3 Line — Move Cursor to Command Line

Press this key to move the cursor from the active data field to the command line so that you can execute a command.

3 Form — Move Cursor to Data Field in Form

Press this key to move the cursor from the command line to the active data field so that you can enter data directly into the field.

3 Select — Select a Menu Item

Press this key to select the menu item that is currently highlighted.

4 Clear — Clear Field

Press this key while you are editing fields in a menu or procedure to clear the active field.

4 Find — Find a Menu Item

Press this key to search an extensive menu. To use this facility, press this key and then enter an expression. Manager II attempts to match that expression with a menu item. If a match is found, the highlight bar is moved to the matched item. Otherwise, the highlight bar is moved to the first item in the menu. (See the description of the *help* command earlier in this chapter for further details.)

5 Errors — Display Error Codes for a Procedure

Press this key to display error-code numbers and meanings that can arise while using a procedure.

5 Help — Display General Help

Press this key to access a system of help menus that describe the details of Manager II operation. (Use these menus as described for the *help* command described earlier in this chapter.) When you are connected to a switch, general help on the active procedure is displayed. When you are not connected to a switch, general help on Manager II is displayed.

6 All — Display All SSB Files

Press this key to make Manager II display all possible SSB files.

6 Delta — Display Different SSB Files

Press this key to make Manager II display only those SSB files on the current switch that are different from your SSB.

6 Field — Display Field Data

Press this key, while you are editing fields in a menu or procedure, to access a description of data that may be entered in the active field. This description may be in the form of a range of possible values, if appropriate. Or, if more information is called for, this description may take the form of a window with text that you can scroll by means of ↑, ↓, Page Up, and Page Down.

In the latter case, a highlighted bar appears in the window. To select one of the encodes described in the window, place the highlighted bar on your choice and press Enter or 3 Select. To exit the field-help facility without making a selection, press 1 Exit.

7 Input — Display Input Data Required for a Procedure

Press this key to find out what data is required by the procedure you are using before a command can be executed. This information may appear in a window. If so, use ↑, ↓, Page Up, and Page Down to scroll through it to find the information you need.

8 Cmds — Display Commands

Press this key to display all Manager II commands. If you require further information about these commands, press 1 Exit to leave the display. Then press 5 Help to view more detailed help.

SPECIAL KEY REFERENCE

Listed below are brief descriptions of all of the special keys used with Manager II in procedure screens and help screens and on the command line.

When in a procedure screen (entered by pressing 3 Form):

Back Space — Press this key to delete the character to the left of the cursor in a field.

- Enter — Press this key to enter data in the current field and move the cursor to the *next* field.
- Tab — Press this key to enter data in the current field and move the cursor to the *next* field.
- Shift Tab — Press this key to enter data in the current field and move the cursor to the *previous* field.
- → — Press this key to enter data in the current field and move the cursor to the *next* field.
- ← — Press this key to enter data in the current field and move the cursor to the *previous* field.
- ↓ — Press this key to enter data in the current field and move the cursor to the *next* field.
- ↑ — Press this key to enter data in the current field and move the cursor to the *previous* field.

When in a help screen (entered by pressing, for instance, 5 Help):

- ↓ — Press this key to scroll *down* one line.
- ↑ — Press this key to scroll *up* one line.
- Page Down — Press this key to scroll *down* one page.
- Page Up — Press this key to scroll *up* one page.

When on the command line:

- Space Bar — Press this key to move the cursor one space to the right.
- Tab — Press this key to move the cursor one space to the right.
- Back Space — Press this key to delete the character to the left of the cursor.
- Enter — Press this key to execute the commands typed on the command line.

When in any screen or on the command line:

- Print Scrn — Press this key to print the screen on a printer.

6. Log and Run Files

Manager II has the capability of recording all Manager II activities and automating your use of Manager II. This chapter explains how these things are accomplished through use of the *log* and *run* commands. The chapter also describes how to use MS-DOS commands to edit and print log and run files. See appendix G for more information on using MS-DOS commands.

LOG FILES AND THE LOG COMMAND

Transactions between Manager II and the switch to which it is connected can be recorded in a log file. You can examine these transactions by viewing the log file on the display screen using the MS-DOS *type* command, or by printing the file using the MS-DOS *print* command.

Starting a Log of Activities

There are two ways to initiate the logging process. The first is by entering the following option when invoking Manager II:

`mgrii -o` *log_file_name*

The *-o* (for output) option specifies the name of the log file. Logging starts from the beginning of the Manager II session. It is not possible to change or terminate logging initiated in this manner. This log file remains open until the *quit* command is issued to exit Manager II.

The second way to initiate logging is by using the *log* command during a Manager II session (provided that the *-o* option was not used when Manager II was invoked). Logging can be initiated at any time during a session. The entry `log` *"log_file_name"* creates a log file that records activities from that point forward until logging is terminated. In this case, it is possible to change log files or terminate logging altogether. The *log* command may be issued as many times as desired to begin a new log file and terminate an existing one. If you use the *log* command with the name of an existing log file, Manager II appends its output to that file. If you do not want to append log entries to an existing file, use the *log* command *-d* (destroy) option. This causes Manager II to remove an existing file before initiating logging.

To change log files, enter **`log`** *"new_file_name"*. To terminate logging, enter **`log`**. To determine if a log file is currently active, enter **`log ?`** In response, Manager II displays the name of the current log file on the message line.

Terminating a Log of Activities

As mentioned above, the only way to terminate a log file specified via the *-o* option (that is, `mgrii -o` *log_file_name*) is by quitting Manager II. To terminate a log file opened by the log command, simply enter **`log`**. In either case, logging stops automatically when you quit Manager II and must be restarted each time another Manager II session begins.

Saving Log Files

By default, Manager II creates log files in the current working directory — that is, the directory you were in when you invoked Manager II. However, it is possible to place log files in other directories.

Initializing the environment variable *MII_LOG* indicates to Manager II that an alternate directory containing log files exists. Manager II examines the environment variable *MII_LOG*. If that variable is initialized, Manager II puts log files in the specified directory rather than in the current working directory. The variable *MII_LOG* may be initialized using the MS-DOS *set* command either in the *AUTOEXEC.BAT* file or from the MS-DOS command line. For example, if the command `set MII_LOG=C:\MGRII\LOG` has initialized the *MII_LOG* environment variable, Manager II puts log files in the directory *C:\MGRII\LOG*.

A second way to create log files not in the current working directory is to use a full path name when entering the name of the log file. A complete path name is a list starting with the disk drive, followed by all the directories in order, and terminated by the file name. Each of the names in this list is separated from the others by a file-name separator character. You may be familiar with the MS-DOS practice of using a backslash (\) as the file-name separator character. Manager II uses a different character, the slash (/), for this same purpose. As an example, suppose `c:\mgrii\run\run_file` is a complete path name following MS-DOS conventions. The equivalent path using Manager II conventions is `c:/mgrii/run/run_file`. The backslash has its own special meaning to Manager II where it serves as the escape character. This means that the only way to enter a complete path on the Manager II command line using backslashes is to precede each backslash by another backslash. Therefore, the above path could also be entered on the Manager II command line as `c:\\mgrii\\run\\run_file`. (See filename descriptions in chapter 5 for a further discussion of the Manager II escape character.)

Interpreting Special Characters in Log Files

A log file is made up of several different types of entries: user commands, Manager II messages, and switch procedures. Manager II uses the special characters `<` and `!` and `>` to indicate the origin of messages in a log file.

- A line that begins with a `<` shows an entry made by the user.
- A line that begins with a `!` shows the system response (for example, an error message) appearing on the message line.

- A line that begins with a ~ contains status information concerning the system.
- A line that begins with a ^ contains data.
- A line that begins with a > shows the procedure in use.

For example, if procedure 14 is requested, the log file might contain:

```
< p14
> 1 --- - - - - - - - - - - - - - - --    Proc:014 Err:__ Fld:01
```

The procedure entry indicates that Procedure 014 Word 1 is in use.

- The first procedure field indicates the word or test in use. A procedure may or may not have a word or test.
- The remaining data fields are shown with digits, letters, dashes, or underscores. Underscores indicate a blank field.
- The `Proc:` field shows the number of the procedure in use.
- The `Err:` field shows the numerical code (from 0 through 99) for switch errors.
- The `Fld:` field shows the current active field that is accepting data.

Creating Reports and Run Files from Log Files

You can use information recorded in log files to generate reports. For example, you might create a run file (discussed below) that, when executed by Manager II, turns on logging and then uses various procedures to display information about your communications system. You can later edit the log file that was generated while the run file was executing to create a report on the state of your system. Start by using the MS-DOS *find* command to find all the lines that begin with the > symbol. These are the procedure data lines. The other lines contain error messages and commands. This is described in more detail later in this chapter under *Creating a Report from a Log File*.

You can also use the information recorded in log files to generate run files. For instance, you might want to execute the commands in a log file again on another switch. You can edit the log file to create a run file. Start by using the MS-DOS *find* command to find all the lines that begin with the < symbol. These are the command lines entered by you. The other lines contain error messages and procedure data. This is described in more detail later in this chapter under *Creating a Run File from a Log File*.

Recommended Practices for Using Log Files

The following recommendations will help you create and use log files effectively.

- Consistently follow some convention when naming log files. For example, you might add the suffix `.log` to all log file names. This practice makes it easy to distinguish log from run files.

- Always store log files in separate directories — for example `C:\MGRII\LOG`, instead of in the `C:\` or `C:\MGRII` directories. This practice makes it easier to distinguish log files from other files, which makes it easier to copy them onto diskettes and delete them from hard disk.
- Copy log files to diskette periodically, for example at the end of every day, and delete them from hard disk. This saves a record of changes made to your switch that can be referenced in the future and keeps the hard disk from filling up. Label the floppies and store them in a safe place.
- Open a new log file each day. You may want to name each log file according to the day it was created. For instance, a log file started on the first of June might be named *06-01-90.log*.
- While working with Manager II, frequently enter comments on the command line to explain what you are doing. A comment is a command line beginning with a hash mark (#). The following line is a typical example:

  ```
  # Work Order No. 234 - add extension 55023 for Jane Doe
  ```

  Manager II adds these comment lines to the log file, which provides you with a useful way of tracking your work. Use comments to label each task in case it must be redone because you were interrupted or the translations were not saved by a runtape operation.
- Always activate logging either before executing a run file or from within the file itself. This provides a useful list of all interactions between Manager II and your switch. It also allows you to verify whether or not the run file completed as desired.

RUN FILES AND THE RUN COMMAND

You can program Manager II to accomplish a task by writing Manager II commands into a file, called a run, script, or command file. Upon request, Manager II attempts to execute the commands in the run file. Most enhanced-mode or basic-mode commands that can be executed from the command line can be executed from such a file.

Run files are powerful, flexible tools for use in administering systems. Run files may be created from log files, and run and log files may be used in combination. For even further versatility, Manager II commands that accomplish specific tasks may be written in separate run files; then those files can be executed by other run files as needed. This is called run-file nesting.

As AT&T takes no responsibility for the use of these commands when you use Manager II interactively, so AT&T takes no responsibility for any run files that you may write using Manager II commands. You are responsible for your use of these commands and the effect their use may have on your system.

Creating Run Files

To create a run file, use the editor of your choice to open a file. Enter in that file the list of commands that you want run.

Executing Run Files

Run files can be executed in two ways. A run file can be started from the MS-DOS command line when Manager II is invoked or it can be executed from the Manager II command line.

To execute a run file when invoking Manager II, enter

`mgrii -i` *run_file_name*

The *-i* (for input) option causes Manager II to execute the file named *run_file_name* after you enter a valid user ID and password. Control returns to MS-DOS after a run file initiated via the *mgrii -i* option has completed execution.

To execute a run file and have the associated activity logged, enter

`mgrii -i` *run_file_name* **`-o`** *log_file_name*

The *-o* (for output) option causes Manager II to open a log file named *log_file_name*.

Normally, Manager II aborts execution of a run file if an error is encountered. To have Manager II tolerate a certain number of errors before terminating the run file, enter

`mgrii -i` *run_file_name* **`-e`** *error_limit* **`-o`** *log_file_name*

The *-e* (for errors) option causes Manager II to permit the number of errors specified in the argument *error_limit* to occur before run-file execution is aborted. No matter what number is specified with the *-e* option, certain types of errors always cause Manager II to stop run file execution. Such disruptive errors include switch disconnects or reference to nonexistent run files. For example, to execute a run file named *job1.run* with a log file named *job1.log*, enter

```
mgrii  -i job1.run  -e 200  -o job1.log
```

The *-e 200* option tells Manager II to permit up to 200 errors before terminating run file execution.

To execute a run file after invoking Manager II — that is, from the Manager II command line — use the *run* command

`run "`*run_file_name*`"`**

This causes Manager II to begin execution of the file named *run_file_name*. Control returns to the Manager II command line after a run file initiated via the run command completes execution.

It is also possible to specify in the run command how many errors to permit before run file execution aborts. To specify an error level, enter

run *-e error_limit* "*run_file_name*"

The default number of errors tolerated is 0.

Saving Run Files

By default, Manager II looks for a run file in the current working directory — that is, the directory you were in when you invoked Manager II. However, it is possible to place run files in other directories.

Initializing the environment variable *MII_RUN* indicates to Manager II that an alternate directory containing run files exists. Manager II examines the environment variable *MII_RUN*. If that variable is initialized, Manager II checks for run files in the specified directory rather than in the current working directory. The variable *MII_RUN* may be initialized using the MS-DOS *set* command either in the *AUTOEXEC.BAT* file or from the MS-DOS command line. For example, if the command `set MII_RUN=C:\MGRII\RUN` has initialized the *MII_RUN* environment variable, Manager II will look for run files in the directory *C:\MGRII\RUN*.

A second way to execute run files not in the current working directory is to use a full path name when entering the name of the run file. A full path name is a list starting with the disk drive, followed by all the directories in order, and terminated by the file name. Each of the names in this list is separated from the others by a file-name separator character. You may be familiar with the MS-DOS practice of using a backslash (\) as the file-name separator character. Manager II uses a different character, the slash (/), for this same purpose. As an example, suppose `c:\mgrii\run\run_file` is a complete path name following MS-DOS conventions. The equivalent path using Manager II conventions is `c:/mgrii/run/run_file`. The backslash has its own special meaning to Manager II where it serves as the escape character. This means that the only way to enter a complete path on the Manager II command line using backslashes is to precede each backslash by another backslash. Therefore, the above path could also be entered on the Manager II command line as `c:\\mgrii\\run\\run_file`. (See filename descriptions in chapter 5 for a further discussion of the Manager II escape character.)

Contents of a Typical Run File

A typical run file would be written to perform many, if not most, of the following functions. The following steps may help you structure your own run files.

	Function	Example
1.	Activate logging	`log "06-01-90.log"`
2.	Connect to a switch	`con favorite_switch`
3.	Get necessary switch modes; if the current switch has a mode procedure, that procedure is displayed after a successful connection attempt. This step is necessary only if the current switch has a mode procedure	`123`
4.	Examine and/or change switch translations by accessing procedures	`p0 52000 cf7 1 ax`
5.	Save any changes made to switch translations by doing a runtape operation. This operation may take as long as 30 minutes. Manager II waits for the end of the operation before continuing with the rest of the run file.	`rtx`
6.	Release the switch modes. The mode command, *m*, is used to display the mode procedure. Again, this step is necessary only if the current switch has a mode procedure.	`m123`
7.	Disconnect from the switch	`disc`
8.	Deactivate logging	`log`
9.	Exit Manager II	`quit`

Using a Run File to Create a Log File for a Report

The sample run file in this section shows how to use a run file to obtain a list of station extensions. The run file, named *list.run*, has several of the characteristics of the typical run file discussed in the previous section. It also illustrates how log and run files can be used in combination and how run files can execute other run files.

Log and run files work well together. If you open a log file while a run file is executing, the log provides a record of all that took place. The log can be used to verify results and to generate reports. In the example below, the run file, *list.run*, opens a log file, *list.log*, to save station-extension translation data.

You can use a run command within a run file. That is, one run file may execute another run file. This feature allows you to create a library of smaller run files that can be combined to accomplish more complex tasks. In the following example, the run file, *list.run*, executes another run file, *nextdata.run*, to obtain translation data.

In order to execute *list.run*, you must first establish a switch connection. Then, execute the file by entering

`run "list.run"`

on the Manager II command line. Initially, the run file opens a log file to record procedure data. It then accesses Procedure 000 Word 2 and uses the run file *nextdata.run* to display station extension translations.

The run file *list.run* is listed below.

```
# LIST.RUN run file
#
# PURPOSE: use this run file to list all extensions in the system.
# the file works for up to 1000 stations and can be easily changed to
# work for many more.
#
# NOTE: A CONNECTION MUST BE ESTABLISHED BEFORE THIS FILE IS EXECUTED.

# open a log file.
# use the -d option to ensure that an old list.log file is removed
# before logging starts
log -d "list.log"

# use proc 0 word 2 to display all the extensions in the system.
p0w2

# get the first 100 station extensions.
run "nextdata.run"

# get the second 100 station extensions.
run "nextdata.run"

...

# get the ninth 100 station extensions.
run "nextdata.run"

# get the last 100 station extensions.
run "nextdata.run"

# deactivate logging.
log
```

The run file *nextdata.run* is listed below.

```
# NEXTDATA.RUN run file
#
# PURPOSE: issue 100 next data commands.
# each command must be on its own command line to ensure that the
# data associated with that command has a separate log file entry.
nd
nd
nd
nd
nd
nd
nd
nd
nd
nd
nd
nd
nd
...
```

The log file *list.log* generated by the run file *list.run* is listed below. The results found in the log file depend upon the communications system — that is, DEFINITY Generic 2, System 85, or DIMENSION — and the current system translations.

```
! 138=Logging activated:  list.log
! Connected to:  favorite_switch                    0003E 02-0303.05.00
! Alarms/Status:  CC0   ON-LINE
! Date:  Mon Sep 17 16:01:04
> 0 0 0 -- -- -- 71 -- -- -- - - - - -   Proc:mode  Err:__  Fld:__
<
< # use proc 0 word 2 to display all the extensions in the system.
< p0w2
> 2 ----- ----- - --- -- ---- - - - -   Proc:000  Err:__  Fld:01
<
< # get the first 100 station extensions.
< run "nextdata.run"
< # NEXTDATA.RUN run file
< #
< # PURPOSE: issue 100 next data commands.
< # each command must be on its own command line to ensure that the
< # data associated with that command has a separate log file entry.
< nd
> 2 32005 32006 0 0__ 0_ 0___ 1 0 3 1   Proc:000  Err:__  Fld:01
< nd
> 2 32006 ----- 0 0__ 0_ 0___ 1 0 3 1   Proc:000  Err:__  Fld:01
< nd
> 2 32007 ----- 0 0__ 0_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32008 ----- 0 0__ 0_ 325_ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32009 ----- 0 0__ 4_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32010 ----- 0 22_ 0_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32011 ----- 0 0__ 0_ 0___ 0 0 1 0   Proc:000  Err:__  Fld:01
< nd
> 2 32012 ----- 0 0__ 0_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32020 ----- 0 0__ 5_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32021 32020 0 0__ 0_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32022 ----- 0 0__ 0_ 0___ 0 0 0 0   Proc:000  Err:__  Fld:01
< nd
> 2 32023 ----- 0 0__ 0_ 0___ 1 0 3 1   Proc:000  Err:__  Fld:01
...

< # deactivate logging.
< log
```

Creating a Report from a Log File

Reports can be easily created from log files. Lines in a log file that begin with the > symbol contain procedure data from the switch. Using the MS-DOS *find*, *edlin* (line editor), *type* and *print* commands, follow the steps below to transform *list.log* into a report and print the report. If

you make a mistake, you can start over at any time, as long as you keep the original log file.

1. Use the MS-DOS *find* command to find all the lines that begin with the > symbol in the log file and save them in a report file as follows:

   ```
   find ">" list.log > list.rpt
   ```

2. Use the MS-DOS *edlin* line editor to:

   - Delete the first two lines that were added by the *find* command. The remaining lines will be renumbered starting with 1.
   - Delete the next two lines that contain procedure data (mode and 000) but not station data. The remaining lines will be renumbered starting with 1.
   - Remove the > symbol, space, 2 (word number), and space from the beginning of each line.
   - Remove the `Proc, Err` and `Fld` fields from the end of each line.
   - Add two more spaces between each column.
   - Add column headings before the first line. If the report is a particularly long one, you may want to add column headings at the top of each page (every 50 lines or so). Possible headings for this report are *Ext, Hunt, ANI, CPU, Attd, Cov, Msg, AP, LWC, and ADX*.

   in the report file as follows (each square (□) indicates one space):

   ```
   edlin list.rpt
   1,2d
   1,2d
   1,#r>□2□
   1,#r□□□Proc:000□□Err:__□□Fld:01
   1,#r□ Ctrl-Z □□□
   1i
   Ext.□□□□Hunt□□□ANI□□CPU□□Attd□□Cov.□□Msg□□AP□LWC□ADX
   ----------------------------------------------------
   Ctrl-C
   e
   ```

3. Use the MS-DOS *type* and *more* commands to display the report file on the screen one screen at a time, as follows:

   ```
   type list.rpt | more
   ```

   or use the *print* command to print the report file on the printer, as follows:

   ```
   print list.rpt
   ```

The finished report appears below.

```
Ext     Hunt   ANI  CPU  Attd  Cov   Msg  AP LWC ADX
-----------------------------------------------------
32005   32006   0   0__   0_   0___   1   0   3   1
32006   -----   0   0__   0_   0___   1   0   3   1
32007   -----   0   0__   0_   0___   0   0   0   0
32008   -----   0   0__   0_   325_   0   0   0   0
32009   -----   0   0__   4_   0___   0   0   0   0
32010   -----   0   22_   0_   0___   0   0   0   0
32011   -----   0   0__   0_   0___   0   0   1   0
32012   -----   0   0__   0_   0___   0   0   0   0
32020   -----   0   0__   5_   0___   0   0   0   0
32021   32020   0   0__   0_   0___   0   0   0   0
32022   -----   0   0__   0_   0___   0   0   0   0
32023   -----   0   0__   0_   0___   1   0   3   1
...
```

Using a Run File to Add Translations to the Switch

The run file in this section is named *ad_btn.run.* This file adds abbreviated-dialing buttons to a feature module. The file attempts to add 24 such buttons. However, if a particular button is already assigned, the add will fail for that button and the original translations will not change. Execute *ad_btn.run* by issuing commands similar to:

```
p59w4  0 0 c 8 0  dx
run -e24 "ad_btn.run"
```

The first command line initializes p59w4 with the equipment location 0 0 c 8 0. Then the run file, *ad_btn.run*, is executed to add the abbreviated-dialing buttons. The *-e* option in the run command tells Manager II to tolerate up to 24 errors before aborting run-file execution. Setting the error tolerance to 24 means that the run file will complete execution even if all 24 feature-module buttons have already been assigned.

In this example, the equipment location 0 0 c 8 0 is used. Change this equipment location to suit your needs.

```
# AD_BTN.RUN run file
#
# PURPOSE: add abbreviated-dialing buttons to feature-module
# buttons 1-24.
#
# NOTE: first type p59w4 module cabinet carrier slot circuit dx,
# then type run -e24 "ad_btn.run"
#
cf6 1 1 ce ; ce ; ce ; ce ; ce ; ce ; ax
cf7   2 ax
cf7   3 ax
cf7   4 ax
cf7   5 ax
cf7   6 ax
cf7   7 ax
cf7   8 ax
cf7   9 ax
cf7  10 ax
cf7  11 ax
cf7  12 ax
cf7  13 ax
cf7  14 ax
cf7  15 ax
cf7  16 ax
cf7  17 ax
cf7  18 ax
cf7  19 ax
cf7  20 ax
cf7  21 ax
cf7  22 ax
cf7  23 ax
cf7  24 ax
```

Executing Log Files

Once you have generated a log file, it is possible to execute that file just as if it were a run file. Only the command lines within the log file are executed. All other lines are handled like comment lines.

For example, suppose you open a log file and interactively administer a set of buttons on one terminal. Then you close that log file. You shift work to another terminal that also needs those same buttons. You know that you will enter the same commands and button data as you did for the previous terminal. The easiest way to accomplish this task is to execute the log file generated while administering the first set of buttons. Open another log file to capture this activity. Then run the original log file as follows:

log *"buttons.log"*
administer buttons on first terminal
...
log

start work on next terminal
...
ready for buttons on next terminal
log *"second.log"*
run *-e error_limit "buttons.log"*

The *run* command tells Manager II to execute the file *buttons.log*. Manager II reads through *buttons.log* looking for command lines to execute. Command lines entered in log files always begin with <. Each command line is executed as it is encountered. Other types of log-file lines begin with ! for error messages, ^ for data, ~ for status information, and > for procedure fields. If one of these types of lines is read, Manager II treats it like a comment line. The line is entered in the new log file, *second.log*, and Manager II goes onto the next line.

Creating a Simplified Run File from a Log File

When you log a successful operation performed in enhanced or basic mode on Manager II, you have a record of how you performed that operation. This is because a Manager II log file includes a record of the sequence of commands you executed. Simplified run files can easily be created from log files. The lines in a log file that begin with the < symbol contain the Manager II commands typed by you. The other lines in the log file are not needed in a run file and may be confusing. You can use the MS-DOS *find* and *edlin* (line editor) commands to transform Manager II log files into easy-to-read run files. Here is how to convert the *list.log* file. The same procedure can be used to transform any log file. If you make a mistake, you can start over at any time, as long as you keep the original log file.

1. Use the MS-DOS *find* command to find all the lines that begin with the < symbol in the log file and save them in a run file as follows:

   ```
   find "<" list.log > c:\mgrii\run\list.run
   ```

2. Use the MS-DOS *edlin* line editor to remove the < symbol and space from the beginning of each line in the run file as follows:

   ```
   edlin list.run
   1,#r<□
   e
   ```

   Each square (□) indicates one space.

While you could have executed the original log file without transforming it, the converted version without the extra lines and symbols is easier to read and understand.

As another example, suppose you turned on logging using the *log* command. Then you successfully administered some terminal on your system. You could then exit Manager II and use the log file you generated as a template for administering other terminals. First change the log file

to a run file. Then change specific data like equipment locations and extension numbers so that they pertain to the next terminal you would like to administer. Finally, execute Manager II and run the modified log file.

Waiting from within Run Files for Procedures to Complete Work

Two features make it possible to more fully exploit maintenance procedures from within run files. The first involves maintenance procedures that do not accept commands while the switch WAIT indicator is illuminated. When such a procedure lights the WAIT indicator, Version 2.00 of Manager II waits until the indicator extinguishes before sending the next run-file command to the switch. This ensures that the switch is ready to receive run-file commands when they are sent. The second feature is the *wait* command. There are maintenance procedures that do accept commands while the WAIT indicator is illuminated. During run-file execution, Manager II continues to send commands to these procedures regardless of the status of the WAIT indicator. This can have the undesired effect of stopping a maintenance-procedure test before it completes. You may avoid this by issuing the *wait* command immediately after a maintenance-procedure test begins executing. This will cause Manager II to wait for the WAIT indicator to extinguish before sending the next run-file command to the switch.

The switch uses its **WAIT** indicator to show when work is being done to satisfy a request. Typically, procedures turn on the **WAIT** indicator when starting a task and turn it off when that task is completed. Depending on the procedure, further commands may or may not be accepted while the **WAIT** indicator is on. In general, if the **WAIT** indicator is on, administration procedures do not accept commands. For that reason, if the current procedure is an administration procedure, Manager II automatically waits for the **WAIT** indicator to extinguish before sending more commands to the switch. The scenario is more complex when a maintenance procedure is involved. For example, a maintenance procedure may turn on the **WAIT** indicator at the beginning of a cyclic continuous test. If Manager II were to wait on the **WAIT** indicator before processing the next user command, no commands would ever again be sent to the switch. Therefore, in many cases, Manager II must ignore **WAIT** indicators set by maintenance procedures and continue processing user commands. Interactively, this is not a problem since the user judges when to enter the next command on the command line. But when a run file is executed, problems may occur because Manager II does not pause before sending the next command to a maintenance procedure. That next command is simply sent. If the switch responds with an error `07=Do not enter commands while wait lamp is on,` Manager II then waits for the **WAIT** indicator to extinguish. When the **WAIT** is removed, the command that caused the 07 error is resent to the switch. Sometimes the switch does not respond with a 07 error. That means that the current maintenance procedure does accept commands while the **WAIT** indicator is illuminated. However, what frequently happens is that the command sent by Manager II terminates a maintenance-procedure test before it has time to complete. This makes it difficult to execute maintenance-procedure tests within run files unless the *wait* command is used.

The *wait* command allows the user to avoid these problems by instructing Manager II to wait for the **WAIT** indicator to extinguish before proceeding. The following is an example run file that uses the *wait* command. If the *wait* command were not used, Manager II would send the *nc* (next

circuit) command to the switch before the first test had completed.

```
log "results"

# test a particular circuit
p620t2x

# wait for the test to complete.
wait

# go to the next circuit and start the next test.
nc x
```

Some care must be taken not to use the *wait* command in a run file after first executing a continuous maintenance procedure test. If the procedure is running a cyclic test starts over again whenever it completes, the **WAIT** indicator is never extinguished. Manager II will wait forever for a change in the **WAIT** indicator. The only way to stop this is to press Ctrl-C or Ctrl-Break, which aborts run file execution altogether.

Recommended Practices for Using Run Files

The following recommendations will help you create and use run files effectively.

- Consistently follow some convention when naming run files. For example, you might add the suffix `.run` to all run file names. This makes it simple to differentiate between run and log files.
- Always store run files in a separate directory — for example, `C:\MGRII\RUN`, instead of in the `C:\` or `C:\MGRII` directories. This practice makes it easier to distinguish run files from other files, which makes it easier to copy run files onto diskettes and delete them from hard disk.
- Copy run files to diskette. That way your files are saved in case your hard disk suffers a failure. Label floppies and store them in a safe place.
- Always activate logging either before executing a run file or from within the file itself. This provides a useful list of all interactions between Manager II and your switch. It also allows you to verify whether or not the run file completed as desired.
- Use comments throughout the run file to explain what each section is doing. A comment is a command line beginning with a hash mark (#). For example,

  ```
  # Work Order No. 234 - add extension 55023 for Jane Doe
  ```

  Manager II adds these comment lines to the log file, which provides you with a useful way of tracking your work. Use comments to label each task in case it must be redone because you were interrupted or the translations were not saved by a runtape operation.
- Choose a run file style that best suits your purposes. A trade-off exists between designing a run file that executes quickly and one that executes with the fewest possible errors, especially errors that cause an avalanche of other errors. Consider the following excerpts from two

different run files. The first file, *quick.run*, is designed to execute quickly. The second, *robust.run*, is designed to run with as few errors as possible. Although it may appear that these two excerpts always produce identical results, this is not the case. The first command line in each contains invalid translation data, which the switch rejects. The number of digits specified in field 2 must be 3, 4 or 5 — not 1 — when the call type specified in field 3 is 1, indicating that the number is an extension. Depending upon the run file, this initial error may or may not drastically affect the end results of execution.

```
quick.run                    robust.run

# initial error              # initial error
p350 0 1 1 ax                p350 0 1 1 ax

# avalanche error            # initial error cleared
1 1 2 ax                     rs 1 1 2 ax
```

In the case of run file *quick.run*, the initial error causes further errors. To save time, run file *quick.run* does not reset the procedure between activities. Therefore, an error from a previous operation may unexpectedly change the current active field, causing data from the next operation to go in the wrong field.

On the other hand, an initial error does not affect how the remainder of run file *robust.run* executes. This is because *robust.run* resets the procedure after each activity involving an add, display, or remove execute. Resetting the procedure clears the error (if one exists) and changes the active data field to field 1. This guarantees that the procedure is ready for the next activity.

The error-resistant approach taken in designing run file *robust.run* is always a safe method to use when writing run files. The approach used for run file *quick.run* also works, provided you know that your translations are correct. You might first try creating run files in the style of run file *robust.run*. When you are comfortable with assigning translations or when you know that your translations are correct, you can switch to writing run files more like run file *quick.run*.

Creating Manager II Run Files from VMAAP Button-Push Files

Manager II run files and VMAAP button-push files are similar. It is a simple task to convert a VMAAP button-push file to a Manager II run file.

Most VMAAP button-push commands have an equivalent Manager II command. For example,

the VMAAP command for next data is *ND*. Manager II accepts either *nd* or *ND* as the next data command.

The exception is the *enter* command. The VMAAP enter command is a period (.). The Manager II enter command is a semicolon (;). In many cases, Manager II automatically sends an enter command to the switch for you, which VMAAP does not. Therefore, to convert a VMAAP button-push file to a Manager II run file, you must delete some *enter* commands (.) and change the remaining ones to semicolons. As a basic rule, change a single (a series of one) VMAAP enter command (.) to a space, and delete the first VMAAP enter command (.) in a series, and change the remainder to semicolons.

7. Task-Mode Operation

This chapter describes the principles of Manager II operation in the task mode, which streamlines the process of station administration. With task mode, you can add, change, display, or remove station assignments for all currently available AT&T voice and data terminals. Task mode works with the DEFINITY Communications System Generic 2.1 and 2.2.

Task mode administration is performed by using screens that present and accept all necessary data. You access these screens (which vary, depending on the type of station you are administering) using only one command instead of many procedures. The number of screens used varies, depending on the station you are administering. For example, if you are administering a simple analog voice terminal, you fill in only two screens; but if you are administering a larger station with data or display options, you might use as many as seven screens. You can enter variables directly, rather than by using a numeric code. To select a feature, you type **y** for yes. In general, you need enter data in only three fields — station type, equipment location, and class of service. The remaining fields, including call-appearance buttons, contain appropriate defaults.

BREAKING OUT OF THE TASK MODE

Task mode uses the Manager II break function, which is similar to that of enhanced and basic mode and MS-DOS. That is, to stop an activity at any time, press either Ctrl-C or Ctrl-Break. No matter what Manager II is doing, it exits the task mode and returns to the enhanced or basic mode.

BEFORE INVOKING THE TASK MODE

You should consider the actions in this section when you prepare for task-mode operation. You can perform them when you are working in task mode, however, by temporarily accessing the enhanced or basic mode and then returning to task mode.

Connecting to the Switch

There is no provision for connecting to a switch while Manager II is in task mode. You must, therefore, connect to the systems to be administered from either enhanced or basic mode. Use the *con* command for this purpose. If you want only to look at the add-station screens, you do not have to connect to the switch. See *Working without a Connection* below.

Invoking the Administration Mode

If, while you are in task mode, you want to add, change, or remove stations, you must access the Generic 2 administration mode. If you want only to display station, you need not access the administration mode. If you must set the Generic 2 administration mode, access either enhanced or basic mode and use the *mode* command, *m*.

Activating Logging

You can log Manager II activity while in task mode. The log file must, however, have been opened before you enter task mode. You can open a log file from either enhanced mode or basic mode by executing the *log* command, as described in chapter 5; or you can open a log file from the MS-DOS command line by using the *-o* option with the *mgrii* command, as described in chapter 6.

INVOKING THE TASK MODE

To invoke Manager II's task mode, simply enter **`task`** on the basic-mode or enhanced-mode command line. If execution is successful, a screen appears with a command line identified by the prompt `enter command:` (see figure 2-7). At this point you can enter any task-mode command, or you may ask for help by pressing [5 Help], which provides information about the commands.

WORKING WITHOUT A CONNECTION

If you want only to look at the screens for a particular station or the entries for a particular field, simply enter **`add station 000`**. The task mode issues a warning, stating that you do not have a connection; but it lets you proceed to examine the screens. Enter the type of station you want to examine. Use [7 NextPg] or [8 PrevPg] or (↓) or (↑) or (→) or (←) to position the cursor on the screen and field you want to examine. Then press [5 Help] to display the entries for that field. When you are finished, press [1 Cancel]. Pressing [3 Submit] results in an error message stating that Manager II must be connected to the switch to submit a request to the switch. Only the *add* command, and not the *change*, *display*, and *remove* commands, lets you examine station screens without a connection.

WORKING WITH A CONNECTION

When Manager II is connected to a switch, you can add, change, display, or remove a station in the switch. Simply enter the commands as described below.

ENTERING DATA

A command consists of an action followed by an object and one or more identifiers (see table 7-1).

Table 7-1. Task Mode Commands

Action	Object	First Identifier	Second Identifier
add	**station**	*extension*	
change	**station**	*extension*	**loc** *module/cabinet/carrier/slot/circuit*
display	**station**	*extension*	**loc** *module/cabinet/carrier/slot/circuit*
remove	**station**	*extension*	**loc** *module/cabinet/carrier/slot/circuit*
bas			
enh			
quit			

Before entering anything on the command line, press [5 Help] to display valid actions. After entering an action (for example, **add**), press [5 Help] to display valid objects for the action. After entering an object (for example, **station**), press [5 Help] to display valid identifiers for the object. After entering an identifier (for example, extension **12345**), the first screen may appear. In some cases you may be prompted to enter another identifier (for example, **loc 0/0/C/1/0**). Once a screen appears, you enter data in the fields in much the same way.

Entering Data on the Command Line

When entering a command on the command line, you can abbreviate an entry, as long as the abbreviation is unique. The task mode completes the rest of the entry for you when you press [Enter]. For example, you can enter **a** instead of **add**. If the abbreviation you entered is not unique, the task mode tells you that the entry is ambiguous and asks you to press [5 Help] to display entries that begin with what you entered. Simply type enough to eliminate the ambiguity and press [Enter] again. You do not need to press [Enter] after each entry in the command. For example, you can type **a s 12345** and then press [Enter]. The complete command is displayed on the top of the screen.

Entering the Add Command

To add a station, enter

add station *extension*

This command sends procedure requests to the switch to add the station to the switch. After entering all the data in the screens, press 3 Submit to do the add or 1 Cancel to cancel it.

The extension must be unassigned. If the extension is bridged (appears) on more than one station, add the station and one call-appearance button using the enhanced-mode procedures 051 and 052, respectively. Then add the remaining buttons and features using the task-mode *change* command described below.

Entering the Change Command

To change a station, enter

`change station` *extension* [**`loc`** *module/cabinet/carrier/slot/circuit*]

This command sends procedure requests to the switch to display information about the station first. You can then move through the screens, using 7 NextPg and 8 PrevPg, and change data. After making the changes, press 3 Submit to do the change or 1 Cancel to cancel it.

If the extension is bridged (appears) on more than one station, you must enter the desired station equipment location by typing **`loc`** followed by the module, cabinet, carrier, slot, and circuit. If you do not do this, the task mode tells you to press 5 Help to display all the station equipment locations on which the extension appears.

Note that you can save time by using just the *change* command, instead of a *display* command followed by a *change* command, if you think you might have to change the station.

Entering the Display Command

To display a station, enter

`display station` *extension* [**`loc`** *module/cabinet/carrier/slot/circuit*]

This command sends procedure requests to the switch to display information about a station that has already been administered. You can then move through the screens, using 7 NextPg and 8 PrevPg, and look at the data. When finished, press 1 Cancel.

If the extension is bridged (appears) on more than one station, you must enter the desired station equipment location by typing **`loc`** followed by the module, cabinet, carrier, slot, and circuit. If you do not, the task mode tells you to press 5 Help to display all the station equipment locations on which the extension appears.

Entering the Remove Command

To remove a station, enter

`remove station` *extension* [**`loc`** *module/cabinet/carrier/slot/circuit*]

This command sends procedure requests to the switch to display the station information first. If you want to remove this station, press [3 Submit]. If not, press [1 Cancel]. This command also removes the extension from recent disconnect.

If the extension is bridged (appears) on more than one station, you must enter the desired station equipment location by typing **`loc`** followed by the module, cabinet, carrier, slot, and circuit. If you do not do this, the task mode tells you to press [5 Help] to display all the station equipment locations on which the extension appears.

Note that you can save time by using just the *remove* command, instead of a *display* command followed by a *remove* command, if you think you might have to remove the station.

Entering Data in Fields

When entering data in a field, you can abbreviate the entry, as long as the abbreviation is unique. The task mode completes the rest of the entry for you when you press [Enter]. For example, you can enter **`an`** instead of **`analog`**. If the abbreviation you entered is not unique, the task mode tells you that the entry is ambiguous and asks you to press [5 Help] to display the entries that begin with what you entered. Simply type enough to eliminate the ambiguity and press [Enter] again. You must enter valid data before you can continue. If the data you enter is invalid (not one of the possible entries), the task mode tells you to press [5 Help] to display the valid ones. Of course, *before* entering data in a field, you can press [5 Help] to display valid entries.

Submitting Commands

After completing the appropriate screens for the *add*, *change*, and *remove* commands, you should take time to use [7 NextPg] and [8 PrevPg] to go through each screen to see that all entries are correct. When satisfied with all entries, press [3 Submit]. The task mode now checks the data you have entered for validity. If it finds that some input is invalid, the screen and field in error are displayed so that you can correct the data. Use [5 Help] to get a listing of valid data. Correct the data and press [3 Submit] again. See the next section for help on how to recover from specific errors. If there are any other data errors, correct them and press [3 Submit] again until all data are correct.

Instead of correcting an error, you can cancel the command by pressing [1 Cancel]. Canceling the command does not remove anything previously administered. Rather, it stops the administration process wherever the error occurred. For example, if you are adding a station with 12 buttons to administer, and the sixth button generates an error, canceling the command leaves the station with five buttons administered. You can then remove the station and start over again.

As a command is executing, the number of the request (*n*) being sent to the switch is displayed on the message line:

```
Sending request n to switch
```

When a display command completes, the first page is displayed. When an *add*, *change*, or *remove* command completes, the message

```
Command successfully completed
```

is displayed on the message line and the screen is blanked out.

To verify that an add or change was made correctly, use the *display* command.

Correcting Command Errors

If you experience an error while using the task mode, use the following table to correct it.

Table 7-2. Error Recovery

Type of Error	Corrective Action
Command error	Correct and re-enter command. Press 5 Help for the valid commands (*add*, *change*, *display*, and *remove*), objects (station), and identifiers (extension and equipment location).
Field error	Correct and re-enter field data. Press 5 Help for the valid entries.
Submit error	Correct field and resubmit screen. Press 5 Help for the valid entries.
Operation error (add, change, or remove)	Correct field and resubmit screen. Press 5 Help for the valid entries. If you are doing an add or change, you may cancel the command, remove the station, and start over. If you are doing a remove, you may have to correct the error by going to enhanced mode and removing the extension from related administration, such as Call Coverage path assignments. Then return to the task mode and try to remove the station again. It may also be necessary to go to the station and remove LWC messages before you can remove the station. When the error message `In use lamp on or feature/service active` appears on the message line, a station is in use. This error can appear for any station, but does so most frequently for Callmaster stations because they are always off-hook. If you are attempting to administer a station and receive this error message, either call the user and ask to be notified when the conversation is finished or call the switch's service technician and ask that the station be busied-out using Procedure 635. If you do this, you must remember to release-busy the station when you finish the administration. When changing a station type, for example 7401D to 7406D, and the error message `Incompatible station type change; remove incompatible buttons first` appears, remove the extra buttons and then change the type.

EXITING THE TASK MODE

To return to the enhanced mode, simply enter **enh** from the command line. To return to the basic mode, enter **bas** from the command line. To make an orderly exit from Manager II, enter **quit** from the command line.

COMMAND HELP

In addition to the command and field help available while you are in the task mode, help on how to use the task mode is available from the enhanced mode. Return to the enhanced mode by entering **enh**. Then, if Manager II is connected to a switch, press 5 Help, move the highlight bar to `How to Use Manager II`, and press Enter. Then, press End to move the highlight bar to `Main Help Screen` and press Enter. Finally, move the highlight bar to `How to Use Task Mode` and press Enter. If Manager II is not connected to a switch, simply press 5 Help, move the highlight bar to `How to Use Task Mode`, and press Enter. A complete description of the task command, station administration commands, function keys, supported station types, and button types is available.

ADMINISTERING SPECIAL FEATURES

You cannot add the following special features by using only the task mode:

- Universal Code Calling Id
- ISDN BRI Service SPID
- 6500 ISDN Advantage
- Tenant Services Partition
- Call Forward Off-Net Toll

However, you can add them by using both the task mode and enhanced mode. First, add the station, using the task mode. In the case of 6500 ISDN Advantage, be sure to add the station with a display and data module (whether or not the station has them) because 6500 ISDN Advantage provides them. Then, return to the enhanced mode and add the special features listed, using the appropriate procedures, which are as follows:

- Universal Code Calling Id — Procedure 000 Word 3 Field 6
- ISDN BRI Service SPID — Procedure 051 Word 2 Field 7
- 6500 ISDN Advantage — Procedure 051 Word 1 Field 17
- Tenant Services Partition — Procedure 000 Word 4 Field 3
- Call Forward Off-Net Toll — Procedure 000 Word 3 Field 7

Once this administration is accomplished, the task-mode *change* command automatically preserves these procedure fields.

TYPICAL TASK DISPLAYS

When executing the *add, change, display,* or *remove* station command, you access a series of screens. The number of screens and the number of fields they contain depends on the type of station. The examples that follow are composites of the station screens, intended to show you most of the fields. You can enter data only in the screens for *add* and *change*. You cannot enter data in the screens for *display* and *remove.* Each screen is shown and each field is defined below. The numbering of the buttons in the task mode corresponds to their numbering in the administration procedures. Fields that are mandatory for particular station types must be filled in. Fields that are not mandatory can be skipped and a default will be entered. Remember to press 5 Help at any time to get help on field data.

Basic Station and Feature Options Screen

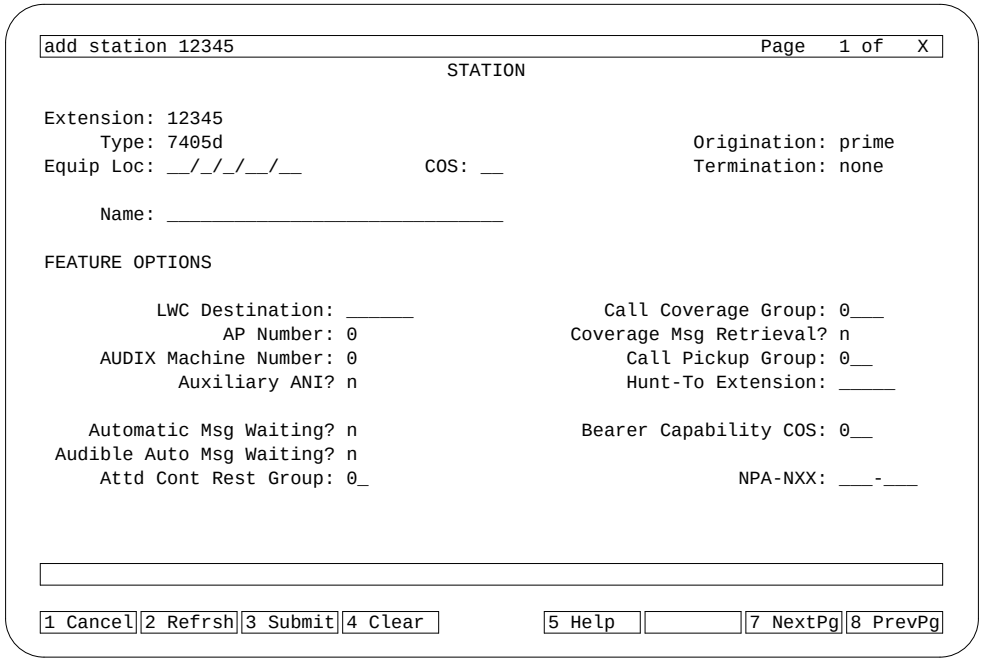


Figure 7-1. Basic Station and Feature Options Screen

No matter what type of station you are administering, a screen similar to that shown in figure 7-1 appears. The following fields appear on the screen (not all stations have all fields):

- `Extension:` The extension number you entered on the command line. This field cannot be changed.
- `Type:` Enter the type of station. See table 7-3 for a list of all station types and a brief description of each. Once a station type is selected, the fields on the screen change or are rearranged, depending on the station type selected. Although not all screens contain all of the following fields, all potential fields are given here.

- `Equip Loc:` Enter the station's equipment location. The equipment-location fields are module (*0-30*); cabinet (*0-3* for traditional modules and *0* for universal and XE modules); carrier (*0-3* for traditional modules and *c-e* for universal and XE modules); slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules, and *1-18* for XE modules); and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules. These fields must be filled in for all but an extension-only station.

- `COS`: Enter the class-of-service number (*1-30* and *32-63*) to be assigned to the station's extension. This field must be filled in. Class-of-service features and restrictions are administered in Procedure 010 Words 1-4.

- `Port Type` (not shown): Enter *on-prem* for an on-premises station (default), *off-pre* for an off-premises station (OPS), *test li* for test line, *ops wit* for an off-premises station with terminal balancing, or *ds1-ops* for a DS1 off-premises station. This field appears only for analog stations.

- `Hot Line` (not shown): Enter *y* if you want the station to be a hotline or *n* if you do not (default). This field appears only for analog stations.

- `Disable Signaling` (not shown): Enter *y* to disable signaling for DS1 OPS stations or *n* to enable it (default).

- `Origination:` Enter the call (line) appearance to be selected automatically when originating calls from the station. Enter *no line*, *prime* line, *last* line, or *idle* line.

- `Termination:` Enter the call (line) appearance to be selected automatically when calls terminate on the station. Enter *none* for no line, *call* for called line, or *ring* for ringing line.

- `Name:` Enter the name of the station user or station location, such as *purchasing*. The name can be up to 30 characters long or *blank* for none (default).

`FEATURE OPTIONS`

- `LWC Destination:` Enter the storage place for leave-word-calling messages for the station. Enter *switch*, *ap* (AP), *audix* (AUDIX), or *blank* if there is none (default).

- `AP Number:` Enter the number of the AP (*1-7*) used for message-center coverage for the station, or *0* if there is none (default).

- `AUDIX Machine Number:` Enter the number of the AUDIX machine (*1-8*) that stores messages for the station, or *0* if there is none (default).

- `Auxiliary ANI:` Enter *y* if the common number administered in Procedure 275 Word 1 is used for central office billing, or *n* if the station's extension number is used for central office billing (default).

- `Automatic Msg Waiting:` Enter *y* to enable automatic message waiting for the station, or *n* to disable it (default). This field appears only for analog and SLS stations.

- `Audible Auto Msg Waiting:` Enter *y* to enable audible automatic message waiting for the station, or *n* to disable it (default).

- `Attd Cont Rest Group:` Enter the number of the attendant-controlled restriction group (*1-63*) to which the station is assigned, or *0* if there is none (default).
- `Call Coverage Group:` Enter the number of the call-coverage group to which the station is assigned, or *0* if there is none (default). Single-path coverage groups are numbered *1-1999*, and dual-path coverage groups are only the even numbers in the range *2000-4094*.
- `Coverage Msg Retrieval:` Enter *y* if this station (coverage point) can retrieve messages for a principal (covered station), or *n* if it cannot (default).
- `Call Pickup Group:` Enter the number of the call-pickup group (*1-999*) to which the station is assigned, or *0* if there is none (default).
- `Hunt-To Extension:` Enter the extension number (*000-99999*) that is hunted to if the extension for this station is busy, or *blank* if there is none (default).
- `Bearer Capability COS:` Enter the bearer-capability class-of-service (BCCOS) number (*0-255*) assigned to this station. Voice stations receive a default BCCOS of *0*. Data modules receive a default BCCOS of *1*. The BCCOS call and data options are administered in Procedure 014 Word 1-2.
- `NPA-NXX:` Enter the area code (*200-219*, *300-319*, *400-419*, *500-519*, *600-619*, *700-719*, *800-819*, and *900-919*) and central office code (*200-999*) for the station. The area code and central office code must be assigned in Procedure 354 Word 3 before they can be used here.

After completing this screen, press 7 NextPg to move to the next screen.

Terminal Options and Abbreviated Dialing Screen

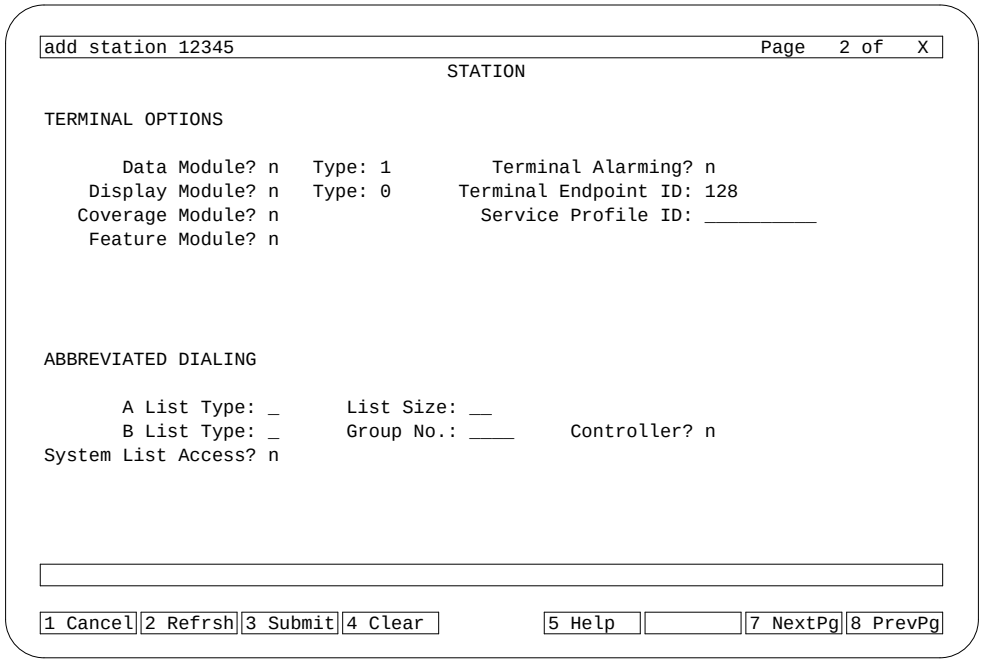


Figure 7-2. Terminal Options and Abbreviated Dialing Screen

If you are administering any station except an extension-only station, the screen in figure 7-2 appears. Use this screen to define terminal options and abbreviated dialing lists. If you are assigning analog stations, the terminal options fields do not appear. Some of the terminal options have fixed assignments that you cannot change for some station types, and not all of these options appear for every station type. Also, only the applicable modules are displayed. The following fields appear on the screen (not all stations have all fields):

TERMINAL OPTIONS

- `Data Module:` Enter *y* if the station has a data module associated with it, or *n* if it does not (default). If you enter *y*, a `Type` field appears. Enter *1* for a DTDM or BRI ADM (Asynchronous Data Module), or *2* for a 7400 data module. If you entered *y* previously, a data module screen appears later.
- `Display Module:` Enter *y* if the station has a display module associated with it, or *n* if it does not (default). If you enter *y*, a `Type` field appears. Enter *0* for an integrated display or *1* for a nonintegrated display. If you entered *y* previously, a display module screen appears later. A station cannot have both a display module and a coverage module.
- `Coverage Module:` Enter *y* if the station has a coverage module associated with it, or *n* if it does not (default). If you enter *y*, a coverage-module screen appears later. A station cannot have both a coverage module and a display module.

- `Feature Module:` Enter *y* if the station has a feature module associated with it, or *n* if it does not (default). If you enter *y*, a feature-module screen appears later.
- `Terminal Alarming:` Enter *y* if the station is to provide alarms to the switch, or *n* if it is not (default). This field is displayed only if terminal alarming is enabled for even-port peripherals in Procedure 275 Word 4 Field 15.
- `Terminal Endpoint ID:` Enter the terminal endpoint (*0-63* or *128*, the default) for a BRI station.
- `Service Profile ID:` Enter the service profile ID (*0-9999999999*) that was entered into a BRI station.
- `Terminal Dialing` (not shown): Enter *y* to enable keyboard dialing from an attached video display terminal, or *n* to disable it (default). This field appears only for data modules.
- `Default Terminal Dialing` (not shown): Enter *y* if the station is administered in Procedure 059 Word 4 to automatically dial a predefined number, or *n* if it is not (default). This field appears only for data modules.
- `Second Port Data Extension` (not shown): Enter *y* to assign an extension to the second port of a dual-port data module (for example *dpd*), or *n* if not to (default). If you enter *y*, a screen for the second port data extension appears later.

ABBREVIATED DIALING

- `A` and `B List Type:` Enter *p* to assign a personal list, *g* to assign a group list, or *blank* to assign no list (default).

  If you assign personal lists, the field `List Size:` appears. Enter the size of the list (*5-95* in increments of 5).

  If you assign group lists, the following fields appear:

  — `Group No.:` Enter the group list number (*1-9999*).

  — `Controller:` Enter *y* if the station controls its group list, or *n* if it does not (default).
- `System List Access:` Enter *y* if this station has access to the system list, or *n* if it does not (default). System-list access is separate from a personal or group list. You can have system-list access and not have a personal or group list.

The items in a personal, group, or system list cannot be assigned in task mode. Use Procedure 059 Word 2 to assign them or assign them from a station using the Abbreviated Dialing feature-access codes.

When finished with this screen, press 7 NextPg to continue. The next screen defines the call appearances and feature buttons on the basic set for multiappearance stations.

Basic Station Button Assignments Screen

```
add station 12345                                              Page   3 of   X
                                     STATION

BUTTON ASSIGNMENTS

 3: call  Ext: 12345 1_ p_ y f m n y y   8: ____
 4: call  Ext: 12345 2_ n_ y f m n y y   9: call  Ext: _____ __ pd y f m n y n
 5: call  Ext: 12345 3_ n_ y f m y y y  10: ____
 6: ____                                11: ____
 7: ____                                12: ____



 2: amw_  Ext: 12345








1 Cancel 2 Refrsh 3 Submit 4 Clear         5 Help           7 NextPg 8 PrevPg
```

Figure 7-3. Basic Station Button Assignments Screen

If you are administering a station with call appearances and feature buttons on the basic set, the screen in figure 7-3 appears. The button numbering shown corresponds to the numbering in the administration procedures. Remember that button 1 is always the Hold button (not shown) and button 2 is always the Automatic Message Waiting button. Buttons 3-5 default as the primary call appearances for voice on all stations, and the rest of the buttons are free for other call appearances or features. However, button 9 defaults as a primary call appearance for data on the 7505b and 7506b BRI stations. The data extension must be added before the station is added, using the extension-only (*ext*) station type. The exact number of buttons displayed on this screen depends on the station. Twelve buttons is the maximum. Buttons that appear filled in when you execute the *add* command are defaults that can be changed at your option.

Button abbreviations for call appearances and features are listed in table 7-4, and can be obtained by pressing [5 Help]. Scroll through help information by repeatedly pressing [5 Help]. The call-appearance and feature buttons are described later in this chapter.

When finished with this screen, press [7 NextPg] to continue. Depending on the station type used in the first screen, up to six more screens may appear. These are the FEATURE BUTTON ASSIGNMENTS screen, the FEATURE-MODULE BUTTON ASSIGNMENTS screen, the COVERAGE-MODULE BUTTON ASSIGNMENTS screen, the DISPLAY-MODULE FEATURE OPTIONS AND BUTTON ASSIGNMENTS screen, and the DATA-MODULE AND FEATURE OPTIONS screen. A description of these assignments screens follows.

Feature Button Assignments Screen

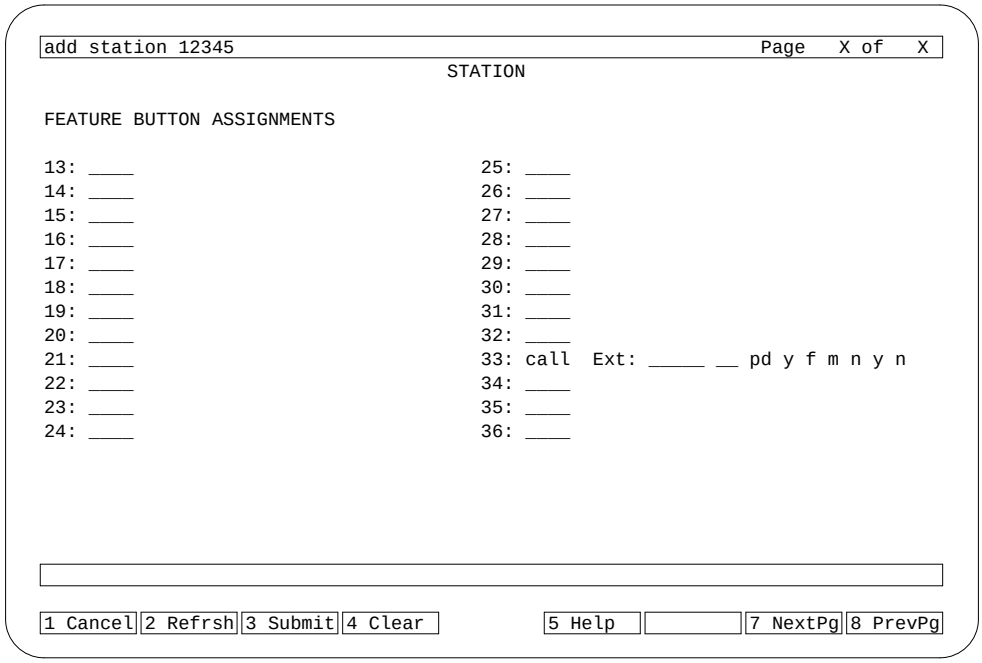


Figure 7-4. Feature Button Assignments Screen

If the station you are administering has feature buttons that are integrated with the basic set (as opposed to on a feature module), the screen in figure 7-4 appears. You should assign features, as opposed to call appearances, to these buttons because, in general, there is only one LED associated with each feature button. The exact number of buttons displayed on this screen depends on the station.

Button 33 defaults as a primary call appearance for data on the 7507b BRI station. The data extension must be added before the station is added, using the extension-only (*ext*) station type.

When finished with this screen, press 7 NextPg to continue.

Feature Button Assignments Continued Screen

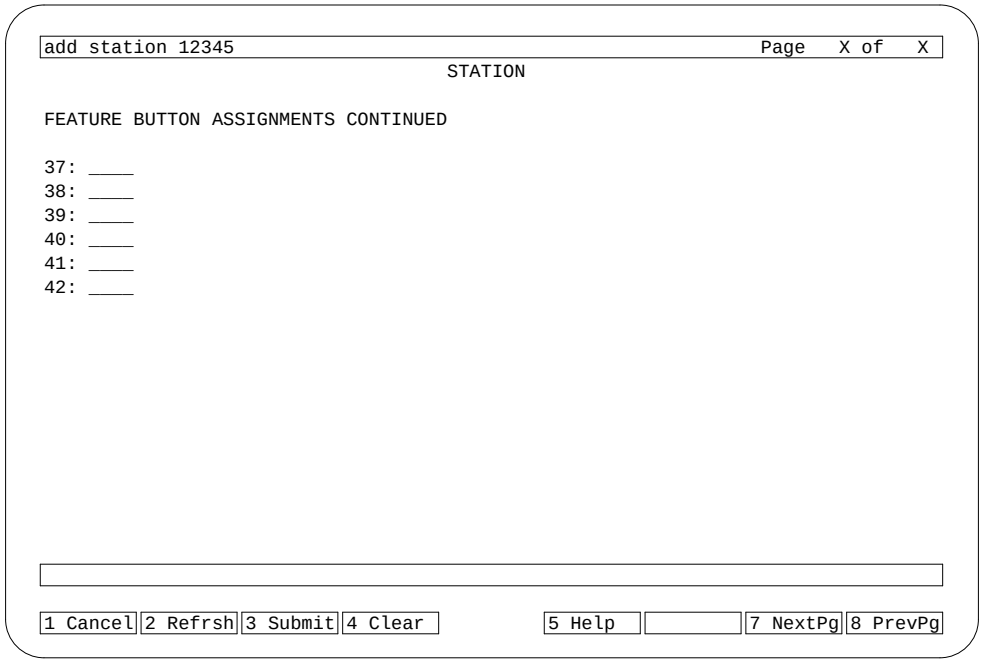


Figure 7-5. Feature Button Assignments Continued Screen

Only if you are administering a 7507b station does the screen in figure 7-5 appear. This station type has feature buttons that are integrated with the basic set (as opposed to on a feature module). This screen is simply a continuation of the previous page.

When finished with the screen, press 7 NextPg to continue.

Feature Module Button Assignments Screen

These feature buttons are located on a separate feature module (unlike the feature buttons on the basic set). You should assign features, as opposed to call appearances, to these buttons because, in general, there is only one LED associated with each feature button.

When finished with this screen, press 7 NextPg to continue.

Coverage Module Button Assignments Screen

The coverage module is attached to the basic set. The coverage module is used primarily for call appearances of principals by covering users (often secretaries), but you can assign features to these buttons.

When finished with this screen, press 7 NextPg to continue.

Display Module Feature Options and Button Assignments Screen

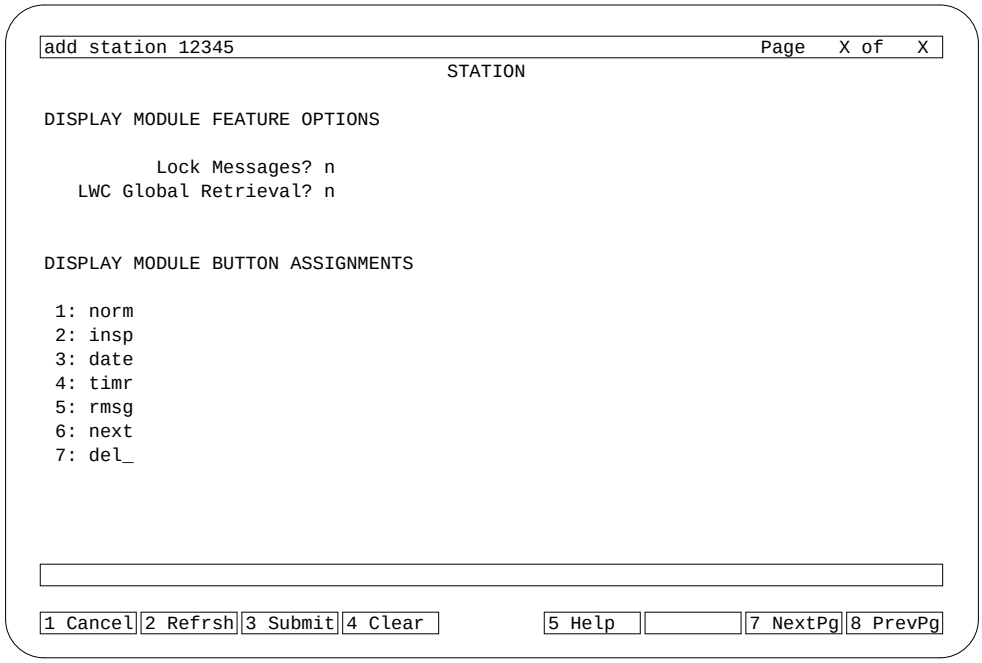


Figure 7-6. Display-Module Feature Options and Button Assignments Screen

If you assigned a display module to the station you are administering, the screen in figure 7-8 appears. A station can have a display module built into the basic set, attached to the basic set, or displayed on a video display terminal attached to the basic set. The following fields appear on the screen (not all display modules have all fields):

DISPLAY MODULE FEATURE OPTIONS

- `Lock Messages:` Enter *y* if you want the station user to be able to lock the station so that other users cannot access this station's messages, or *n* if not (default).
- `LWC Global Retrieval:` Enter *y* if you want the station user to be able to access LWC messages for anyone on the switch, or *n* if not (default).

DISPLAY MODULE BUTTON ASSIGNMENTS

The display buttons are assigned in this portion of the screen. Some stations have separate buttons for the display (for example the 7407d). Other stations have no buttons for the display (for example the 7406dc). In the latter case the display buttons should be assigned in the basic station FEATURE BUTTON ASSIGNMENTS screen (see figure 7-4). Buttons that appear filled in when you execute the *add* command are defaults that can be changed at your option.

When finished with this screen, press 7 NextPg to continue.

Data Module and Feature Options Screen

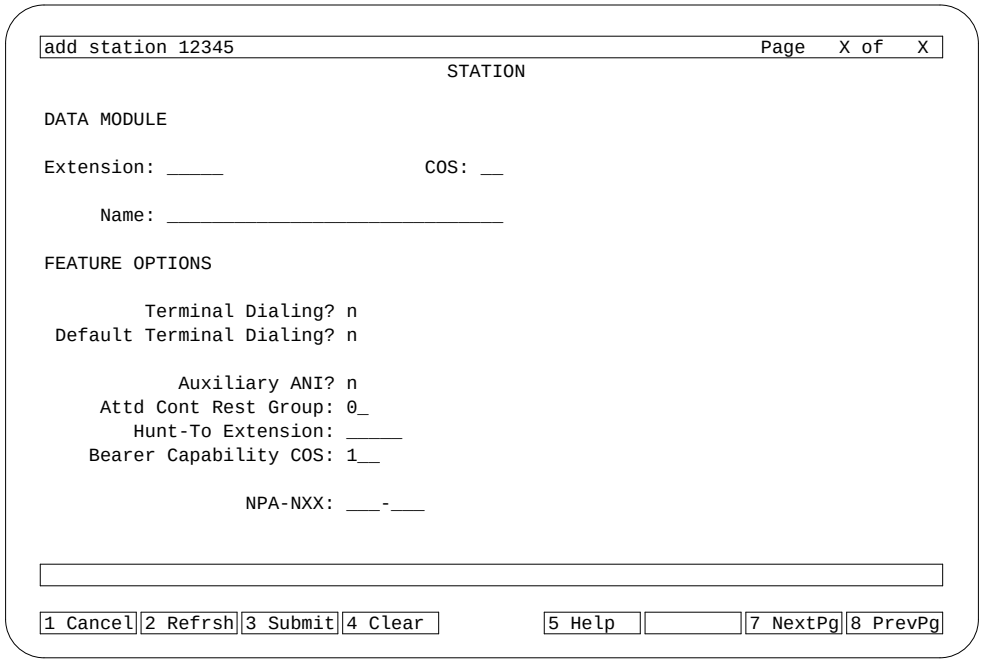


Figure 7-7. Data-Module and Feature Options Screen

If you assigned a data module to the station you are administering, the screen in figure 7-9 appears. A station can have a data module built into the basic set, attached to the basic set, or built into a video display terminal attached to the basic set. The following fields appear on the screen (not all data modules have all fields):

DATA MODULE

- `Extension:` Enter the data extension number (*000-99999*) for the data module.
- `COS:` Enter the class-of-service number (*1-30* and *32-63*) to be assigned to the data module extension. This field must be filled in. COS features and restrictions are administered in Procedure 010 Words 1-4.
- `Name:` Enter the name for the data module (for example, the name of the station user and their voice extension number). The name can be up to 30 characters, or *blank* for none (default).

FEATURE OPTIONS

- `Terminal Dialing:` Enter *y* if the attached video display terminal can be used to do keyboard dialing, or *n* if it cannot (default).
- `Default Terminal Dialing:` Enter *y* if the data module is administered in Procedure 059 Word 4 to automatically dial a predefined number, or *n* if not (default).
- `Auxiliary ANI:` Enter *y* if the common number administered in Procedure 275 Word 1 is used for central office billing, or *n* if the extension number for the data module is used for central office billing (default).
- `Attd Cont Rest Group:` Enter the number of the attendant-controlled restriction group (*1-63*) to which the station is assigned, or *0* if there is none (default).
- `Hunt-To Extension:` Enter the extension number (*000-99999*) that incoming calls hunt if the extension for this data module is busy, or *blank* if there is none (default).
- `Bearer Capability COS:` Enter the bearer capability class-of-service (BCCOS) number (*0-255*) for this station. Voice stations have a default BCCOS of *0*. Data modules have a default BCCOS of *1*. BCCOS call and data options are administered in Procedure 014 Words 1-2.
- `NPA-NXX:` Enter the area code (*200-219*, *300-319*, *400-419*, *500-519*, *600-619*, *700-719*, *800-819*, and *900-919*) and central office code (*200-999*) for the station. The area code and central office code must be assigned in Procedure 354 Word 3 before they can be used here.

STATION TYPES

All the predefined station types in the Generic 2 switch can be administered using the task mode. Each station type has an abbreviation. They are listed in the following table.

Table 7-3. Supported Station Types

Abbreviation	Station	Description
ext	extension	Extension Only
analog	2500	Single-line analog set
analog	7101A	Single-line analog set
analog	7102A	Single-line analog set
analog	7103A	Single-line analog set
adftc	ADFTC	Analog-digital facility test circuit
mtcp	MTCP	Maintenance test circuit pack
pdm	PDM	Processor data module
tdm	TDM	Trunk data module
7500	7500	BRI data module
dpd	DPD	Dual-port data module
eia	EIA	Electronic Industries Association interface
sls	SLS	Straight-line set
10met	10MET	10-button MET set
20met	20MET	20-button MET set
30met	30MET	30-button MET set
7203h	7203H	12-button hybrid set
7205h	7205H	36-button hybrid set
7303s	7303S	12-button hybrid set
7305s	7305S	36-button hybrid set
7401d	7401D	11-button DCP set
7401p	7401P	11-button DCP set
7403d	7403D	12-button DCP set
7404d	7404D	8-button DCP set with built-in data
7405d	7405D	36-button DCP set
7406bi	7406BI	30-button DCP set with built-in display
7406bn	7406BN	30-button DCP set
7406pi	7406PI	30-button set with built-in display
7406pn	7406PN	30-button DCP set
7406db	7406DB	30-button DCP set
7406dc	7406DC	30-button DCP set with built-in display
7407d	7407D	36-button DCP set with built-in display
7407p	7407P	36-button DCP set with built-in display
7410d	7410D	12-button DCP set
7410p	7410P	12-button DCP set
7434d	7434D	36-button DCP set
7444d	7444D	36-button DCP set with built-in display
7505b	7505B	19-button BRI set
7506b	7506B	l9-button BRI set with built-in display
7507b	7507B	42-button BRI set with built-in display
510	510 BCT	21-button DCP set with built-in data & display
515	515 BCT	12-button DCP set with built-in data & display
callmaster	Callmaster	30-button DCP set with built-in display
pc/pbx	PC/PBX	36-button DCP set with built-in data & display

BUTTON TYPES

All the button types in the Generic 2 switch can be administered using the task mode. Each button type has an abbreviation. They are listed alphabetically in the following table. Some button types are associated with a feature such as Abbreviated Dialing, ACD, Call Coverage, or Display.

Table 7-4. Button Types

Button Abbreviations and Parameters	Button Definitions
acb	Automatic Callback
ad	Abbreviated Dial - Automatic Dial
adx Ext: _____	Abbreviated and Delayed Ringing Transfer
aicm Grp: ___	Automatic Intercom
ain Ext: _____	ACD - Automatic In Pool
aitm Mbr: __	Abbreviated Dial - List A Item
alst	Abbreviated Dial - List A Access
amw Ext: _____	Automatic Message Waiting
auxw Ext: _____	ACD - Aux Work
bitm Mbr: __	Abbreviated Dial - List B Item
blst	Abbreviated Dial - List B Access
busy Loc: __/_/_/__/__	Terminal Busy
call Ext: _____ __ __ _ _ _ _ _ _	Call Appearance
cfbd	Call Forward - Busy/Don't Answer
cffm	Call Forward - Follow Me
city	ACD - Repeat City of Origin
cmsg	Display Module - Cvrg Msg Retrieval
cmss Cnt: _	ACD - CMS Stroke Counts 0 - 9
cons	Call Coverage - Consult Principal
cpu	Call Pickup
cvcb	Call Coverage - Callback
cwc	ACD - Call Work Code
data Loc: __/_/_/__/__ RTV? _	Data Call Setup
date	Display Module - Date/Time
del	Display Module - Delete Message
dicm Grp: ___ DC: __	Dial Intercom
excl Ext: _____	Manual Exclusion
func	Abbreviated Dial - Function Entry
insp	Display Module - Inspect Mode
lnd	Last Number Dialed
lwc	Leave Word Calling
lwcc	Leave Word Calling - Cancel
mark	Abbreviated Dial - Mark
mct	Malicious Call Trace
mdgt	Abbreviated Dial - Manual Digit Entry
micm Grp: ___	Manual Intercom
min Ext: _____	ACD - Manual In Pool

(*continued*)

TABLE 7-4. Button Types (*continued*)

Button Abbreviations and Parameters	Button Definitions
mmwr Loc:__/_/_/__/__ DT:_ Btn:__	Manual Message Waiting - Receive
mmws Loc:__/_/_/__/__ DT:_ Btn:__	Manual Message Waiting - Send
msig Loc: __/_/_/__/__	Manual Signaling
next	Display Module - Next Message
norm	Display Module - Normal Mode
over	Override
paus	Abbreviated Dial - Pause
pc	Priority Calling
pco Trk: __/_/_/__/_ Ring? _	Personal Central Office Line
prog	Abbreviated Dial - Program
rcll	Recall
rcut	Ringing Cutoff
rls	ACD - Release
rmsg	Display Module - Msg Retrieval Mode
rtrf Ext: _____	Ringing Transfer
rtrn	Display Module - Return Call
sac	Call Coverage - Send All Calls for Group
sace Ext: _____	Call Coverage - Send All Calls for Extension
scrl	Display Module - Scroll
sitm Mbr: _____	Abbreviated Dial - System List Item
slst	Abbreviated Dial - System List Access
staf Ext: _____	ACD - Staff
supp	Abbreviated Dial - Suppress Display
svco	ACD - Service Observing
timr	Display Module - Elapsed Time On
wait	Abbreviated Dial - Wait
wfpr	Wait for Principle

The following sections give button abbreviations followed by feature names and, where appropriate, any parameters associated with the feature. Parameters are shown as bullet items in the sections below. They appear as fields to the right of the button field on the button-assignment screens and must be filled in.

First the call-appearance buttons are listed; then the feature buttons are listed, by feature. The features are Abbreviated Dialing, ACD, Call Coverage, and Display. Feature buttons not associated with one of these features are listed under *Miscellaneous Feature Buttons*. You can determine which feature a feature button is associated with by looking in table 7-4 above.

Call-Appearance Buttons

The following is an alphabetical list of the call-appearance-button abbreviations along with their parameters and definitions.

`aicm` Automatic Intercom

- `Grp:` Enter the number of the automatic intercom group (*1-300*) accessed by this button.

`call` Call appearance

- `Ext:` Enter the extension number (*000-99999*) for this button. Note the following:
  - — Bridging of call appearances on more than one voice station is not recommended. Call coverage provides more effective service.
  - — An extension number can have a maximum of 12 appearances on one station and 16 bridged appearances on all stations combined. Only one of the bridged appearances can be a straight-line set (SLS).

The following fields appear to the right of the extension number field and do not have any labeling on the screen. You must keep track of the field you are on. Press 5 Help for help in doing this.

- `Line appearance no.:` Enter the line (call) appearance number (*1-12*) of the extension.
- `Line type:` Enter *n* for no prime line, *p* for prime line, *a* for automatic answer and release line, *pd* for prime data line, or *nd* for nonprime data line. The data line types, *pd* and *nd*, can be used only with BRI stations. Only one voice call appearance and one data call appearance can be assigned as a prime line.
- `Ring type:` Enter *n* for no ring, *y* for ring, *d* for delayed ring, or *a* for abbreviated ring.
- `Ringing transfer:` Enter the ring type for the station when the ringing transfer button for this extension is pressed. Enter *f* (off) for no ringing transfer button (default), *r* for ring when operated, or *n* for no ring when operated. All bridged appearances of a call appearance have the same ring type, so changing one call appearance changes all of them.
- `Abbreviated and delayed ringing type:` Enter the method by which abbreviated ringing is to be stopped and delayed ringing is to be started on this station. Enter *a* for automatically or *m* for manually via an abbreviated and delayed ringing transfer (*adx*) button. All bridged appearances of a call appearance have the same ring type, so changing one appearance changes all of them.
- `Originate only:` Enter *y* if this call appearance can only originate calls, or *n* if it can originate and receive calls. If you change this field, you change all bridged appearances of the call appearance.

- `Home terminal:` Enter *y* if this station is the owner of the extension, or *n* if not.
- `SAC group:` Enter *y* if this extension is a member of a Send All Calls group (default), or *n* if not.

`dicm` Dial Intercom

- `Grp:` Enter the number of the dial intercom group (*1-280*) to be accessed by this button.
- `DC:` Enter the dial code (*0-99*) for this station in the dial intercom group. At least two stations must be assigned to each group in this way.

`micm` Manual Intercom

- `Grp:` Enter the number of the manual intercom group (*1-300*) to be accessed by this button.

`pco` Personal CO Line

- `Trk:` Enter the equipment location of the central office trunk. The equipment location fields are module (*0-30*), cabinet (*0-3* for traditional modules and *0* for universal and XE modules), carrier (*0-3* for traditional modules and *c-e* for universal and XE modules), slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules and *1-18* for XE modules), and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules).

  These fields must be filled in.
- `Ring:` Enter *y* if incoming calls on the trunk ring the station, or *n* if they do not.

Abbreviated Dialing Feature Buttons

The following is an alphabetical list of the Abbreviated Dialing feature-button abbreviations along with their parameters and their definitions.

`ad` Automatic Dialing

`aitm` List A Item

- `Mbr:` Enter the list A member (item) number (*1-95*) to be dialed automatically when the button is pressed.

`alst` List A Access

`bitm` List B Item

- `Mbr:` Enter the list B member (item) number (*1-95*) to be dialed automatically when the button is pressed.

`blst` List B Access

`func` Function Entry

`mark` Mark

`mdgt` Manual Digit Entry

`paus` Pause

`prog` Program

`sitm` System List Item

- `Mbr:` Enter the system list member (item) number (*1-9999*) to be dialed automatically when the button is pressed.

`slst` System List Access

`supp` Suppress Display

`wait` Wait

ACD Feature Buttons

The following is an alphabetical list of the ACD (Automatic Call Distribution) feature-button abbreviations along with their parameters and their definitions.

`ain` Automatic In Pool

- `Ext:` Enter the extension number (*000-99999*) that is to automatically receive ACD calls.

`auxw` Auxiliary Work

- `Ext:` Enter the extension number (*000-99999*) that is to do other work rather than receive ACD calls.

`city` Repeat City-of-Origin Announcement

`cmss` CMS Stroke Count

- `Cnt:` Enter CMS stroke count (*0-9*).

`cwc` Call Work Code

`min` Manual In Pool

- `Ext:` Enter the extension number (*000-99999*) that is to manually receive ACD calls.

`rls` Release Line

`staf` Staffed

- `Ext:` Enter the extension number (*000-99999*) that when staffed will receive ACD calls.

`svco` Service Observing

Call Coverage Feature Buttons

The following is an alphabetical list of the Call Coverage feature-button abbreviations along with their parameters and their definitions.

`cons` Consult Principal

`cvcb` Callback

`sac` Send All Calls for a Group of Extensions

Applies to all extensions that have been specified as members of a SAC group when their call appearances buttons were assigned on this station.

`sace` Send All Calls for an Extension

- `Ext:` Enter the extension number (*000-99999*) for which calls are redirected when this button is pushed.

Display Feature Buttons

The following is an alphabetical list of the Display feature-button abbreviations along with their parameters and their definitions.

`cmsg` Call Coverage Message Retrieval

`date` Display Date and Time

`del` Delete Displayed Message

`insp` Inspect Mode

`next` Display Next Message

`norm` Normal Mode

`rmsg` Message Retrieval Mode

`rtrn` Return Displayed Call

`srcl` Scroll Through Messages

`timr` Elapsed Timer On

Miscellaneous Feature Buttons

The following is an alphabetical list of the miscellaneous feature-button abbreviations along with their parameters and their definitions.

`acb` Automatic Callback

`adx` Abbreviated and Delayed Ringing Transfer

- `Ext:` Enter the extension number (*000-99999*) for which abbreviated ringing will be stopped and delayed ringing will be started when this button is pressed.

`amw` Automatic Message Waiting

- `Ext:` Enter the extension number (*000-99999*), which will cause this station's automatic message waiting lamp to light.

`busy` Station Busy

- `Loc:` Enter the equipment location of the station whose busy status is to be indicated here. The equipment location fields are module (*0-30*), cabinet (*0-3* for traditional modules and *0* for universal and XE modules), carrier (*0-3* for traditional modules and *c-e* for universal and XE modules), slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules, and *1-18* for XE modules), and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules). These fields must be filled in.

`cfbd` Call Forwarding - Busy and Don't Answer

`cffm` Call Forwarding - Follow Me

`cpu` Call Pickup

`data` Data Call Setup

- `Loc:` Enter the equipment location of the data module. The equipment location fields are module (*0-30*), cabinet (*0-3* for traditional modules and *0* for universal and XE modules), carrier (*0-3* for traditional modules and *c-e* for universal and XE modules), slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules, and *1-18* for XE modules), and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules). These fields must be filled in.
- `RTV:` Enter *y* to return to voice when this button is pressed while on a data call, or *n* not to.

`excl` Manual Exclusion

- `Ext:` Enter the extension number (*000-99999*) that will not allow bridging when this button is pressed.

`lnd` Last Number Dialed

`lwc` Leave Word Calling - Activate

`lwcc` Leave Word Calling - Cancel

`mct` Malicious Call Trace

`mmwr` Manual Message Waiting - Receive

- `Loc:` Enter the equipment location of the sending station. The equipment location fields are module (*0-30*), cabinet (*0-3* for traditional modules and *0* for universal and XE modules), carrier (*0-3* for traditional modules and *c-e* for universal and XE modules), slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules, and *1-18* for XE modules), and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules). These fields must be filled in.
- `DT:` Enter the device type of the receiving station. Enter *b* for basic set, *f* for feature module, *c* for coverage module, or *d* for display module.

- `Btn:` Enter the button number (*1-42*) on the receiving station.

`mmws` Manual Message Waiting - Send

- `Loc:` Enter the equipment location of the receiving station. The equipment location fields are module (*0-30*), cabinet (*0-3* for traditional modules and *0* for universal and XE modules), carrier (*0-3* for traditional modules and *c-e* for universal and XE modules), slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules, and *1-18* for XE modules), and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules). These fields must be filled in.
- `DT:` Enter the device type of the sending station. Enter *b* for basic set, *f* for feature module, *c* for coverage module, or *d* for display module.
- `Btn:` Enter the button number (*1-42*) on the sending station.

`msig` Manual Signaling

- `Loc:` Enter the equipment location of the signalled station. The equipment location fields are module (*0-30*), cabinet (*0-3* for traditional modules and *0* for universal and XE modules), carrier (*0-3* for traditional modules and *c-e* for universal and XE modules), slot (*0-3, 5-8, 13-16, 18-21* for traditional modules, *1-20* for universal modules, and *1-18* for XE modules), and circuit (*0-7* for traditional modules and *0-23* for universal and XE modules). These fields must be filled in.

`over` Override

`pc` Priority Calling

`rcll` Recall

`rcut` Ringing Cutoff

`rtrf` Ringing Transfer

- `Ext:` Enter the extension number (*000-99999*) for which the ringing is to be transferred when this button is pressed.

`wfpr` Wait for Principal (used with PC/PBX)

FUNCTION KEY REFERENCE

Several function keys are labeled on your screen while task-mode fields are displayed.

1 Cancel — Cancel Command

Press this key to cancel a command. If you are entering a command on the command line, press this key to clear the command line. If you are entering data in a screen, press this key to clear the screen and return to the command line. If you press this key after entering data into the fields, the entries are ignored. In other words, press this key to exit a screen without making changes.

2 Refrsh — Refresh Screen

Press this key to completely redisplay the screen if you suspect any of the data on the screen.

3 Submit — Submit Command to Switch

Press this key to submit (or send) the results of an add, change, or remove to the switch. When you press this key, the task mode selects the procedures needed to complete the station administration. A count of these procedures is displayed as they are executed.

4 Clear — Clear Field

Press this key to clear the field the cursor is on. This key appears when the cursor is in a data field.

5 Help — Display Command or Field Help

Press this key to display help information. If the cursor is on the command line when you press this key, the resulting screen will describe available commands, objects, or identifiers. If the cursor is in a data field when you press this key, the resulting message will describe the data to be entered. The message appears on the third line from the bottom of your display. When `(MORE)` appears at the end of the message, press as many times as necessary to view the whole message.

7 NextPg — Display Next Page

Press this key to display the next page of a screen. This label appears only when there is more than one page. You can also display the next page of a screen by pressing Page Down.

8 PrevPg — Display Previous Page

Press this key to display the previous page of a screen. This label appears only when there is more than one page. You can also display the previous page of a screen by pressing Page Up.

SPECIAL KEY REFERENCE

Listed below are brief descriptions of all of the special keys used in Manager II station screens and on the command line.

When in a station screen (entered by executing either the *add* or *change* command):

Back Space — Press this key to delete the character to the left of the cursor.

Space Bar — Press this key to delete the character to the right of the cursor.

Enter — Press this key to enter data in the current field and move the cursor to the *next* logical field on the screen. Where fields on a line are associated, the cursor will move to the right. Where fields in a column are associated, the

cursor will move downward.

Tab — Press this key to enter data in the current field and move the cursor to the *next* logical field on the screen. Where fields on a line are associated, the cursor will move to the right. Where fields in a column are associated, the cursor will move downward.

Shift-Tab — Press this key to enter data in the current field and move the cursor to the *previous* logical field. Where fields on a line as associated, the cursor will move to the left. Where fields in a column are associated, the cursor will move upward.

→ — Press this key to enter data in the current field and move the cursor to *next* field to the right. If the cursor is on the last field of a line, it moves to the first field on the next line. If the cursor is on the last field of the last line, it moves to the first field on the first line.

← — Press this key to enter data in the current field and move the cursor to the *previous* field to the left. If the cursor is on the first field of a line, it moves to the last field on the previous line. If the cursor is on the first field of the first line, it moves to the last field on the last line.

↓ — Press this key to enter data in the current field and move the cursor to the leftmost field on the *next* line. If the cursor is on the last line, it moves to the first line.

↑ — Press this key to enter data in the current field and move the cursor to the leftmost field on the *previous* line. If the cursor is on the first line, it moves to the last line.

Page Down — Press this key to enter data in the current field and move the cursor to the first field on the *next* page.

Page Up — Press this key to enter data in the current field and move the cursor to the first field on the *previous* page.

When on the command line:

Space Bar — Press this key to move the cursor one space to the right.

Back Space — Press this key to delete the character to the left of the cursor.

Enter — Press this key to execute the commands typed on the command line.

When in any screen or on the command line:

Print Scrn — Press this key to print the screen on a printer.

A. Customized User Database Form

The Manager II user database contains information about your communications system that is essential for its operation. The Manager II software is delivered with a default user database that can be used to make direct (hardwired) connections between a Manager II PC and the switch. A customized user database is necessary if you plan to use dial connections to your switch. If this is the case, complete the form in this appendix with the assistance of your account executive so that a user database can be prepared and delivered for your Manager II. Telefax the completed forms to:

AT&T Technical Service Center
(303) 850-8057
Attn: Manager II Coordinator

Your customized database should not be used for direct connections between a Manager II PC and the switch.

The first part of the form supplies customer-location and shipping information. The second page lists all of the relevant information about Manager II users. Complete this second page with great care since it controls not only who gains access to Manager II but the latitude they have in working with the switch. The third page covers the information about the switches to which Manager II will be connected.

The explanations of columns on the second part of the form are as follows:

- *Customized User ID* — The user IDs that the system administrator or telecommunications manager selects for those who will be authorized to log on to the system. Each user ID can be up to 20 characters long. Italicized values in the column are default values in the Manager II user database that can be overwritten. For example, *cust2* can be changed to *Mildred*.
- *Password* — A unique identifier associated with each user ID that Manager II requests before a user can gain access. A password is not required but is strongly recommended for security. It can be up to 20 characters long.
- *User Type* — The level of permission for a user. *a* designates an administrative or privileged user with special permissions, which include the ability to modify the user database. *r* designates a regular user. Italicized values in the column are default values in the Manager II user database that can be overwritten. For example, *r* for *cust2* can be changed to *a*.
- *Proc Acces Modes* — Which procedures a user is allowed to access. *a* designates administration procedures, *m* designates maintenance procedures, and *t* designates tape procedures. Italicized values in the column are default values in the Manager II user database that can be overwritten. For example, *a,t* for *cust2* can be changed to *a,m,t*.

- *Agent ID* — A number, administered in the switch, that can be viewed in the mode procedure. Each user ID requires a unique agent ID. The agent ID *cannot* be changed. It is shown only so users will know which agent ID will be used when they connect to the switch.

The explanations of columns on the third part of the form are as follows:

- *Switch Address* — The city and state where the switch is located.
- *Switch Type* — The version of the switch, such as R2V4.
- *Switch Port* — The type of port (RMATS or PPG) to which Manager II is connected.
- *Switch Name* — The customer's name for a dial string for a switch. The entry must be alphanumeric and cannot contain any special characters or spaces. If a name is two words separated by a space, use an underbar between the two names, such as *Denver_North*. If the customer has multiple dial strings for a switch, each dial string must have its own unique name.
- *Tel Number* — The complete telephone number, including dial access code, area code, and office code, that needs to be dialed to reach a switch. If during dialing a pause is required to wait for an additional dial tone, use one or more commas (,) to pause (2 seconds per comma) for an analog modem (for example 9,303-555-1212) or a plus sign (+) to wait for dial tone for a DTDM (for example 9+303-555-1212).
- *Security Code* — A 6-digit number for System 85 R2 and Generic 2 or a 4-digit number for DIMENSION and System 85 R1 that is sent to the switch by Manager II when connecting to the switch. System administrators can change this code. However, if users who have service contracts with AT&T change the security code, they must notify AT&T of the change in order to continue to fulfill their contracts.
- *Baud Rate* — The transmission rate between the PC and the switch. The possible rates for connection to a PPG port are 1200, 2400, 4800, 9600, and 19200 (use only 1200 or 2400 baud for external calls). All RMATS connections are at 1200 baud for System 85 R2 and Generic 2 switches and at 300 baud for DIMENSION 400E, 600, and 2000 and System 85 R1 switches.
- *PC Port* — The serial port (1 or 2) on the PC that is used to connect to the switch. Since most PCs have only one port, the number usually will be 1.

DEFINITY MANAGER II CUSTOMIZED USER DATABASE FORM

Activity: ___New ___Additions ___Removal

DOSS Order Number: _____ Due Date: ____/__/_____

Please attach the page of the DOSS order that specifies PEC 0304-CSM. The charge for this PEC is $125.00 per dial string access number.

Customer

Company: _____

Contact: _____

Address: _____

City/State/Zip: _____

Phone: ( ) _____

Local DSIC (Where diskette will be sent)

Contact: _____

Address: _____

City/State/Zip: _____

Phone: ( ) _____

Account Team

Contact: _____

Address: _____

City/State/Zip: _____

Phone: ( ) _____

Location of Manager II

Contact: _____

Address: _____

City/State/Zip: _____

Phone: ( ) _____

Size of user database diskettes needed: □ 3.5" □ 5.25"

Fax form to:
MANAGER II COORDINATOR
(303) 850-8057

DEFINITY MANAGER II CUSTOMIZED USER DATABASE FORM (Part 2 of 3)

(This customized user database should not be used on a Manager II direct-connect PC.)

Overnight Requests for Diskettes Only

Overnight Carrier and Account No.:_____

or

Responsibility Code:_____

Job Function Code: _____

GEO Code: _____

Manager II User Database Logins

Customized User ID (20 characters maximum)	**Password (20 characters maximum)**	**User Type a - Admin r - Regular**	**Proc Access Modes a - Administration m - Maintenance t - Tape**	**Agent ID**
(admin)		*(a)*	*(a, m, t)*	71
(cust2)		*(r)*	*(a, t)*	72
(cust3)		*(r)*	*(a, t)*	73
(cust4)		*(r)*	*(a, t)*	74
(cust5)		*(r)*	*(a, t)*	75
(cust6)		*(r)*	*(a, t)*	76
(cust7)		*(r)*	*(a, t)*	77
(cust8)		*(r)*	*(a, t)*	78
(cust9)		*(r)*	*(a, t)*	79

NOTE: Italicized values are defaults. Overwrite with new values if you desire and cross out user ids you choose not to use.

DEFINITY MANAGER II CUSTOMIZED USER DATABASE FORM (Part 3 of 3)

Manager II Customer Switch Security Information

Switch Address (City/State)	Switch Type (e.g. R2V4)	Switch Port* (RMATS or PPG)	Switch Name† (20 characters max)	Tel Number‡ (40 characters max or d if Direct)	Security Code§ (6 or 4 digits only)	Baud Rate	PC Port (1 or 2)
	G2.1	PPG0		*(Extension)*			*(1)*
	G2.1	PPG0		*(Local)*			*(1)*
	G2.1	PPG0		*(Long Distance)*			*(1)*
		RMATS1		*(Extension)*			*(1)*
		RMATS1		*(Local)*			*(1)*
		RMATS1		*(Long Distance)*			*(1)*
							(1)
							(1)
							(1)
							(1)
							(1)
							(1)
							(1)

Reproduce locally if additional switch access is requested.

* For PPG0 and RMATS1 (if available), the extension, local, and long-distance numbers are the recommended entries. Cross out entries in the table that you choose not to use. RMATS0 is reserved for AT&T maintenance. PPG1 is reserved for your Manager II direct-connection to the switch.

† If the customer has multiple ways to access a switch (such as different telephone number), each telephone number must have its own unique switch name.

‡ Show the complete number as dialed by Manager II to access the switch. Include dial access code, area code, and office code if applicable. If during dialing a pause is required to wait for an additional dial tone, use 1 or more commas (,) to pause (2 seconds per comma) for an analog modem (for example 9,303-555-1212) or a plus sign (+) to wait for a dial tone for a DTDM (for example 9+303-555-1212).

§ Verify on upgrades from System 85 to Generic 2 that the initial security code matches your previous R2 security code.

386-based.tr

B. Connecting Manager II

This appendix provides information on connecting Manager II to the switch. It tells you what PCs you must use to run Manager II. It describes the two types of communication-system ports to which your PC can be connected. Also, it illustrates the four most common connections made between the PC and a switch and the hardware necessary to make those connections. These connections are compatible with other system management adjuncts, for example Monitor I. See appendix C for information on loading the necessary software on the PC and verifying a working connection between the PC and the switch.

After you have established a physical connection, loaded the software, and verified a working connection, turn to chapter 2, *Getting Started*, for instructions on using Manager II.

CERTIFIED PCs

The PCs listed below are the only ones certified for running Manager II. AT&T takes no responsibility for problems encountered in the administration and maintenance of a switch if Manager II is loaded on an uncertified PC.

- AT&T PC 6300 Desk Top
- AT&T 6312 WGS Desk Top
- AT&T 6286 WGS Desk Top
- AT&T 6286/EL WGS Desk Top
- AT&T 6386SX/EL Desk Top
- AT&T 6386 WGS Desk Top
- AT&T 6386E WGS Desk Top
- AT&T 6386E/33 WGS Tower
- AT&T 6386E/33 WGS Model S Tower
- Zenith SupersPort 286e laptop equipped with a 40-megabyte hard disk, a 3½" diskette drive, and a Zenith ZA-181-24 2400-baud internal modem

A Manager II PC must meet the following requirements:

- Be equipped with at least one RS232C serial communication port. It may also be equipped with an optional second RS232C port.
- Be connected to a 25-line by 80-character video monitor. A color monitor and a color graphic adapter (CGA) are recommended for optimal use.
- Be equipped with at least 640 kilobytes of random access memory (RAM).

- Be equipped with at least one 3½" or 5¼" diskette drive.
- Be equipped with at least one hard disk drive having at least 10 megabytes of available space.

COMMUNICATION SYSTEM PORTS

Before Manager II can be used to administer a switch, the PC on which it is installed must be connected to the switch. Connections are made to two types of switch ports: RMATS or PPG.

RMATS Ports

There are two RS232C-compatible RMATS ports on the TN492C circuit pack. RS232C connectors for the RMATS ports are located on the back of the switch common-control cabinet. They are labeled H2 for RMATS port 0 and H3 for RMATS port 1. RMATS port 1 is available only on System 85 Release 2, and Generic 2.

RMATS port 0 (H2) is intended for use by the switch to report alarms to INADS or Trouble Tracker at a remote location and for remote maintenance by AT&T personnel. Since it is used for remote maintenance, a dedicated, nonswitched analog trunk is recommended for remote access.

RMATS port 1 (H3) is intended primarily for local or remote traffic polling by Monitor I and, secondarily, for local or remote system administration by Manager II, III, or IV. Because RMATS port 1 is not used for remote maintenance, a dedicated, nonswitched analog trunk connection is not necessary. Thus, a switched analog trunk can be used for remote access.

Both ports provide access to the system through the diagnostic processor (DP). The DP allows access to both the on-line and off-line processors in a duplicated system via the Manager II enhanced- and basic-mode *switch* command. Both ports also provide improved Manager II task-mode performance. Neither port provides access to the disk-tape system (DTS) or the switch support base (SSB).

PPG Ports

PPG ports are available only on Generic 2. There are two asynchronous data unit (ADU)-compatible PPG ports on the TN563 circuit pack. PPG port 0 is always accessible through the jack labeled ADU on the back of the Generic 2 system common-control cabinet. PPG port 1 can be wired for access either from the back of the system or from the modular jack on the front of the DTS. Normally, however, PPG port 1 should be wired to the jack labeled ADU on the back of the system.

PPG port 0 is used primarily for local or remote administration by Manager II, III, and IV and, secondarily, for remote updates of SSB files by AT&T personnel. Since this port may be used for remote updates of SSB files, a switched analog trunk is recommended for remote access. If you choose not to use this service, a nonswitched direct (hardwired) connection to the switch can be used.

PPG port 1 is used primarily for local administration and maintenance by Manager II. The Manager II PC comes with the switch and can be shared by both the customer and AT&T personnel. Because this port is used to display broadcast messages from the DTS, a nonswitched, direct (hardwired) connection to the switch is required.

Both PPG ports provide access to the system through the DTS. The DTS allows access to the SSB files and broadcast messages. PPG port 1 provides improved Manager II task-mode performance like RMATS ports 0 and 1, but PPG port 0 provides the best Manager II task-mode performance. Neither port provides access to the DP. Thus, PPG port 0 does not provide access to the off-line processor in a duplicated system via the Manager II enhanced- and basic-mode *switch* command. However, there is a second PPG port 1 in a duplicated system that does provide access to the off-line processor.

CONNECTIONS

The most common connections between the Manager II PC and the switch involve either a switched analog connection or a nonswitched direct (hardwired) connection. Other less-common connections may employ Digital Communications Protocol (DCP). The use of DCP is restricted to Generic 2 and System 85 R2 since DIMENSION and System 85 R1 do not support it. The configurations discussed below involve either analog or hardwired connections. An overview of the connections between the Manager II PC and the switch RMATS and PPG ports is shown in figure B-1.

Certified Modems for Manager II

Manager II is certified to work only with the ADU, analog modems, and data modules listed in table B-1.

Table B-1. Manager II ADU, Analog Modems, and Data Modules

Manager II Connection Type (`-c`)	ADU, Analog Modems, and Data Modules	Signal Type	Modem Pooling Required?
`hw`	AT&T Z3A2	ADU	No
`mt/mp`	AT&T 2224 CEO L1A/2 and L1D/2	Analog	No
`mt/mp`	AT&T 4024 (2224 CDO)	Analog	No
`mt`	AT&T 7400A in AT command mode	DCP	Yes
`mt`	AT&T 7400B in AT command mode	DCP	Yes
`mt`	AT&T BRI ADM in AT command mode	ISDN	Yes
`md`	AT&T PDM	DCP	Yes
`md`	AT&T DTDM	DCP	Yes
`md`	AT&T 7400A in terminal dialing mode	DCP	Yes

The connection type (**-c**) is used with the *con* command (see chapter 5). Modem pooling enables DCP data modules connected to Manager II to communicate with the analog modems connected to the switch RMATS and PPG ports. The DCP and ISDN data modules cannot be used with DIMENSION or System 85 R1 switches. Only analog modems can be used with these switches. Manager II will work with a 7400A in terminal dialing mode only if the 7400A has only one baud rate enabled. Manager II will not work with the data modules in 7406D and 7407D terminals.

When you specify a connection type of `mt` (modem tone) or `mp` (modem pulse), Manager II queries the modem to determine its type. Manager II then uses the initialization sequence for that type. You can also specify the modem type by setting an environment variable, in which case Manager II does not query the modem. There is one environment variable, MGRII_MODEM1 and MGRII_MODEM2, for each serial port, COM1 and COM2, respectively. These environment variables can be set to the values listed in table B-2 (also see appendix E).

Table B-2. MGRII_MODEM1 and 2 Environment Variable Values

Value	Use with
ATT2224CEO	AT&T 2224 CEO and BRI ADM
ATT7400A	AT&T 7400A and 7400B
ATT4024	AT&T 4024 and generic 2400-baud modems
GEN_1200	AT&T 4112 and generic 1200-baud modems
GEN	Other generic modems

Manager II does not query a modem when the connection type is `md` (modem digital).

Certified Modems for the Switch

The switch is certified to work with only the analog modems listed in table B-3.

Table B-3. Switch Analog Modems

Switch Port	Analog Modem	Programming Required?
RMATS 0	AT&T 212AR	No
RMATS 1	AT&T 212AR	No
	AT&T 2224 CEO L1A/2 and L1D/2	Yes
	AT&T 4024 (2224 CDO)	No
PPG 0	AT&T 2224 CEO L1A/2 and L1D/2	Yes
	AT&T 4024 (2224 CDO)	No
PPG 1	None (direct connection only)	No

Programming is required if a modem has options that must be set and there are no switches to set them (described below). ADUs must be used when connecting to the PPG ports because the PPG ports have built-in ADUs.

Programming the Modem for the Switch

Modems that do not have switches to set all their options must be programmed. Manager II programs its modem every time it is used. However, the switch cannot do the same. Thus the modem connected to the switch must be programmed separately.

To program the switch modem, first connect it to your PC serial port (COM1 or COM2) using cable PEC 2721-28E and, if you are using an AT&T 6286/EL WGS PC or a 6386-based PC, cable PEC 37925. Next, execute the modem initialization program IMODEM by entering the following on the DOS command line:

`imodem` *modem_script [port_number]*

where *modem_script* is the name of a file containing modem commands, and *port_number* is the number of the PC serial port (1 or 2) to which you connected the modem. If you connected the modem to port 1, you do not need to specify the port number.

The IMODEM program and two modem script files come with Manager II. The first script file, 2224CEO, initializes an AT&T 2224 CEO modem so that it will not use MNP, an error-correcting network protocol that allows two modems to communicate virtually error free. The second script file, 2224CEO.MNP, initializes an AT&T 2224 CEO modem so that it will use MNP. Using MNP should prevent line noise from disrupting your Manager II work. Manager II uses MNP only at 2400 or higher baud. Only PPG ports can work at 2400 baud or higher. If you plan to use an AT&T 2224 CEO modem on the Manager II side as well as on the switch side, use the 2224CEO.MNP script. If you do not, use the 2224CEO script.

After running IMODEM with a modem script, disconnect the modem from your PC and connect it to the switch.

The AT&T 4024 modem connected to the switch does not have to be programmed; however, it must be initialized. First, put switches 1 through 8 down, then press the reset button next to the switches.

Standard Connections

The following are the four standard connections between Manager II and the switch:

- Manager II with nonswitched analog dial access to RMATS port 0
- Manager II with switched analog dial access to RMATS port 1
- Manager II with switched analog dial access to PPG port 0
- Manager II with nonswitched direct access to PPG port 1

Figure B-1 gives an overview of these four connections.

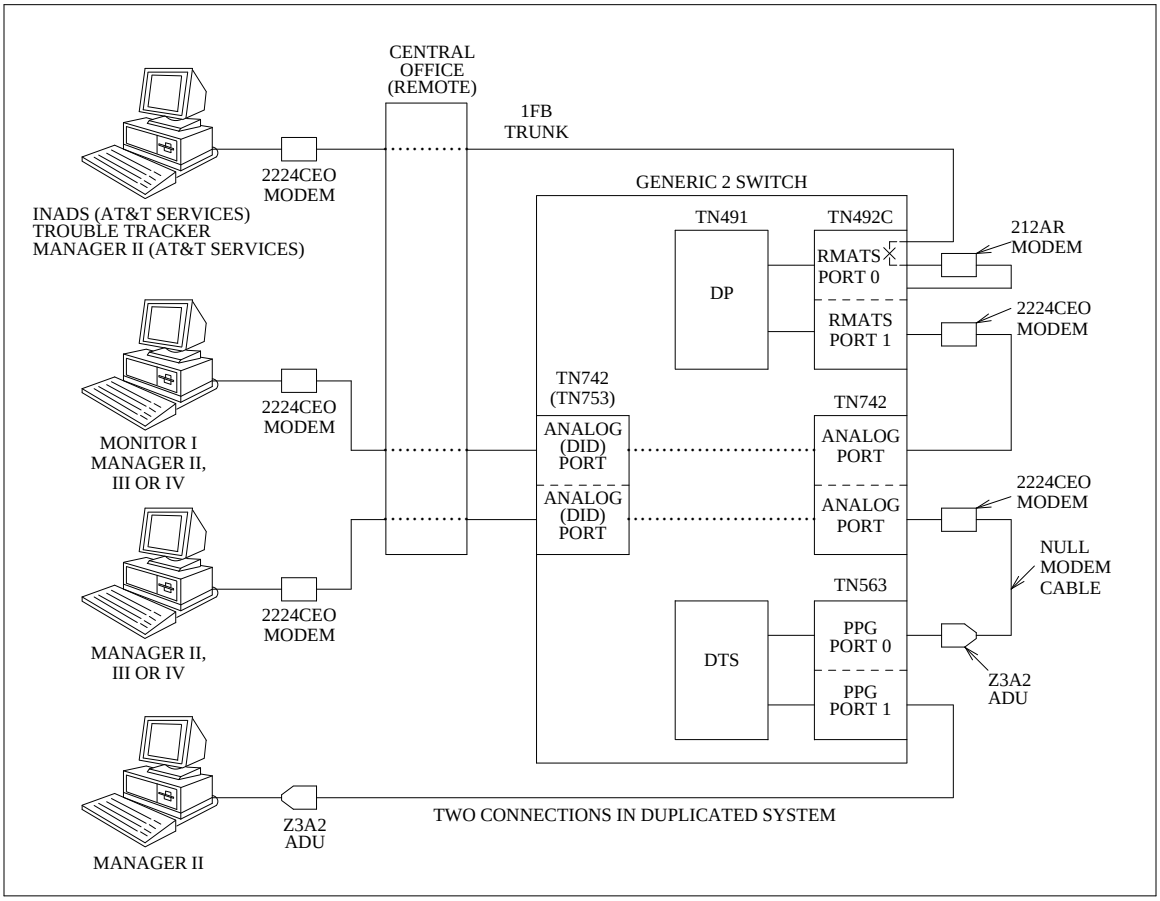


Figure B-1. Manager II Connections to RMATS and PPG Ports

Following are detailed illustrations of each of these connections, along with a list of equipment (including PECs) necessary to establish the connections.

Manager II with Nonswitched Analog Dial Access to RMATS Port 0

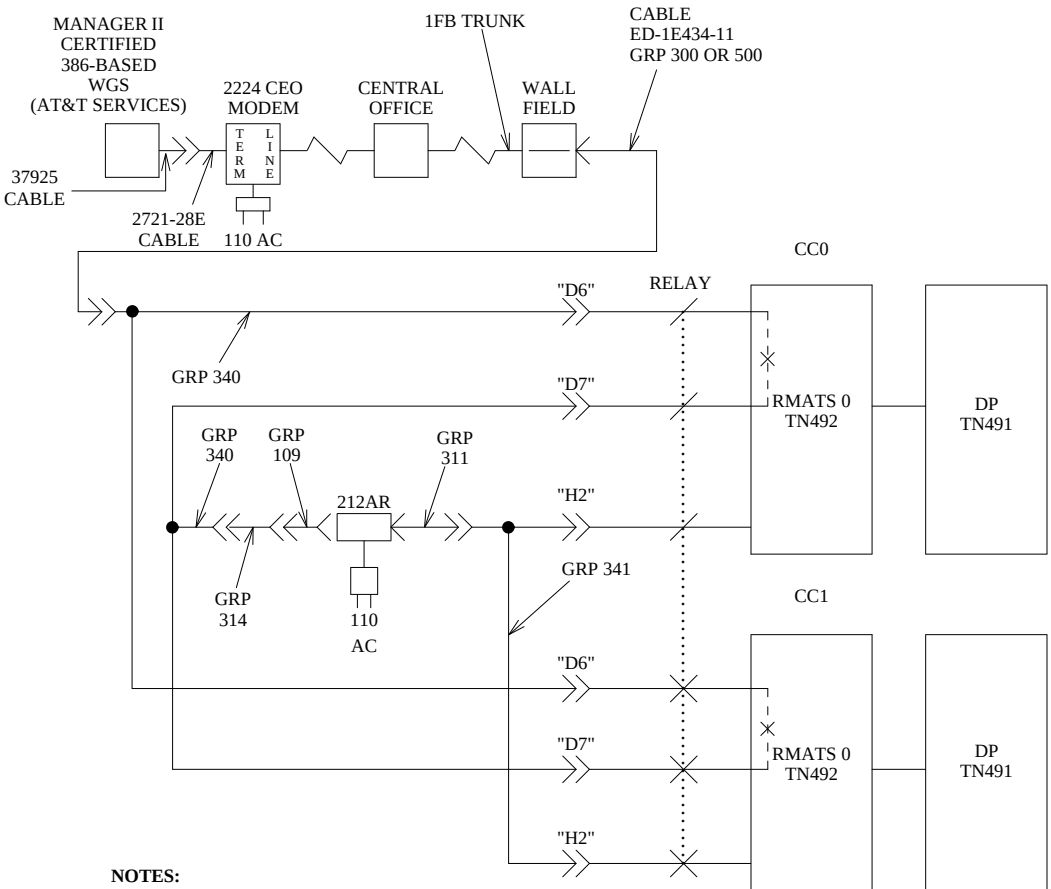
In figure B-2, a remote Manager II is connected to the switch via a dedicated trunk that is permanently connected to RMATS port 0. The equipment necessary to accomplish this connection is listed below.

Manager II side:

- PEC 2224 CEO modem (includes power transformer)
- PEC 2721-28E cable
- PEC 37925 cable (for 286 and 386-based WGS only)

Switch side:

- 1FB-type trunk
- PEC 2126-212 212AR modem (includes power transformer)
- PEC 21474 stand-alone housing for 212AR modem
- ED-1E434-11 cables
  - — For duplicated system: group 109, group 300 with old wall field or group 500 with new wall field, group 311, group 314, group 340 (2), and group 341
  - — For unduplicated system: group 109, group 300 with old wall field or group 500 with new wall field, group 311, and group 314



NOTES:

1. Set 8 switches on front of 2224-CEO modem on Manager II side down.
2. Set 30 switches on 212AR modem on switch-side as follows:
   - 5 switches on front of modem NOT pushed in
   - 1 screw switch inside modem fully open
   - 2 plug-in straps between terminals E1 and E2, and E3 and E4 inside modem
   - 22 switches inside modem as indicated in the table below, where O means open and C means closed.

	1	2	3	4	5	6	7	8	9
S1	C	O	C						
S2	C	O	O	O	O	C	C	O	O
S3	C	O	C	O	O	O	C	O	
S5	O	O							

3. For unduplicated systems, ignore connections to CC1 (don't use Group 340 and 341 cables).

Figure B-2. Manager II with Nonswitched Analog Dial Access to RMATS Port 0

Manager II with Switched Analog Dial Access to RMATS Port 1

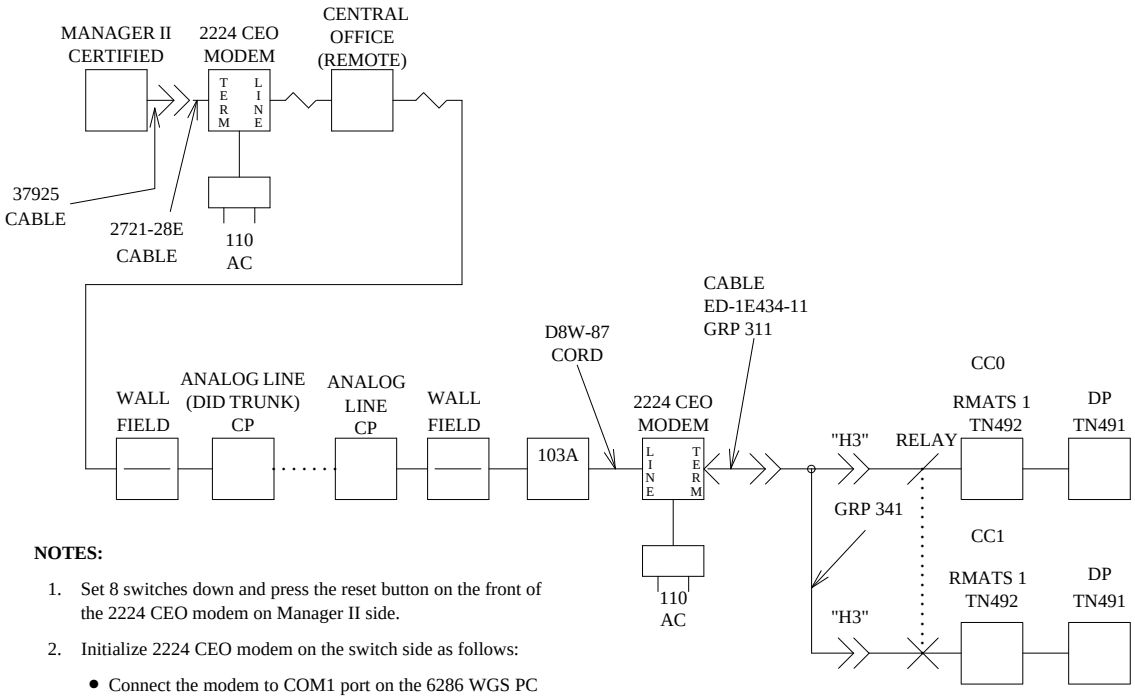
In figure B-3, a local or remote Manager II is connected to the switch via an analog line or DID trunk port, respectively. That port is linked by the switch during a call to another analog line port that is connected to RMATS port 1. The equipment necessary to accomplish this connection is as follows:

Manager II side:

- PEC 2224 CEO modem (includes power transformer)
- PEC 2721-28E cable
- PEC 37925 cable (for 286 and 386-based WGS only)

Switch side:

- PEC 2224 CEO modem (includes power transformer)
- PEC 2725-07G D8W-87 cord
- PEC 2750-D08 103A connecting block
- ED-1E434-11 cables
  - — For duplicated system: group 311 and group 341
  - — For unduplicated system: group 311 only
- Analog line circuit packs:
  - — TN742: 8-port OPS/OPX analog line circuit pack (universal or XE module)
  - — SN229: 8-port analog line circuit pack (traditional module)
- DID trunk circuit packs (for remote connection only):
  - — TN753: 8-port DID trunk circuit pack (universal or XE module)
  - — SN232B: 4-port DID trunk circuit pack (traditional module)



NOTES:

1. Set 8 switches down and press the reset button on the front of the 2224 CEO modem on Manager II side.
2. Initialize 2224 CEO modem on the switch side as follows:
   - Connect the modem to COM1 port on the 6286 WGS PC using the 2721-28E cable and 37925 cable.
   - On PC type **`imodem 2224ceo.mnp`** and set 8 switches on front of 2224 CEO modem per instructions. At the end of the procedure switches 1, 3, 5, and 7 should be up and switches 2, 4, 6, and 8 should be down.
3. For unduplicated systems, ignore the connections to CC1 (do not use group 341 cable).

Figure B-3. Manager II with Switched Analog Dial Access to RMATS Port 1

Manager II with Switched Analog Dial Access to PPG Port 0

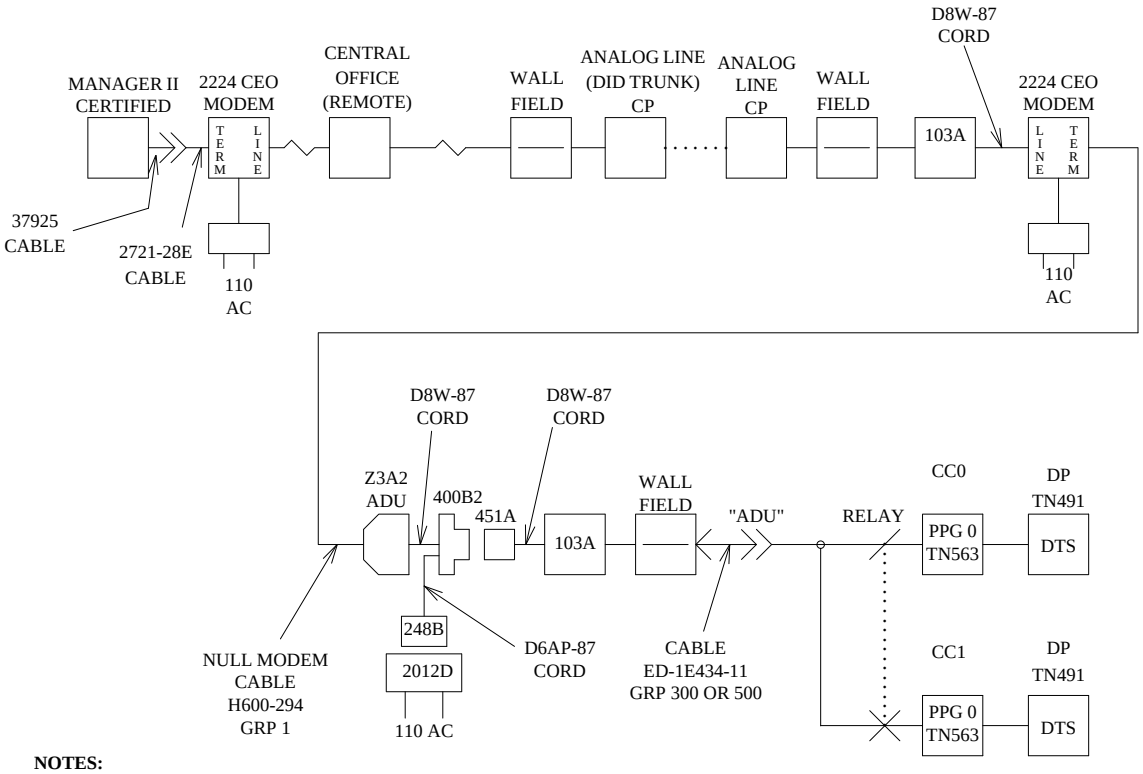
In figure B-4, a local or remote Manager II is connected to the switch via an analog line or DID trunk port, respectively. That port is linked by the switch during a call to another analog line port, which is connected to PPG port 0. The equipment necessary to accomplish this connection is listed below.

Manager II side:

- PEC 2224 CEO modem
- PEC 2721-28E cable
- PEC 37925 cable (for 286 and 386-based WGS only)

Switch side:

- PEC 2224 CEO modem (includes power transformer)
- H600-294 group 1 null modem cable
- PEC 2169-002 Z3A2 ADU (see *Z3A Asynchronous Data Unit Product Manual*, 555-401-708)
- PEC 21691 ADU power consisting of 2012D power transformer, 248B adapter, 400B2 adapter, and D6AP-87 power cord
- PEC 2750-A30 451A adapter
- PEC 2725-07G D8W-87 cords (3)
- PEC 2750-D08 103A connecting block (2)
- ED-1E434-11 cables for both duplicated and unduplicated systems: group 300 with old wall field, or group 500 with new wall field
- Analog line circuit packs:
  - TN742: 8-port OPS/OPX analog line circuit pack (universal or XE module)
  - SN229: 8-port analog line circuit pack (traditional module)
- DID trunk circuit packs (for remote connection only):
  - TN753: 8-port DID trunk circuit pack (universal or XE module)
  - SN232B: 4-port DID trunk circuit pack (traditional module)



NOTES:

1. See figure B-6 for the actual pin-to-pin connections between the 103A connecting block, wall field, and ADU connector.
2. Set 8 switches down and push reset button on front of 2224 CEO modem on Manager II side.
3. Initialize 2224 CEO modem on the switch side as follows:
   - Connect the modem to COM1 port on the 6286 WGS PC using the 2721-28E cable and 37925 cable.
   - On PC type **`imodem 2224ceo.mnp`** and set 8 switches on front of 2224 CEO modem per instructions. At the end of the procedure switches 1, 3, 5, and 7 should be up and switches 2, 4, 6, and 8 should be down.
4. For unduplicated systems, ignore the connections to CC1.

Figure B-4. Manager II with Switched Analog Dial Access to PPG Port 0

If you choose not to use the remote field update service for SSB files, you can connect a local Manager II to PPG port 0 exactly as you do to *one* PPG port 1 (see the next section and figure B-5). PPG ports 0 and 1 are on the same ADU connector and thus share the same ED-1E434-11 group 300 or 500 cable.

Manager II with Nonswitched Direct Access to PPG Port 1

In figure B-5, a local Manager II is hardwired to PPG port 1. The equipment necessary to accomplish this connection is listed below.

Manager II side:

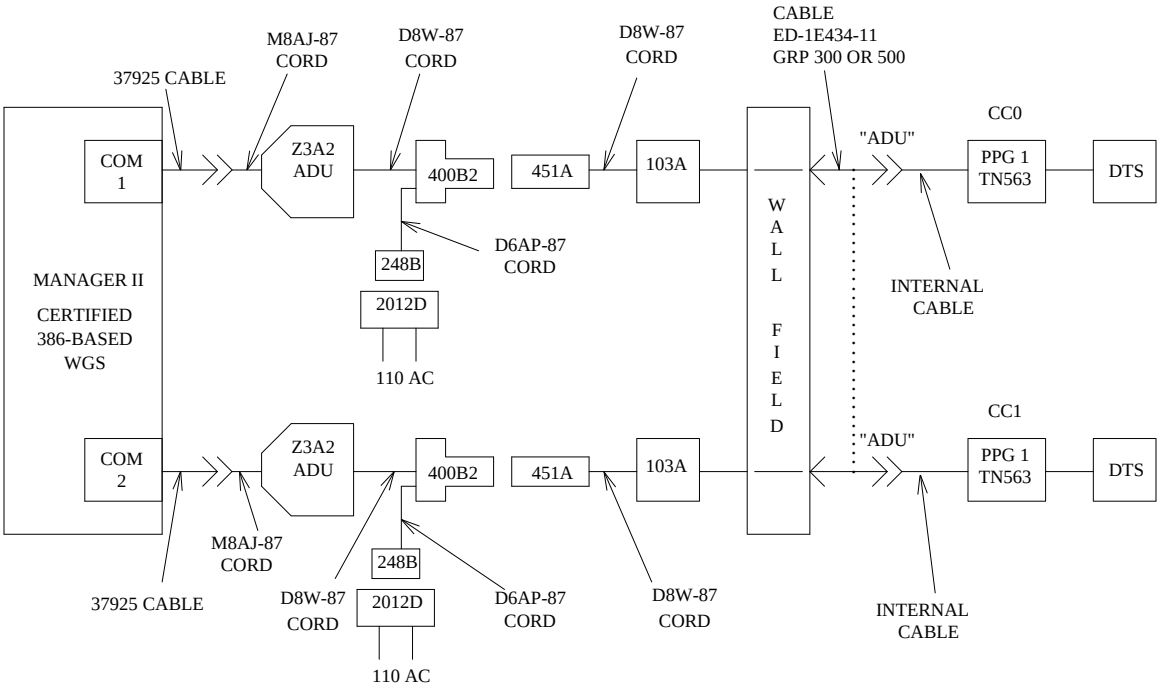
Contact the Sales and Technical Response Center (STRC), 1-800-521-7872, for information about the correct PC and printer PECs.

- PEC 37925 9- to 25-pin adapter cable (for 286 or 386-based WGS only)
- PEC 2169-004 Z3A4 ADU consisting of Z3A2 ADU and M8AJ-87 cord (see *Z3A Asynchronous Data Unit Product Manual*, 555-401-708)
- PEC 21691 ADU power consisting of 2012D power transformer, 248B adapter, 400B2 adapter, and D6AP-87 power cord
- PEC 2750-A30 451A adapter
- PEC 2725-07G D8W-87 cord (2)
- PEC 2750-D08 103A connecting block

  Note: Two of each of the above items are required for a duplicated system.
- PEC 6950-BC1 MS-DOS Version 4.01
- Manager II Version 2.0 or later
- PEC 1266-100
- SSB Issue 3.0 or later
- PEC 65511 must be installed on the PC.

Switch side:

- ED-1E434-11 cables for both duplicated and unduplicated systems: group 300 with old wall field, or group 500 with new wall field.



NOTES:

1. See figure B-6 for the actual pin-to-pin connections betwen the 103A connecting block, wall field, and ADU connector.
2. Connect PPG 1 to ADU connector by connecting JADUB connector to PADUB connector.
3. For unduplicated systems, ignore connections from COM2 to CC1.

Figure B-5. Manager II with Nonswitched Direct Access to PPG Port 1

Connect the 103A connecting block, wall field, and ADU connector in figures B-4 and B-5, as shown in figure B-6 below.

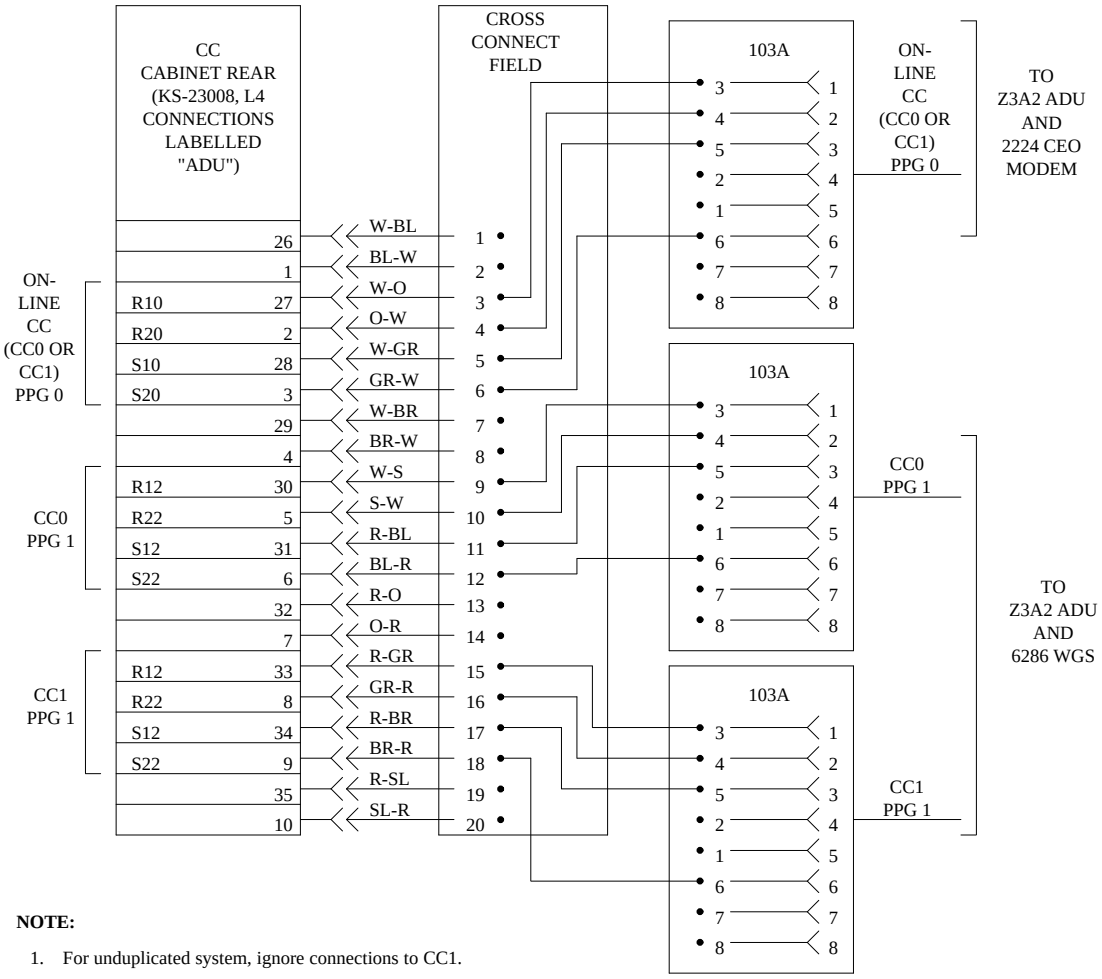


Figure B-6. ADU Connector, Cross Connect Field, and 103A Connections

A second serial port board is needed when the switch has a duplicated common control. The second serial port board is used to connect to the second common control. It can also be used to connect to a second switch. Note that the AT&T 6286/EL and 386-based PCs come with two serial ports; the other certified PCs do not.

There are several steps in installing a second serial port board and connecting it to the switch. These steps must be performed on any PC that does not have a second serial port.

1. Set the options on the second serial port board, COMCODE 405660457, to operate as COM2 (see figure B-7).
2. Remove the cover from the PC. For example, removing the cover from an AT&T 6282 WGS PC is accomplished as follows:
    a. Turn the PC off and unplug it.
    b. Remove *all* the cables connected to the back of the PC. These include the cables connected to AC power, keyboard, monitor, and first serial port board.
    c. Stand the PC on its backend.
    d. Unlock the cover with the key on the front of the PC.
    e. Remove the four screws inside the feet on the bottom of the PC.
    f. Lift the cover from the PC.
    g. Set the PC down on its feet.
    h. Remove the inside top cover of the PC by removing three screws, two in the front and one in the rear.
3. Remove the screw and metal bracket that covers any available slot. For example, for the AT&T 6286 WGS PC, this is accomplished as follows:
    a. Remove the metal bracket covering slot 1 (the left-most slot when viewed from the rear of the PC) by removing one screw on top of the PC. Usually slot 1 is available; if not, select another slot.
    b. Remove the plastic insert covering the selected slot from the rear of the PC.
4. Place the second serial port board, equipped with the Globe Manufacturing G93 mounting bracket, into the selected slot and, using the screw removed in step 3 above, secure the board to the chassis.
5. Put the cover back on the PC, reversing the cover-removal process, and reconnect any cables to the back of the PC that were disconnected.
6. Connect the second serial port board to the Generic 2 ADU connector on the back of the common-control cabinet in the same way that the first serial port board, included with the PC, is connected to the ADU connector (see figure B-5). The equipment required is included with the switch.

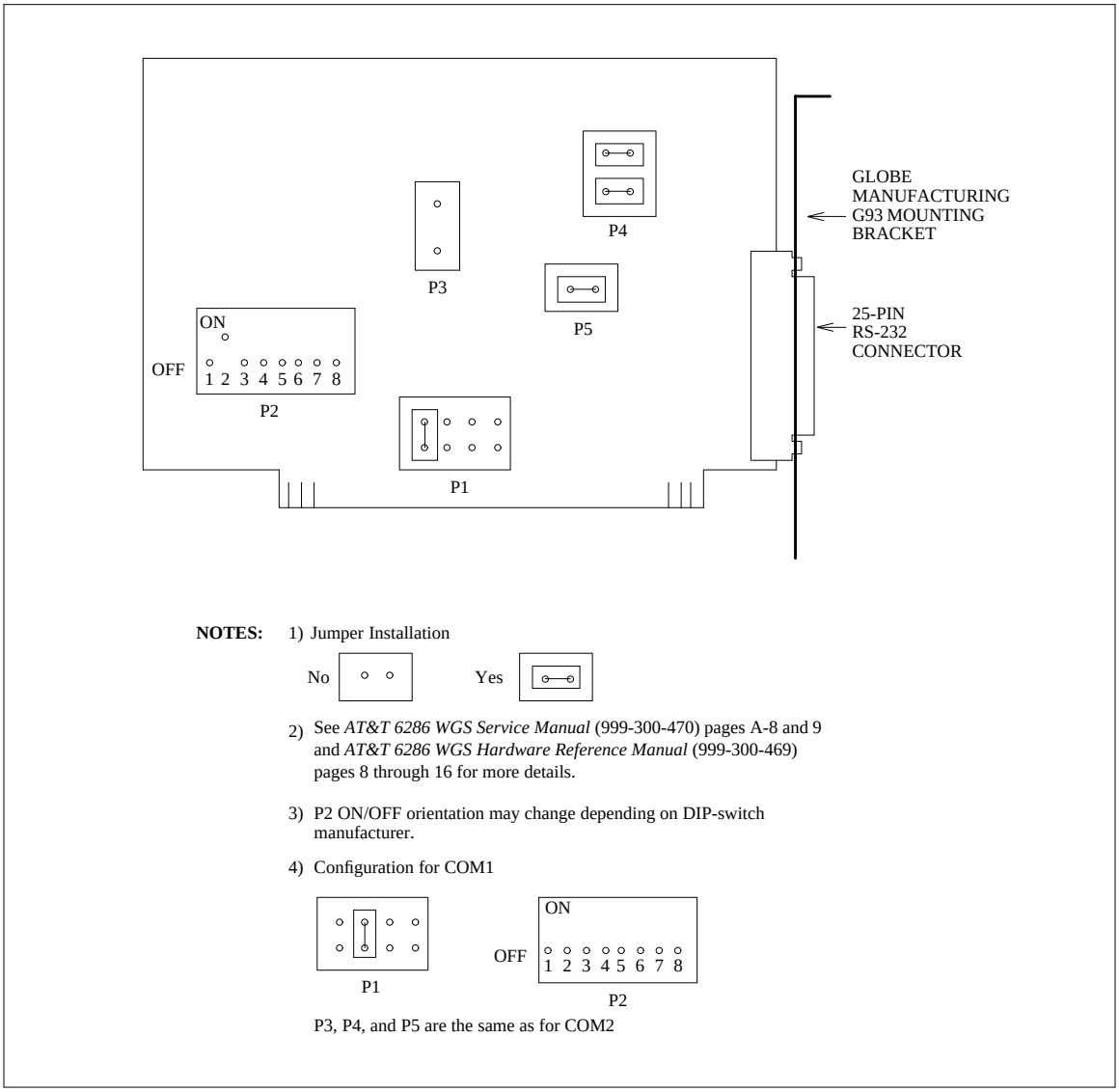


Figure B-7. Serial Port Board Configured as COM2

C. Installing Manager II

Manager II software comes in three packages: the Manager II software, the Manager II user database, and the optional switch support base (SSB). It is critical that each of these be installed properly. Of these packages, install the Manager II software first. Here are some items you will want to consider before you install the Manager II software.

- You must install MS-DOS on your PC before you can install Manager II.
- You will need to know the location on your PC of the ANSI display driver (probably, C:\ANSI.SYS).
- You will need to know the name of the diskette drive from which you will be installing Manager II. The default is drive A.
- You will need to know what kind of connection you plan to use between your PC and the switch. If your PC has two COM ports, you may use a different connection type with each port. (See appendix B.)
- You will need to have decided where you want to put Manager II. The default is the MGRII directory on drive C, C:\MGRII.
- You will need to have decided where you want to put the switch support database. The default is the SSB directory on drive C, C:\SSB.
- You will need to have decided whether to let the installation program add the necessary variables to your environment by changing your AUTOEXEC.BAT and CONFIG.SYS files. If you decide against letting the installation program handle the addition of variables, you can have these variables stored in other files for you to add manually to your system files.
- A program running in your PC while you install Manager II can affect the installation. If the AUTOEXEC.BAT or CONFIG.SYS files leave such a program running or if you suspect that one of them might, remove calls to the program from these files and reboot the PC before installing Manager II.
- Always reboot your PC after installing Manager II or the SSB for the first time.

CERTIFIED VERSIONS OF MS-DOS

Manager II is compatible with Version 3.2, 3.3, and 4.01 of the MS-DOS operating system. The MS_DOS shell, `dosshell`, in Version 4.01 should not be running when Manager II is executed. Do not invoke the `dosshell` from the AUTOEXEC.BAT file.

INSTALLING MANAGER II

In the procedure that follows, assume that you are installing the Manager II software from diskette. Assume too that your diskette drive is called drive A, and that your hard disk drive is called drive C. Insert the first Manager II diskette into drive A as illustrated in figure C-1.

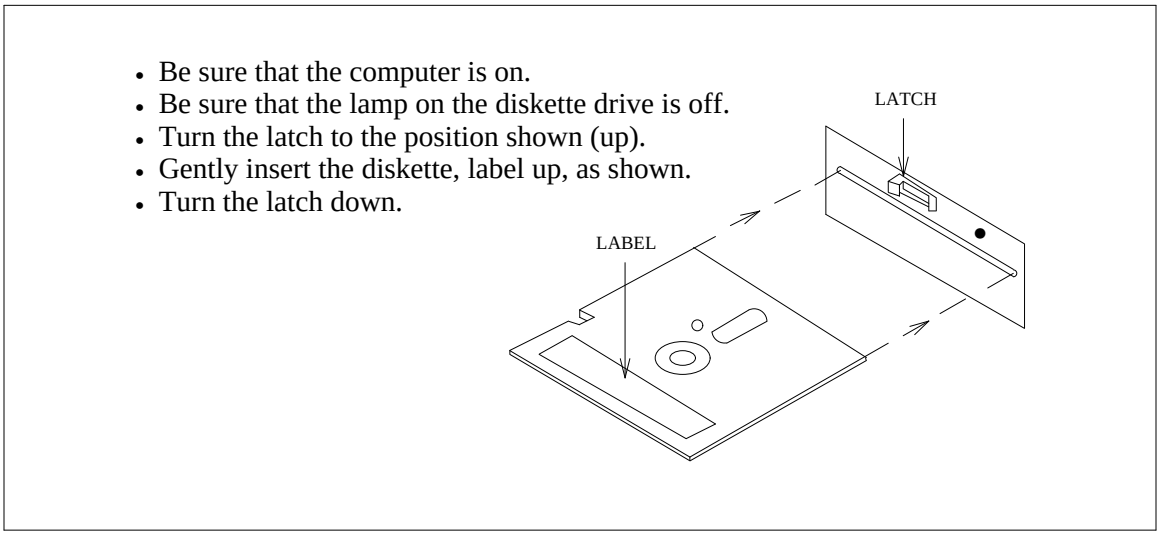


Figure C-1. Installation of Diskette

Type the following lines on the DOS command line (if your copy of the *install* program is not in drive A, substitute the real drive name for A).

```
a:
install
```

The installation program offers some general notes regarding installation and then asks you questions about the way you want your software installed. You will be prepared to answer these questions if you have considered the items listed above. In the procedure that follows, the installation program is referred to as INSTALL.

1. INSTALL first asks if you are using a color PC monitor. Answer **y** for yes (default), or **n** for no. Answer **n** if you are installing Manager II on the laptop PC. The laptop PC has a liquid crystal display that is similar to a monochrome monitor.

2. INSTALL asks you where to find the files that are to be installed. INSTALL assumes that the files to be installed are located in either drive A or drive B. Furthermore, if you have used the DOS *join* command to join the drive to a path name on another drive, it is no longer possible for Manager II to reference the joined drive by its original name. This prevents INSTALL from finding and accessing necessary files on the joined drive. Therefore, if two drives have been joined, press Ctrl-Break now (to exit INSTALL), and disjoin the two drives. Otherwise, answer **A:** (default), or **B:** as appropriate.

3. INSTALL asks where you want Manager II installed. INSTALL offers a suggestion, C:\MGRII, but if another location would be more convenient, enter the full path to that location. To accept the suggestion offered, simply press Enter.

4. INSTALL asks if you want to save the location in the MGRII environment variable. If you are reinstalling Manager II, answer **n** for no. To save the location, simply press Enter.

5. INSTALL asks where you want the switch support base (SSB) installed. INSTALL offers a suggestion, C:\SSB, but if another location would be more convenient, enter the full path to that location. To accept the suggestion offered, simply press Enter.

6. INSTALL asks if you want to save the location just established in the SSB environment variable. If you reinstalling Manager II, answer **n** for no. To save the location, simply press Enter.

7. INSTALL asks if you want to incorporate the MGRII location into your PATH. If you are reinstalling Manager II, answer **n** for no. Or, if you want to access Manager II only from the directory in which it is located, then answer **n** for no. To incorporate the MGRII location into your PATH, simply press Enter.

8. If you asked to have the environment variables saved, INSTALL asks if you want them added to the AUTOEXEC.BAT file. If you would rather edit AUTOEXEC.BAT yourself, answer with the name of the file in which you want the variables stored temporarily. Otherwise press Enter.

   The following is an example of typical modifications that INSTALL might make to the AUTOEXEC.BAT file.

   ```
   SET MGRII=C:\MGRII
   SET SSB=C:\SSB
   SET PATH=C:\DOS;C:\MGRII
   ```

   The DOS directory (another name may be used) contains the MS-DOS commands.

9. Certain MS-DOS specifications must be set before Manager II can function. These specifications include the setting of BREAK on, the number of DOS FILES and BUFFERS to at least 10, and the location of the ANSI.SYS display driver. INSTALL now asks if you want them saved. If you are reinstalling Manager II, no changes are necessary, so answer **n** for no. Otherwise press Enter.

10. If you asked to have the MS-DOS specifications saved, INSTALL asks if you want them added to the CONFIG.SYS file. If you would rather edit CONFIG.SYS yourself, answer with the name of the file in which you want the specifications stored temporarily. Otherwise press Enter.

    The following is an example of typical modifications that INSTALL might make to the CONFIG.SYS file.

    ```
    BREAK=ON
    BUFFERS=20
    FILES=20
    DEVICE=C:\ANSI.SYS
    ```

11. INSTALL asks you where your ANSI display driver is located. Respond with the full path to the program, or press Enter if the correct path is displayed.

12. INSTALL then installs the Manager II software from diskettes. It asks you to insert the Manager II diskettes in the drive one after the other. Store the diskettes in a safe place when you are done.

13. INSTALL asks you for the connection methods used between your PC and your systems. A description of the possible connection methods is on your screen along with instructions on how to choose among them.

14. INSTALL asks if you want broadcast messages from the switch displayed. Enter the number of the PC serial port that is hardwired to a PPG port. If both are, pick one. If you do not want broadcast messages displayed, simply press Enter.

15. INSTALL offers you the opportunity to install the switch support base. If you have a set of diskettes containing the switch support base for your Generic 2 system, and if you want to install the SSB at this time, respond as instructed on the screen. You may install the SSB at any time from diskettes, or you can download the files from the Generic 2.

16. INSTALL asks if you have a customized user database. Answer **y** to install it now. This concludes INSTALL. If the user database arrives after Manager II is installed, place the Manager II user database diskette in the diskette drive. Then use the MS-DOS *copy* command to copy the user database file from the diskette to the directory where the Manager II was installed, as follows:

    ```
    COPY A:\USER.DB C:\MGRII
    ```

17. You need to tell Manager II where you want to save your run and log files, what the inactivity time-out interval should be, and possibly what type of analog modems are connected to the PC serial ports. You can do this by editing the AUTOEXEC.BAT file as explained in appendix E.

18. If you installed Manager II on a laptop PC, you will need to change the video attribute for the active field in the MGRII.INI file, as explained in appendix E, for the highlight bar to appear.

19. Finally, reboot your PC after installing Manager II, the SSB, and the user database for the first time.

VERIFYING MANAGER II CONNECTIVITY AND OPERATION

After connecting the Manager II PC to PPG port 1 and installing Manager II software, verify that Manager II can be used to administer and maintain the system by completing the following procedures. Enter commands from the keyboard exactly as written.

Unduplicated System:

1. Power up the PC.
2. Start Manager II by entering **`mgrii`**
3. Log into Manager II by entering **`admin`**

4. Connect to the system by entering **`con cc0`**
5. Set the administration, maintenance, and tape-switch modes by entering **`123`**
6. Access Procedure 600 to display alarms by entering **`p600 x`**
7. Disconnect from the system by entering **`disc`**
8. Exit Manager II by entering **`quit`**

Duplicated System:

1. Power up the PC.
2. Start Manager II by entering **`mgrii`**
3. Log into Manager II by entering **`admin`**
4. Connect to the first common control in the system by entering **`con cc0`**
5. Set the administration, maintenance, and tape-switch modes by entering **`123`**
6. Access Procedure 600 to display alarms on CC0 by entering **`p600 x`**
7. Connect to the second common control in the system by entering **`con cc1`**
8. Set the administration, maintenance, and tape switch modes by entering **`123`**
9. Access Procedure 600 to display alarms on CC1 by entering **`p600 x`**
10. Disconnect from both common controls by entering **`disc disc`**
11. Exit Manager II by entering **`quit`**

D. Installing the Switch Support Base from Diskette

A switch support base (SSB) is available for each release of DEFINITY Communications System Generic 2. The SSB can be obtained from either of two sources: it is available on the tape supplied with each Generic 2 system, and it is available on diskette. The SSB is described in detail in chapter 3.

A *get* command, executed from within Manager II, makes it possible to download all or part of the SSB from Generic 2 systems to your PC. (The *get* command is also described in detail in chapter 3.) Besides the *get* command, an installation program, SSBMGR (SSB Manager), is provided on diskette with the SSB. The SSBMGR program provides full-screen menus that allow you to manage your various switch support bases. Use of SSBMGR ensures that the SSB on the diskettes will be correctly installed onto the hard disk of your PC. This appendix describes the capabilities and usage of SSBMGR.

SSBMGR CAPABILITIES

The SSBMGR program provides the services listed below. You can use it to:

- Install the complete set of SSB files for a particular Generic 2 release
- Install a delta set of SSB files, which upgrades an installed SSB with the files required to support a different Generic 2 release
- Verify an installed set of SSB files
- Consolidate an installed set of SSB files
- Remove an installed set of SSB files
- List an installed set of SSB files

INVOKING THE SSBMGR

If you are installing the SSB from diskette, place the first SSB diskette into diskette drive A and enter **`a:ssbmgr`** to invoke SSBMGR on SSB diskette one. If you want to examine the SSB on the hard disk, enter **`ssbmgr`** to invoke the SSBMGR in the Manager II directory, C:\MGRII.

Although you typically access SSBMGR options by using function keys (as described in the next section), you can also access the options when you invoke the SSBMGR program. Simply enter **ssbmgr** *option*, where the options are those listed below:

-a	Install the complete SSB
-d	Install the delta SSB
-v	Verify an installed SSB
-c	Consolidate an installed SSB
-r	Remove an installed SSB
-l	List all installed SSBs
-s *dir*	Use *dir* as the SSB directory, usually C:\SSB

USING THE SSBMGR OPTIONS

After you invoke the SSBMGR program, a menu appears that offers the options listed below. Use the function keys given to select the desired option.

Installing a Complete SSB

For new Generic 2 installations, SSBMGR makes it possible to install a complete SSB from its associated diskettes. (If, for some reason, you need to overwrite an existing installation, this facility will do that.) To install the SSB, press F1 and follow the instructions that appear on the screen.

Installing a Delta SSB

The SSBMGR program is equipped to identify the release supported by each of your SSB files, compare that identification to that of the corresponding file on diskette, and copy only the files necessary to support the new release to your SSB. To install the delta SSB, press F2 and follow instructions that appear on the screen.

Verifying Your SSB

The verification feature of the SSBMGR program verifies that all required files are present and uncorrupted. To verify your SSB, press F3 and follow the instructions that appear on the screen.

Consolidating Your SSB

If you have installed several SSBs, you may want to consolidate them to recover disk space. Use SSBMGR's consolidation facility for this purpose. This operation examines your directory structure and, where possible, consolidates several directories into one, removes duplicate files, and removes interdependencies between SSB databases. To consolidate your SSB, press F4 and follow the instructions that appear on the screen.

Removing Your SSB

The SSBMGR program can remove the SSB files for a particular version of the Generic 2. Before you attempt to remove an SSB, however, you must consolidate your databases to remove interdependencies between them. To remove an SSB, press F5 and follow instructions as they appear on the screen.

Listing Your SSBs

You may have several SSBs installed, each associated with a different version of Generic 2. To list all the installed SSBs on your PC, press F6.

Getting Help

You have access to help screens while using SSBMGR interactively. Press F7 from the main SSBMGR menu to access a menu of help topics.

Exiting the SSBMGR

Exit SSBMGR by pressing F8 from the main SSBMGR menu.

USING THE CORRECT SSB FILES

There may be slight differences between your diskettes and the SSB stored in the switch. The SSB stored in the switch is always right for that switch. You should always check, using the *get* command, to ensure a perfect match between the database on your PC and that of the switch. Manager II must be connected to switch PPG port 0 or 1 to use the *get* command.

E. Changing Defaults

Some characteristics that are defined during the installation of Manager II can be changed individually without requiring that the program and its supporting files be reinstalled. You can do this by changing environment variables in the AUTOEXEC.BAT file and default variables in the MGRII.INI initialization file.

MANAGER II ENVIRONMENT VARIABLES

Use any editor to change the Manager II environment variables in the AUTOEXEC.BAT file, as explained below.

Manager II and SSB Directories

If you change the name of the directory in which Manager II resides, you must change the place in which the software looks for it. The same is true for the switch support base (SSB) database. Advising the MGRII program of the new locations is simply a matter of making some modifications to a file.

After you change the location of the MGRII program and its supporting files, open C:\AUTOEXEC.BAT with any editor, and look for `SET MGRII=` *string* in the file. Change *string* to the new location for MGRII. Also look for `PATH=` *string* and change *string* to include the new location of MGRII. Then write C:\AUTOEXEC.BAT to disk and exit the file. After you reboot the system (or execute C:\AUTOEXEC.BAT), the new location will be available to the Manager II software.

If you change the location of the SSB, enter C:\AUTOEXEC.BAT and look for `SET SSB=` *string* in the file. Change *string* to the new location of the SSB. Write C:\AUTOEXEC.BAT to disk, and exit the file. After you reboot the system (or execute C:\AUTOEXEC.BAT), the location will be available to the software.

Run- and Log-File Directories

Default directories may be specified for both run (script) and log files. Use environment variables *MII_RUN* and *MII_LOG* for this purpose. Initalize MS-DOS environment variables via the *set* command, issued either from within the file AUTOEXEC.BAT or from the MS-DOS command line. For example, the following commands specify that the default directory location for run files is c:\mgrii\run and the default location for log files is c:\mgrii\log.

```
SET  MII_RUN=C:\MGRII\RUN
SET  MII_LOG=C:\MGRII\LOG
```

In addition to setting these environment variables, you must also create the run- and log-file directories. You can do this by using the MS-DOS *md* (make directory) command as follows:

```
MD  C:\MGRII\RUN
MD  C:\MGRII\LOG
```

For more information on run and log files, see chapter 6.

Inactivity Timer

If no switch activity occurs within a given period, Manager II times out and disconnects all connections. The default period is 15 minutes. You may adjust this period by initializing the environment variable, *MGRII_TMOUT*. The inactivity timer may be set from 10 to 60 minutes. Attempting to set the timer lower than 10 minutes results in the timer being set to 10 minutes. Similarly, attempting to set the timer higher than 60 minutes results in the timer being set to 60 minutes.

To initialize the environment variable MGRII_TMOUT, use the *set* command, either from the MS-DOS command line or inside the file AUTOEXEC.BAT. For example, the following *set* command changes the time-out period to 30 minutes.

```
SET  MGRII_TMOUT=30
```

Since a run tape on a duplicated system can take up to 35 minutes, the period should be set to at least 45 minutes to ensure that Manager II is connected to the switch when the run tape completes.

Modem Types

Manager II verifies the type of modem used whenever a connection attempt is made with a connection type (*-c* option) of *mt* (modem tone) or *mp* (modem pulse). Once Manager II has determined the modem type, it chooses an initialization sequence best suited to that modem. To improve performance, you may set an environment variable to specify the modem type. If the appropriate environment variable is set, Manager II does not query the modem; this improves performance. There is an environment variable for each of the two possible PC COM ports. The variables are as follows:

MGRII_MODEM1: specifies the type of modem associated with COM1

MGRII_MODEM2: specifies the type of modem associated with COM2

The possible values are as follows:

- ATT2224CEO (also used for ISDN BRI ADM)
- ATT7400A (also used for 7400B data module)

- ATT4024 (also used for generic 2400 baud modems)
- GEN_1200 (used for generic 1200 baud modems)
- GEN (used for other generic modems)

See appendix B for more information on connection types and modems.

To initialize an environment variable, use the *set* command, either from the MS-DOS command line or inside the AUTOEXEC.BAT file.

MANAGER II INITIALIZATION VARIABLES

Use any editor to change the initialization variables in the Manager II initialization file, MGRII.INI, as explained below.

Communication Port Connection Types

Manager II recognizes four types of connections between your PC and your systems. (These connections are described in appendix B.) If you change the equipment at one of your communication ports, COM1 or COM2, you must advise the software of the change.

After you change the hardware at your communication port, edit the MGRII.INI file stored in the same directory as the MGRII program. Search for a line that begins with `COM1=` or `COM2=` (depending on which port you changed). Change the *string* that follows the equal sign to one of the possible codes shown in table E-1.

Table E-1. Connection Types

Code	Meaning of Code
HW	Hardwired to communications system (via Z3A)
MT	Modem — tone dialing (AT command mode)
MP	Modem — pulse dialing (AT command mode)
MD	Modem — DCP (terminal dialing mode)
XX	Port is not equipped

Default Communication Port for Broadcast Messages

Broadcast messages consist of information sent by a Generic 2 communications system to Manager II during a switch reload. Broadcast messages can reach Manager II only if the link between your PC and the switch is a hardwired connection through an asynchronous data unit to a PPG port. (Hardwired connections are discussed in appendix B.) Broadcast messages are not available through RMATS ports or with any type of connection except hardwired.

You can enable the display of broadcast messages from the command line using the *msg* command, as already described, or from within your MGRII.INI file, as described below. The two methods yield somewhat different results. If broadcast messages are enabled from within MGRII.INI, Manager II continues to monitor the specified port until commanded by the *msg* command to cease. If broadcast messages are enabled by the *msg* command, Manager II monitors the specified port until you leave the broadcast message screen by means of the screen-labeled key, 1 Exit. In effect, the *msg* command is treated as a one-time request, while the initialization file entry applies to an entire Manager II session. If the desire is always to recognize and display broadcast messages, use the initialization file.

To enable or disable broadcast messages from the MGRII.INI file, search the file for a line that begins with `DEFAULT_MSG=` followed by a variable (*0*, *1*, or *2*). To disable broadcast messages, set the variable to *0*. To enable broadcast messages, set the variable to the number of the communication port to be monitored, either *1* or *2*. For example, to enable broadcast messages from COM2, edit the line so it reads `DEFAULT_MSG=2.` Broadcast messages can be enabled on only one PC port at a time.

Default Communication Port for Switch Connections

Your user database may or may not specify which of your communication ports is to be used for any given switch. If it does not, your specification of the communication port on the command line (using the *-p* option of the *connect* command) governs which port is used. If the communication port is specified neither in the user database nor on the command line, Manager II looks in the MGRII.INI file for the `DEFAULT_PORT` variable.

To change the default port, look through MGRII.INI for `DEFAULT_PORT=`*number*. Change *number* to either *1* for COM1 or *2* for COM2, to suit your purposes.

Dialing Conditions

If an attempt to dial a remote system fails, Manager II looks to the variable `DIAL_ATTEMPTS` and, if the number of attempts already made equals the number stored in the variable, Manager II makes no further attempts. To change this number, find `DIAL_ATTEMPTS=`*number* in the MGRII.INI file and change *number* to the number of attempts you prefer (1-9). If the switch rejects the security code sent to it by Manager II, it makes no further attempts to connect, no matter what value is associated with `DIAL_ATTEMPTS.`

After a system is dialed, it takes some time to make a connection. After a certain period of time, Manager II abandons the call. This timeout period is controlled by a variable stored in MGRII.INI. To change the timeout period, find `TIME_OUT=`*number* in the MGRII.INI file and change *number* to the number of seconds to wait after dialing before the call is to be abandoned.

Activity Logging

When you log interactions between your system and Manager II, these interactions are stored in a file whose name is specified in one of two ways. You can specify a file name as an argument to the *log* command as you initiate logging, or you can log to a default file that is named in the MGRII.INI file. To change this default file name, find `LOG_FILE=`*name* in the MGRII.INI file and change *name* to the name of your choice. If you do not specify a name using the *log* command nor is there a log file entry in MGRII.INI, the default name of the log file is MGRII.LOG.

You may find it helpful, as you log your activities, to have periodic time notations added to your log file. One variable in your MGRII.INI file adds time notations and controls their frequency. To control them, find `TIME_TICKS=`*number* in your MGRII.INI file. Here, *number* is the number of minutes between notations. Change *number* to *0* to disable the feature, and to any number between 1 and 32767 to enable the feature and determine the frequency of time notations, in minutes. For example, if you enter `TIME_TICKS=3`, Manager II adds a time stamp every three minutes to the log file.

Default Switch Support Base

Manager II automatically determines which switch support base to use when connected to a switch. It needs to be told which SSB to use when not connected to a switch. The Manager II on-line help facility uses this information to display enhanced-mode procedure screens and other switch-related data when not connected to a switch. You can tell Manager II which SSB to use when not connected to a switch by setting the `DEFAULT_SWITCH` variable in the MGRII.INI file. Initially this variable is set to Generic 2. You can use an editor to change it if you like.

Video Attributes

Manager II screens use various visual markers (video attributes) for different screen elements. With color monitors, colors are used as markers. For monochrome monitors, other markers, such as underlining or reverse video, are used. After you have used the software for awhile, you may want to change these video attributes.

Changing video attributes is simply a matter of changing a few notations in your MGRII.INI file. With any editor, look through MGRII.INI for `VIDEO ATTRIBUTE:`. This phrase occurs six times, one for each screen element named and defined in table E-2.

Each of the six screen elements can be assigned a video attribute. To do this, edit the MGRII.INI file and look for the name of the screen element you would like to change. The name is followed by an equal sign (=) and two numbers separated by a comma. The first of the two numbers defines the foreground characteristic of the video attribute; the second defines the background characteristic. These numbers represent the video attributes shown in table E-3.

The following example specifies that normal text is printed in white on a black background.

Table E-2. Manager II Screen-Element Definitions

Screen Element	Definition of Element
NORMAL	Normal text that appears on the screen
ENHANCED	Screen title and message line (lines 1 and 23)
DATA	Data fields and screen labels for the function keys
ACTIVE	Active data field and menu-selection bar
ALARM	Major and minor alarms and heartbeat (line 22)
STATUS	Status lamps, such as the wait lamp (line 22)

```
VIDEO ATTRIBUTE: NORMAL=7,0
```

When you execute Manager II after changing the video attributes in MGRII.INI, your screen displays the new colors you requested.

Table E-3. Codes for Video Attributes

Number	Color	Monochrome
0	Black	
1	Blue	Underline
2	Green	
3	Cyan	
4	Red	
5	Magenta	
6	Brown	
7	White	Normal/reverse video
8	Grey	Standout
9	Light blue	Standout underline
10	Light green	
11	Light cyan	
12	Light red	
13	Light magenta	
14	Yellow	
15	Bright white	

NOTES:

1. Use only 0-7 for background colors.
2. Use 8-15 only if your PC has an enhanced video graphics adapter.

If you installed Manager II on a laptop PC, change the video attribute for the active field (and highlight bar) as follows:

```
VIDEO ATTRIBUTE: ACTIVE = 9,1
```

This makes the highlight bar visible and the active field distinguishable from the other fields.

F. Diagnosing Problems

If you encounter problems working with your Manager II, consult the following information. It describes some operational problems and how to fix them. If you cannot solve the problem, please contact your AT&T representative.

Cannot Execute Manager II

First, check the MS-DOS environment variable, MGRII. To do this, use the MS-DOS command *set*. This causes the operating system to list all the environment variables and their values. The environment variable MGRII should be set to the directory in which you installed the Manager II software. For example, a typical installation might use the following:

```
MGRII=C:\MGRII
```

When you execute Manager II, you must run it from the directory kept in the MGRII environment variable or that directory must be incorporated within the PATH environment variable. Check the environment variable PATH. The PATH variable lists all the directories that MS-DOS examines when looking for commands to execute. Is your Manager II software directory listed in the PATH variable?

Are the Manager II software files in the Manager II software directory? Use the MS-DOS command *dir* to list the contents of the directory. The following files should be listed.

`MGRII.EXE`	Manager II control program
`ENH.EXE`	Enhanced-mode program
`TASK.EXE`	Task-mode program
`MIH.COM`	Manager II communications package
`GETSSB.EXE`	*get* command program
`ERR_MSGS.INI`	Manager II error-message file
`MGRII.INI`	Manager II initialization file
`MGRII.HLP`	Directory of Manager II on-line help files
`USER.DB`	User database
`IMODEM.EXE`	2224 CEO modem initialization program
`2224CEO`	2224 CEO modem initialization data file — non-MNP
`2224CEO.MNP`	2224 CEO modem initialization data file — MNP

Do Not Know Login ID

A default user database comes with Manager II. The login IDs in that user database are listed below. Initially, these login IDs do not have passwords. You may add a password by using the Manager II command *udb*, which is explained in chapter 5.

System administrator login ID

```
admin
```

Regular user login IDs

```
cust2   cust3   cust4   cust5
cust6   cust7   cust8   cust9
```

In addition to the default user database, you may receive, in a separate package, a user database containing information specific to your communications systems. (If this is the case, you should erase the default user database once you have received your customized user database.) If you have forgotten your login ID or password, the system administrator can use the Manager II user database command, *udb*, to find them. If you are the system administrator and have forgotten this information, you need to contact your AT&T representative.

Cannot Connect to the Switch

Is the switch name you are using with the connection command, *con*, in the Manager II user database? The switch names in the default user database that comes with Manager II are listed below.

`CC0`
`CC1` (for duplicated systems only)

These names can be used only if your Manager II PC is hardwired to the switch. If your PC uses a modem to dial the switch, you must have a customized user database and you must use a switch name that is in that database. To find out what switch names are in the user database, press 6 Field while on the switch name field in the connection screen.

Is your Manager II PC properly connected to the switch? The PC and switch must be connected as specified in appendix B. Be sure the wiring, equipment, and modem settings (if used) are exactly as described there.

Do the connection options specified in the Manager II user database and initialization file, or on the connection command line, match the physical connection between the PC and the switch? Are you using the correct serial port, baud rate, and connection type? If you are a Manager II system administrator, you can use the user database command, *udb*, to correct these options.

If you are dialing the switch, does the switch telephone number in the Manager II user database match the actual telephone number of your switch, including dial-access code, area code, and office code if needed? If you are a Manager II system administrator, you can use the user database command, *udb*, to check the telephone number in the user database. If it is not correct, ask your AT&T representative to change it using the form in appendix A.

Does the switch security code in the Manager II user database match the one in the switch? If you are a Manager II system administrator, you can use the user database command, *udb*, to correct the security code in the user database.

Is the switch agent ID in the Manager II user database assigned in the switch if the switch is a Generic 2 switch? If you are a Manager II system administrator, you can use the user database command, *udb*, to see which agent ID you are using. If it is not assigned in the switch, ask your

AT&T representative to assign it.

If, after considering all of the above, you still cannot connect to the switch, contact your AT&T representative.

Cannot Access Enhanced Mode

Enhanced mode is available only for Generic 2 communications systems. For other systems, use basic mode.

A switch support base (SSB) must be properly installed before Manager II can run in enhanced mode. Use the SSB manager program, *ssbmgr*, to verify the SSB installation, or verify the installation yourself. The SSB manager program is described in appendix D. Manual verification is described here.

Check the MS-DOS environment variable SSB. To do this, use the MS-DOS *set* command. This causes the operating system to list all the environment variables and their values. The environment variable, SSB, should be set to the directory in which you installed the switch support base. For example, a typical installation might use the following:

```
SSB=C:\SSB
```

Change to the directory kept in the SSB environment variable. Within that directory is another directory, R2V5 or R2V6. Change to that directory and list its contents using the MS-DOS *dir* command. Several files and directories may be listed. The number of files and directories depends on how many switch support bases are installed. For example, if Generic 2.1 Issue 01.00 SSB files have been installed, the following files and directory should exist:

```
0100.HDR    file
0100.TOC    file
E293        directory
PATH.SSB    file
```

This example pertains to the SSB for Generic 2.1 Issue 01.00. Notice that the issue number is incorporated in the first two file names. The directory name E293 also changes, depending on the issue number.

Change to the directory E293. That directory contains three other directories: ADMIN, HELP, and MAINT. Files in these directories that support communications-system procedures are prefixed EFC. The directory ADMIN contains EFC files for administration procedures, which have names like EFC100W1. (EFC100W1 is the file for Procedure 100 Word 1.) The directory HELP contains the help files, which have names like ARS.HLP. Finally, the directory MAINT contains the files for the maintenance procedures, which have names like EFC620T1.

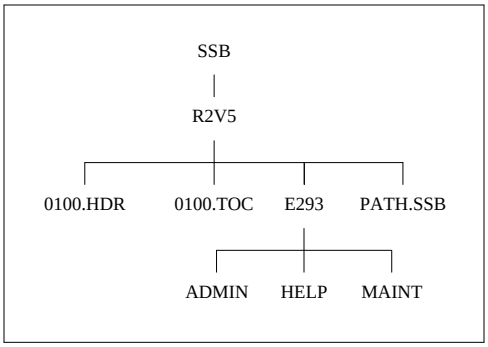


Figure F-1. SSB Directory Structure for Generic 2 Issue 01.00

The PATH.SSB file describes the SSB-directory structure illustrated in figure F-1. For this example, PATH.SSB would contain the following information.

```
DOT_ISSUE: 01.00
ADM_PATH=C:\SSB\R2V5\E293\ADMIN
MNT_PATH=C:\SSB\R2V5\E293\MAINT
HLP_PATH=C:\SSB\R2V5\E293\HELP
```

If you have installed more than one switch support base, PATH.SSB will have four similar lines for each SSB installed. The issue number and the directory paths will differ for the various Generic 2 issues.

Cannot Access Task Mode

Is the task mode program installed? See *Cannot Execute Manager II* above.

Task mode is available for only Generic 2 communications systems.

Screen Difficult to Read

The Manager II video attributes can be adjusted to make the screen more readable. This is done by editing the Manager II initialization file MGRII.INI. MGRII.INI is installed in the Manager II directory. Adjusting the video attributes is described in appendix E.

You may also need to verify that the file ANSI.SYS has not been corrupted or moved. Your CONFIG.SYS file must contain a line similar to the following.

```
DEVICE=C:\ANSI.SYS
```

In this line, the full path name to the file ANSI.SYS must be specified.

Cannot Access Certain Procedures or Certain System Modes

Your login ID may not have the permission level that Manager II requires before it permits access to certain procedures and modes. The system administrator may change the permission level associated with your login ID by using the Manager II user database *udb* command.

Manager II Displays Protocol-Violation Error Messages

Does the connection between Manager II and your system use a remote analog line? Remote analog lines are sometimes noisy. This can cause protocol errors on Manager II. Manager II usually recovers from single-byte errors. A prolonged noise burst, however, causes multibyte errors that disrupt Manager II communications with the switch. If this occurs, Manager II displays an error message stating that the communications protocol was violated. Manager II then attempts to resynchronize with the switch. If the attempt is successful, Manager II displays a message stating that communications were successfully reset. If this message is displayed, data may have been lost. Use the Manager II *v* (verification) command to verify and rebuild the display. Then try the current operation again. If communications could not be reset, Manager II displays another error message stating that the reset failed. In this case, quit Manager II promptly and retry the current operation when line noise conditions improve.

If you are working at baud rates of 2400 or higher and if your modems are not using MNP (Microcom Networking Protocol), you may want to change them to use this error-control scheme. See appendix B for details.

Remember that Manager II is a data-communications product. Always use data-grade lines for primary communication between Manager II and your communications systems.

Another possibility is that some component in the link between Manager II and your communications system may have failed. For example, a modem may be faulty. Or perhaps the link between Manager II and your communications system is not properly installed. For more information, see appendix B. If necessary, contact your AT&T representative.

G. Using MS-DOS Commands

A basic understanding of a few MS-DOS commands allows you to take advantage of many powerful Manager II features. The commands are especially useful for manipulating and printing Manager II log and run files. You can enter these commands only while you are on the MS-DOS command line. You cannot enter them while you are on the Manager II command line.

The commands are described below. The first set of commands listed is directory commands; the next set is file commands. Finally, there are a few miscellaneous commands. See the MS-DOS user's guide (version 3.2 and 3.3) or the MS-DOS reference manual (version 4.01) for more information on these commands, as well as on other MS-DOS commands that you might find useful.

DIRECTORY COMMANDS

drive`:` — change to disk *drive*

For example, to change to the diskette drive A, enter **`a:`**. To change back to the hard disk drive C, enter **`c:`**.

`cd` *directory* — change to *directory*

For example, to change to the Manager II log file directory, enter **`cd \mgrii\log`**. To change back to the main (root) directory, enter **`cd \`**. To determine which directory you are in, simply enter **`cd`** without specifying a directory.

`dir` *directory* — display the contents of *directory* on the screen

For example, to display the contents of the Manager II directory, MGRII, on the screen, enter **`dir mgrii`**. To display the contents of the directory in alphabetical order, enter **`dir mgrii | sort`**. To display the contents of the current directory, simply enter **`dir`** without specifying a directory. If a file has a name with an extension (for example LIST.LOG), the name (for example, *list*) appears in the first column, and the extension (for example, *log*) appears in the second column. The dot (.) is not shown.

`md` *directory* — make *directory*

For example, to make the Manager II log file directory in the MGRII directory on drive c, enter **`md c:\mgrii\log`**.

FILE COMMANDS

`type` *file* — display the contents of *file* on the screen

For example, to display the contents of the Manager II log file, LIST.LOG, on the screen, enter **`type list.log`**. To display LIST.LOG one screen at a time, enter **`type list.log | more`**. Press the space bar to display the next screen until finished.

`print` *file* — print the contents of *file* on the printer

For example, to print the Manager II log file, LIST.LOG, on the printer, enter **`print list.log`**.

`copy` *file1 file2* — copy from existing *file1* into new *file2*

For example, when generating a report or run file from a Manager II log file, you should copy the log file into another file and edit that file rather than the log file. To copy the Manager II log file, LIST.LOG, into a report file, LIST.RPT, enter **`copy list.log list.rpt`**. To copy the Manager II log file, LIST.LOG, into a run file, LIST.RUN, in the Manager II run file directory, enter **`copy list.log \mgrii\run\list.run`**. To save the Manager II log file, LIST.LOG, on a diskette in drive A, simply enter **`copy list.log a:`** specifying the drive instead of *file2*.

`del` *file* — delete *file*

For example, to delete the Manager II log file, LIST.LOG, enter **`del list.log`**.

`find "`*string*`"`** *file* — find all the lines in *file* containing *string* and display them on the screen

For example, to find and display all the lines starting with the less-than symbol (<) (that is, to find and display the commands entered by you) in the Manager II log file, LIST.LOG, enter **`find "<" list.log`**. To save what is displayed in a file, LIST.RUN, in the Manager II run file directory, enter **`find "<" list.log > \mgrii\run\list.run`**.

`edlin` *file* — edit *file*

Here are some useful *edlin* commands.

- *line1*,*line2***`p`** — page through the file one screen at a time. To display the next screen, enter *y* if prompted or *p* if not prompted until finished.
- *line1*,*line2***`r`***string1* Ctrl-Z *string2* — replace *string1* with *string2* on *line1* through *line2*. To remove the first string (replace it with nothing), simply do not specify the second string.
- *line1*,*line2***`d`** — delete *line1* through *line2*.
- *line***`i`** - insert new lines before *line*. To exit the insert mode, enter Ctrl-C on a line by itself.
- *line1*,*line2*,*line3***`c`** — copy *line1* through *line2* and insert them before *line3*.
- **`e`** — save the edited file on disk and end the editing session.

For example, to remove the less-than symbol (<) *and* the space from the beginning of each line in the Manager II run file, LIST.RUN, created from the log file, LIST.LOG, enter

```
edlin list.run
1,#r<Space Bar
e
```

The pound sign (#) stands for the last line in the file.

MISCELLANEOUS COMMANDS

`format` *drive***:** — format a diskette in *drive*

Before you can copy a file onto a diskette, you must format the diskette. For example, to format a diskette in drive A for saving Manager II log files, enter **`format a:`**.

`set` *variable*=*value* — set environment *variable* to *value*

Environment variables are used by programs such as Manager II. For example, to set the Manager II log file variable, MII_LOG, to the directory containing Manager II log files, C:\MGRII\LOG, enter **`set mii_log=c:\mgrii\log`**. This command should be put in the AUTOEXEC.BAT file. To display all the environment variables, simply enter **`set`** without specifying a variable.

Glossary

ADM — See **asynchronous data module**.

ADU — See **asynchronous data unit**.

application — (1) The problem to which a computer is applied. (2) A computer program (or set of programs) that provides the means for its user to solve a problem or to perform certain tasks within a particular functional area.

argument — Special instruction within a command that specifies additional (sometimes optional) information. An argument is specified after the command name and provides data with which the command is to operate.

asynchronous data module (ADM) — A data module that allows data terminal equipment (DTE) to communicate with the Integrated Services Digital Network basic rate interface (ISDN-BRI).

asynchronous data unit (ADU) — An AT&T Z3A asynchronous data unit. An ADU accepts RS-232C input, isolates it, and modifies the signals so that they can be transmitted longer distances (to another ADU) than would otherwise be possible. An EIA port directly accepts signals from an ADU.

basic rate interface (BRI) — A standard Integrated Services Digital Network (ISDN) frame format that specifies the protocol used between a communications system and a terminal.

baud — A unit of digital signaling speed representing the number of signal events (changes in line condition) per second. If the signal event or line condition represents the presence or absence of one bit (two-state signaling), then baud is the same as bits per second.

baud rate — A unit of transmission speed equal to the number of coded elements per second.

bit (binary digit) — One unit of information in binary notation, having two possible states or values: 0 or 1.

BRI — See **basic rate interface**.

command — An entry that instructs the system to perform a specific operation.

command line — The line on which a command is entered.

configuration — The specific sizes, connections, and numbers of the various parts of a system's implementation. A given system is configured to fit each customer's situation.

cursor — The visual indicator on a terminal screen that marks the user's location. A cursor is often used to indicate the position at which a character can be entered or deleted. On Manager II screens, the cursor appears as a blinking underline.

data — Information (such as letters, numbers, and punctuation) that can be processed by a computer.

data-communications interface unit (DCIU) — An interface between the System 85 or DEFINITY® Communications System Generic 2 main processor and applications processors (APs), AUDIX equipment, or, in a distributed communications system (DCS), other communications systems. The DCIU consists of four circuit packs in the common-control carrier (CCC).

DCIU — See **data-communications interface unit (DCIU)**.

DCP — See **Digital Communications Protocol**.

DEFINITY® Communications System Generic 2 — A digital PBX, developed by AT&T, capable of switching voice communications between telephones and data communications between computers, between computers and data terminals, and between data terminals.

Digital Communications Protocol (DCP) — An AT&T proprietary protocol used to transmit both digitized voice and digitized data over the same communications link. A DCP link is made up of two information (I-) channels and one signaling (S-) channel.

DID (Direct Inward Dialing) trunk port — A port used for an incoming trunk reserved for dialing directly from the public network into a communications system without attendant assistance.

digital terminal data module (DTDM) — Provides the required interface between an AT&T digital communications system and a data terminal. The DTDM interfaces the RS-232 protocol of your terminal to the digital communications protocol used by your system.

DIMENSION® system — An analog business communications system — the first of a family of advanced communications systems.

disk-tape system (DTS) — In System 85 and DEFINITY® Communications System Generic 2, a disk-based mass-storage unit that physically houses the disk drive, the tape drive, and the DC-to-DC power converter for powering the drives. The DTS replaces the high-capacity minirecorder (HCMR) and reduces the system reload time.

DTDM — See **digital terminal data module**.

DTS — See **disk-tape system**.

duplicated common control — Two processors ensuring continuous operation of a communications system. While one processor is on-line, the other functions as a back up, going on-line periodically or when a problem occurs.

EIA (Electronic Industries Association) — A trade association of the electronics industry that establishes electrical and functional standards.

EIA RS-232C — A physical interface specified by the Electronic Industries Association (EIA). RS-232C transmits and receives asynchronous data at speeds up to 19.2 kbps over cable distances up to 50 feet (15.2 meters).

file — A set of related records or textual information that is stored as a unit in the operating system.

ID — See **login identification**.

INADS — See **Initialization and Administration System**.

Initialization and Administration System (INADS) — A software and hardware tool used by AT&T Services personnel located at Customer Service Support Organizations (CSSOs) or the National Customer Support Center (NCSC) to initialize, administer, and troubleshoot customer communications systems remotely.

input — A general computer term used to describe any information entered into a computer system via terminal keyboards or other devices. This information can include commands, instructions, and data.

input file — (1) Generally, a file used to provide computer *input*. (2) As applied to a discussion of the Manager II software, a run file can be referred to as an input file while it is being executed.

Integrated Services Digital Network basic rate interface (ISDN-BRI) — A standardized, digital network that provides the ability to transmit voice, data, and signaling over the same line.

ISDN-BRI — See **Integrated Services Digital Network basic-rate interface.**

line — (1) A communications link between a communications system switch and one of its voice terminals. (2) The space on a screen (such as that of a CRT) reserved for text (see also **command line**).

log in — To access a computer system or application by entering a login identification (ID) and usually a password.

login identification (ID) — The ID code a user enters to access a computer system or application. The login ID identifies the user to the system.

log off — To exit a computer system or application.

modem — A device that converts digital data signals to analog signals for transmission over telephone circuits. The analog signals are converted back to the original digital data signals by another modem at the other end of the circuit.

modular processor data module (MPDM) — A circuit that provides the required interface between an AT&T digital switch and a computer or data terminal. An MPDM provides an interface for connecting the switch to data terminals, application processors, and host computers. At the terminal side of the connection, the MPDM can be made to translate RS-232, RS-449, or V.35 protocols for use by your switch.

MPDM — See **modular processor data module**.

network — In the context of voice or data communications, a complex consisting of two or more interconnected switching systems.

In the context of computer operation, a system consisting of a computer (or computers) and the connected terminals and related devices such as modems and input/output channels.

PBX — See **private branch exchange**.

PDM — See **modular processor data module**.

periodic maintenance information data structure (PMIDS) — A storage area that counts errors in a system during processing.

PMIDS — See **periodic maintenance information data structure**.

PPG — See **programmable processor gateway**.

private branch exchange (PBX) — A private switching system providing voice-only or voice and data communications services (including access to public and private networks) for a group of terminals within a customer's premises. See **switch**.

PROC — See **procedure**

procedure (PROC) — Administration and maintenance procedures (PROCs) used to input data to and output data from a communications system. Procedures are also used to configure and test the system.

processor — A device that controls communications system operations by executing programmed instructions one at a time in rapid sequence.

program — A set of instructions that directs the computer to perform a specific task.

programmable processor gateway (PPG) — A feature built into the TN563 that offers an external serial interface to a Manager II-equipped terminal. In addition, two asynchronous data unit (ADU) ports on the TN563 provide access to the processor at speeds up to 19.2 kbps.

prompt — A cue displayed on the screen requesting a response from the user.

RMATS port — The remote-access switch port used by Manager II.

RS-232 — See **EIA RS-232C**.

SMT See **system-management terminal**.

SSB See **switch support base.**

station An extension assigned in Procedure 0 (PROC 0) and an equipment location assigned in PROC 0 or PROC 51.

string A sequence of characters.

switch The software-controlled communications processor complex that interprets dialing pulses/tones/keyboard characters and makes the proper interconnections both within the system and external to the system. The switch itself consists of a digital computer, software, storage device (memory), and carriers with special hardware to perform the actual connections.

switch feature A specifically defined function or service provided by a switch.

switch support base (SSB) A set of files that describe the switch administration and maintenance procedure screen layout, field values, errors, and help. The files reside on the switch tape and diskettes.

system-management terminal (SMT) A system-interface console that has plug-in access for AT&T System 85. The SMT allows users to administer the system using a subset of the procedures (PROCs) of the maintenance and administration panel (MAAP).

translation data The information contained in the communications system's memory that defines the configuration and features of individual lines or trunks, directory numbers, equipment locations, classes of service, trunk groups, privileges, restrictions, and so forth.

trunk A dedicated telecommunications channel between two switching systems.

UNIX® operating system A versatile time-sharing software operating system for information-processing equipment.

voice terminal A single-appearance or multiappearance telephone.

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