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DEFINITY®
Manager IV
Facilities Management Operations

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ABOUT THIS GUIDE

Facilities Management (FM) is the application in DEFINITY® Manager IV (Manager IV or Mgr IV) for administering trunks and other network facilities. FM is very important to the successful operation of your telecommunications network. This guide, containing information required to administer FM, is intended for FM users who have taken the required training.

If you are a new Manager IV user, read *Getting Started with DEFINITY® Manager IV* before attempting any tasks or procedures in this guide. It provides an overview of Manager IV and its applications; it explains logging on and off the system; it tells you how to use on-line help, escape sequences and special function keys. It also details the use of two shortcut features, Scrapbook and Clipboard, which reduce keystrokes for data entry.

If you have used Manager IV before, but the FM application is new to you, review the documentation for the switches in your network, and carefully read the first two chapters of this guide. This introduction includes a listing of other chapters and a brief description of their contents. Chapter 1 introduces you to FM capabilities and tasks, and discusses networks, network services and some frequent tasks of FM administrators.

USING THIS GUIDE

The procedures in this manual describe FM tasks that allow you to administer the trunks and other facilities in your network. Tasks are performed by using commands, the object:verb combinations that are part of the Manager IV user interface. A complete list of FM commands appears in Appendix A, "FM Commands List," in this guide. As the procedures explain, some tasks require several commands performed in a particular sequence. In others, there are prerequisites that may have been completed when your system was installed. It is important that you have a clear understanding of your system and its installed capabilities.

Facilities Management is a big job. It takes time to learn and to become comfortable with it. If you are a new FM user, you probably will begin with simple, frequently performed tasks. Some of these easier procedures are described in Chapter 1, "Getting Started with Facilities Management," in this guide. The remainder are grouped according to area; these groupings are described in "What's in This Guide." Each chapter in this manual begins with an overview of the material to be covered, followed by the procedures. Each procedure in this guide is labeled for your convenience. That is, the heading reads "Procedure:," followed by the purpose for the procedure.

Screens and Fields

Screens and fields are illustrated as much as possible in procedures. In general, a new screen is shown when a new set of fields appears. To conserve space, partial, rather than full screens are sometimes displayed. Keep in mind that Manager IV's screens are dynamic; different fields may appear depending on what you enter. Thus, the system's response in some procedures may have several variations. These are indicated in the description and a representative response is used to guide you.

The procedures do not include every escape sequence or function key you must use. They assume that you are familiar with entering and manipulating data on the screen. A chart of escape sequences is provided in *Getting Started with DEFINITY® Manager IV* and in the *DEFINITY® Manager IV Quick Reference* card. Appendix B contains document ordering information.

WHAT'S IN THIS GUIDE?

Chapter 1 Getting Started with Facilities Management	Describes the common types of networks administered by Manager IV. Introduces the types of tasks performed by FM administrators and then provides procedures for some frequent tasks. Provides a detailed overview of the World Class Routing (WCR) feature.
Chapter 2 Hardware Administration	Provides information on how to administer and maintain DEFINITY Generic 2, System 85 (R2V2-R2V4) and DIMENSION® FP8 hardware via the appropriate transactions and screens associated with them.
Chapter 3 Network Feature Administration	Provides an overview of network features. This chapter contains information on feature types as well as descriptions and procedures for administering many frequently used features, including System Class of Service, Network Specific Facility, ISDN Codeset Mapping and Bearer Capability Class of Service.
Chapter 4 Trunk Group and Modem Pool Administration	Describes the tasks for defining and administering D-Channel Groups, trunks and trunk groups, and modem pools. This is followed by procedures maintaining your transmission facilities.
Chapter 5 Network Administration	Provides information on administering Distributed Communications System's (DCS) External Adjuncts, Data Communications Interface Unit (DCIU) channels and links, Integrated Services Digital Network (ISDN) interfaces, Autovon and Precedence Calling and Main/Satellite Networks.
Chapter 6 Network Routing	Describes tasks associated with Automatic Alternate Routing (AAR), Automatic Route Selection (ARS), ARS International Call Routing, and Number Portability.
Chapter 7	Describes in detail all World Class Routing features currently administered on a Generic 2.2 switch.
Chapter 8 Controlling Network Use	Explains how to control, monitor and protect the resources of your private network.
Chapter 9 Call Distribution	Describes the most common ways of handling call distribution. The tasks in this chapter address Automatic Call Distribution (ACD), Uniform Call Distribution (UCD), Enhanced Uniform Call Distribution (EUCD) and Call Vectoring.

**Chapter 10
Miscellaneous Applications**

This chapter includes information on miscellaneous services and applications, such as: Centralized Attendant Service (CAS), Tenant Services, Dedicated Switch Connection (DSC), and Processor Communications Circuit (PCC).

**Chapter 11
Troubleshooting**

Describes procedures for addressing FM errors.

**Chapter 12
Facilities Management Reports**

Describes the general and World Class Routing reports and how to produce them. A sample of each report is included.

**Appendix A
FM Command List**

Provides an alphabetical list of FM command objects, the verbs they use and the areas in which they can be executed.

**Appendix B
Supporting Documentation**

Lists and describes other sources of information for the FM user.

**Appendix C
DEFINITY Generic 2 and
System 85
Dial Access Encodes**

Lists the Dial Access Encodes used for Manager IV and Generic 2 features.

**Appendix D
[System 85 R2V3]
DCIU/DCS Administration**

Describes DCIU/DCS Administration.

**Appendix E
FM Command and Proc Mappings**

Provides a list of FM command and proc mappings.

Index

CONVENTIONS USED IN THIS GUIDE

The following conventions for representing prompts, entries, commands, and keys are used throughout this guide.

**Function and
Screen-Labeled Keys**

Both function and screen-labeled keys are represented in the text as the key label, surrounded by an oval. (Not all terminals have screen-labeled keys.) For example, the Return key is indicated as **RETURN**; the escape sequence for displaying Short Help is **ESC** ? .

User Entries

Any entry you should make is represented in the text in bold print. For example, the direction to enter the command "locale display" is indicated as **locale display**. Many FM screens have fields that ask you to select from two or more options; to select a field, type **x** (or **X**) to the left of the field.

Variable Entries

Variable user entries are those entries that you must determine. These entries appear in the text inside of angle brackets in bold characters. For example, in requesting a report, you may see the instruction, "Enter the <**printer id**>," where "printer id" represents the identification number of the printer on which you want the report to be printed.

Screen Messages

A screen message is reproduced in the text with quotes around the words as they appear on the screen. For example, you may see the message "YOU ARE DIRECTLY ACCESSING THE PRODUCT."

Prompts

A prompt is represented in the text as it appears on the screen, preceded or followed by the word "prompt." For example:

Once you successfully log on to Manager IV, the Enter application prompt appears.

Fields

A field is represented in the text as it appears on the screen, followed by the word "field." For example:

When you enter this command path, the Service Request No. field appears.

Switch or Software Release Information

When any command, transaction, or procedure is limited to a specific switch release(s), the switch release information is enclosed in brackets []. For example: [System 85 R2V2/V3 only]

1. GETTING STARTED WITH FACILITIES MANAGEMENT

FM allows you to administer all the facilities in your system from one location. You can use FM to implement planned changes, or to react to problems. Planned changes can include the addition of special trunk groups because of increased business activity or changes in call routing patterns because people in your company are being moved to new locations. Problems demanding quick attention can occur when trunks and circuits are not functioning properly. Day-to-day FM tasks frequently center on such minor changes as adjusting permission levels for outgoing trunks or adding extra trunks to an existing trunk group. You can get detailed information about your network from FM's reports, either before you begin a task or afterwards to see that desired changes have been effected.

Transmission Facilities

FM allows you to redefine your network by displaying and administering characteristics of trunks and trunk groups, administering the Manager IV database to keep track of switch hardware, administering trunk groups used for modem pooling, and administering Data Communications Interface Units (DCIUs) between Distributed Communications System (DCS) nodes.

The FM user can add or rearrange routing patterns and trunks and trunk groups, including Central Office (CO), Foreign Exchange (FX), Main/Satellite, digital, ISDN, and tie trunks, as well as modem pooling facilities. You can also administer trunk features, such as Queuing, Automatic Circuit Assurance (ACA), and assign names and attributes to trunk groups used for voice, data, modem pools, and host computer access.

Network Routing

FM enables you to define routing patterns on your private network, and from your private network to the public network. In Generic 2.1 and System 85, you can review and change Automatic Alternate Routing (AAR) for on-network (private) routes and Automatic Route Selection (ARS) for off-network (public) routes. Both AAR and ARS patterns control the particular route or path that a call will take, ensuring that all outgoing calls follow the most efficient, least expensive routes and that all incoming calls are answered through your chosen call distribution system.

In a Generic 2.2 switch, the World Class Routing (WCR) feature provides dialed digit analysis and route selection in a general way. The WCR feature replaces Automatic Route Selection and Automatic Alternate Routing without distinction between the capabilities of the older ARS and AAR features.

For a detailed description of the WCR feature, refer to "World Class Routing (WCR) Feature Overview" later in this chapter. Administration of the WCR feature on a Generic 2.2 switch is explained in detail in Chapter 7, "World Class Routing."

FM commands also enable you to place restrictions on individual users or call types to control access to certain network facilities.

Network Features

FM allows you to enable, enhance or change features on all network switches from a central location, thereby providing use of a specific feature or group of features to everyone. Such features include Call Distribution, Centralized Attendant Services (CAS), Call Vectoring and Tenant Services. Outgoing call permissions can also be enhanced or changed through FM.

Product Access

[Generic 2, System 85 R2V2, R2V3, and R2V4, and DIMENSION® System Feature Package 8 (FP8), Issues 1.16 and 3.8.] FM also provides cut-through access to System 75 and adjunct products supported by Manager IV (such as AUDIX or the AP16). See "Target Administration" in *DEFINITY® Manager IV System Administration*.

Application Interactions

The applications of Manager IV are designed to interact with one another, and to share an integrated database that contains a copy of switch translation information, user records, and equipment inventory. This database allows Manager IV applications to share information and updates. Once a record has been updated by one application, this new information is centrally available to all applications. Since all applications access a common set of database records, any records that are used by more than one application only have to be updated once, saving time and reducing the chance of error.

Here is some of the information FM shares with TCM.

- TCM validates the assignment of authorization and dial access codes, and any changes to Centralized Attendant Service (CAS), Call Distribution groups, System Class of Service, and [Generic 2 and System 85 R2V4 only] Call Vectoring information that is defined in FM.

In addition to the interaction described above, it is important that *you* interact with other people administering your network. Be sure to notify the Manager IV System Administrator, the TCM users, the administrators of adjunct systems (such as Call Management System (CMS), Messaging Server or the Customer Directory System (CDS)), and your network users of any changes that affect them.

Using Manager IV and FM

This chapter contains a brief explanation of the FM and Manager IV databases and the FM command hierarchy. This information supplements what you have learned from reading *Getting Started with DEFINITY® Manager IV*. The FM hierarchy closely follows the Manager IV hierarchy, but since you are now concentrating on FM, it is important to understand just how it functions.

FM and the Manager IV Databases

The main Manager IV database contains information about your company and its telecommunications network. The portion of this database that contains a copy of Generic 2 and System 85 and/or DIMENSION FP8 switch translations is called the product image database. When Manager IV is initialized, this database is also initialized using data provided by the Translations, Recovery, Additions, and Conversion System (TRACS).

Manager IV allows you to automatically update the Manager IV product image database and the switch translations with the same transaction, so you always have an accurate copy of the switch translations. The system has a series of controls that minimize errors that would cause the Manager IV database and the switch translations to become unsynchronized. However, synchronization errors *can* occur. See "Troubleshooting FM" in Chapter 11 of this manual and review *Getting Started with DEFINITY® Manager IV* for an explanation of error detection and correction.

The best way to maintain synchronization of the Manager IV database and switch translations is to use Service Requests as "envelopes" for FM commands. The Manager IV Service Request feature allows you to group several transactions and schedule them for downloading to the switch at a later time. A Service Request transaction updates the Manager IV database when it is executed, but updates the switch translations at the scheduled time. For more information on using Service Requests, see "Service Requests with FM" later in this chapter or *Getting Started with DEFINITY® Manager IV*.

Some FM commands affect only the product translations and do not update the Manager IV database. Other FM commands affect only the Manager IV database and do not affect the product. For example, the

Manager IV wiring inventory is stored only in Manager IV, and not in the switch.

When you execute various FM commands, keep in mind which information is being updated so that you can schedule Service Requests for the proper times.

FM Command hierarchy

FM and its commands are integrated into the Manager IV hierarchy, making a consistent, easily accessible system. When you log on to Manager IV, you specify a command path that routes you through the hierarchy shown in Figure 1-1.

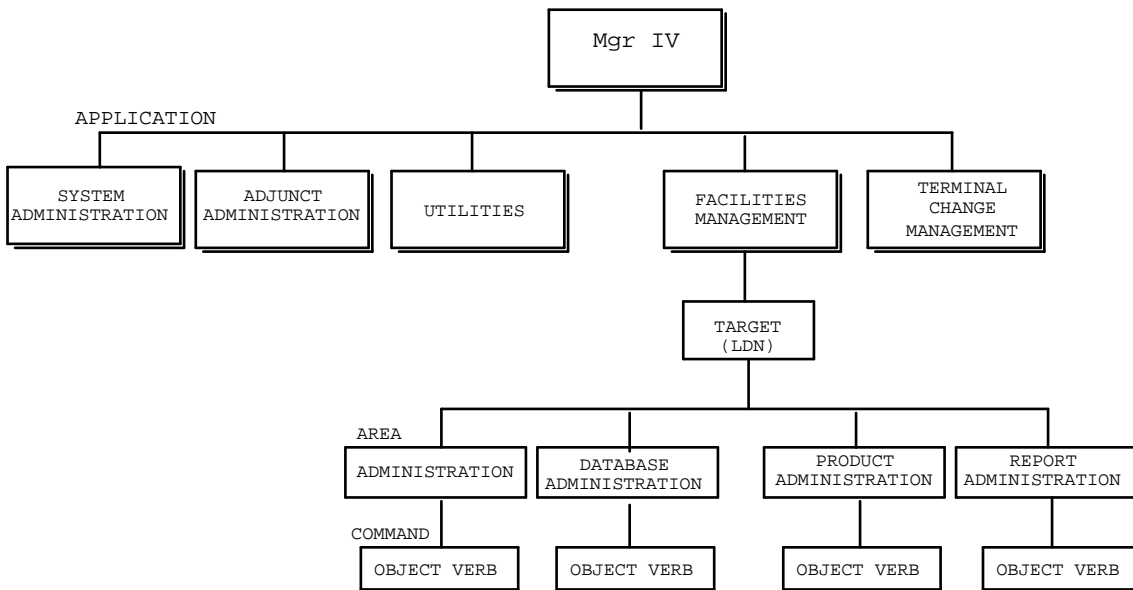


Figure 1-1. FM Command Hierarchy

The levels are briefly explained below.

Application Your login controls the applications that you can access. Enter **fm** to use FM commands.

Target In FM, the target is usually a product ID, identifying either a switch or an adjunct product, such as an AP16.

In Manager IV, product targets can also be grouped into target groups so that one transaction can be used to make changes to more than one target at a time. You also can restrict the transaction to a subset of the target group if the group has been set up to allow you to do so.

See Manager IV System Administrator for a list of targets and target groups.

Area The area allows you to restrict the action of an FM command to update either the Manager IV database, the switch translations, or both. The "administration" area updates the Manager IV product image database, then automatically downloads those changes to the product translations. This area is where you should do most of your work.

There are two modes of operation within the administration area.

- *Immediate* transactions are downloaded immediately to both the switch and the database.
- *Scheduled Service Requests* update the Manager IV database immediately, but updates to the switch are made at a later specified time via an automatic connection. More information on using Service Requests can be found later in this chapter.

Transactions performed in the product-administration area affect only the product translations. Before you can access commands in the product-administration area of FM in the immediate mode, you must create a connection to the switch using the command **connection create**. After you have finished working on that switch, end the connection using **connection end**.

Transactions performed in the "database-administration" area affect the database only, and do not update product translations.

When you are in product-administration, a message appears on the screen to remind you that you are accessing only the product; when you are in database-admin, a reminder tells you that you are accessing only the Manager IV database. Some FM logins are also prevented from accessing these two areas, as explained below in "FM User Classes".

Some database-administration and product-administration commands are also available from the administration area.

The product and database administration areas are generally used only for **error recovery**. For example, if a link to a switch fails before a Service Request is completed, the translation data in the switch and the database may not match; to correct the problem you may have to run a transaction in the product or database administration area.

Some transactions in the administration area affect only the switch or the Manager IV database. That is, the data updated by these transactions is stored only in the Manager IV database or in the switch, but not in both. These are sometimes referred to as product-only or database-only transactions in this manual.

The "report-administration" area is used to run reports that monitor and document the status of your telecommunications system.

The information is used to generate and send reports to a screen or printer. Reports can be generated immediately or scheduled.

Command

Commands produce the screens where you enter the information needed to perform a specific FM task. Commands consist of an object, which specifies the hardware, software feature, or report to which you want to apply some action, and a verb, which specifies the action you want to take on the specified object. For example, the object **pack** is used to administer circuit packs. The object:verb combination **pack add** adds a circuit pack. A complete list of FM commands appears in Appendix A of this guide.

You have access only to the commands that apply to the application, target, and area specified. Your login also limits access to the commands. When your login was created, it was assigned one or more user classes to identify the tasks you can perform. These classes are described in "FM User Classes" on the following page.

The FM User

If you are the FM administrator for your network, you may be wearing one hat or several. That is, you may be responsible for Terminal Change Management (TCM) as well as FM. Some companies assign a manager for each application; other firms have their staffs work in all telecommunications areas.

FM User Classes

Manager IV users are assigned a user class when the user's login is created by the System Administrator. To help ensure that administrative changes are not made inadvertently and that certain activities and information remain restricted, FM users can be assigned one of three classes.

fm-1

The **fm-1** user is permitted access to commands and areas appropriate to a new FM user. This user is allowed to perform, in the administration area, specific tasks related to AAR location codes; ARS 6-digit numbering plans, scheduling, and tolls; administration of the World Class Routing feature on a Generic 2.2 switch; Foreign and Home Numbering Plan (FNPA, HNPA) assignments; intercept programming; main/satellite configuration changes; Miscellaneous Trunk Restriction Group (MTRG) assignments; trunk group changes; and various phases of ACD/UCD administration. This user is also permitted access to all report-administration commands and all FM displays (except barrier-code). The user class prohibits access to the database-administration and product-administration areas.

fm-2

This class of user is allowed access to the same tasks as the **fm-1** user as well as database-administration, product-administration, report-administration commands, and all FM displays (except barrier code).

fm-3

For the **fm-3** user, all commands in all areas under the FM application are available.

Note: The **fm-4** class exists also, which gives TCM users access to the authorization code transactions in FM.

FM Tasks

FM tasks are closely related to the facilities management requirements for DEFINITY Generic 2, System 85 and the DIMENSION system. This is why it is so important for you to understand the functioning of your switches.

When you log on to the Manager IV processor, you are ready to call up the screen needed to perform a particular Manager IV task. You display this screen by entering a command path that specifies a route through the Manager IV hierarchy; this is explained in detail in *Getting Started with DEFINITY® Manager IV*.

How to Use an FM Command

The full command path, consisting of the *application*, *area*, *target*, *object*, and *verb*, is entered in that order. Manager IV prompts you for an entry at each level of the command path or, as you become more familiar with Manager IV and FM, you can "type ahead" and enter the command all at once. You can always see a list of valid entries for your current position in the command path by pressing (ESC) ? for Short Help.

After you have entered the command path and pressed (RETURN), the system displays a transaction screen. You can now perform a task by making entries on the transaction screen and then executing the command with (EXECUTE) or (ESC) e. Most FM commands are entered as Service Requests. SR procedures are reviewed later in this chapter.

Abbreviated Command Path Entries

As explained in *Getting Started with DEFINITY® Manager IV*, you need not type all the letters in the command but only enough letters of each part of the command path to distinguish it from other valid entries. The only exception is a target entry, which must be entered in its entirety.

FM Command-to-Proc and Proc-to-Command Mappings

When Manager IV transactions download to the Generic 2 or System 85 product, the transactions are translated into procs (short for procedures) so that Generic 2 or System 85 can process them.

Error messages and results files returned to Manager IV from the switch may contain proc numbers. Proc level administration is available via the Manager II product.

The command-to-proc and proc-to-command mappings are listed in Appendix E to help interpret error messages and results files, and to provide a cross-reference for users who are familiar with using procs to administer Generic 2 or System 85.

TELECOMMUNICATIONS NETWORKS

This section lets you get acquainted with your telecommunications network and learn how to perform some of the more frequent tasks undertaken by FM users. Networks rarely are designed as complete entities in the beginning. Rather, they evolve over the years. Your company's network may have grown from a collection of telephones connected to a central telephone office, first to a PBX, then to a linking of two PBXs, or switches, and then to a sophisticated network spanning the nation and embodying the latest technology. Your first task, therefore, is understanding the equipment serving your users and how it works.

FM and Your Network

The FM capabilities you use will depend to a large extent on the type of switches and network you are managing. Are your PBXs part of an Electronic Tandem Network (ETN)? Are you working only with DEFINITY Generic 2 switches, or is your network integrating DIMENSION and System 75 or 85 PBXs as well? Before you can administer switch or network features, you need to know the location of your switches, network routing hierarchy, trunking configuration, RNX assignments, trunk group Dial Access Codes (DACs), Facilities Restriction Levels (FRLs), and routing plans.

When AT&T designs a network, a Routing Guide is provided that defines the basic attributes of your network. The guide consists of a series of forms that describe the optimum routing plan for the network configuration, including FRLs, trunk group attributes, and routing patterns. Refer to these forms before attempting to administer your network. They provide a "snapshot" of the network and its characteristics.

When Manager IV was initialized, the characteristics of your network were "translated" to Manager IV. Network facilities (switches, trunks, network adjuncts, switch hardware, and voice terminals, for example) were identified in the Manager IV database. For example, each switch is identified by product ID, each trunk group is identified by number and name, and trunks and terminals are identified by their Equipment Line Location (ELL). When you use Manager IV to administer your switches or network, you use Manager IV commands and refer to the network facilities in Manager IV's terms.

You may want to run certain FM reports, such as the DAC-Trunk Group report or ARS Pattern report, to keep on hand for quick reference. Chapter 12 explains how to run FM reports. Remember, you can always use Manager IV's display commands to see information in the Manager IV database or in the switch translations.

Types of Networks

There are many kinds of PBX networks used by AT&T customers. Within each type of network, there are choices of available features. This section provides a brief overview of the most common types of switching networks and some of the network services, or features, that affect the way a network functions. A private network usually incorporates two elements: switching capabilities that permit access to any terminal from inside or outside the network, and shared feature capabilities.

The Electronic Tandem Network

The Electronic Tandem Network (ETN) is a private, end-to-end network that allows connections between thousands of work locations and from one computer to another without regard to physical proximity. Because of its modular hardware and reprogrammable software, you can keep your ETN current and cost-effective.

ETNs range in size from one or two nodes, or PBXs, to many. An ETN connects its member-switches in an integrated, unified system. In its most basic form, it uses a central main switch, referred to as a tandem, as an intermediate point between two or more other switches. The switches can be, and often are, in different locations. Private trunk links connect the tandem and other switches.

Within an ETN, you can set up as many clusters of Main/Satellite configurations as you require. Switches linked to the tandem switch act as main locations within Main/Satellite configurations. In addition, each tandem switch itself may act as a main location with satellites of its own. You can further link two tandem switches by tie trunks to form a multiple-tandem ETN. Calls to or from the public network can be routed through the tandem or the main switches. Figure 1-2 shows an ETN with a Level 1 tandem switch in Raleigh, N.C. and Level 2 tandem switches in Baltimore, Md. and Memphis, Tenn. This network also has Main/Satellite configurations within the ETN.

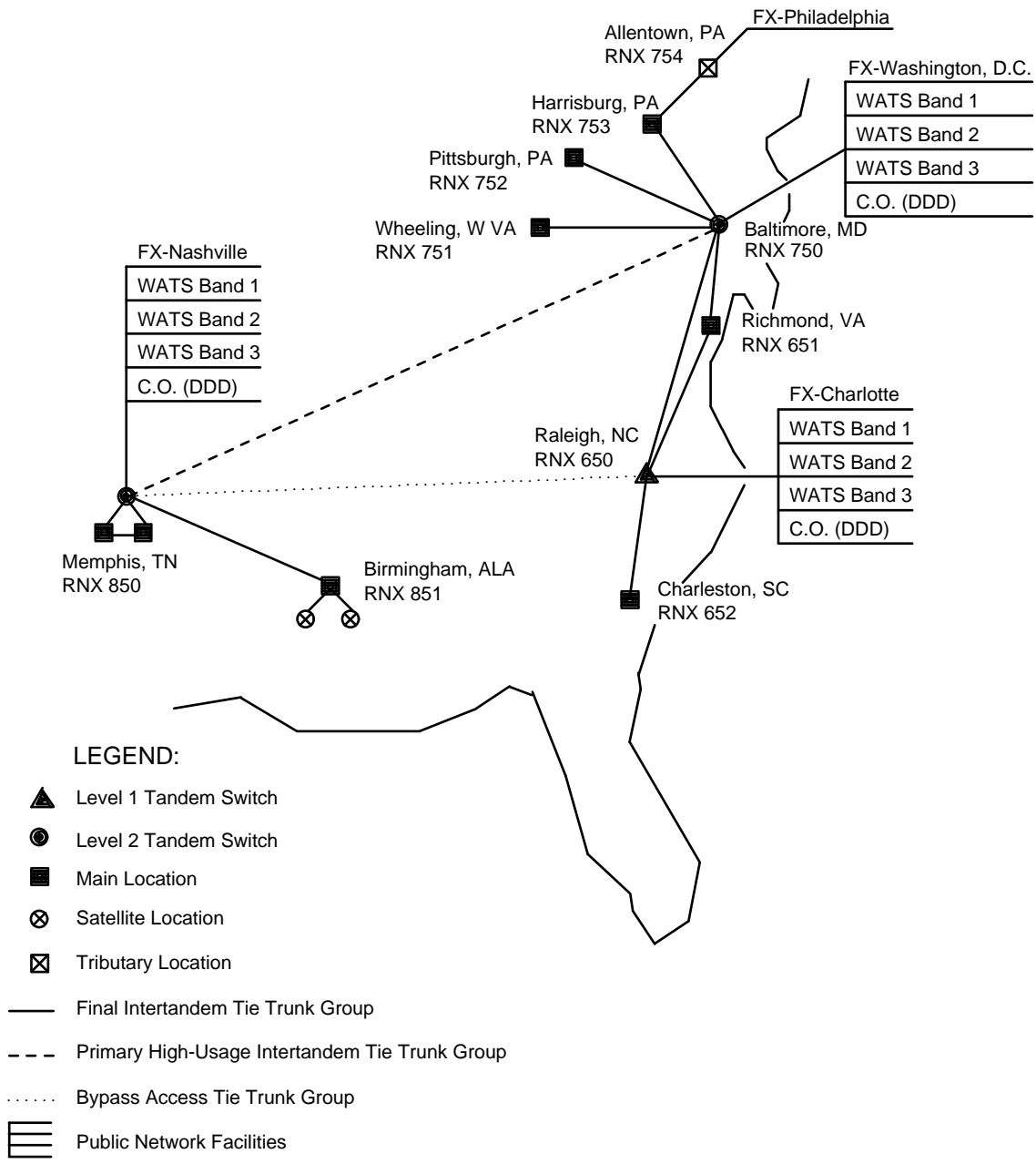


Figure 1-2. Electronic Tandem Network (ETN)

If you have an ETN, FM is used to:

- Administer the network's dial plan
- Administer PBX features for network switches
- Administer trunks to connect the tandem switches to other switches and to the public network
- Administer routing patterns for calls on the private and public network
- Assign access privileges to network facilities
- Administer Main/Satellite configurations
- Administer such network services as the Distributed Communications System (DCS) and Extension Number Portability.

The Distributed Communications System (DCS)

The Distributed Communications System (DCS) is an AT&T networking package that links two or more switches in a way that allows features to operate as if the network were one switch. The switches are referred to as nodes and are collectively called a DCS cluster. In a DCS, certain switch features can operate transparently; that is, from the user's point of view, the features work in the same way whether terminals involved in a call are assigned to the same node in the cluster or to different nodes.

These features include Call Waiting, Call Forwarding, Abbreviated Dialing, Automatic Callback, Leave Word Calling, Call Coverage, distinctive ringing, and various attendant console display and control features. Figure 1-3 shows a DCS configuration.

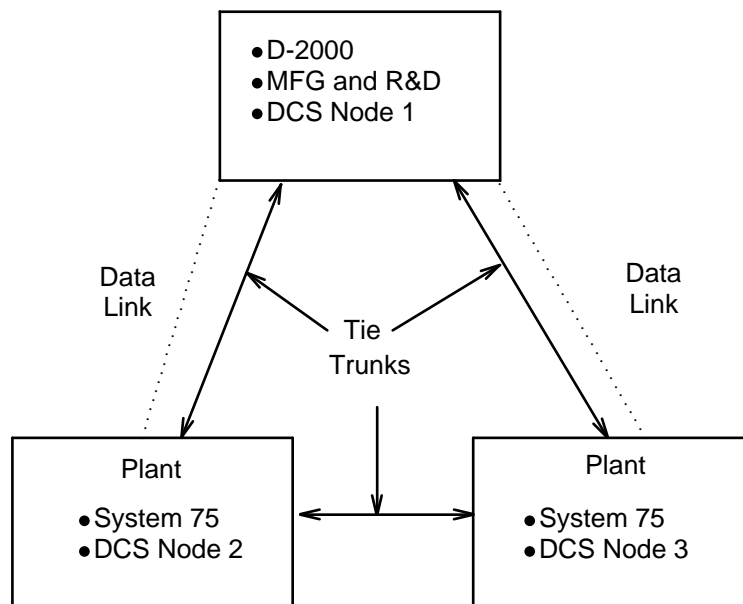


Figure 1-3. Distributed Communications System (DCS)

The DCS uses a uniform numbering plan with 4- or 5-digit dialing to route calls. This dial plan is compatible across the DCS and is also compatible with 4-, 7-, or 10-digit dialing found in other networks. Callers within the DCS can access stations on any other switch by dialing a 4- or 5-digit number, eliminating the need to enter a trunk access code.

Possible DCS arrangements include:

- Co-located or single premise systems, where switches are close to each other, often within the same equipment room, and use the same central office.
- Campus environment systems, which have switches separated by short distances, in different buildings within the same city block, for example. The switches may, but are not required to use the same Central Office (CO).
- Metropolitan area systems, where the switches must be within 30 miles of each other. Multiple COs are often used in this configuration.
- The regionally dispersed DCS network, in which two DCS clusters (each containing from three to six switches) are interconnected to form a transparent network across a state or group of states. One switch within each DCS cluster is an ETN tandem, connected by multiple digital carrier facilities.
- The nationwide ETN with one or two DCS clusters functioning as major tandem locations. A DCS cluster within the network includes a switch that functions as a tandem, thus connecting the DCS cluster via digital carrier facilities to another tandem switch (which may in itself be part of a main/satellite configuration or yet another DCS) located hundreds, even thousands of miles away.

There can be up to 20 nodes in a DCS. The maximum number of nodes in the network depends on the types of switches involved (Generic 2, System 85, DIMENSION System FP8, or System 75), the number of adjunct processors in the cluster, and the type of DCIU linkage (direct or nondirect).

In a DCS environment, FM can be used to:

- Administer the network's dial plan
- Administer PBX features for network switches
- Administer tie trunks to connect the switches and to link with the public network
- Administer DCIU links and channels
- Assign access privileges to network facilities.

The Main/Satellite Switch Configuration

A Main/Satellite switch configuration is a private network that serves two or more locations within a restricted geographic area. It is an efficient Local Area Network (LAN), since a common dialing plan integrates all lines into the same system. Callers can reach all the terminals on this network through a single Listed Directory Number (LDN) that terminates at the main switch; outgoing calls to the public network also go through the main PBX. The main switch shares its features and centrally located attendant services with the satellite switches. Satellite switches are sometimes referred to as subtending switches. Figure 1-4 shows a Main/Satellite system with two sales offices linked to the main location. Such systems are most often found in one city, at a campus or industrial park, or as part of a larger network.

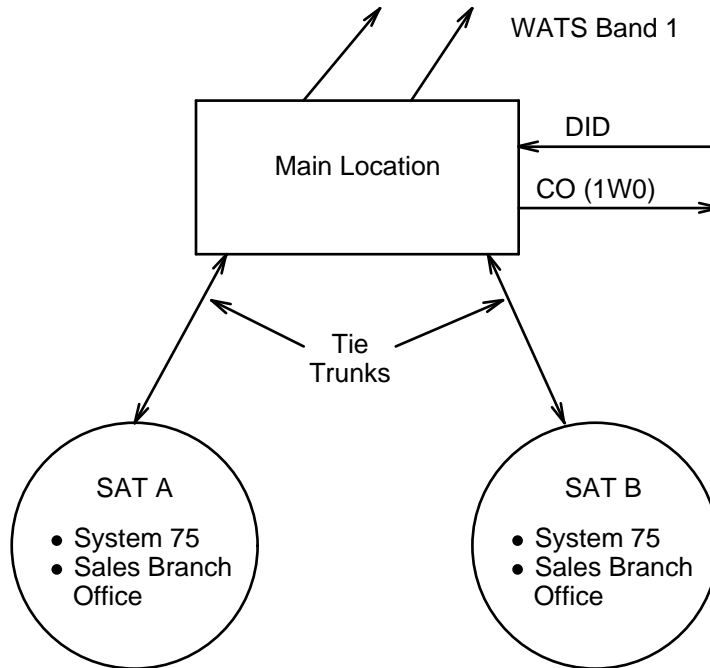


Figure 1-4. Main/Satellite Configuration

If you have a Main/Satellite network, FM is used for:

- Administering the network's dial plan
- Designating switches as either Main or Satellite
- Administering network features
- Administering tie trunks.

Extension Number Portability [Generic 2 and System 85 R2V3, R2V4]

An Extension Number Portability (ENP) network is a group of nodes that can handle station movements without requiring number changes. This allows users to move from node to node without changing their extension number or ETN uniform dialing number. Typically, an ENP network is a subset of an Electronic Tandem Network (ETN), and may or may not be a part of a DCS network.

Portability networks are comprised of Generic 2, and/or System 85 R2V3, R2V4 switches and must be part of a 4 or 5-digit dialing network. Each node in the ENP subnetwork must be connected with tie trunks and must have Automatic Alternate Routing (AAR) software for Generic 2.1 and System 85, or World Class Routing (WCR) software for Generic 2.2.

In addition to the ETN administration tasks, additional steps must be performed in a ENP network so that calls can be routed properly between nodes. These steps are explained in "Extension Number Portability" in Chapter 6 (Generic 2.1 and System 85) as well as "WCR Extension Number Portability Administration" in Chapter 7 (Generic 2.2).

BEARER CAPABILITY CLASS OF SERVICE

The Bearer Capability Class of Service (BCCOS) feature allows you to define a group of characteristics and capabilities (like bearer capability, channel type, data rates) that are common to a class of facilities, such as analog line and trunks, digital lines and trunks and Automatic Route Selection/Automatic Alternate Routing (ARS/AAR) preference members. The BCCOS information of two points (originating and terminating) involved in a call, is used by a switch to provide interface or link between the dissimilar networks for the call to get through.

The BCCOS is represented by a unique number. Maximum of 256 BCCOSs are allowed. You can assign and administer the BCCOS information via the **bearer-capability-cos** transaction. Refer to "Bearer Capability Class of Service" in Chapter 3 for more details.

WORLD CLASS ROUTING (WCR) FEATURE OVERVIEW

About World Class Routing

World Class Routing (WCR) for DEFINITY® GENERIC 2.2 is a feature that replaces the Automatic Route Selection (ARS) and Automatic Alternate Routing (AAR) features used on older switch types. This feature provides dialed digit analysis and route selection in a general way which removes any assumptions about the characteristics of the dialing plan that a network uses.

For information on administering the WCR feature on a Generic 2.2 switch, refer to Chapter 7, "World Class Routing."

The World Class Routing reports supported on Generic 2.2 are listed in Chapter 12, "Facilities Management Reports."

WCR allows administration of up to 8 logical networks. Network 0 is a general interface from the switch's WCR call processing software to the switch's Internal Dial Plan. Networks 1 through 7 are used for routing. Network 1 differs from the other networks in that it may be accessed via both a toll and a toll-free Dial Access Code (DAC). All other networks are accessed via a single DAC.

With WCR, all features previously associated with ARS and/or AAR are provided by any of the 7 routing networks on which that feature is activated. Networking features are now provided via any of the seven routing networks. Within this architecture, routing patterns along with their corresponding parameters may be shared by all networks.

Networks are logically distinguished only by their DAC and their administered dialing plan. During analysis of the dialed digits, a call that originated in a particular WCR network may crossover to any other WCR network for subsequent analysis (including crossover back into the same Network) by converting the digits dialed to the format expected by the other network. Crossover does not occur automatically. All crossover between networks must be explicitly administered.

For each routing network, administration of the corresponding dialplan allows the user to define the string identifiers and the string identifier attributes which are used by the switch Network Digit Analysis software to determine what action to take when a particular number is dialed. In general, actions include routing the call to a specified trunk group (based on Virtual Nodepoint Identifier, Call Category and WCR Pattern/Preference selection), or modifying the dialed digits and then passing the modified digit string to the same or a different WCR network for subsequent analysis and resolution.

New Capabilities Introduced by WCR

WCR introduces several important new operational capabilities. These new capabilities include the following:

- Up to seven logical routing networks may be defined.
- Location codes may now any number in the range 000 through 999.
- Area codes may now any number in the range 000 through 999.
- Office codes may now any number in the range 000 through 999.
- X11 Service codes can now be 3, 7, or 10 digit numbers.
- Calls may be routed based on the IXC dialed.
- A dialed digit sequence of length M can be converted freely to a different digit sequence of length N to facilitate route selection.
- ISDN "Call by call selection" trunk groups now have a special prefixing capability.

Optional Networks

WCR Network 1 is available for use as a standard part of the switch. WCR Networks 2 - 7 are provided as an optional feature and are accessible only if Procedure 276 field 1 (Standard Network) is set to '1'.

Switch Software Modules

The World Class Routing call processing software within the switch is composed of 4 major modules:

- Digit Analysis - Internal and Network
- Generalized Route Selection
- Digit Modification
- Digit Sending.

Internal Digit Analysis refers to the analysis of dialed digit strings relative to the switch's internal dial plan. The internal dial plan consists of the number space formed by extensions, feature and trunk dial access codes and steering codes.

Network Digit Analysis provides the analysis of the digit strings after a WCR network Dial Access Code (DAC) has been dialed to determine routing characteristics.

Generalized Route Selection provides the route selection (call category, pattern and preference selection along with specific characteristics of the selected preference such as associated toll free numbers and ISDN messaging parameters.

Digit Sending seizes a trunk within the selected trunk group, then formats and sends the digits over that trunk.

Digit Modification provides a general means for modification of dialed digits for both Network Digit Analysis and Digit Sending.

The relationship between these switch software modules is shown in Figure 1-5 on the next page.

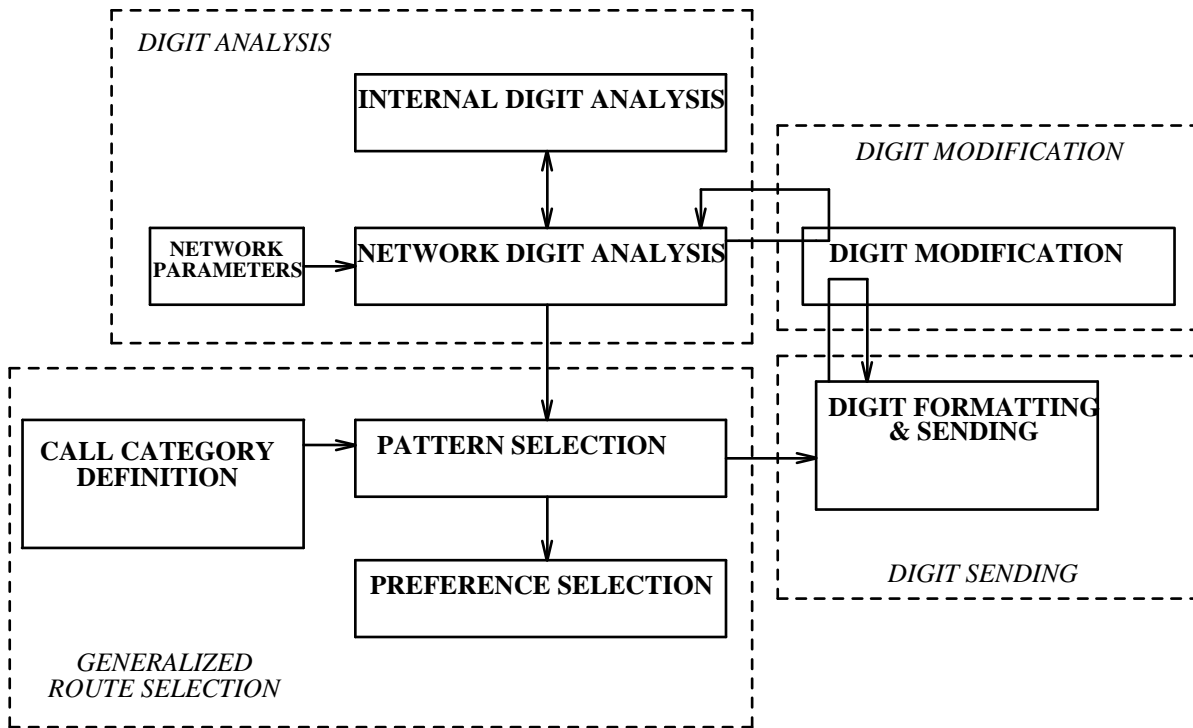


Figure 1-5. Switch Software Modules

WCR Administration Overview

Figure 1-6 shows both the switch and the corresponding Manager IV WCR administration procedures. Note that these procedures are linked by one or more key fields. The most important distinction between AAR/ARS administration in the older switch types and WCR administration is that for WCR, all logical networks are administered by the same set of procedures. In addition, all networks share a common set of patterns/preferences along with the tables that define the parameters associated with each specific pattern/preference. Access to each table is done via an associated table index. Note that in particular, the *wcr-dialplan-definition* transaction uses information in the Network Digit Modification table, and that the *wcr-pattern* transaction uses information in the Network Digit Modification, Network Toll Free, Digit Sending Translation, and ISDN Feature Parameter tables.

Within each table, each index has an associated list of attributes which are administered by the corresponding switch and/or Manager IV procedure. These procedures and their relationships are shown in Figure 1-6.

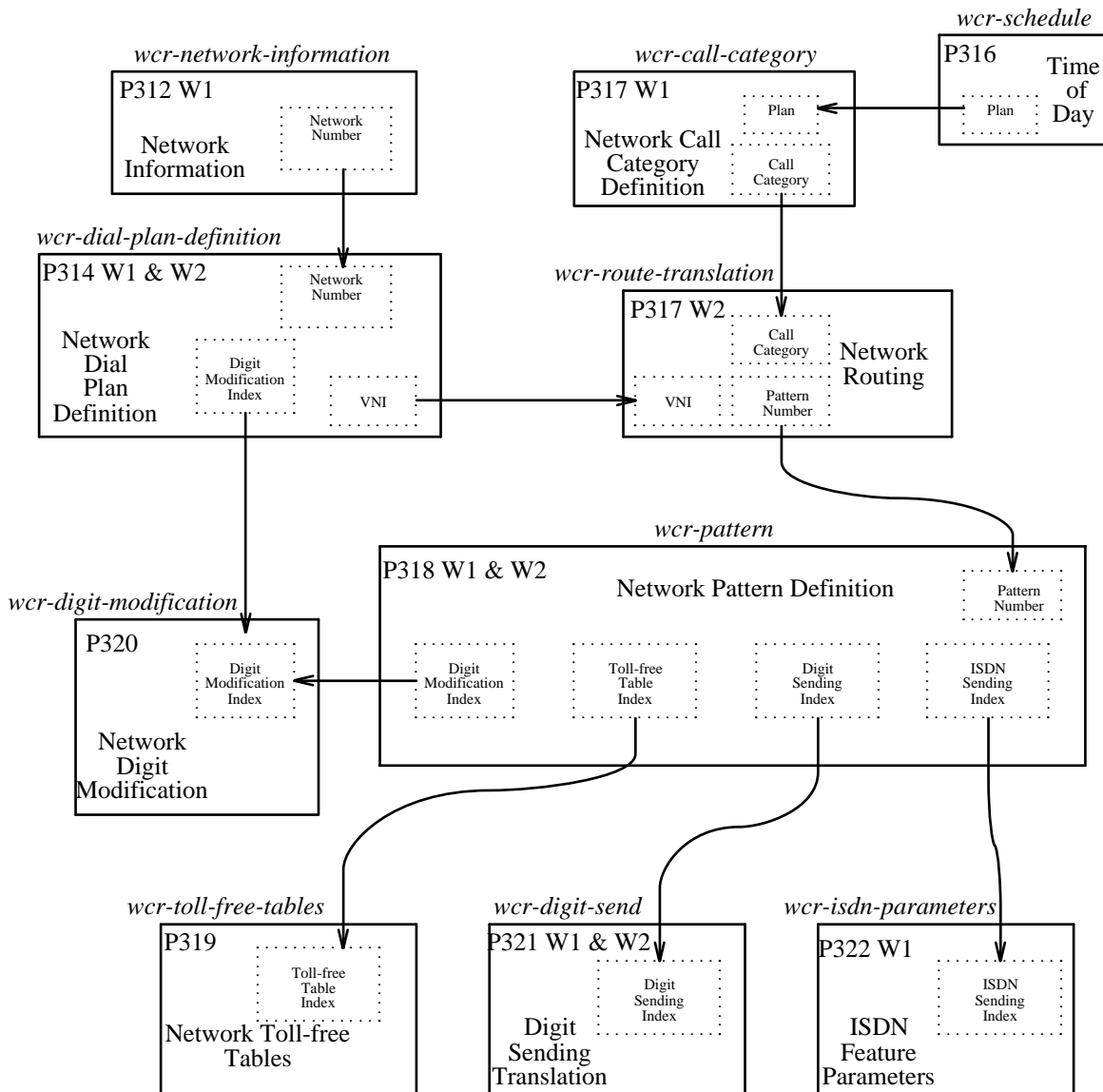


Figure 1-6. WCR Administration Overview

INTERNAL DIGIT ANALYSIS

Manager IV Internal Digit Analysis Administration

For Manager IV, administration of the internal digit analysis is provided by modifications to the following transactions:

1. system-class-of-service:change, display
2. class-of-service:add, change, display, remove
3. dial-access-codes:change, display
4. extension:add, change, display, remove
5. trk-grp:add, change, display
6. cdr:add, display, remove

System Class of Service

Several new fields have been added to the *sys-cos* transaction to accommodate WCR. The "Interdigit Timing Length Field" is used to administer the length of time between dialed digits whenever WCR analysis is being done to determine the routing of the call. This field may have any even numbered value between 2 and 20 seconds, and has a default value of 10 seconds. The "Begin Route Selection ASAP?" field is used to determine when route selection shall occur for station and attendant originated calls. An "n" indicates to wait until all digits have been dialed, while a "y" indicates that routing should occur as soon as a VNI has been determined. The "WCR Plan in Effect" field indicates the switch's default Time of Day plan.

Network Dial Access Codes

The *dial-access-codes* transaction administers proc 350w2 and allows administration of a Network Dial Access Code for each network. Network 0 (Internal Dial Plan) does not have a network access code. Network 1 has two network access codes: code 32 is the non-toll DAC and code 33 is the toll-DAC. Network 1 is the only network to have separate toll and non-toll DACs. The DAC for Network 2 access is administered using feature code 61 in Procedure 350 Word 2. The DACs for networks 3 - 7 are administered using feature codes 108 - 112, respectively.

Terminal Class of Service

For WCR support, a new field has been added to the *class-of-service* transaction that denotes if the associated terminals are "WCR Toll Restricted".

Extension

For WCR support, a new field has been added to the *extension* transaction that indicates if that extension may Call Forward Off-Net via a toll route.

Trunk Groups

WCR unifies and expands incoming trunk group call digit prefixing capabilities. Incoming trunk prefixing is based upon trunk type. Previously, prefixing was administered via several different procedures depending upon the trunk type. WCR unifies trunk prefixing administration via the *trk-grp* transaction (Procedure 101 Word 3). This transaction now allows administration of up to four prefix digits for any trunk group which contains a trunk type for which prefixing is valid. For ISDN trunk groups (all trunk types), eight prefixes can be administered, one for each "ISDN Address Type".

Not all trunk types are allowed to perform digit prefixing. Administration is allowed only for trunk types 12-15, 30-47, 70-78, 108-109, and 120.

As part of trunk group control for WCR, the *trk-grp* transaction has several additional new fields. The "Ignore Dial Tone Detection?" field whether or not dial tone detection should be ignored. The "Symmetrical Route?" field indicates whether the trunk group is part of a symmetrical route or not. The "Conditional Routing?" field indicates whether conditional routing should be used for the associated trunk

group. The "Traveling Class Mark" field specifies the number of Traveling Class Marks to be sent and/or expected by the trunk group. The "Outgoing Overlapped Sending?" field indicates whether digits may be sent over the outgoing trunk before the entire set of dialed digits has been analyzed. The "Dial Tone Suppression?" field controls suppression of dialtone on the associated trunk group.

Call Detail Records

For WCR, the *cdr* transaction allows administration of new encodes (Number Sent, Pattern Used, Preference Used, and Dialed Number) to be included as part of each CDR generated.

NETWORK DIGIT ANALYSIS

The Network Digit Analysis (NDA) module of WCR is given control of a call when a network dial access code is dialed. The NDA module remains in control of the call at least until the last string identifier in the dialed number is recognized. If overlapped sending does not occur for a call, NDA remains in control of the call until the entire number, inclusive of TCMs, is collected.

NDA parses the dialed digits based on the administration done via the *wcr-dialplan-definition* transaction (Procedure 314 w1 & w2). The goal of NDA is to break up the dialed digits into individual strings. The strings which NDA recognizes are:

- Account Code
- IXC
- Toll Prefix
- Address - three types: regular, operator-assisted, and international

A final string type, the "illegal" string type, is administerable. If NDA parses a string to the "illegal" string type, NDA blocks the call and provides programmable intercept.

The following example illustrates how the NDA software module might interpret a set of dialed digits.

Suppose a user dials 1028813035383886. NDA might parse:

Account Code	None
IXC	10288
Toll Prefix	1
Address String	3035383886

NDA does not presuppose any rules regarding string structure. The actual strings which NDA will recognize are entirely dependent on the administration done via the *wcr-dialplan-definition* transaction. For example, if an administrator specifies that then that is what NDA parses it as.

NDA also enforces a specific ordering of the "strings" that are parsed. After the Network DAC, the digit strings, if they exist, must occur in the following order: account code, ixc, toll prefix, and then address string. If a digit string occurs out of order, NDA blocks the call and provides programmable intercept. i.e. if a user dials an IXC followed by an account code, the call is blocked by NDA.

Administration Procedures

For Manager IV, administration of the WCR network characteristics is provided by the following transactions:

1. **wcr-network-information:change, display**
2. **wcr-dial-plan-definition:add, change, display, remove**

Global WCR Network Characteristics

Administration of "global" WCR network characteristics is provided via the *wcr-network-information* transaction. There are 8 World Class Routing networks. However, since "Network 0" is a special network that provides an interface to the Internal Dial Plan, the *wcr-network-information* transaction does not allow administration of "Network 0." The characteristics of networks one through seven that are administered via the *wcr-network-information* transaction are:

- Account Codes Required
- Toll Prefix Required
- Dial Tone Suppression

In earlier switch types, account codes and the toll prefix (Dial 1 for toll) only apply to ARS. With WCR, these attributes can be applied to any Network. In earlier switch types, dial tone suppression only applies to AAR. In V6, this attribute applies to any Network.

WCR Network Dial Plan Administration

The *wcr-dialplan-definition* transaction (procedure 314 words 1 and 2) is used to specify, for each WCR network, the string identifiers and associated string identifier attributes which NDA uses to parse the dialed digits and determine the appropriate call routing action. Specifically, the *wcrf-dialplan-definition* transaction is used to administer:

- location codes
- NPAs (3-digit translation)
- NPAs with office codes (6-digit translation)
- office codes in the Home NPA
- operator-assisted digit strings
- international routing
- M-to-N digit conversion (digit analysis portion).
- network crossover
- 3, 7, or 10-digit service codes.
- wild card routing
- exception routing
- IXC routing
- Unauthorized Call Control
- Toll Prefixes
- Account Code Prefix digit and Account Code length used when the account code is dialed after a Network DAC. Note that the *sys-cos* transaction specifies the Account Code length when the account code is dialed after the CDR DAC.

The following screen illustrates several strings that exhibit some of the new capabilities of WCR:

AT&T Mgr IV 2.2		DEFINITY G2.2				lincroft	
fm database-admin wcr-dial-plan-definition add						Page	1 of 1
WCR Network: 1		<----- ACTION ----->				C R O F T	
	String		Encode	Object	Attrib	o e p r o	
	Length	String	Rlv->0	Rlv->VNI	Rlv->FRL	n a e z n	
String ID	Min Max	Type	Rst->1	Rst->DMI	Rst->Net	t n r e e	
-----	-----	-----	-----	-----	-----	- - - - -	
908	7	addr	0	50	0	n y 0 n n	
908	10	addr	0	99	0	n y 0 n n	
900	10	addr	0	0	0	n y 0 n n	
10288	5	ixc	0	288	0	n y 0 n n	
911	3	addr	0	1	0	n y 0 n n	
***555	10	addrx	0	0	0	n y 0 n n	
01	7	addr	0	0	0	n y 0 n n	

Note that the first two string IDs of 908 show that this string is used as both an exchange code (seven digit length) and an area code (ten digit length) for the same calling area. Note that routing of the exchange string may be handled differently than the routing of the area code.

The third string ID shows how all calls that start with a particular string ID (900) may be routed to intercept (action object = 0).

The fourth string ID (10288 - for example, 10ATT) shows how a call may now be routed based on the IXC dialed.

The next string ID (911) shows how special service codes may be routed for special handling (VNI 1 is assumed to be handled by the attendant).

The next string (***555) illustrates how for all area codes, the special service 555 codes can be blocked (VNI = 0).

The final example illustrates the power of "variable length strings". In this case, all digit strings that start with the digits 01 and are between 7 and 18 digits long are sent to intercept.

Manager IV WCR Dial Plan Administration Capabilities

Manager IV provides a set of transactions that allows administration of all the information contained in procs 314 word 1 and word 2. Using Manager IV, for a specified network, the user can:

- Add up to 10 strings along with their associated parameters via a single transaction.
- Display up to 62 strings (normal and exception) that use a specified String Identifier.
- Allow selection and change of up to 62 strings (normal and exception) that use a specified String Identifier.
- Remove up to 10 distinct strings via a single screen.

For each "String ID" to be administered, the user can enter the entire "string ID" at one time. Wild card digits are represented via the '*' character and are used to form "exception" strings. Note however that exception strings need not contain a '*' character. Depending on whether the Action Encode is "Resolve" or "Restart", the appropriate set of data fields required to complete administration for that String ID are presented to the user. In addition, default values are given when appropriate.

String ID Administration

To add a String ID to a given network using Manager IV, the wcr-dial-plan:add transaction must be used. Similarly, to change the attributes of a specified String ID the wcr-dial-plan:change transaction must be used. For both transactions the user must administer the following data: For the add transaction the user shall be able to administer the following data:

- WCR Network
- String ID
- Minimum String Length
- Maximum String Length (if variable length string)
- String Type
- Action Encode
- Action Object
- Action Attribute
- Continue? indicator
- Reanalyze? indicator
- VNI Operation indicator
- VNI Freeze? indicator
- Dial Tone? indicator

For the change transaction the user can administer the following data:

- Maximum String Length (if variable length string)
- String Type - a string type may only be changed to another string type of the same class. This means that a Standard String may only be changed to another Standard String, and an Exception String may only be changed to another Exception String.
- Action Encode
- Action Object
- Action Attribute
- Continue? indicator
- Reanalyze? indicator
- VNI Operation indicator
- VNI Freeze? indicator
- Dial Tone? indicator

The "Network" field defines the WCR network to which the associated String ID and String ID parameters shall be added. The "String ID" field specifies a set of dial digits that when recognized by switch software are to be acted on based on the associated String ID parameters. The "Minimum String Length" field is used to designate that all strings that start with the defined String ID, with the length specified by the Minimum String Length field, are to be acted upon according to the associated specification. The "Maximum String Length" field is only supplied if the string corresponding to the String Identifier is a "variable" length string. When supplied, it indicates that all strings that have a length greater than or equal to the Minimum String Length and less than or equal to the Maximum String Length, and start with the defined String ID are to be acted upon according to the associated specification. When specified, the Maximum String Length field must be greater than the Minimum String Length field.

The "String Type" field identifies the logical usage of the associated String ID. For each of the 6 basic string types (Account Code, Interexchange Carrier, Toll Prefix, International Access, Operator Assistance, and Address), the suffix 'x' is used to indicate that the String is an "exception" string. The Account Code string type is included for compatibility with earlier networking software.

The "Action Encode" field indicates how the switch is to handle the associated string ID. There are two valid Action Encodes, "Resolve" and "Restart". When this field is set to "0" (Resolve), it indicates that the String ID shall be recognized by the switch software as a unique portion of the digits dialed by the user, and that this String ID may contribute to the eventual routing of the call. The String ID may be the entire dialed digit string, or a logical subset of the dialed digit string such as a toll prefix code or IXC code. When this field is set to "1" (Restart) and the "Action Attribute" (network) is set to the current network, this indicates that based on the digits received to this point, digit modification is required to continue processing the call. Note however that digit modification is not required if digit analysis is to restart in another network.

The logical meanings of the "Action Object" and the "Action Attribute" fields are determined by the value of the "Action Encode" according to the following table:

ACTION ENCODE	ACTION OBJECT	ACTION ATTRIBUTE
Resolve	VNI	FRL
Restart	DMI	Network

When the Action Encode is "Resolve", VNI is the "Virtual Nodepoint Identifier" that shall be used to route the call. Without subsequent modification, the VNI is equal to the WCR Pattern number, however, this association may be modified based on the following features:

1. Time of Day Plan
2. Conditional Routing Count
3. Tenant Services Operation

In this case, the Facilities Restriction Level (FRL) may optionally be specified to provide a means of unauthorized call control based on FRL.

When the Action Encode is "Restart", DMI is the "Digit Modification Index" that shall be used to modify the String ID. In this case, the "Network" attribute indicates which WCR Network the digit analysis switch software should "crossover to" as it continues to determine how to handle the dialed digits.

The "Continue?" (Cont) field specifies whether or not the string defined by the String ID and string length will be followed by additional dialed digits that will require further analysis and therefore demand that digit collection should continue. When set to 'n', this field indicates that "No more digits are to be collected following this string". When set to 'y', this field indicates that "More digits are to be collected". The Continue indicator is applicable for both the "Resolve" and "Restart" Action Encodes.

The "Restart Analysis" (Rean) indicator only applies when the Action Encode is "Restart", and specifies whether the current string (which may or may not have been converted) will be reanalyzed. When set to 'n', the switch software will not reanalyze the current string. When set to 'y', the switch software will reanalyze the current string.

The "VNI Operation" (Oper) field specifies how the VNI that has been determined for the associated String ID is to be used by the switch software. The logical meaning of the field is determined by the value of the Action Encode. When the Action Encode is set to "Resolve", a value of 'n' indicates that the call is to be routed exclusively based on the VNI specified by the associated String ID. When the Action Encode is set to "Restart", a value of 'y' indicates that if prior digit analysis has resulted in a VNI, then that VNI shall be combined with (added to) the VNI specified by the associated String ID to determine the actual VNI to be used to route the call. This facility allows a portion of a digit string to point to the first of a set

of contiguous VNIs, and a subsequent digit string to choose the specific VNI within that set to use for routing. Note that if the previously determined VNI was "frozen", then the 'y' option is ignored!

When the Action Encode is set to "Restart", a value of 'n' indicates that any VNI which might have been determined to this point shall be reset to "0". Alternatively, when the Action Encode is set to "Restart", a value of 'y' indicates that any VNI which might have been determined to this point shall continue to be available for possible future use.

The "Freeze VNI" (Frze) indicator is used to prevent any subsequent digit conversion or VNI operations from taking place. This indicator is only applicable to String IDs whose Action Encode is "Restart", or to String IDs whose Action Encode is "Resolve" and whose Continue? indicator has been set to 'y'. When set to 'n', this field indicates that subsequent digit conversions and or VNI operations shall be allowed. Alternatively, when set to 'y', it indicates that the VNI shall be "Frozen" (set to and marked "unchangeable") to the current value.

The "Tone" (Tone) indicator controls when dial tone is applied back to the dialer. This indicator applies to both action encodes and may be set to 'y' (apply dialtone) under the following conditions. When the Action Encode is "Restart", the Continue? indicator must be set to 'y' (1 in switch), and the "Restart Analysis" indicator must be set to 'n' (also 1 in switch). When the Action Encode is "Resolve", the Continue? indicator must be set to 'y', and the "Restart Analysis" indicator must be set to 'y' (0 in switch).

Exception Strings

Within the switch each network has a "Standard Digit Analysis" table and an "Exception Digit Analysis" table. After the Network Digit Analysis software has parsed a string based on the standard digit analysis table, the exception digit analysis table is consulted to see if the digits match an "exception". If there is such a match, then the routing parameters associated with the "exception" override the routing parameters that were obtained from the standard digit analysis table.

A "standard network" string may not contain any '*' wildcard characters. These strings must be placed into the standard string table in the switch. An "exception" string may or may not contain the '*' wildcard character. These strings must be placed into the exception string table in the switch. Exception strings are identified in Manager IV by the suffix 'x' at the end of the string type.

GENERALIZED ROUTE SELECTION

Generalized Route Selection (GRS) is the function that determines a Pattern/Preference for completing a call. GRS is composed of 3 distinct functions:

1. Call Category Definition
2. Pattern Selection
3. Preference Selection

where each function provides an input to the next function. Generalized Route Selection provides:

- an increase in the number of time of day plans from 3 to 7
- allows AAR calls to use time of day routing
- allows a pool of 1023 patterns of 16 preferences each to be shared by all networks
- combines routing designators and node numbers into Virtual Nodepoint Identifiers which range from 1 to 1023.

Call Category Definition

The following factors are used to determine "Call Category":

- Time of day routing
- Conditional routing (satellite hop count)
- Tenant partition

Call Categories are common to all networks. Thus, conditional routing and tenant partitions both impact Call Category.

Pattern Selection

The routing pattern is selected from a pool of patterns common to all routing networks. The pattern is determined from both the call category and the VNI, which was determined via Network Digit Analysis.

Preference Selection

The specific preference used to complete the call is selected based on the following factors:

- Facility Restriction Level
- Toll vs. Toll-free
- Bearer Capability COS
- ISDN routing parameter (route-any, ISDN preferred, ISDN exclusive)
- Attendant Control of Trunk Group Access (ACTGA)
- Trunk Reservation Limit
- DCS routing parameter (route-any, DCS required, DCS preferred)
- Symmetrical Routing
- Forced Entry of Account Codes
- Partition Number

WCR Toll vrs. Toll-free Calls

"Network 1" has a Toll DAC and a Toll-free DAC. Use of the Toll-free DAC prevents access to Toll routes. Terminals whose terminal class of service is administered to be toll restricted are blocked from dialing the Toll DAC.

Networks 2-7 each have a single DAC. For these networks, terminal access to toll facilities is based on the terminal class of service. A toll restricted class of service will prevent a terminal dialer from accessing a toll route. Note however that if a call originates on a trunk or is originated by the attendant and one of the Network 2 - 7 DACs is dialed/inferred, toll calls are allowed.

A new field has been added to the *extension* transaction (Procedure 000 Word 3) for call forwarding off net. In earlier switches, call forward off-net calls could not reach Toll facilities. With WCR, a new field in the *extension* transaction indicates whether or not an extension can call forward off-net using Toll facilities.

Manager IV Generalized Route Selection Administration

For Manager IV, administration of generalized route selection is provided by the following transactions:

- **wcr-call-category:change, display**
- **wcr-pattern:add, change, display, remove**
- **wcr-route-translation:add, change, display, remove**
- **wcr-toll-free-tables:add, display, remove**
- **wcr-schedule:add, change, display, remove**

Call Category Administration

Wcr-call-category:change, and display (Procedure 317 Word 1) is used to administer the call category definition parameters that are used by the Generalized Route Selection software to determine the modifications to be made to the selected VNI based on:

- Time of Day Plan
- Conditional Routing Count
- Extension Number Partition (Tenant Services)

Manager IV allows users to display and change the Call Categories that are associated with each Time of Day/Conditional Routing Count pair. These Call Categories are used by the "wcr-route-translation" transaction to modify the VNI to WCR Pattern mapping. This allows call routing to change dynamically based on the Time of Day plan currently in effect in the switch, along with the Conditional Routing Count associated with the call. The Conditional Routing Count is determined by how many Satellite Hops a call has traversed in reaching the current switch. Limiting the number of Satellite Hops allows the user to control call characteristics such as "transmission delay".

Note: Manager IV does not support the "Tenant Services" feature.

Pattern Administration

Wcr-pattern:add, change, display and remove (Procedure 318 Word 1 and Word 2) is used to administer the attributes of each pattern/preference combination used by all World Class Routing networks.

Manager IV supports administration of WCR patterns via a set of screens that will for a given pattern, allow up to 16 preferences along with the associated parameters for each preference to be entered. The preference attributes are:

- Facility Restriction Level
- Warning Tone Application
- Bearer Capability Class of Service
- Toll-free Index
- Digit Modification Index.
- Digit Sending Index.
- ISDN Sending Index.

For Manager IV, WCR Pattern Administration is provided by the **wcr-pattern add, change, display, remove** and **insert** transactions. The add verb allows up to 16 preferences along with the associated parameters for each preference to be entered. In addition, this verb allows, for a specified pattern, addition of preferences after the current set of existing preferences. The change verb allows a user to specify either a "single" preference or "all" preferences parameters to be changed for a specified pattern number. The display verb allows a user to specify either a "single" preference or "all" preferences to be displayed for a specified pattern number. The remove verb allows a user to specify either a "single" preference or "all"

preferences to be removed for a specified pattern number. In the case where a "single" preference has been selected, this preference must fall into the range of currently existing preferences for the pattern being administered. In this case, the software, starting at the specified preference, changes the next higher preference into the current preference number. Processing continues in this manner from the specified preference to the highest numbered currently existing preference, effectly decrementing each preference number by one. The insert verb allows a user to specify a "single" preference to be inserted for a specified pattern number. The preference specified must fall into the range of currently existing preferences for the pattern being administered. The insert verb then adds the new preference to the currently existing set by automatically removing all higher number preferences than the specified preference, then inserting the selected preference, and then automatically adding back all the "higher number preferences" with each preference number incremented by 1.

Toll-Free Strings Administration

Wcr-toll-free-tables:add, display, and remove (Procedure 319 Word 1) is used to administer WCR toll free number tables. There are 63 Toll Free tables that can be administered. If a number is placed into a table, that number is considered to be toll free call. If a number is not there, it is considered to be a toll call.

The f3wcr-pattern transaction allows users to administer each WCR Pattern/Preference to indicate whether calls should be treated as "toll" or "toll free". In general the user may indicate one of the following:

- All calls are to be considered toll free.
- All calls are to be considered toll.
- Only the address strings whose first N digits match any string within the associated "toll free table" are to be considered toll free.

As part of the WCR Generalized Route Selection software, a comparison is done between the "Address String" that is formed as a result of digit analysis and all entries in the toll free table associated with the particular WCR Pattern/Preference that has been selected. If the first N digits of the "Address String" matches any of the numbers administered in the toll free table that is associated with the specified Pattern and Preference number, then the call is considered to be toll free.

The toll/toll-free status of the "Address String" will control whether or not that Pattern/Preference combination may be used to handle the call. If an extension has a class of service that has the "WCR Toll" field set to "restricted", then that extension may not complete to a toll facility.

Time of Day Routing

The Time of Day plan number is a parameter used in determining a call's Call Category. WCR provides 7 TOD plans (numbered 1 - 7), one of which is active at any given time. Note that '0' is not a valid TOD plan because '0' is used by the attendant to modify the control mode. Time of Day Plan changes are controlled either in automatic mode or in manual mode, and the switch is in one of these modes at any given time. In automatic mode, the switch changes the active plan automatically based on the administration done via the **wcr-schedule** command using the "Automatic(a)" option. Up to 6 time of day plan changes may be specified for each day. To manually change the Time of Day Plan, the user must change the active plan in the switch using the "Plan Manual Control Mode?" and "Plan In Effect" fields in the

sys-cos transaction, or via the attendant console.

- Automatic mode: There are three ways for the switch to change from manual mode to automatic mode:
 1. "Plan Manual Control Mode" set to 'n' in the *sys-cos* transaction.
 2. Clocked Manual Override - Return to Automatic takes effect at the time administered in the *wcr-schedule* transaction.
 3. The Plan Change Dial Access Code is dialed from the attendant console and plan number 0 is entered.

When in automatic mode, the plan can change up to six times a day each day of the week.

- Manual mode: There are three ways for the switch to change from automatic mode to manual mode:
 1. "Plan Manual Control Mode" set to 'y' in the sys-cos transaction.
 2. Clocked Manual Override takes effect at the time administered in the wcr-schedule transaction.
 3. The Plan Change Dial Access Code is dialed from the attendant console and a plan number 1-7 is entered.

DIGIT MODIFICATION

As part of the WCR feature, network digit modification provides for administration of the digit modification parameters that are used by the Digit Sending software to determine if a particular pattern/preference should delete and/or insert dialing digits into the chosen digit stream. Network digit modification allows administration of the number of digits deleted and digits to be inserted for a particular digit modification index.

Network Digit Modification provides modification of dialed digits for Network Digit Analysis and Digit Sending. This allows maximum flexibility of the digits that can be handled by WCR. The following capabilities are provided by digit modification administration:

- allow up to 4095 digit modification indices (DMIs) that may be shared by all networks
- for each DMI, allow up to 31 digits to be deleted
- for each DMI, allow up to 31 digits to be inserted

Number of digits to delete and digits inserted are the administrable attributes for the digit modification index. Digit Modification deletes digits from the beginning of a string and then inserts the 'insert digits' at the beginning of the string. The Digit Modification Index is used by the **wcr-dialplan-definition** transaction to perform M-to-N Conversion and by the **wcr-pattern** to indicate digit modification for sending digits in a specified preference. When Digit Modification is used as a part of Preference administration in conjunction with the **wcr-pattern** transaction, the modification only applies to the Address String. In this case, Digit Modification does not modify the Account Code, Toll Prefix, or IXC strings. When Digit Modification is used for M-to-N conversion in conjunction with the **wcr-dialplan-definition** transaction, the modification can apply to any string type.

As an example, an Account Code could be administered so that the Account Code Prefix digit is deleted.

Digit Modification Administration

The **wcr-digit-modification** change and display transactions (Procedure 320 Word 1) are used to administer the digit modification parameters that are used by the Digit Sending software to determine if a particular pattern/preference should delete and/or insert dialing digits into the chosen digit stream. The **wcr-digit-modification:change** transaction allows administration of the following parameters that are coupled and referenced through a "Digit Modification Index":

- Number of Digits Deleted
- Digits Inserted

The range of valid "Digit Modification Index" values is 0 through 4095. Note, however, that Digit Modification Index 0 is the "default" value, it's parameters are predefined and cannot be changed.

DIGIT SENDING

Depending on the preference selected for a call, digit formatting may be required before the digit string is sent over the selected trunk group. Digit formatting consists of specifying the individual string components (e.g. IXC code, toll prefix code, area code, office code, ...) that will make up the total set of digits that are sent to the distant switch. These digits must ultimately be in a form that the distant switch recognizes. As part of this specification process, an end of dialing character (#) may be optionally specified to be sent to the distant switch. Manager IV allows specification of how these outgoing digit strings should be composed.

When calls are routed to "older" or less sophisticated equipment, the digits sent to the distant switch may have to be "grouped". Grouping allows the distant switch the time it needs to process and act on appropriate parts of the digit stream. Manager IV allows the dialed digits to be broken up in at most 4 groups with appropriate delay and out-pulse options.

ISDN messaging requirements depend on the specific preference selected. If the selected trunk group is a PRI (Primary Rate Interface) trunk group, then ISDN messaging parameters must be administered. ISDN trunks use message oriented signaling in which call control information is exchanged in the form of predefined message packets. Each packet contains a specific set of information elements (IEs). Manager IV allows administration of the following ISDN message IEs:

- Called Party Number, including Type of Address and Numbering Plan ID
- The Network Specific Facilities (NSF) identifying the type of service required
- The NSF, Transit Network Selection (TNS), or Called Number IEs with the carrier identification code specifying the Interexchange Carrier (IXC) to be used
- The Traveling Class Mark (TCM) IE with the FRL and conditional routing count values

Manager IV Administration

Wcr-digit-sending

Once the Pattern/Preference has been selected, the format of the outgoing digits is controlled by the Digit Sending Software. The **wcr-digit-send** change and display transactions allow the user to administer the digit sending parameters that are used by the WCR Digit Sending software to determine the format of the outgoing digits. Format specification includes the ability to optionally send additional digits including a DAC, IXC, TOLL PREFIX and/or pound sign (#). The strings are then sent over the selected trunk in the following order:

DAC, IXC, TOLL PREFIX, ADDRESS, TCM(s), '#'

After the additional strings have been added to the address string, the entire set of digits may be partitioned into four "digit groups". The digits sent within a group may can be sent in either "touch-tone" or "rotary" format. In addition, each group of digits may be followed by a user-defined pause length to provide flow control of the digits sent.

The number of digits in each "group of digits" may be up to 31 digits. The "pause length" of each digit group may be zero (0) seconds, in addition to being 2, 4, 6, 8, 10, 12, 14, or 16 seconds.

The range of valid "Digit Sending Index" values is 0 through 511. Note, however, that Digit Sending Index 0 is the "default" value and may not have its parameters changed.

Included within the functions listed above are the following capabilities:

- allow up to a total of 68 digits to be collected and or sent
- allow up to 31 digits per sending group

- optionally send the dialed DAC or an administered DAC
- optionally send the dialed IXC or an administered IXC
- optionally send the dialed PREFIX or an administered PREFIX
- optionally send pound(#) sign as an end of dialing indicator

Overlapped Sending

The overlapped sending option can be activated as needed and should be used only for rotary trunks and other situations where call set up time can be extensive. The default is no overlapped sending - all digits are collected before they are sent. For station and attendant originated calls, overlapped sending occurs only when the system overlapped sending attribute is set via the "Begin Route Selection ASAP?" field in the **sys-cos** transaction and the trunk selected for routing has overlapped sending activated via the "Outgoing Overlapped Sending?" field in the **trk-grp** transaction. For tandem calls from another switch, the incoming trunk group and the outgoing trunk group must both have overlapped sending enabled for overlapping to occur.

If overlapped sending is enabled for a call, overlapped sending does not occur in the following situations:

- Two TCMs are expected on the incoming trunk
- One TCM is expected and the default FRL of the incoming trunk group (Procedure 103 field 2) is not high enough to access any of the available Preferences.
.LI One TCM is expected and the last string collected has a variable length.
- Call requires an authorization code to be collected.

Wcr-isdn-parameters

The **wcr-isdn-parameters** change and display transactions (Procedure 322 Word 1) are used to administer the ISDN feature parameters that are used by the Generalized Route Selection software to determine if a particular pattern/preference is a valid candidate to carry ISDN traffic. The **wcr-isdn-parameters** change transaction allows administration of the following parameters that are coupled and referenced through an "ISDN Sending Index":

- Network Service Value
- ISDN Type of Address
- ISDN Numbering Plan Identification
- IXC Coding Option

The range of valid "ISDN Sending Index" values is 0 through 1023. Note however that ISDN Sending Index 0 is the "default" value and may not have its parameters changed.

For an ISDN call, the Dial Access Code, the prefix digits, and the address digits are part of the Called Party Number (CDN) Information Element (IE). The IXC is stored in the Network Specific Facilities (NSF) IE or the Transit Network Selection (TNS) IE. The pound sign is not used in the ISDN message. The "Type of Address" and "Numbering Plan Identification" are used to code an octet in the Called Party Number IE. The "Network Service Value", if present, is coded in the NSF IE.

ADMINISTERING FACILITIES MANAGEMENT WITH MANAGER IV

This guide contains many procedures and commands available to FM Administrators. You may find yourself using some of them frequently, others seldom and still others not at all. This is an introduction to what are probably the most frequent tasks; it is followed by the procedures.

Business decisions affect telecommunications networks, as employees and services are added, augmented, moved or removed. These changes, in turn, influence the traffic patterns and volume on your network. For these two reasons, the FM Administrator frequently may be required to:

- Change Facility Restriction Levels (FRLs) so users may have more or less access to outgoing trunk groups when they are in their offices, and/or network access when calling from outside the office.
- Add trunks to existing trunk groups because traffic studies have shown that blockage is occurring more often than is acceptable under the chosen level of service.
- Change an Automatic Route Selection (ARS) schedule to handle new traffic demands.

Most tasks performed by the FM Administrator are entered as Service Requests (SRs). This practice allows you to schedule procedures for times when your system is not busy, and it saves you the delay in waiting for a procedure to be completed. For information on using SRs, see "Service Requests with FM" later in this chapter and *Getting Started with DEFINITY® Manager IV*.

Changing FRLs

Facility Restriction Levels (FRLs) define network calling privileges. They are assigned to the class of service for extensions under the Terminal Change Management (TCM) application and to trunks under FM. There are eight levels, with seven levels that can be assigned to restrict or facilitate calls. FRLs with the value of 0 provide the lowest level of access. FRLs of 7 provide the highest level of access. Private networks usually have lower FRLs, while public network trunks generally have higher FRLs. In general, this means that users can call anywhere on the private network, but some may be prevented from making costly calls on the public network.

FRLs are assigned when authorization codes are entered in the network through the FM or TCM applications. Authorization codes are associated with individual users, rather than stations. For example, when a PBX has exhausted all routing possibilities based on the caller's FRL without finding an available trunk, it may prompt the caller for an authorization code. A person whose authorization code has a higher FRL than the phone extension being used is thus able to complete the call by entering the code.

To see the FRL of a particular authorization code, use:

auth-code display

Or, to get a report on authorization codes under a specific Facility Restriction Level on your network, run an FRL-Authorization Code Report by using:

fri-auth report

Procedure: How to Change FRLs

1. After beginning a Service Request, enter the command path **fm admin auth-code change** and press **RETURN**.
2. In response to the auth code prompt, enter the authorization code for which you wish to change the FRL. The example below uses 654321. Press **RETURN**, and the following screen appears.

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin auth-code change                Page 1 of 1

Auth Code      FRL      Network Access?
654321         5        y
```

3. Change **5** to the desired level.
 - If you want this authorization code to be able to access more facilities, enter a higher value (**6** or **7**), otherwise, enter a low value (**0** or **1**).
4. Press **EXECUTE**.
5. End the Service Request or enter additional transactions before ending the SR.

Adding a Trunk

If additional trunks are required for a certain trunk group to handle increased traffic, there are several preliminary tasks involved:

- Make sure the new trunk(s) have been *physically* installed, and carrier packs are available. The command **carrier display** will provide information on pack type and available slots, if needed.
- Add the trunk(s) to Manager IV using the following procedure. You can add as many as 30 trunks at a time to an existing trunk group.

Procedure: The trk add Command

1. Enter **trk add** and press **RETURN**. The following screen appears:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk add          Page 1 of 2

                          TRUNK GROUP ADMINISTRATION

Enter only one of the following fields

      Trunk Group No.: ____
      Dial Access Code: ____

```

- Enter the Trunk Group Number or Dial Access Code of the trunk group to which you want to add trunks, and press **EXECUTE**.
- The Trunk Type and Signaling Type, if applicable, are automatically filled in, and the screen appears as shown here.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk add          Page 1 of 8

                          TRUNK GROUP ADMINISTRATION

Enter only one of the following fields

      Trunk Group No.: 20
      Dial Access Code: *20
      Trunk Type: 19
      Signaling Type: 1

```

- Press **RETURN**. The GROUP MEMBER ASSIGNMENTS page appears:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>	
fm admin trk-grp add		Page 7 of 8	
TRUNK GROUP ADMINISTRATION			
Equipment	Night	AIOD	Disable
Location	Terminal	Number	Signal?
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n
//_/_/	_____	_____	n

The format of this screen will vary depending on the type of the Trunk Group selected.

- Enter up to 30 members and their attributes.
- Press **EXECUTE** to enter the data.

To add more than 30 trunks to an existing trunk group, repeat this procedure.

Changing an ARS Schedule

There are three ARS time-of-day plans available to handle varying costs of calls over the public network. The three schedules cover business hours, evening and night rates. You can override a schedule to take advantage of holidays when rates may be low all day. However, you may want to change a schedule because of the addition of a node in another time zone to your network. This change involves two steps:

- Deactivating the automatic schedule for the ARS pattern
- Adding the new schedule.

Procedure: Administering ARS Schedules

To check whether or not the ARS schedule is now in automatic or manual mode, use the command **sys-cos display**. Use **ars-schedule change** to inactivate the existing schedule.

Remember that only one time-of-day plan can be in effect at any given time. To administer the ARS schedules:

1. Enter the command **ars-schedule change**. Press **RETURN**. You are prompted for the day of the week for which you want to make a change.
2. Enter the abbreviation for the day, such as **mon** or **tues**, and the following screen is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin ars-schedule change

Change Automatic(a) or Manual Override(m) or Both(b)?: _

DAY: mon

```

3. To deactivate the schedule, type **b** for Both and then change **y** to **n** in the Active? field.
4. Press **EXECUTE**.
5. Enter **ars-schedule add** and press **RETURN**. This screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin ars-schedule add

Add Automatic(a) or Manual Override(m) or Both(b)?: b

DAY: ____

Time          Plan          Active?
__:_          -            -
__:_          -            -
__:_          -            -
__:_          -            -
__:_          -            -
__:_          -            -

Clocked Manual Overrides          Return to Automatic Control
DAY: ____                          DAY: ____
Time: __:__                        Time: __:__
Plan: _

```

6. Type **b** for both. The screen shown above is for both; only the upper portion of the screen appears for automatic overrides, and only the lower portion appears for manual overrides.
7. For automatic scheduling, you can enter up to six changes for each day. When scheduling is in automatic mode, plans are in effect continuously.
 - Enter the day of the week for which automatic plans are being input, as **mon** through **sun**.
 - Enter the time the override should take effect.
 - Enter the plan number (**1** through **3**) to be in effect.
 - Type **y** if the plan is currently available, **n** if it is not.
8. The manual override capability allows a change in the schedule for a particular time period. This allows you to take advantage of special rates, then return to automatic control at a specified time period.
 - Enter the day the override should take effect.
 - Enter the time the override should take effect.
 - Enter the plan to be in effect during this time period.
 - Enter the day the override should return to automatic control. The maximum length that a manual override can be in effect is seven days.
 - Enter the time the override should return to automatic control.
9. Press **EXECUTE** to run the command.

SERVICE REQUESTS WITH FM

Service Requests (SRs) schedule Manager IV transactions for processing at a later time. Service Requests have several advantages:

- They free the communication ports to a switch while you input transaction data to be stored in the Manager IV database and to be downloaded to the switch at a scheduled time.
- They allow you to execute transactions during periods when system use is low, such as evening or night hours. This helps to maintain overall system response time by spreading out the system's workload; it also frees you from having to wait for your transactions to complete at the switch after you enter them.
- They group together a limited number of transactions relating to the same entity. Note that when scheduling changes as a group, you must be careful to consider sizing limitations, as explained below.

When an administration transaction is run, the Manager IV database is updated immediately, and information from your transactions is transferred from the database to the pending queue (a storage area for transactions to be transferred to the switch) and then downloaded to the switch. In immediate mode transactions, the information is downloaded to the switch immediately; in scheduled Service Requests, it is downloaded at the scheduled date and time.

To create a Service Request, use the command **service-request create**. After you enter transactions in the SR, end it using the command **service-request end**. For complete information on using SRs, see *Getting Started with DEFINITY® Manager IV*.

Some Reminders about SRs

Manager IV does not restrict the size of an SR; therefore, it is up to you to limit the number of transactions in your SRs. The more transactions there are in an SR, the more difficult it is for you to change the transactions in the SR or correct any errors. Limit the size of SRs to a logical grouping of transactions, ideally no more than two to four.

Stacking is the scheduling of a change on top of a pending change. You are stacking when you schedule two or more transactions relating to the same entity. You *can* stack changes *within* an SR. You *cannot* stack changes *between* SRs. You also *cannot* perform an immediate change on an entity or item that is included in a pending SR. If you attempt to do this, you receive an error message that includes the number of the conflicting SR.

If two or more SRs are scheduled for the same time with data for the same target, Manager IV automatically groups them together so that they share the same connection. Try to schedule multiple SRs for the same switch for the same time. Coordinate this scheduling through your Manager IV System Administrator.

If a Service Request fails *before* the Manager IV database is updated, re-execute the SR. It is good practice to check the status of Service Requests each morning. This can be done with **service-request report** and other measures that are detailed in *Getting Started with DEFINITY® Manager IV*.

Making Network Changes Using Service Requests

If you are managing a network of switches, you may want to make the same change to more than one switch in your network. In Manager IV, you can use a target group as a target to accomplish this for certain transactions. You can also use Service Requests to accomplish a network change by grouping together in one Service Request transactions affecting different switches.

This feature should be used only when it is critical that the same change be made to more than one switch in a very short time span. Since it is possible for part of an SR to fail, use this feature for transactions which, if they failed, would not adversely affect service. Note that for efficiency, all pending queue entries

for one switch will be downloaded before the next switch is accessed. Therefore, transactions may download in a different order than input in the SR.

Using SRs for Daily Tape Runs

Manager IV provides the **tape run** command for saving switch translations; *daily* tape runs are important since they prevent loss of transaction changes to the switch. With all switch releases, you can enter the **daily-tape-run schedule** command as a Service Request so the tape translations are saved each day at the same time, usually at the end of the day, and after other Service Requests affecting the switch are downloaded. If tape runs are ordered haphazardly, that is, at different times of the day, there is danger that previously scheduled Service Requests may fail because they cannot access the switch while the lengthy switch translations are being recorded. Tape runs can take as long as six hours for large systems. In trying to download Service Requests, Manager IV makes four attempts over a period of two hours. After that, the Service Requests fail. And, if more than 29 hours have elapsed since the last tape run was made, Generic 2 and System 85 R2V3-R2V4 automatically make one.

System 85 R2V2 automatically creates a tape run every 23 hours. The **daily tape run** command is not useful for this switch.

The **daily-tape-run schedule** command can be entered from the FM and TCM applications. The procedure is described below.

Procedure: Daily Tape Run

1. Enter the **daily-tape-run schedule** command.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin daily-tape-run schedule Page 1 of 1

      THE SCHEDULED TIME IS IN THE TARGET'S TIME ZONE

      Start Time for Daily Tape Run: __:__

After this command has been executed, a service request
containing the tape run command will be scheduled each day
at the time entered above. If you wish to discontinue the
automatic scheduling of daily tape run, use the scheduled-
entry remove command. If you wish to reschedule the daily
tape run, execute this command again.

```

2. Enter the time (**hh:mm**) the tape run should start.
3. Press **EXECUTE**.
 - This message appears: "Scheduled task 'DailyTapeaa' will create a Service Request each day at *hh:mm*." The last two characters of the task name, *xx*, will be different for each target.

4. Press **RETURN**.

To change the time of the scheduled tape run, use **daily-tape-run schedule** again, entering the new time. To cancel the schedule, execute the command **scheduled-entry remove**. Entry of this command produces this screen:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin scheduled-entry remove

                                Select the scheduled entry you want to remove:

Entry Type: _____
Task Number: _____
Product ID:  _____

```

1. In the Entry Type field, enter "application".
2. Enter the task name displayed by the **daily-tape-run schedule** command. If you cannot remember the task name, run **scheduled-entry display**.
3. For the LDN field, enter the name or number of the switch.

Connecting to Products

Many FM procedures require a connection to the product, or switch. This means you must first connect to the switch before entering the command path if you are not using the Service Request "envelope" for your command. A connection is made with **connection create**.

The **connection create** command establishes a connection with a switch. This command is a utility. It can be accessed from any application or area in Manager IV. The verbs supported are: **create**, **display** and **end**.

To create a connection to a switch, use the **connection create** command. **Create** is a prerequisite to many commands in FM, TCM and System Administration. Any command which must directly access the product must first establish a connection.

In the product-administration area, you must use this command to create a connection to a product.

In the administration area, for commands that require a connection to a product you must use the **create** verb to connect to the product, or must be in Service Request mode.

To list the logins of all users currently connected to every product, enter the **connection display** command. The **display** screen will also include the Product ID to which each user is connected, the identity of the port in use for this connection, and the date and time the port was last accessed.

To drop a previously established connection with a switch, use the **connection end** command. For a more detailed description of the **connection create** command, refer to *Getting Started with DEFINITY® Manager IV*.

2. HARDWARE ADMINISTRATION

DEFINITY Manager IV maintains an equipment inventory of the carriers and circuit packs administered for each of your PBXs. This allows circuit assignments made through Manager IV to be validated before they are downloaded to the PBX.

The hardware configured for each PBX is loaded into the Manager IV database along with the switch translations during system initialization. This chapter describes procedures for administering changes to your system's hardware configuration through Manager IV. These procedures are similar for all switch types, though differences necessarily exist because of differing switch administration requirements.

Identifying Equipment Locations

Many of the procedures for administering switch translations require the entry of an *Equipment Location* or *Equipment Line Location* (ELL). Each equipment location is identified through an addressing hierarchy comprised of the following components:

- Module
- Cabinet
- Carrier
- Slot
- Circuit.

Valid values for each of these components are summarized for different switch and hardware types in the following table:

Switch Type	Module Type	Module	Cabinet	Carrier	Slot	Circuit
DEFINITY Generic 2	Universal	0-30	0	a-e	0-20	0-23
	XE	0-30	0	a-e	1-18	0-23
	Traditional	0-30	0-7	0-3	0-3,5-8,13-16,18-21	0-7
System 85 R2V2-R2V4	-	0-30	0-7	0-3	0-3,5-8,13-16,18-21	0-7
DIMENSION FP8	-	0-14	0-4	0-4	0-25	0-7

As indicated in the table above, the Generic 2 switch supports three different module configurations:

- The *universal* module configuration is derived from the System 75 R1 port boards and a modified System 85 R2V4 Module Control Carrier. Within a *Universal* Module, only universal carrier types and circuit packs may be assigned.
- The *traditional* module configuration is derived from the port boards and Module Control Carrier developed for the System 85 R2V4 switch. Within a *Traditional* Module, only traditional carrier types and circuit packs may be assigned.
- The *XE* Module configuration is a single stack of up to 5 modular carriers stacked vertically. The bottom carrier containing one or two module processors is derived from the existing System 75 control carrier shell with a new backplane and power supplies. The Port Carriers are derived from the XE port carriers: up to 3 XE Port Carriers may be stacked on top of the Control Carrier.

The *XE* Module hardware is incorporated into the Generic 2 Module Control Cabinet to provide a migration path for the System 75 customers to Generic 2 while maintaining the current System 75 hardware.

The *XE* Module looks very much like the *Universal* Module, and is treated as a modified *Universal* Module:

- Uses the same port packs and control boards as the *Universal* Module.
- An *XE* Port Carrier provides only 18 slots as opposed to 21 in a Common Port Carrier of the *Universal* Module. Slots in an *XE* Port Carrier are numbered **1** through **18**, and correspond electrically to the slots of the same numbers in the Common Port Carrier.
- In an *XE* Control Carrier, the electrical slots are the same as in the *Universal* Module though the circuit packs remain in different physical slots.
- Within an *XE* Module, only *XE* carrier types and universal packs may be assigned.
- If you have an *XE* Module, you can administer it the same way as the *Universal* Module with fewer slots in a Port Carrier.

A Generic 2 switch may be assigned any combination of *Traditional*, *Universal*, or *XE* Modules. The configuration cannot be *all XE* Modules since the *XE* Modules are restricted to being remote modules only.

Entering Equipment Locations

Manager IV equipment locations are represented by the five components of the addressing hierarchy (described above) separated by slashes ("/"). For example, module 2, cabinet 0, carrier 2, slot 3, circuit 1 is represented as "02/0/2/03/1". The entry of equipment locations through Manager IV varies slightly for different switch types and module configurations.

For the Generic 2 *Universal* Module,

- If the entered Module is universal, the Cabinet field is set to **0** and the cursor advances to the Carrier field automatically.
- Valid entries for the Carrier field are **a-e**.
 - a and b apply only to control carriers
 - c-e apply only to port carriers.
- Valid entries for the Slot field are **0-20**.
- Valid entries for the Circuit number are **0-23**. Depending on the type of circuit being administered, the range of valid entries may be smaller.

For the Generic 2 *XE* Module,

- If the entered Module is *XE*, the Cabinet field is set to **0** and the cursor advances to the Carrier field automatically.
- Valid entries for the Carrier field are **a-e**.
 - a and b apply only to control carriers
 - c-e apply only to port carriers.
- Valid entries for the Slot field are **1-18**.
- Valid entries for the Circuit number are **0-23**. Depending on the type of circuit being administered, the range of valid entries may be smaller.

For the Generic 2 *Traditional* Module and System 85 R2V2-R2V4,

- Valid entries for the Cabinet field are **0-7**.
- Valid entries for the Carrier field are **0-3**.
- Valid entries for the Slot field are **0-3, 5-8, 13-16, and 18-21**.
- Valid entries for the Circuit field are **0-7**. Depending on the type of circuit being administered, the range of valid entries may be smaller.

For DIMENSION FP8,

- Valid entries for the Cabinet field are **0-4**.
- Valid entries for the Carrier field are **0-4**.
- Valid entries for the Slot field are **0-18** or **0-25**, depending upon the type of carrier being administered.
- Valid entries for the Circuit field are **0-7**. Depending on the type of circuit being administered, the range of valid entries may be smaller.

When an equipment location is entered, the system uses these values to validate the entered data. For Generic 2 switches, Manager IV determines whether a given module is traditional, universal, XE, or unassigned at the time the Module is entered. If the data entered is not valid for the switch or module type, a short help message describing the valid values will be displayed.

Locale Assignments

To simplify hardware management for large PBXs with remote modules or carriers, Manager IV allows a *locale* to be assigned to each Equipment Location. Locales allow you to group your hardware based on its physical location, making it easier to choose a suitable Equipment Location.

During system initialization, the locale of each equipment location is set to the Module number. However, Manager IV allows you to change this default assignment and to assign locales to new hardware as it is added.

Locales are primarily used by the TCM application of Manager IV in conjunction with Manager IV's Automatic Selection feature for assigning extension and terminal equipment locations.

Manager IV Hardware Administration Commands

The first portion of this chapter contains instructions and procedures for administering changes to your equipment inventory that are applicable to all switch types.

- Changes to the equipment inventory in the Manager IV database are administered through the objects **carrier**, **slot**, **pack**, **locale**, and **circuit**. These objects appear in the admin and database-admin areas of the FM and TCM applications.
- Changes to the equipment inventory in the switch database are administered through the object **carrier-parameters**. This object appears in the product-admin area of the FM and TCM applications.

Procedures for administering changes to your equipment inventory are summarized below:

1. Adding carriers to the Manager IV database
 - **carrier add**
 - **carrier display**.
2. Adding circuit packs to existing carriers in the Manager IV database
 - **slot select**

- **pack add**
 - **slot display**.
3. Removing circuit packs from carriers in the Manager IV database
 - **slot display**
 - **pack remove**.
 4. Removing carriers from the Manager IV database
 - **pack remove**
 - **carrier remove**.
 5. Changing locale assignments in the Manager IV database
 - **locale display**
 - **locale change**.
 6. Reserving circuits in the Manager IV database
 - **circuit display**
 - **circuit change**.
 7. Administering carriers in the PBX
 - **carrier-parameters add**
 - **carrier-parameters display**
 - **carrier-parameters change**
 - **carrier-parameters remove**.

The remaining portions of this chapter contain information for administering hardware-related features such as ISDN Codeset Mappings [Generic 2] and DS1 and ISDN circuit pack parameters [Generic 2 and System 85]. These features are administered through the objects **codeset-mapping** and **ds1-isdn**. Procedures for administering these features are summarized below:

LI Administering codeset/codepoint mappings

- **codeset-mapping add**
 - **codeset-mapping display**
 - **codeset-mapping list**
 - **codeset-mapping change**
 - **codeset-mapping remove**.
1. Administering DS1/ISDN and pack parameters in System 85 R2V3-R2V4 and Generic 2
 - **ds1-isdn add**
 - **ds1-isdn display**
 - **ds1-isdn change**
 - **ds1-isdn remove**.

ASSIGNING CARRIERS AND PACKS IN THE MANAGER IV DATABASE

Carriers must be administered before assigning port circuit packs. There are two command objects, **carrier** and **carrier-parameters**, used to administer carriers within a system or network cabinet. Use the **carrier** command in the admin or database-admin areas to enter a carrier and packs in the Manager IV database. Use **carrier-parameters** in the product-admin area to administer the characteristics of the carrier in the switch. Both commands provide the **display**, **add** and **remove** verbs; **carrier-parameters** also provides the **change** verb.

The **carrier** transaction can be used to **add** or **remove** carriers. The **add** verb adds the carrier to the cabinet and allows you to add packs to the carrier with the same transaction. The **display** verb shows the pack type of each filled slot in a carrier. You can use this command to identify the packs in each carrier and to locate available slots.

Generic 2 and System 85 Port Carriers and Packs

Generic 2 traditional and System 85 port carriers house sn- and ann-coded packs as listed in Table 2-2 in "Chapter 2 Tables". These port carriers must be designated as either Non-DS1 (Digital Signal 1) or DS1 carriers.

Non-DS1 carriers house only sn-coded packs to interface to the Non-DS1 facilities and the pack type "ann17" for 7300S series MFAT voice terminals.

DS1 carriers house ann-coded circuit packs used with the DS1 and ISDN interfaces. The DS1 carriers may accommodate both DS1 and Non-DS1 packs. DS1 carriers may be used to interface to:

- Lines and trunks
- Remote Carriers
- Digital Multiplex Interface (DMI)
- Multi-Function Analog Terminals (MFATs)
- Integrated Services Digital Network (ISDN) packs.

For DS1 carriers, more information must be supplied to Manager IV through the **carrier add** command so that slots can be properly assigned.

The DS1 interface allows 24 logical trunks within one pair of physical wires. This is possible because the information is digitally multiplexed over 24 channels. Each DS1 channel can be administered individually; therefore, each channel has an ELL associated with it.

When you specify a DS1-ISDN Application Type, Manager IV automatically reserves ELLs for these channels using virtual slots. (A virtual slot is a slot that is physically empty but whose circuits may be assigned.) The number of ELLs will total 24 if 24th channel signaling is not in use (voice grade service); it will total 23 if 24th channel signaling is in use (ISDN and alternate voice/data service).

In certain cases, the physical pack has 4 ELLs available, so 5 virtual slots with 4 circuits each are required to reserve the additional 20 ELLs. In other cases, the pack has 8 ELLs, so 2 virtual slots with 8 circuits each are required to reserve the additional 16 ELLs. The number of packs required and the number of circuits that can be assigned to each pack depend on the application, that is, the function of the particular trunk, port or carrier board being administered. Application types are described below. See "Procedure: Adding a Generic 2 Traditional or System 85 DS1/MFAT Carrier" later in this chapter.

Generic 2 Universal Carriers and Packs

Generic 2 universal carriers house tn-coded circuit packs as listed in Table 2-1 (for *Universal Module* only) that appears in "Chapter 2 Tables". Depending on the interface, two types of the tn-coded circuit packs are used: DS1-ISDN ("tn767") and Non-DS1-ISDN (all tn-coded packs, except "tn767"). There is only one type of the universal port carrier that is used for all DS1-ISDN and Non-DS1-ISDN packs.

When assigning packs, make sure you select the appropriate universal pack types. For all DS1-ISDN Applications (0,1,2,5), select the pack type "tn767". To choose the correct pack type for Non-DS1 applications, invoke the "DEFINITY Generic 2 Universal Module Pack Types" list by pressing **ESC** !.

When assigning universal packs, you are not restricted to any particular slot numbers:

- For the DS1-ISDN applications,
 - With Application 2 (DS1-Line), you are allowed to select any slot within the range **1-20**.
 - With Applications 0,1,and 5, you are allowed to select any slot within the range **1-19**. Slot 20 may not be assigned for these Application Types since the next slot is reserved as a virtual slot.

Generic 2 XE Carriers and Packs

Generic 2 XE carriers house tn-coded circuit packs as listed in Table 2-1 (for *Universal* and *XE Modules* only) that appear in "Circuit Pack List." Depending on the interface, two types of the tn-coded circuit packs are used: DS1-ISDN ("tn767") and Non-DS1-ISDN (all tn-coded packs, except "tn767"). There is only one type of the XE port carrier that is used for all DS1-ISDN and Non-DS1-ISDN packs.

When assigning packs, make sure you select the appropriate universal pack types. For all DS1-ISDN Applications (0,1,2,5), select the pack type "tn767". To choose the correct pack type for Non-DS1 applications, invoke the "DEFINITY Generic 2 Universal Module Pack Types" list by pressing **ESC** !.

When administering the XE carriers, the following types may be selected:

- Module Control Carrier
 - Carrier *a* used as Control Carrier 0.
 - Carrier *b* used as Control Carrier 1.
- Module Port Carrier
 - Carriers *c-e* used as Port Carriers.
 - In an XE Port Carrier, slots are numbered **1** through **18** and correspond electrically to the slots of the same numbers in the *Universal* Port Carrier.

The XE Module size depends on a number of carriers used: carrier *c* is required, carriers *d-e* are optional.

DIMENSION Carriers and Packs

The DIMENSION carriers house lc-coded and zlc12 circuit packs as listed in Table 2-3 that appears in "Circuit Pack List." The following types need to be selected when administering carriers and packs:

- Common Control carriers
 - The Common Control carrier contains the central processor, main memory circuit packs, network channels, and data channels.
 - Common Control carriers are not stored in the Manager IV database.

- Growth Control Carriers
 - Growth Control carriers provide data channels and network channels in addition to slots for main memory.
 - Growth Control carriers are not stored in the Manager IV database.

- Trunk Port carriers
 - A Trunk Port carrier provides optional positions for certain types of the lc-coded circuit packs. Each DIMENSION Module can contain up to eight Trunk Port carriers, and each carrier has a maximum capacity of 32 trunks of the following types:
 - a. Attendant Conference
 - b. Remote Access CO Trunk
 - c. 2-way/1-way Ground Start CO Trunk
 - d. DID Trunk
 - e. Touch Tone Register and Receiver
 - f. Tie, CCSA, APLT
 - g. Touch Tone Sender
 - h. Auxiliary Trunk
 - i. Contact Interface
 - j. Message Register Loop Signaling
 - k. Data Trunk.

- Line Port carriers
 - A Line Port carrier provides slots for certain types of the lc-coded circuit packs. Each Line Port carrier provides a maximum of 64 line circuits of the following types:
 - a. Regular Line
 - b. Message Waiting
 - c. Data Trunk.

Up to 15 Line Port carriers can be used per Module.

- Line Group Control carrier
 - A Line Group Control carrier provides the group network and network control circuitry plus service for a maximum of 48 lines and is required in any cabinet that contains lines. The maximum number of these carriers is four:
 - a. Regular Line
 - b. Message Waiting
 - c. Tone Plant A
 - d. Tone Plant B
 - e. Attd.Interface
 - f. ATMS Test.

- Module Control and Trunk Port carrier

- A Module Control and Trunk Port carrier provides optional positions for certain types of the lc-coded circuit packs. Each DIMENSION Module can contain up to eight carriers, and each carrier has a maximum capacity of 22 trunk circuits of the following types:

- Remote Access CO Trunk
- 2-way/1-way Ground Start CO Trunk
- DID Trunk
- Touch Tone Register and Receiver
- Tie, CCSA, APLT
- Touch Tone Sender
- Auxiliary Trunk
- Contact Interface
- Message Register
- Loop Signaling
- ANI Data Transmitter
- Fixed Announcement.

Each slot of each DIMENSION carrier type is limited to hold only certain types of circuit packs. To view the valid pack types for a given slot, press **(ESC) ?** or **(ESC) !** for a complete list of all DIMENSION pack types.

Procedure: Assigning a New Module

A new Module is assigned by adding the first carrier to the Module. For System 85 and DIMENSION FP8 switches, adding a carrier to a new module is no different from adding a carrier to an existing module. When assigning the first carrier to a new Generic 2 Module, the Module Type must be specified.

1. Enter the **carrier add** command. The **carrier add** input screen is displayed.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin carrier add		Page 1 of 1
Carrier Location:	Module: __	Module Type: __
	Cabinet: _	
	Carrier: _	
	Locale: __	

2. Enter the Module number. Valid values are **0-30** for Generic 2 and System 85, and **0-14** for DIMENSION.
3. [Generic 2] When you specify the Module number, the system determines the Module Type. If the Module is not assigned, the system prompts you for a Module Type. Enter either "t" (traditional), "u" (universal), or "x" (XE). If the entered Module has already been assigned as a *Traditional*, *Universal*, or *XE* Module, the Module Type field will not appear. If a *Traditional* Module is specified, the cursor will advance to the Cabinet field. If a *Universal* or *XE* Module is specified, the Cabinet field will default to **0** and the cursor will advance to the Carrier field.

4. To add a carrier to a Generic 2 *Traditional* Module or System 85, follow the steps described in "Procedure: Adding a Generic 2 *Traditional* or System 85 Non-DS1 Carrier to the Database" or "Procedure: Adding a Generic 2 *Traditional* or System 85 DS1/MFAT Carrier to the Database." To add a carrier to a Generic 2 *Universal* or *XE* Module, refer to "Procedure: Adding a *Universal/XE* Carrier to the Manager IV Database". To add a carrier to a DIMENSION module, refer to "Procedure: Adding a DIMENSION Carrier to the Manager IV Database".
5. [Generic 2] Whenever you add the first carrier to a new module, you must notify all DEFINITY Manager IV users to either log out or change targets to update this information. The system will remind you about it by displaying the following message: "This carrier is the first carrier to be added to Module #. Please notify all DEFINITY Manager IV users that they must either log out or change targets before accessing equipment locations in this module." Failure to comply with this request can cause serious database corruption.

Procedure: Adding a Generic 2 Traditional or System 85 Non-DS1 Carrier to the Database

[DEFINITY Generic 2 Traditional Module and System 85 R2V2-V4]

1. Determine the location of the carrier to be added.
2. From the admin or database-admin area, enter the command **carrier add**. The following screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add

Carrier Location:          Module:
                           Cabinet:
                           Carrier:
                           Locale:

```

3. Enter the location (module, cabinet, carrier and locale) of the carrier to be added. The following screen will be displayed:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add

Carrier Location:          Module:
                           Cabinet:
                           Carrier:
                           Locale:
                           DS1 Carrier? n
                           Electrical Port Carrier? n

```

4. The DS1 Carrier field defaults to **n**. To add a Non-DS1 carrier, choose the default.
5. If the carrier is to be assigned Electrical Port Carrier Number 0, then enter **y** in the Electrical Port Carrier field.
6. Enter the appropriate pack types for each slot. Refer to the list of pack types in Table 2-2 that appears in "Chapter 2 Tables", or use on-line help to remind you of available pack types.
 - Slots 04, 09, 10, 11, 12, and 17 are reserved for system control packs and cannot be assigned. These slots are not displayed.
7. Press **EXECUTE** to execute the transaction.

Procedure: Adding a Generic 2 Traditional or System 85 DS1/MFAT Carrier to the Database

[DEFINITY Generic 2 Traditional Module and System 85 R2V2-V4]

To add a DS1/MFAT carrier:

1. Determine the location of the carrier to be added.
2. Enter the command **carrier add**. The same carrier screen shown in Step 2 of "Adding A Carrier," the previous procedure, appears.
3. Enter the Carrier Location on the screen.
4. Enter **y** in the DS1 Carrier field, and press **RETURN**. The following screen will be displayed:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add          Page 1 of 1

Carrier Location:          Module: xx
                          Cabinet: x
                          Carrier: x
                          Locale: x
                          DS1 Carrier? y
                          Electrical Port Carrier? n

Slot 00 DS1 Application Type: __          Slot 13 DS1 Application Type: __
Slot 05 DS1 Application Type: __          Slot 18 DS1 Application Type: __

Slot 00:          Slot 05:          Slot 13:          Slot 18:
Slot 01:          Slot 06:          Slot 14:          Slot 19:
Slot 02:          Slot 07:          Slot 15:          Slot 20:
Slot 03:          Slot 08:          Slot 16:          Slot 21:

```

- The Application Type fields prompt you to enter the application type for the physical slots that can be occupied by DS1 (ann11) or ISDN (ann35) packs. DS1 can be used for six different applications (numbered **0-5**) and the ELL assignment varies depending on the Application Type. Valid types are:

- **Type 0: Trunks Mixed.** DS1 can replace a variety of analog trunks including private network tie trunks, CO trunks, FX trunks, and WATS trunks. This Application Type may be assigned to Slots 05 and 18.
 - **Type 1: Digital Multiplex Interface (DMI).** DS1 can interface between data ports and a host computer. For example, users can dial into the Generic 2 or System 85 and connect to a host computer. This application type may be assigned to Slots 05 and 18.
 - **Type 2: Off-Premises Station Lines (OPS).** A single DS1 interface can support up to 24 off-premises terminals. This allows users to access the Generic 2 or System 85 from a remote location. This Application Type may be assigned to Slots 00, 05, 13, and 18.
 - **Type 3: Remote Carrier Board Connected by T1 System.** The DS1 interface can be used in conjunction with T1 to connect a remote carrier to a System 85. Remote carriers can be placed a maximum of 100 miles away from a System 85. This Application Type may be assigned to Slots 00, 05, 13, and 18.
 - **Type 4: Remote Carrier Board Connected by Fiber.** [System 85 R2V3] This is the same as Application Type 3, but the transmission medium is fiber rather than T1.
 - **Type 5: ISDN.** [Generic 2 Traditional Module and System 85 R2V4] DS1 carriers are used for ISDN circuit packs that connect ISDN trunks in the network. This Application Type may be assigned to Slots 05 and 18. See Chapter 4 for more information on tasks related to Generic 2 and System 85 R2V4.
5. An Application Type may be entered for each of the following slots: 00, 05, 13 and 18.
- For a DS1 with Application Types 0, 1, or 2, Manager IV automatically fills in the slot field for the physical slot with ann11, and the virtual slots with ds1.
 - For Slot 05 with Types 0 or 1, the virtual slots are 00, 01, 02 , 06 and 07.
 - For Slot 18 with Types 0 or 1, the virtual slots are 13, 14, 15, 19 and 20.

Note: If 24th Channel signaling is used, Slots 02 and/or 15 can have only three circuits assigned, since the fourth circuit is used as a signaling channel. If Robbed Bit signaling is used, however, all four circuits can be assigned. The use of 24th Channel signaling is specified when the parameters of the pack are input via **ds1-isdn** [Generic 2, System 85 R2V3-R2V4].

 - If Application Type 2, 3, or 4 is entered for Slot 00, only Application Types 2, 3, and 4 are allowed for Slot 05. Similarly, if Application Type 2, 3 or 4 is entered for Slot 13, only Application Types 2, 3, and 4 are allowed for Slot 18.
 - For Application Type 5, Manager IV fills in the field for the physical slot with "ann35" and the virtual slots with "isdn".
 - For Slot 05, the virtual slots are 00, 01, 02 , 06, and 07.
 - For Slot 18, the virtual slots are 13, 14, 15, 19, and 20.
 - Application Types 3 and 4 are used for remote carrier administration. A remote carrier provides either four or eight slots in what is known as a *remote group housing*. The slots parallel the DS1 carrier control slots so that DS1 control slots 00 and 13 each map to a remote slot 00 and DS1 control slots 05 and 18 each map to a remote slot 05.

The following configurations illustrate the concept:

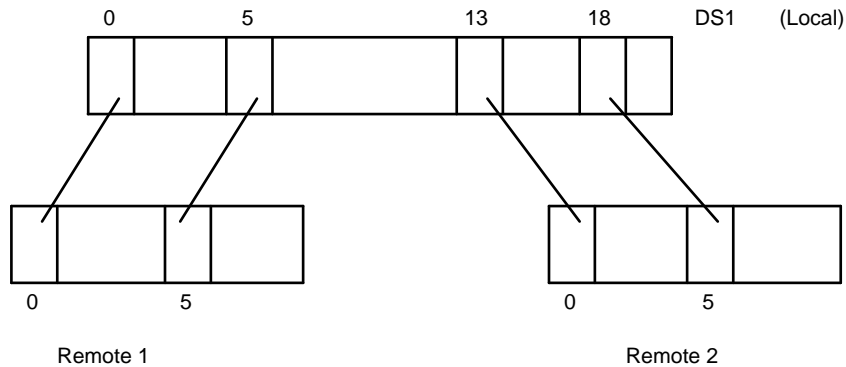


Figure 2-1 DS1 Carrier Connected to Two Remote Carriers

Figure 2-1 shows a DS1 carrier connected to two remote carriers; these may be in separate locations. Note that only 8 slots may be used in each of the remote carriers.

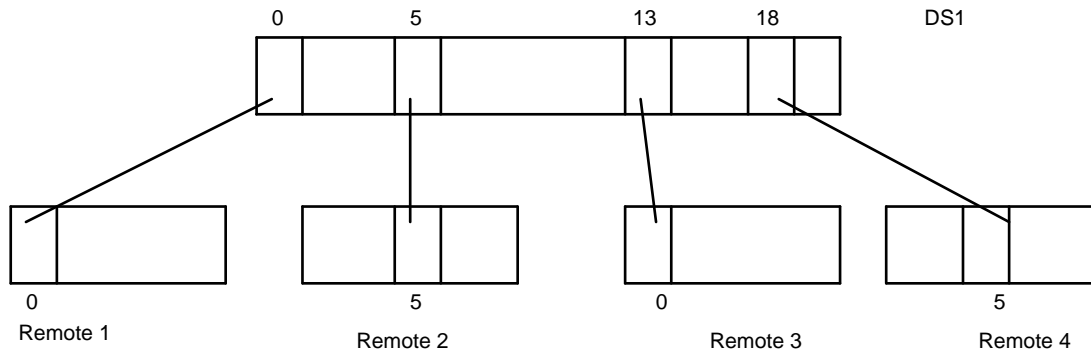


Figure 2-2 DS1 Carrier Connected to Four Remote Carriers

Figure 2-2 shows a DS1 carrier connected to four remote carriers. Note that only 4 slots may be used in each of the remote carriers. In addition, DS1 slots 05 and 18 cannot be connected to remote slot 0, nor can DS1 slots 0 and 13 be connected to remote slot 05.

- Manager IV assumes that the local DS1 carrier has an ann15 controlling pack physically inserted in Slot 00 and/or 05, and/or Slot 13 and/or 18. It also assumes that there is a corresponding ann16 controlling pack in Slots 00 or 05 of the remote carrier.
- If Slot 00 of the remote carrier contains an ann16, Slots 01, 02, and 03 can be used for sn228, sn270l, sn270t, sn238l, sn238t, or ann17 packs. If Slot 05 of the remote carrier contains an ann16, Slots 04, 07, and 08 can be used for the same pack types.
- Manager IV needs to know the ELLs on the local DS1 carrier in order to administer the local and remote carrier. However, in order to show the remote pack types accurately on the system inventory reports, Manager IV also needs to know the physical pack types in the remote carrier. To accomplish this, Manager IV pairs the ELLs from the local carrier with the pack types in the remote carrier.
- For the ELLs on the local carrier, enter the physical pack types as they exist in the remote carrier. This table outlines the relationship between the local and remote slots.

Carrier Administration	
DS1 Application Types 3 and 4	
Manager IV Database Slot	Contains pack type of slot
00	01
01	02
02	03
03	03
05	04
06	07
07	08
08	08
13	01
14	02
15	03
16	16
18	04
19	07
20	08
21	21

The prompts for the affected slots will change to reflect this relationship, as shown below:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add          Page 1 of 1

Carrier Location:      Module: 00
                      Cabinet: 1
                      Carrier: 2
                      Locale: 0
                      DS1 Carrier? y
                      Electrical Port Carrier? n

Slot 00 DS1 Application Type: 3      Slot 13 DS1 Application Type: _
Slot 05 DS1 Application Type: 3      Slot 18 DS1 Application Type: _

(R1)Slot 00: _____ (R4)Slot 05: _____ Slot 13: _____ Slot 18: _____
(R2)Slot 01: _____ (R7)Slot 06: _____ Slot 14: _____ Slot 19: _____
(R3)Slot 02: _____ (R8)Slot 07: _____ Slot 15: _____ Slot 20: _____
Slot 03: _____      Slot 08: _____ Slot 16: _____ Slot 21: _____

```

- If the carrier is being used for MFAT terminals (pack type ann17), tab past the Application Type field. Each ann17 pack will be given 8 circuits instead of the usual 4 that are assigned if the pack is located in a Non-DS1 carrier. The ann17 pack will also be given 8 circuits if it is placed in any of the free slots: 03, 08, 16, and 21.

6. Enter an appropriate pack type in other available slots, if desired.
 - Refer to the list of pack types in Table 2-2 that appears in "Circuit Pack List," or use on-line help, to remind you of available pack types.
 - Slots 04, 09, 10, 11, 12, and 17 are reserved for system control packs and cannot be assigned. These slots are not displayed.
7. Press **EXECUTE** to execute the transaction.

If any of the packs have been added with Application Types 0, 1, 2, or 5, run **ds1-isdn** [Generic 2, System 85 R2V3-R2V4] to administer the parameters for each DS1 or ISDN pack.

You can then assign equipment to the pack. For more information, see "Assigning DS1 and ISDN Circuit Pack Parameters" later in this chapter.

Procedure: Adding a Generic 2 Universal/XE Carrier to the Manager IV Database

[Generic 2 Universal/XE Module]

If you are adding a universal or XE carrier to the Manager IV database, follow this procedure since both carrier types are administered in the same manner.

1. Determine location of the carrier to be added.
2. From the admin or database-admin area, enter the command **carrier add**. The **carrier add** input screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add          Page 1 of 1

Carrier Location:      Module:  __
                       Cabinet:  _
                       Carrier:  _
                       Locale:  __
```

3. Enter the Equipment Location of the universal/XE carrier to be added. This field is required.
 - Enter the Module location. Valid entries are **0-30**. Make sure you select the number assigned to the *Universal* or *XE* Module. Press **RETURN**.
 - The Cabinet field defaults to **0**. The system skips to the Carrier field. Enter the Carrier location. Valid entries are **c-e**. Press **RETURN**.
 - To view the valid entries, press **ESC** ?. The short help messages are provided for each Equipment Location field.
 - The Locale field defaults to the Module Number. You are allowed to change the default value. Valid entries are **0-99**. Press **RETURN**. Fields for entering pack types appear at the bottom of the screen. This screen appears when you add a *Universal* carrier.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin carrier add                Page 1 of 1

Carrier Location:      Module:  __
                        Cabinet: _
                        Carrier: _
                        Locale: __

Slot 00: _____          Slot 11: _____
Slot 01: _____          Slot 12: _____
Slot 02: _____          Slot 13: _____
Slot 03: _____          Slot 14: _____
Slot 04: _____          Slot 15: _____
Slot 05: _____          Slot 16: _____
Slot 06: _____          Slot 17: _____
Slot 07: _____          Slot 18: _____
Slot 08: _____          Slot 19: _____
Slot 09: _____          Slot 20: _____
Slot 10: _____

```

If you add an *XE* carrier, only 18 slots are displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin carrier add                Page 1 of 1

Carrier Location:      Module:  __
                        Cabinet: _
                        Carrier: _
                        Locale: __

Slot 01: _____          Slot 10: _____
Slot 02: _____          Slot 11: _____
Slot 03: _____          Slot 12: _____
Slot 04: _____          Slot 13: _____
Slot 05: _____          Slot 14: _____
Slot 06: _____          Slot 15: _____
Slot 07: _____          Slot 16: _____
Slot 08: _____          Slot 17: _____
Slot 09: _____          Slot 18: _____

```

4. Assign the appropriate pack types.

- Enter the pack types for each slot. Refer to the list of pack types in Table 2-1 that appears in "Chapter 2 Tables", or use on-line help to remind you of available pack types.
- If you specify the DS1-ISDN pack type ("tn 767"), the Application Type prompt is displayed next to the slot occupied with "tn767".
 - For all DS1-ISDN Applications (0,1,2,5), enter the pack type "tn767".

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin carrier add                Page 1 of 1

Carrier Location:      Module: 3
                        Cabinet: 0
                        Carrier: c
                        Locale: 3

Slot 00: tn748
Slot 01: tn735
Slot 02: tn767   Application Type: 0
Slot 03: ds1
Slot 04: tn767   Application Type: 1
Slot 05: ds1
Slot 06: tn767   Application Type: 2
Slot 07: tn767   Application Type: 5
Slot 08: isdn
Slot 09: _____
Slot 10: _____

Slot 11: _____
Slot 12: _____
Slot 13: _____
Slot 14: _____
Slot 15: _____
Slot 16: _____
Slot 17: _____
Slot 18: _____
Slot 19: _____
Slot 20: _____
```

— In an XE carrier, slot 1 is the only place where you can add "tn748" pack.

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin carrier add                Page 1 of 1

Carrier      Location:      Module: 3_
                Cabinet: 0
                Carrier: c
                Locale: 3_

Slot 01: tn748                Slot 10: _____
Slot 02: tn767  Application Type: 0  Slot 11: _____
Slot 03: ds1                Slot 12: _____
Slot 04: tn767  Application Type: 1  Slot 13: _____
Slot 05: ds1                Slot 14: _____
Slot 06: tn767  Application Type: 2  Slot 15: _____
Slot 07: tn767  Application Type: 5  Slot 16: _____
Slot 08: isdn                Slot 17: _____
Slot 09: _____          Slot 18: _____
```

- For Application Types 0 and 1, Manager IV automatically reserves the next slot as a DS1 virtual slot. For Application Type 5, Manager IV automatically reserves the next slot as an ISDN virtual slot.
- Press **EXECUTE** to execute the transaction.

Procedure: Adding a DIMENSION Carrier to the Manager IV Database
[DIMENSION FP8]

1. Determine location of the carrier to be added.
2. From the admin or database-admin area, enter the **carrier add** command. The **carrier add** input screen appears:

```
AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin carrier add

Enter x to select DIMENSION Carrier Type:

  __Trunk Port Carrier          __Line Group Control Carrier
  __Line Port Carrier          __Module Control and Trunk Port Carrier

Carrier Location:      Module:
                      Cabinet:
                      Carrier:
                      Locale:
```

3. Select a carrier type by entering **x** in one of the carrier type fields. The following screen is displayed for the Trunk Port, Line Port, and Line Group Control Carrier Types:

```

AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin carrier add

Enter x to select DIMENSION Carrier Type:

  x Trunk Port Carrier          __Line Group Control Carrier
  __Line Port Carrier          __Module Control and Trunk Port Carrier

Carrier Location:      Module:
                       Cabinet:
                       Carrier:
                       Locale:

Slot 01:      Slot 06:      Slot 11:      Slot 16:
Slot 02:      Slot 07:      Slot 12:      Slot 17:
Slot 03:      Slot 08:      Slot 13:      Slot 18:
Slot 04:      Slot 09:      Slot 14:

```

4. The following screen is displayed for the Module Control and Trunk Port Carrier Types:

```

AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin carrier add                Page 1 of 1

Enter x to select DIMENSION Carrier Type:
  __Trunk Port Carrier          __Line Group Control Carrier
  __Line Port Carrier          x Module Control and Trunk Port Carrier

Carrier Location:      Module:
                       Cabinet:
                       Carrier:
                       Locale:

Slot 00:      Slot 05:      Slot 10:      Slot 15:      Slot 20:
Slot 01:      Slot 06:      Slot 11:      Slot 16:      Slot 21:
Slot 02:      Slot 07:      Slot 12:      Slot 17:      Slot 22:
Slot 03:      Slot 08:      Slot 13:      Slot 18:      Slot 23:
Slot 04:      Slot 09:      Slot 14:      Slot 19:      Slot 24:
                                           Slot 25:

```

5. Enter the Module, Cabinet, and Carrier of the carrier to be added. These fields are required.
 - Enter the Module number. Valid entries are **0-14**.
 - Enter the Cabinet number.
 - For the Module Control and Trunk Port Carrier Types, valid entries are **0-1**. For all other carrier types, valid entries are **0-4**.

- Enter the Carrier number. Valid entries are **0-4**.
 - If you have selected the Module Control and Trunk Port Carrier Type, the Cabinet field will default to **0** and the cursor will advance to the Locale field.
 - Enter the Locale for the carrier. Valid entries are **0-99**. This field is optional. By default, the locale assigned to the carrier will be the same as the module number.
6. Enter the appropriate pack types, assigned to each slot. The valid slots and pack types for each slot will vary with the carrier type selected.
- Refer to the list of pack types Table 2-3 that appears in "Circuit Pack List," or use on-line help to remind you of available pack types.
 - Press **(ESC)** or **(EXECUTE)**.

Procedure: Displaying a Generic 2 or System 85 Carrier

To display a Generic 2 or System 85 carrier,

1. Enter the **carrier display** command and press **(RETURN)**. The **carrier display** input screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier display          Page 1 of 1

Carrier Location:      Module:  __
                       Cabinet:  _
                       Carrier:  _
  
```

You are allowed to display the carriers by specifying the following Equipment Location fields: Module, Cabinet and Carrier. All three fields are required.

2. Enter the Module location. Valid entries are **0-30**. Press **(RETURN)**.
 - If you enter a Module location which has not been assigned, the following error message is displayed: "Module is unassigned".
 - [Generic 2] If you populate the Module field with a number assigned to a *Universal* or *XE* Module, the Cabinet field will default to a "0". The cursor will skip to the Carrier field. Go to step 4.
 - [Generic 2] If you populate the Module field with a number assigned to a *Traditional* Module, the cursor will advance to the Cabinet field. Go to step 3.
3. Enter the Cabinet location. This field is required. Valid entries are **0-7**.
4. Enter the Carrier. For a Generic 2 universal or XE carrier, valid entries are **c-e**. For a Generic 2 traditional or System 85 carrier, valid entries are **0-3**. Press **(RETURN)**.
5. Press **(EXECUTE)**.
6. The **carrier display** output screen is displayed.
 - For Generic 2 *Universal* Module, if the DS1-ISDN pack(s) "tn767" have been assigned on this carrier, the following screen is displayed:


```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin carrier display                Page 1 of 1

Carrier Location:      Module: 3
                        Cabinet: 0
                        Carrier: c
                        Locale: 3

Slot 00: tn748                Slot 11: _____
Slot 01: tn735                Slot 12: _____
Slot 02: tn767  Application Type: 0  Slot 13: _____
Slot 03: ds1                  Slot 14: _____
Slot 04: tn767  Application Type: 1  Slot 15: _____
Slot 05: ds1                  Slot 16: _____
Slot 06: tn767  Application Type: 2  Slot 17: _____
Slot 07: tn767  Application Type: 5  Slot 18: _____
Slot 08: isdn                 Slot 19: _____
Slot 09: _____           Slot 20: _____
Slot 10: _____

```

- If the universal carrier contains only Non-DS1 packs, the Application Type prompts do not appear:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin carrier display                Page 1 of 1

Carrier Location:      Module: 3
                        Cabinet: 0
                        Carrier: c
                        Locale: 3

Slot 00: tn748                Slot 11: _____
Slot 01: tn735                Slot 12: _____
Slot 02: _____           Slot 13: _____
Slot 03: _____           Slot 14: _____
Slot 04: _____           Slot 15: _____
Slot 05: _____           Slot 16: _____
Slot 06: _____           Slot 17: _____
Slot 07: _____           Slot 18: _____
Slot 08: _____           Slot 19: _____
Slot 09: _____           Slot 20: _____
Slot 10: _____

```

- The screens for an XE carrier with the DS1-ISDN packs and NON-DS1 packs are the same as shown above for the *Universal* Module, except in the *XE* Module, only 18 slots are displayed. See the screens provided for an *XE* Module in "Procedure: Adding a Generic 2 Universal/XE Carrier to the Manager IV Database" earlier in this chapter.
7. The screen description provided in "Procedure: Adding a Generic 2 Traditional or System 85 DS1/MFAT Carrier to the Database" is applicable to the **carrier display** output screens.

Procedure: Displaying a DIMENSION Carrier

[DIMENSION FP8]

To display a DIMENSION carrier,

1. Enter the **carrier display** command and press **RETURN**. The **carrier display** input screen appears.

```
AT&T Mgr IV 2.2          D2000 FP8          <target>
fm admin carrier add          Page 1 of 1

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _
```

You are allowed to display the carriers by specifying the following Equipment Location fields: Module, Cabinet, and Carrier. All three fields are required.

2. Enter the Module location. Valid entries are **0-14**. Press **RETURN**.
3. Enter the Cabinet location. This field is required. Valid entries are **0-4**. Press **RETURN**.
4. Enter the Carrier. Valid entries are **0-4**. Press **RETURN**.
5. Press **EXECUTE**. The **carrier display** output screen is displayed.

```
AT&T Mgr IV 2.2          D2000 FP8          <target>
fm admin carrier display          Page 1 of 1

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _
                      Locale:  __

Slot 00:  __      Slot 05:  __      Slot 10:  __      Slot 15:  __
Slot 01:  __      Slot 06:  __      Slot 11:  __      Slot 16:  __
Slot 02:  __      Slot 07:  __      Slot 12:  __      Slot 17:  __
Slot 03:  __      Slot 08:  __      Slot 13:  __      Slot 18:  __
Slot 04:  __      Slot 09:  __      Slot 14:  __

This is a Trunk Port Carrier
```

All fields are display only.

Procedure: Removing a Carrier

Perform the following procedures before issuing the **carrier remove** command, if the carrier is not empty:

1. Enter the **carrier display** command to check which slots are occupied.
2. Enter the **pack remove** command and specify the slot numbers for removing the packs (applies to DIMENSION as well). For a detailed description of the **pack remove** transaction, refer to "Procedure: Removing a Pack."

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin pack remove    Page 1 of 1

Slot Location:         Module:  __
                      Cabinet:  _
                      Carrier:  _
                      Slot:    _

```

3. Enter the **carrier remove** command. The **carrier remove** input screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier remove  Page 1 of 1

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _

```

4. Enter the Module, Cabinet, and Carrier of the carrier to be removed and press **EXECUTE**.
 - If the carrier is not empty, the error message "CARRIER IS NOT EMPTY. USE THE CARRIER DISPLAY AND PACK REMOVE COMMANDS" is displayed.
 - If you successfully remove the carrier, the following message is displayed: "Command completed successfully".
- Whenever you remove the last carrier from an existing Module (Generic 2 only), you must notify all DEFINITY Manager IV users to either log out or change targets to update this information. The system will remind you about it by displaying the following message: "This carrier was the last carrier in Module #. Please notify all DEFINITY Manager IV users that they should either log out or change targets to prevent from accidentally accessing equipment locations in this module." Failure to observe this procedure can cause database corruption.

Procedure: Adding Generic 2 or System 85 Circuit Packs

FM administrators seldom have to add a carrier to the cabinet, but adding a circuit pack to an existing carrier can be a frequent task.

To add a pack to the carrier,

1. Enter **pack add**. The following screen appears:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin pack add                Page 1 of 1

Slot Location:                  Module:
                                Cabinet:
                                Carrier:
                                Slot:

                                Pack Type:
                                DS1 Carrier? n

```

The DS1 Carrier field is only displayed for System 85 switches.

2. Enter the Module, Cabinet, Carrier, and Slot location of the pack.
3. Enter the Pack Type of the pack to be added.
4. [Generic 2 *Traditional* Module and System 85] If the pack is located in a Non-DS1 carrier, enter **n** in the DS1 Carrier field.
5. [Generic 2 *Traditional* Module and System 85] If the pack is in a DS1/MFAT carrier, the DS1 Application Type field displays. Enter the DS1 Application Type. (See "Adding a Generic 2 *Traditional* or System 85 DS1/MFAT Carrier" above for more information.)
 - If the Application Type is 3 or 4, enter the pack types as they are specified in the remote carrier. See the table in Step 5 of "Adding a Generic 2 *Traditional* or System 85 DS1/MFAT Carrier" above for more information. Do not enter the controlling pack type number (ann15 or ann16); enter the pack type of the physical pack in the remote carrier.
6. Press **EXECUTE** to execute the transaction.

If the pack is a DS1 or ISDN pack, run **ds1-isdn** [Generic 2 or System 85 R2V3-R2V4] to specify the parameters of the DS1 or ISDN pack.

See "Assigning DS1 and ISDN Circuit Pack Parameters" later in this chapter for more information.

You can then assign equipment to the pack.

Procedure: Adding DIMENSION Circuit Packs

To add the pack to the DIMENSION carrier,

1. Enter **pack add**. The following screen appears:

```

AT&T Mgr IV                      D2000 FP8                      <target>
fm admin pack add                  Page 1 of 1

Select DIMENSION Carrier Type:
  _ Trunk Port Carrier           _ Line Group Control Carrier
  _ Line Port Carrier            _ Module Control and Trunk Port Carrier

Slot Location:      Pack Type: _____
                   Module:  ___
                   Cabinet:  _
                   Carrier:  _
                   Slot:    ___

```

2. Select a carrier type by entering **x** in one of the Carrier Type fields.
3. Enter the Pack Type of the pack to be added.
4. Enter the Module, Cabinet, Carrier, and Slot location of the pack.
5. Press **EXECUTE** to execute the transaction.

Procedure: Changing Generic 2 or System 85 Packs

During the hardware initialization, it is not always possible to distinguish between the ambiguous packs such as an sn228 off-premises line pack and an sn229 on-premises line pack, a tn742 on/off-premises pack and a tn746 on/off-premises one.

An sn228 pack is translated exactly like an sn229 and will be initialized as an SN229.

These packs have the same number of circuits, and it is not always possible to determine which pack type is actually used.

Similarly, a tn742 pack is translated exactly like a tn746 and is initialized as a tn746. A tn746 can be initialized as a tn742. However, a tn746 has 16 circuits, and a tn742 has only 8. If a tn746 is initialized as a tn742, 8 extra circuits will be unusable. If a tn742 is initialized as a tn746, the non-existent equipment locations is auto-selected for use by the customer. Use the **pack change** transaction as the corrective step in the event that the initialization fails to correctly identify one of the above mentioned packs.

The **pack change** transaction allows bidirectional conversion of packs between a tn742 and a tn746, and between an sn228 and an sn229. This transaction prevents eliminating an equipment location which is in use, or placing an off-premises line on an on-premises pack.

If the initialization for one of the ambiguous packs fails, follow these steps:

1. Use the **slot select** transaction to determine the equipment location of the failed circuit pack.
2. Enter **pack change**. The following screen appears:

AT&T Mgr IV 2.0	DEFINITY G2.2	<target>
fm admin pack change		Page 1 of 1
Slot Location:	Module:	
	Cabinet:	
	Carrier:	
	Slot:	
	Pack Type:	

3. Enter the Module. Press **Return**.
4. The Cabinet, Carrier, Slot, and the Pack Type fields will be displayed. Enter the Carrier and Slot locations of the pack to be changed.
5. Enter the new Pack Type.
6. Press **Execute**.

Procedure: Removing a Pack

1. Remove all equipment associated with the pack to be removed.
 - Use the **circuit display** command to verify that no circuits in the pack are assigned or reserved.
 - For trunks, use **trk-grp-assignment report** to see a list of trunk groups by Equipment Line Location (ELL). Then use **trk remove** to delete these trunks from the system.
 - For terminals, use the TCM command **station-attributes display** to see what terminals are associated with assigned circuits. Select the option "Set ID for a Given Equipment Location". Then use **extension remove** or one of the terminal transactions (12-button, 36-button, etc.) to remove that set ID from the system.
2. Enter the command **pack remove**.
 - The remove screen is displayed.
3. Enter the ELL of the pack to be removed.
 - Manager IV removes the pack in the requested slot if none of the circuits are in use.
 - [Generic 2, System 85] For DS1/ISDN pack types "ann11", "ann35", and "tn767", the command removes both virtual and physical slots. If you request the removal of a virtual slot, Manager IV asks you to enter the physical slot. The circuits in the virtual slots are removed automatically when the pack in the physical slot is removed.
4. Press **EXECUTE** to execute the transaction.

Circuit Pack List

This table lists specific circuit packs supported by Manager IV products. The number of circuits for each pack type is listed, along with a short description of the pack.

Table 2-1. Generic 2 Universal/XE Modules Circuit Pack List

Pack Type	No. of Circs.	Description
tn7261	8	EIA Line
tn726t	8	EIA Trunk
tn735	8	MFET Line
tn742	8	On/Off-premises Analog Line,Data Port,Contact Intf Pt.
tn746	16	On/Off-premises Analog Line,Data Port,Contact Intf Pt.
tn747	8	CO Trunk
tn748	12	Tone Detector
tn753	8	DID Trunk
tn754l	8	Digital Line
tn754t	16	Digital Trunk
tn760	4	Tie Trunk
tn762	8	MFAT Line
tn763	4	Auxiliary Trunk
tn767	24l,12t	DS1,ISDN PRI
tn768	2	Aux Tone
tn556	24	ISDN BRI
tn771B	4	Maintenance/Test Circuit Pack

Table 2-2. Generic 2 Traditional Module and System 85 Circuit Pack List

Pack Type	No. of Circs.	Description
ann11	4/8	DS1 Interface
ann15	8	DS1 Controlling Pack
ann16	8	DS1 Remote Controlling Pack
ann17	8	MFAT - (7300s Series)
ann35	4	ISDN - R2V4, Generic 2
sn220	8	Analog On-Premises
sn221	8	Analog Off-Premises
sn222	8	Analog On-Premises
sn224	4	MFET line port
sn224+	4	ECTS set
sn228	8	Analog Off-Premises
sn229	8	Analog On-Premises
sn230	4	CO trunk
sn231	4	Auxiliary trunk
sn232	4	DID trunk
sn233	4	Tie trunk
sn238l	4	EIA - line interface
sn238t	4	EIA - trunk interface
sn240	0	Message Register
sn241	8	Contact Interface
sn244	4	ANI
sn242	4	ANI Data Transmitter
sn243	4	Data Port/ Modem Pool
sn250	1	Call Progress Tones
sn251	4	Touch Tone Receiver
sn252	4	Touch Tone Sender
sn253	1	Auxiliary Tone Plant
sn254	1	Attendant Conference
sn255	4	Tone detector
sn260	2	Analog Facility test
sn261	2	Analog/Digital Fac. test
sn270l	4	GPP - line interface
sn270t	4	GPP - trunk interface

Note: The pack types "ann15" and "ann16" are controlling packs. These packs cannot be administered directly in Manager IV.

Table 2-3. DIMENSION FP8 Circuit Pack List

Pack Type	No. of Circs.	Description
lc002	4	Regular Line
lc003	4	Message Waiting
lc004	1	Tone Plant A
lc005	1	Tone Plant B
lc006	1	Attendant Conference
lc007	1	Remote Access CO Trunk
lc008	2	2-way/1-way Ground Start CO Trunk
lc009	2	DID Trunk
lc010	1	Touch Tone Register and Receiver
lc011	2	Tie, CCSA, APLT
lc012	2	Touch Tone Sender
lc013	2	Auxiliary Trunk
lc015	2	Contact Interface
lc016	8	Message Register
lc017	1	Tone Plants A and B
lc032	2	ANI Data Transmitter
lc034	2	Dual Data
lc036	2	RAM Control
lc045	2	Attd. Interface
lc100	4	Link Circuit
lc145	2	Transmission Testing
lc190	1	Fixed Announcement
lc204	1	Tone Plants A and B
lc280	2	Internat 2 Wire
lc285	2	Internat Loop
lc361	2	Loop Signaling
lc366	4	Quad Data Channel
lc567	2	Data Trunk
lc568	4	Data Cap Link
zlc12	2	ATMS Test

Manager IV's Wiring Inventory

Manager IV's wiring inventory includes the jack number-to-Equipment Line Location (ELL) associations, the IDs of cables connecting jacks to ELLs, and jack location assignments. You can add, change, display, or remove items from the wiring inventory using the Manager IV object **wire** in the admin and database-admin areas of the TCM application. The wiring inventory for your network is not established at initialization. All information must be input manually and updated whenever you physically change the switch hardware or install cables between the terminal jacks and the ELLs. Refer to *DEFINITY® Manager IV Terminal Change Management Operations* Guide for additional information.

ASSIGNING CARRIER PARAMETERS IN THE PBX

The **carrier-parameters** object can be used in the product-admin mode with four verbs: **add**, **change**, **remove** and **display**.

The verb **add**, when used with the **carrier-parameters** object, enters the carrier type and its location into the switch database. It also administers other data, depending on the type of carrier being added.

Considerations in Adding Carriers

Prior to adding Generic 2 and System 85 port carriers, you must add the control carrier(s). At least, one control carrier is required per module.

For Generic 2 and System 85, a second control carrier is required for Duplicated Module Control. The two steps described below involve the **carrier-parameters** object; procedures for this object are detailed later in this chapter.

For Generic 2 *Traditional* Module and System 85,

1. If you are preparing to add the *first* carrier to a module, add a Traditional Module Control 0 carrier by entering Carrier Type 6.
 - If the module is to provide duplicated common control, enter **y** in the Duplicated Module Control field on the Carrier Type 6 and then you must also add a Module Control carrier with Carrier Type 7.
2. For Non-DS1 carrier ports, enter Carrier Type 12 and for DS1 ports, enter Type 11.
 - Carrier Types 1, 4-9, 11, 12 and 15 may be administered through the **carrier-parameters** procedure.

For the Generic 2 *Universal* Module,

1. If you are preparing to add the *first* carrier to a module, add a Universal Module Control 0 carrier with Carrier Type 2.
2. If the module is to provide duplicated common control, enter **y** in the Duplicated Module Control field on the Carrier Type 2 and then you must also add a Universal Module Control carrier with Carrier Type 3.

For the Generic 2 *XE* Module,

1. If you are preparing to add the *first* carrier to a module, add an XE Module Control 0 carrier with Carrier Type 16.
2. If the module is to provide duplicated common control, enter **y** in the Duplicated Module Control field on the Carrier Type 16 and then you must also add an XE Module Control carrier with Carrier Type 17.

Carrier Types

The required carrier type depends on its use, location [System 85 and Generic 2 only] and Module type [Generic 2 only]. The data administered depends on the carrier type selected.

For Generic 2 *Traditional* Module and System 85 R2V2-V4, you are allowed to use the following traditional carrier types:

- 1=Traditional Module Common Control
 - A Common Control carrier houses tn- and un-coded circuit packs that make up the 501CC processor complex and related I/O circuitry on the **Traditional Module**.
- 4=Traditional Module Common Control 0
 - A Duplicated Common Control carrier provides common control for the digital switch.
- 5=Traditional Module TMS 0 Growth
 - A Time-Multiplexed (TMS) carrier houses a time-multiplexed space division switch that interconnects modules in a multimodule system. The TMS carrier can be configured as "basic" or "growth". A TMS 0 Growth configuration contains an interface circuitry for up to 8 additional modules.
- 6=Traditional Module TMS 0 Control
 - A TMS basic configuration which contains an interface circuitry for up to 7 modules.
- 7=Traditional Module Control 1
 - Provides Module call processing and the associated circuits that detect and process requests for service. It controls the Module switching network and serves as an intelligent interface between the Common Control and the port circuits.
- 8=Traditional Module TMS 1 Control
 - A duplicated TMS basic configuration that contains an interface circuitry for up to 7 modules.
- 9=Traditional Module TMS 1 Growth
 - A duplicated TMS Growth configuration that contains an interface circuitry for up to 8 additional modules.
- 11=Traditional DS1 Port Carrier
 - A modified port carrier that provides high density dedicated interface circuits for DS1 trunks and/or 7300S series terminals.
- 12=Traditional Port Carrier
 - Connects the system to the external equipment. Provides the dedicated port circuits determined by the peripheral terminal equipment or trunking facilities connected. It also provides an interface to the Module control and status information and for pulse code with DS1 or ISDN trunks (per basic TMS).
- 15=Traditional RMI (Remote Module Interface) Carrier
 - Provides fiber optic interface circuitry at the central location for connecting switch modules to remote modules.

The following universal carrier types are used with Generic 2 *Universal Modules*:

- 2=Universal Module Control 0
- 3=Universal Module Control 1
- 10=Universal Port Carrier

The following XE carrier types are used with Generic 2 XE Modules:

- 16=XE Module Control 0
- 17=XE Module Control 1
- 18=XE Port Carrier

The following carrier types are used with DIMENSION:

- 0=Line Group Control
- 1=Line Port
- 2=Module Control and Trunk Port
- 3=Trunk Port
- 4=Link - full carrier
- 5=Link - left half only

Procedure: Adding a Generic 2 Traditional or System 85 Carrier to the Switch

1. Enter the **connection create** command to establish a connection with the switch.
2. From the product-admin area, enter the **carrier-parameters add** command. The **carrier-parameters add** input screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin carrier-parameters add          Page 1 of 1
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

          Carrier Type:  __

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _
```

3. Enter the Carrier Type. This field is required. Valid entries are:
 - 1=Traditional Module Common Control
 - 4=Traditional Module Common Control 0
 - 5=Traditional Module TMS 0 Growth
 - 6=Traditional Module TMS 0 Control
 - 7=Traditional Module Control 1
 - 8=Traditional Module TMS 1 Control
 - 9=Traditional Module TMS 1 Growth
 - 11=Traditional DS1 Port Carrier
 - 12=Traditional Port Carrier
 - 15=Traditional RMI (Remote Module Interface) Carrier

If you are adding the first carrier to a *Traditional* Module, follow the procedure described below for Carrier Types **6** and **7**. For Non-DS1 and DS1 carrier ports, go to step 4.

- Enter **6** in the Carrier Type field. Press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin carrier-parameters add          Page 1 of 1
          IS RETAINED ONLY IN THE PRODUCT

          Carrier Type: 6          Traditional Module Control 0

Carrier Location:      Module:  __
                    Cabinet:  _
                    Carrier:  _

Module Control:          Local RMI Equipment Location:

    Duplicated Module Control? n          Module:  __
                    TMS? n          Cabinet:  _
    Number of I/O Boards:  _          Carrier:  _
    Port Data Store Boards:  _          Slot:  __

          SCS Equipped? n

```

- Enter the Module number. This field is required. Valid entries are **0-30**. Press **RETURN**.
- Enter the Cabinet number. Valid entries are **0-7**. This field is required. Press **RETURN**.
- Enter the Carrier number. This field is required. Valid values are **0-3**. Press **RETURN**.
- Populate the fields associated with Carrier Type 6:
 - Select **y** or **n** in the Duplicated Module Control field. This field is required. The default is **n**. Press **RETURN**.
 - Select **y** or **n** in the TMS field. Default is **n**. This field is required. Press **RETURN**.
 - Enter the Number of I/O boards. Valid entries are **1-3**. Press **RETURN**.
 - Enter the Port Data Store Boards number. Can be no more than twice the number of I/O boards. This field is required. Press **RETURN**.
 - Select **y** or **n** in the SCS Equipped field. Default is **n**. This field is required. Press **RETURN**.
 - a. If you enter **y**, the Local RMI Equipment Location title and the associated fields disappear.
 - If the SCS Synchronizer is disabled, the cursor advances to the Module field for the Local RMI Equipment Location. Enter the Module number. Valid entries are **0-30** or **99** (for common control). This field is optional. You are allowed to either skip or populate this field with valid entries.
 - a. To skip the field, press **RETURN**. The cursor skips the rest of the fields and the "End of Form" message is displayed. Press **EXECUTE**.
 - Enter the Local RMI Cabinet number. This field is required. Valid entries are **0-3** for the *Traditional Module*; **0** for *Universal* or *XE*. Press **RETURN**.

- Enter the Local RMI Carrier number. This field is required. Valid entries are **0-1**, if the Local RMI Equipment Location is traditional; [Generic 2] **a** or **b**, if Local RMI Equipment Location is universal or XE. Press **RETURN**.
- Enter the Local RMI Slot number. This field is required. Valid entries are **0-3, 5-8, 13-16, 18-21**, or **25**, if the Local RMI Equipment Location is traditional; [Generic 2] **15-21** if the Local RMI Equipment Location is universal and **15-18** if the Local RMI Equipment Location is XE. Press **RETURN**.
- Press **EXECUTE**.

- If the Module must provide duplicated common control, enter **y** in the Duplicated Module Control field on the Carrier Type 6 and then add a Module Control carrier with a Carrier Type 7 by entering the **carrier-parameters add** command. Enter the Carrier Type **7**. Follow the procedure described for a Carrier Type 6. The screen for Carrier Type 7 is identical to the screen for Carrier Type 6. Except, the title is "Traditional Module Control 1".

When specifying the Local RMI Equipment Location:

- Valid entries for the Cabinet field are **0-3**.
- Valid entries for the Slot number are **0-3, 5-8, 13-16**, or **18-21**.

4. To add traditional DS1 and Non-DS1 carriers, the procedure is as follows:

- Enter Carrier Type **11** (DS1) or **12** (Non-DS1). This field is required. Press **RETURN**. The **carrier-parameters add** input screen for Carrier Type 11 or 12 is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                Connect <target>
fm product-admin carrier-parameters add                Page 1 of 1
THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Carrier Type: 11                Traditional DS1 Port Carrier

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _

Port Electrical Carrier Number:  __

```

For Carrier Type 12, the screen is identical. Except, the title is "Traditional Port Carrier".

- Enter the Module number. This field is required. Valid entries are **0-30**. Press **RETURN**.
- Enter the Cabinet number. Valid entries are **0-7**. This field is required. Press **RETURN**.
- Enter the Carrier number. This field is required. Valid values are **0-3**. Press **RETURN**.
- Enter the Port Electrical Carrier Number. This field is required. Valid entries are **0-11**. Press **RETURN**.

5. Press **EXECUTE**.

6. To add traditional TMS Control and Growth carriers, the procedure is as follows:

- Enter Carrier Type **4** (TMS 0 Control), **5** (TMS 0 Growth), **8** (TMS 1 Control), or **9** (TMS 1 Growth). This field is required. Press **RETURN**. The **carrier-parameters add** input screen for Carrier Type 4, 5, 8, or 9 is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin carrier-parameters add          Page 1 of 1
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

          Carrier Type: 4          Traditional Module TMS 0 Control

Carrier Location:      Module: __
                   Cabinet: _
                   Carrier: _

TMS Electrical Carrier Number: __

```

For Carrier Type 5, the screen is identical. Except, the title is "Traditional Module TMS 0 Growth".

For Carrier Type 8, the screen is identical. Except, the title is "Traditional Module TMS 1 Control".

For Carrier Type 9, the screen is identical. Except, the title is "Traditional Module TMS 1 Growth".

- The TMS carriers must be mounted in the Common Control Cabinet. The Module number for the System Control Cabinet is **99**. The Module field defaults to **99**. The cursor skips to the Cabinet field.
- Enter the Cabinet number. This field is required. Valid entries are **0-3**. Press **RETURN**.
- Enter the Carrier number. This field is required. Valid values are **0-3**. Press **RETURN**.
- Enter the TMS Electrical Carrier Number. This field is required. Valid entries are **0-3**. Press **RETURN**.
 - If you enter **0**, the SCS Equipped field is displayed. This field defaults to **n**. The SCS Equipped field is required. Valid entries are **y** or **n**. Select the value and press **RETURN**.

7. To add a traditional RMI carrier, the procedure is as follows:

- Enter Carrier Type 15. This field is required. Press **RETURN**. The **carrier-parameters add** input screen for Carrier Type 15 is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin carrier-parameters add          Page 1 of 1
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

          Carrier Type: 15_          Traditional RMI Carrier

Carrier Location:      Module: __
                   Cabinet: _
                   Carrier: _

Port Electrical Carrier Number: __          Local RMI Equipment Location:
                                           Module: __

```


The Module field defaults to **99**. The cursor skips to the Cabinet field.

- Enter the Cabinet number. This field is required. Valid entries are **0-3**. Press **RETURN**.
- Enter the Carrier number. This field is required. Valid values are **0-3**. Press **RETURN**.
- Enter the TMS Electrical Carrier Number. This field is required. Valid entries are **0-3**. Press **RETURN**.
- Press **EXECUTE**.

Procedure: Adding a Generic 2 Universal/XE Carrier to the Switch

Use this procedure to add universal or XE carriers to the switch.

1. From the product-admin area, enter the **carrier-parameters add** command. The **carrier-parameters add** input screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin carrier-parameters add          Page 1 of 1
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

          Carrier Type:  __

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _
```

2. Enter the Carrier Type. This field is required. Valid entries are **2, 3, or 10** for a universal carrier. If you are adding an XE carrier, valid entries are **16, 17, or 18**. Press **RETURN**.
 - Press **ESC** ! to display the "Carrier Types" List.

When adding carriers to a new module, carriers must be added in the following sequence:

- Enter **2** to specify a Universal Module Control 0 or **16** to specify an XE Module Control 0.
- Enter **3**, if you need to specify a duplicated Universal Module Control 1 or **17** to specify a duplicated XE Module Control 1.
- Enter **10** to select a Universal Port Carrier or **18** to select an XE Port Carrier.

The fields associated with the specified Carrier Type are displayed. The cursor is positioned in the Module field. Following is the screen for universal Carrier Type 2.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add    Page 1 of 1

                Carrier Type:  2_          Universal Module Control 0

Carrier Location:      Module:  __
                    Cabinet:  0
                    Carrier:  _

Module Control:              Local RMI Equipment Location:

    Duplicated Module Control? n          Module:  __
                    TMS? n              Cabinet:  _
                                          Carrier:  _
                                          Slot:  __

                SCS Equipped? n

```

This screen is displayed for XE Carrier Type 16.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm product-admin carrier add    Page 1 of 1

                Carrier Type:  16          XE Module Control 0

Carrier Location:      Module:  __
                    Cabinet:  0
                    Carrier:  _

Module Control:              Local RMI Equipment Location:

    Duplicated Module Control? n          Module:  __
                    TMS? n              Cabinet:  _
                                          Carrier:  _
                                          Slot:  __

```

3. Enter the Module location. This field is required. Valid entries are **0-30**. Make sure you select the correct *Universal/XE* Module number. Press **RETURN**.
4. The Cabinet field defaults to **0**. The cursor skips to the Carrier field.
5. Enter the Carrier location. This field is required. Valid entries are **a** for Carrier Types 2 and 3, **b** for Carrier Types 16 and 17, and **c-e** for Carrier Type 10 or 18. Press **RETURN**.

6. If you selected Carrier Types 2, 16, 3 or 17, populate the fields associated with either of these types, as follows:
 - Enter the Duplicated Module Control field. This field is required. Press **RETURN**.
 - To enable the Duplicated Module Control, enter **y**. If you add a Carrier Type 3, first enter a Carrier Type 2 and then add a Module Control carrier with a Carrier Type 3. If you add a Carrier Type 17, first enter a Carrier Type 16 and then add a Module Control carrier with a Carrier Type 17.
 - Enter **y** in the TMS field, if the TMS carrier is present. Otherwise, use the default entry. This field is required. Press **RETURN**.
 - [Universal Module only] Enter **y** in the SCS Equipped field, if System Clock Synchronizer is set. Otherwise, use the default value. This field is required. Press **RETURN**.
 - If you enter **y** in the SCS Equipped field, and press **RETURN**, the "End of Form" message appears at the bottom of the screen. Press **EXECUTE**.
 - If the System Clock Synchronizer is not set (default entry is used), the Local RMI Equipment Location title with the associated field is displayed.
7. The fields associated with the Local RMI Equipment Location are optional in a *Universal* Module, and mandatory in an *XE* Module. You can define a universal or XE carrier with the traditional, universal or special RMI (RMI is a special type of a traditional carrier):
 - Enter the Module location. Press **RETURN**.
 - Enter the Cabinet number. Valid entries are **0-7** for a *Traditional* Module, and **0** for *Universal*. Press **RETURN**.
 - Enter the Carrier number. Valid entries are **0-1** for a *Traditional* Module, and **a** and **b** for *Universal*. Press **RETURN**.
 - Enter the Slot number. Valid entries are **15-21** for a universal carrier Type **2**, and **0-3**, **5-8**, **13-16**, and **18-21** for an RMI carrier Type 15. Press **RETURN**.
8. Press **EXECUTE**.
9. If you selected universal Carrier Type 3, the screen is identical to universal Carrier Type 2:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm product-admin carrier add          Page 1 of 1

          Carrier Type:  3_          Universal Module Control 1

Carrier Location:      Module:  __
                    Cabinet:  0
                    Carrier:  _

Module Control:              Local RMI Equipment Location:

    Duplicated Module Control? n          Module:  __
                    TMS? n          Cabinet:  _
                                        Carrier:  _
                                        Slot:  __

          SCS Equipped? n

```

10. If you selected XE Carrier Type 17, the screen is identical to XE Carrier Type 16:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add          Page 1 of 1

          Carrier Type:  17          XE Module Control 1

Carrier Location:      Module:  __
                    Cabinet:  0
                    Carrier:  _

Module Control:              Local RMI Equipment Location:

    Duplicated Module Control? n          Module:  __
                    TMS? n          Cabinet:  _
                                        Carrier:  _
                                        Slot:  __

          SCS Equipped? n

```

Administration procedures for Carrier Type 3 are identical to those for Carrier Type 2, and for Carrier Type 17 are identical to those for Carrier Type 16.

11. If you select Carrier Type 10, the following screen is displayed:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add          Page 1 of 1

          Carrier Type: 10          Universal Port Carrier

Carrier Location:          Module: __
                          Cabinet: 0
                          Carrier: _
```

12. Carrier Type 10 is a Universal Port Carrier.
13. If you select Carrier Type 18, the following screen is displayed:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin carrier add          Page 1 of 1

          Carrier Type: 18          XE Port Carrier

Carrier Location:          Module: __
                          Cabinet: 0
                          Carrier: _
```

14. Carrier Type 18 is an XE Port Carrier.
15. Only carriers **c-e** are valid for both universal and XE carriers.

Procedure: Adding a DIMENSION Carrier to the Switch

1. Enter the **connection create** command to establish a connection with the switch.
2. From the product-admin area, enter the **carrier-parameters add** command. The **carrier-parameters add** input screen appears:

```
AT&T Mgr IV 2.2          D2000 FP8          Connect <target>
fm product-admin carrier-parameters add          Page 1 of 1

          Carrier Type:          __

Carrier Location:          Module: __
                          Cabinet: __
                          Carrier: __

          Maintenance Circuit: _
```

3. Enter the Carrier Type field. This field is required. Valid entries are **0**=Line Grp Ctrl, **1**=Line, **2**=Mod Ctrl and Trk, **3**=Trk, **4**=Link (full), **5**=Link(half). Press **RETURN**. The Maintenance Circuit field is displayed.
4. Enter the Module number. This field is required. Valid entries are **0-14**. Press **RETURN**.
5. Enter the Cabinet number. Valid entries are **0-4**. This field is required. Press **RETURN**.
6. Enter the Carrier number. This field is required. Valid values are **0-4**. Press **RETURN**.
7. Enter the Maintenance Circuit field. This field is required. Valid values are **0-1**. Press **RETURN**.
8. Press **EXECUTE**. The **carrier-parameters add** output screen is displayed. The screen is identical to the **carrier add** output screen. For a detailed explanation, refer to "Procedure: Adding a DIMENSION Carrier to the Database".

Procedure: Displaying Carriers from the Switch Database

1. From the product-admin area, enter the **carrier-parameters display** command. The **carrier-parameters display** input screen appears:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                Connect <target>
fm product-admin carrier-parameters display                Page 1 of 1
                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Carrier Location:           Module:  __
                             Cabinet:  _
                             Carrier:  _

```

2. Press **EXECUTE**.
3. The **carrier display** output screen is displayed. All fields on the screen are display only. The **carrier-parameters display** output screen is identical to the **carrier-parameters add** input and output screens, and will vary depending upon the switch type and carrier type being administered. For a detailed description, refer to "Procedure: Adding a Carrier to the Switch".

Procedure: Changing Carrier Parameters in the Switch

1. From the product-admin area, enter the **carrier-parameters change** command. The following **carrier-parameters change** input screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin carrier-parameters change          Page 1 of 1
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _
```

2. Enter the Carrier location. Press **EXECUTE**. The carrier parameters administered for the carrier will be displayed. Enter the new values in the fields you wish to change, and press **EXECUTE**. Refer to "Procedure: Displaying Generic 2 and System 85 Carriers".

For DIMENSION, the following **carrier-parameters** output screen appears:

```
AT&T Mgr IV 2.2          D2000 FP8          Connect <target>
fm product-admin carrier-parameters change          Page 1 of 1
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Carrier Location:      Module:  __
                      Cabinet:  _
                      Carrier:  _

          Maintenance Circuit:  __

          This is a Trunk Port Carrier
```

The Equipment Location fields are display only. The cursor skips to the Maintenance Circuit field. You are allowed to change the Maintenance Circuit field only. Valid entries are **0** or **1**.

Procedure: Removing Carriers from the Switch

1. From the product-admin area, enter the **carrier-parameters remove** command. The **carrier-parameters remove** input screen appears. The screen is identical to the **carrier-parameters display** input screen. For field description on the Generic 2 or System 85 switches, refer to "Procedure: Displaying Universal/XE and Traditional Carriers from the Switch Database". For the DIMENSION FP8 switch, see "Procedure: Displaying DIMENSION Carriers from the Switch Database".
2. Press **EXECUTE**.

LOCATING AVAILABLE SLOTS

The **slot select** transaction is used to locate an appropriate, available slot in particular locale. The procedure is as follows:

1. Enter the **slot select** command. The **slot select** input screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin slot select          Page 1 of 1

Pack Type: _____
Locale:  __
```

- The screen prompts you to enter the type of pack you wish to add.
 - You also have the option of entering a locale.
 - [Generic 2 and System 85] If you enter pack type "ann11" (DS1), "ann35" (ISDN), "tn767" or specify that the pack is to be added to a DS1 carrier (for remote carrier administration, for example), the command prompts you to enter an Application Type. See "Adding a Generic 2 or System 85 Traditional DS1/MFAT Carrier" above for more information.
2. Enter the Pack Type and press **RETURN** followed by **EXECUTE**. The **slot select** output screen is displayed:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin slot select          Page 1 of 1

Pack Type: tn7541
Locale: 00

Slot Location:      Module: 17
                   Cabinet: 0
                   Carrier: c
                   Slot: 10
```

3. The output screen displays the location of the available slot for the specified pack type.

LOCATING AVAILABLE CIRCUITS

The Unassigned Circuit Report lists available circuits on a switch. Use the command **unassigned-ckt report** from the report-admin area to run this report. See "Unassigned Circuit Report" in Chapter 12 for details.

The command **circuit display** can also be used to display the pack type and state of a specified circuit. Circuit states are:

- a - available (unassigned)
- w - working (assigned)
- r - reserved through Manager IV
- x - reserved by the PBX. This state applies only to the first circuit of Slot 0 in a DEFINITY Generic 2 Traditional or System 85 carrier with Electrical Port Carrier Number 0.

ASSIGNING LOCALES IN THE MANAGER IV DATABASE

Procedure: How to Change the Locale of a Single Carrier

1. Enter the command **locale change** and press **RETURN**.
2. Enter the appropriate module, cabinet and carrier numbers at the prompts on the screen.
3. Press **EXECUTE**. The system will display the locale assigned to the carrier, as shown here:

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin locale change

Carrier Location                Module: 02
                                Cabinet: 0
                                Carrier: 0
                                Locale: 02
```

4. Enter the new locale of the carrier.
5. Press **EXECUTE** to change the information in the database.

Procedure: How to Change Multiple Carrier Locales

1. Enter module and cabinet numbers (or module only for Generic 2 *Universal* or *XE* Module).
2. In the Carrier field, enter an asterisk (*).
3. Press **EXECUTE**.
4. The system displays the Locale field so you can enter the new locale for all carriers in this cabinet.
5. Press **EXECUTE** again.

RESERVING CIRCUITS IN THE MANAGER IV DATABASE

Manager IV's automatic selection capability can select an ELL for you if you enter an asterisk in the ELL field of certain commands.

Manager IV selects an unassigned ELL with an appropriate pack type and assigns it to the equipment being administered.

If you plan to use a circuit for a specific purpose, and you do not want Manager IV to assign that circuit through automatic selection, you can place the unassigned circuit in a reserved state by using the command **circuit change**. Up to 99 circuits can be reserved at a time.

1. Enter the **circuit change** command. The **circuit change** input screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin circuit change          Page 1 of 1

          Select ONE of the following:

          _ Reserve available circuits
          _ Unreserve circuits
```

2. To reserve a circuit, enter **x** at the prompt that says "Reserve one or more available circuits". The following screen is displayed:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin circuit change          Page 1 of 1

          Select ONE of the following:

          _ Reserve available circuits
          _ Unreserve circuits

          Number of Circuits (1-99): 1

          Equip. Loc.: ___/___/___/___
          Pack Type: _____
          Locale:  ___
```

3. At the Number of Circuits prompt, enter the number of circuits you want to reserve (**1-99**).

- If you are reserving only one circuit, you may enter the circuit's ELL explicitly. If you are reserving multiple circuits, then Manager IV will choose the circuits for you.
4. At the Pack Type prompt, enter the type of the circuit to be reserved. This step is not necessary if you have entered an ELL explicitly.
 5. If you wish to reserve circuits in a specific locale, enter the locale in the Locale field. This step is not necessary if you have entered an ELL explicitly. Press **EXECUTE**.

To make a reserved circuit available again, you also use the **circuit change** command.

1. To change the state of a reserved circuit to available, enter **x** at the prompt that says "Un-reserve a circuit". The following screen appears:

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin circuit change                Page 1 of 1

      _ Reserve available circuits
      _ Unreserve circuits

Equip. Loc.: ___/___/___/___
```

2. Enter the module, carrier, cabinet and slot of the circuit.
3. Press **EXECUTE**.

ASSIGNING DS1 AND ISDN CIRCUIT PACK PARAMETERS

The **ds1-isdn** transaction is used to administer the interface characteristics and System Clock Synchronizer reference for certain digital circuits like Digital Services-1 (DS1), Digital Multiplexed Interface (DMI), Integrated Services Digital Network (ISDN) and Remote Carrier Line (RCL) boards.

DS1 is a way of digital signal transmission from one piece of digital equipment, such as System 85, to another piece of digital equipment. This facility is a Bit Oriented Interface (BOS) running at 1.544 Mbps with digital multiplexing over 24 channels. The DS1 signaling format uses 23 channels for data communication and one channel for signaling. DS1 can interface to lines, trunks, Remote Carriers, DMI, Multi-Function Analog Terminals (MFAT), and ISDN.

The DMI Interface provides digital connectivity between Generic 2 or System 85, and a host computer. DMI uses a DS1 signaling format, which provides 23 channels for data communication and one channel for signaling. The DMI feature is available in two versions: Bit Oriented Signaling (BOS) and Message Oriented Signaling (MOS). The BOS version is an enhanced format bit-oriented signaling that provides 23 "clear" channels (free of signaling information).

This enhanced version is supported by Generic 2, System 85, and System 75 switches, host computers (DMI licensees), and the public network. However, the 5ESS switch used for local CO does not support the new format, nor can it be used with the ISDN/PRI feature.

The DMI MOS version is designed to interface to ISDN. The MOS version is fully compatible with the ISDN interface. This version also uses the same 23 64-Kbps clear channels and one common channel signaling multiplexed on a 1.544 Mbps that BOS uses.

The ISDN interface provides end-to-end digital connectivity within the network and links to other ISDNs through the internationally accepted standard interfaces. The ISDN interface runs at 1.544 Mbps and supports 23 64-Kbps voice or data clear channels and one 64-Kbps signaling (D-) channel. The D-channel contains multiplexed signaling information for the other 23 channels.

DS1-ISDN Boards Characteristics

Following are the **ds1-isdn** board characteristics administered via the **ds1-isdn** transaction:

1. Framing Format. Via the DS1-ISDN Interface, data is transmitted in either **D4** or **Fe** format.
 - The **D4** format uses 12 frames, the **Fe** format requires 24 frames (superframe). One frame consists of 193 bits; an 8-bit sample for each of the 24 channels ($8 \times 24 = 192$) plus 1 sync bit ($192 + 1 = 193$).
 - To prevent false framing, the Cyclic Redundancy Check (CRC) is done for every 4th frame, starting with frame 2. This is implemented by the sync pulse which comes up for every 4th frame, starting with frame 4. The CRC check acts as a low speed communications link for every other frame, starting with frame 1.
2. Signaling Options. Two types of signaling are supported: Robbed Bit and 24th Channel.
 - In 24th Channel Signaling, the signaling bits are placed in the 24th channel, leaving 23 (64 Kbps) channels for data only (clear channels). Both the DMI and ISDN Interfaces use the 24th channel signaling.

When selecting the Channel Signaling, first, identify whether it is the *Traditional*, *Universal*, or *XE* Module. For the *Traditional* Module, if the Application Type is 0, 3, or 5 and 24th Channel Signaling is selected:

- You are allowed to use 23 circuits when assigning the trunks.
- If the physical pack is on slot "05", circuit 3 of virtual slot "02" cannot be used.

- If the physical pack is on slot "18", circuit 3 of the virtual slot "15" cannot be used.
 - In Robbed Bit Signaling, the low bit in each channel of the 6th and 12th frames is used for signaling. These bits provide for analog type signaling.
 - You are allowed to use 24 circuits when assigning the trunks.
 - Circuit 3 of virtual slot "02" or "15" can be used.
 - For the *Universal* or *XE* Module, with the Application Type 0,1 or 2,
 - If the 24th Channel Signaling is selected, the 11th circuit of the virtual slot (adjacent to the physical slot) cannot be used.
 - If the Robbed Bit Channel Signaling is selected, the 11th circuit is used.
3. Coding Scheme. To prevent transmission of eight consecutive zeroes, two basic techniques are used: Zero Code Suppression (ZCS) and Bipolar eight Zero Suppression (B8ZS).
 - The **ZCS** Suppression detects a sequence of eight zeroes in a time slot and changes bit 2 to "1".
 - The **B8ZS** Suppression detects a sequence of eight zeroes in a time slot and inserts the bipolar violations which are detected at the receiving end and all eight zeroes are restored.
 4. Equipment Type. This field allows you to specify whether the SCS board is installed in the Module Control carrier.
 5. Transmit Type. This field allows you to select the transmission medium: copper or fiber.
 6. Synchronization. Two PBXs using the T1 interface are in master/ slave relationship; the incoming DS1 signal from the transmitting PBX is used to derive timing for the receiving PBX. Each DS1 and ISDN board has a provision for two outputs of the received clock signal. One of these outputs is cabled to the System Clock Synchronizer board (SCS). With no inputs, the SCS board runs off the internal High Accuracy Clock (HAC).

A master PBX will run off the HAC. The "No SCS" field selects the HAC clock. If the Equipment Type field contains the No SCS value, the Synchronization field will default to the system selected value (None). Otherwise, you are allowed to select any of the options listed below:

 - Primary Clock is the first selection.
 - If the Primary Clock fails, Secondary Clock must be chosen.
 - If both Primary and Secondary Clock fail, "None" is selected which activates the HAC clock.
 7. ISDN Signaling. This field must be specified for the ISDN/PRI Interface only. Two types of the ISDN Signaling are valid: **23B + D** and **24B**.
 - For Application Type 0,1,2,or 3, this field defaults to **23B + D** and is not used by the switch.
 - If you select **24B**, this selection will override the **24th Channel** selection in the Signaling Options field. All 24 circuits can be used in assigning the trunks.
 - For Application Type 5, if the D-Channel Group needs to be assigned, then perform the **ds1-isdn** transaction and select **23B + D**.
 8. Special Access.
 9. Slip Count Enable.
 10. External Loop Test Enable.
 11. DS1 Loop Length. This field specifies the DS1 loop length to the Network Circuit Terminating Equipment. The specification is in increments of 133 feet up to 655 feet.

12. E-Bit. This field specifies whether the signaling is proprietary or non-proprietary for Universal/XE boards with 24th Channel Signaling.
13. [Generic 2 only] Interface Identifier. This field is used to identify the NFAS Arrangement. For more details, refer to "D-Channel Administration" in Chapter 4.
14. Bit Inversion.
15. Interface Type.
16. Facility Test Code.
17. Level 2 PRI Timers.
18. Terminal Endpoint.
19. Maximum Number of Data Packets.
20. Maximum Number of Retransmissions.
21. [Generic 2 only] Codeset Map Number. This field contains the Codeset Map Number as it is defined in the switch database via the **codeset-mapping add** command.
22. Hyperactivity Management. This field is used to shut off an ISDN link when too many messages are being sent across the link.

DS1-ISDN Commands

[Generic 2 and System 85 R2V4]

The **ds1-isdn** transaction is administered with the **ds1-isdn** object which supports the verbs: **add**, **display**, **change** and **remove**.

Add DS1-ISDN Parameters

use the **ds1-isdn add** command to assign **ds1-isdn** parameters. Depending on the Application Type specified through the **carrier** or **pack add** command, the screen varies. For example, for Application Type 5 only (ISDN/PRI), Page 2 is provided for ISDN/PRI characteristics.

Display DS1-ISDN Characteristics

You can use the **ds1-isdn display** command to display the characteristics for Application Types 0, 1, 2, 3, 4, and 5. The **ds1-isdn display** output screen appears. The output screen displays the fields which apply to the specified Application Type and *Traditional*, *Universal*, or *XE* Module.

Change DS1-ISDN Characteristics

The **ds1-isdn change** command allows you to change the DS1-ISDN parameters specified via the **ds1-isdn add** transaction. Specify the DS1-ISDN board by entering the Equipment Location. The system retrieves the parameters for the specified Equipment Location from the Manager IV database.

Remove DS1-ISDN Characteristics

To remove the DS1-ISDN characteristics, enter the **ds1-isdn remove** command. The **ds1-isdn remove** input screen appears. You are allowed to remove the DS1-ISDN board by the Equipment Location.

Performing DS1-ISDN Commands

You can update, remove or retrieve the **ds1-isdn** information by directly accessing the Manager IV or Generic 2 databases or by scheduling the Service Requests (SRs). To optimize usage of the switch resources, and because of the restrictions imposed on port access, scheduling **ds1-isdn** transactions in Service Requests is preferred over direct port access.

Procedure: Assign DS1-ISDN and Pack Parameters in Generic 2 and System 85 R2V4

To successfully administer the **ds1-isdn** transaction, the following prerequisites must be performed prior to entering the **ds1-isdn add** command:

- Add carriers to the Manager IV or switch database.
- Assign the *Traditional* and *Universal(XE)* packs.

When assigning the Equipment Locations, make sure you enter the valid values for the *Traditional*, *Universal*, or *XE* Modules as shown in the table below:

Physical Address	Module	Cabinet	Carrier	Slot
Sys 85, Generic 2 Traditional	0-30	0-7	0-3	0,5,13,18
Generic 2 Universal	0-30	0	c-e	1-20
Generic 2 XE	0-30	0	c-e	1-18

To correctly select the Application Type, slots and circuits depending on the *Traditional*, *Universal*, or *XE* Module, refer to the following table:

Trad/ Univ/ XE	Applic. Type	Application	Physic. Slot	Virtual Slot	Pack Type	24th Chan. Signaling	Robbed Bit Signaling
t	0	DS1 Trunks	05 18	0,1,2,6,7 13,14,15,19,20	ann11	slots 2,15 have 3 ckts	slots 2,15 have 4 ckts assigned
u	0	DS1 Trunks	1-19	Adjacent	tn767	11th ckt is used as signaling	12 ckts can be assigned
x	0	DS1 Trunks	1-17	Adjacent	tn767	11th ckt is used as signaling	12 ckts can be assigned
t	1	DMI	05 18	0,1,2,6,7 13,14,15,19,20	ann11	slots 2,15 have 3 ckts assigned	
u	1	DMI	1-19	Adjacent	tn767	11th ckt used as signaling	
x	1	DMI	1-17	Adjacent	tn767	11th ckt used as signaling	
t	2	DS1-LINE	0,5,13,18	2 Adjacent	ann11		Up to 8 ckts can be assigned
u	2	DS1-LINE	1-20	No virtual slots	tn767		12 ckts can be assigned
x	2	DS1-LINE	1-18	No virtual slots	tn767		12 ckts can be assigned
t	3/4	Remote	0,5,13,18	2 Adjacent	ann11	24th channel signal.	
u	3/4	NOT SUPPORTED FOR UNIV. MODULE					
x	3/4	NOT SUPPORTED FOR XE MODULE					

Trad/ Univ/ XE	Applic. Type	Application	Physic. Slot	Virtual Slot	Pack Type	24th Chan. Signaling	Robbed Bit Signaling
t	5	ISDN/PRI	05 18	0,1,2,6,7 13,14,15,19,20	ann35, isdn for virtual slots;	slots 2,15 have 3 ckts assigned	
u	5	ISDN/PRI	1-19	Adjacent	tn767, isdn for NFAS Arrange. (tn555)		
x	5	ISDN/PRI	1-17	Adjacent	tn767, isdn for NFAS Arrange. (tn555)		

For a detailed description of how to assign the Equipment Locations for one of the above listed Application Types, refer to "Procedure: Adding a Generic 2 or System 85 Traditional DS1/MFAT Carrier to the Database". Consider the dependencies shown in the table when performing the prerequisite transactions:

1. Enter the **carrier** or **pack add** command. If the Module is *Traditional*,
 - For the prompt "DS1 Carrier?" enter **y**.
 - For the physical slot 00, 05, 13, or 18, enter the Application Type **0,1,2,3, or 5**.
 - The system will populate the valid pack types in the physical and virtual slots.
 - If the Application Type is 0, 1, or 2, the pack type "ann11" appears in the physical slot, and "ds1" in the virtual slot.
 - If the Application Type is 5, "ann35" is displayed in the physical slot and "isdn" in the virtual slot. DS1 Application Types and associated physical and virtual slots are described in "Procedure: Adding a DS1/MFAT Carrier".
 - If the Module is *Universal*,
 - For the Application Type 0,1, or 5, any slot from 1-19 can be used. If the Application Type is 2, use any slot from 1-20. Depending on the Application Type selected, enter the physical slot.
 - If you use **carrier-parameters add** command from the product-admin area, you are not prompted for the Application Type. You will have to specify the Application Type via the **ds1-isdn add** input screen.
 - If the Module is *XE*,
 - For the Application Type 0,1, or 5, any slot from 1-17 can be used. If the Application Type is 2, use any slot from 1-18. Depending on the Application Type selected, enter the physical slot.
 - If you use **carrier-parameters add** command from the product-admin area, you are not prompted for the Application Type. You will have to specify the Application Type via the **ds1-isdn add** input screen.

- Enter the **ds1-isdn** command. The **ds1-isdn add** input screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin ds1-isdn add

                          Equip.Loc.  __/__/___/___

```

You are allowed to specify the Equipment Location for the *Traditional*, *Universal*, or *XE* Module. Valid entries for both Modules are discussed in "DS1-ISDN Commands" earlier in this chapter. Enter the equipment location as appropriate. The following screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin ds1-isdn add          Page 1 of 2

                          Equip Loc  __/__/___/___
APPLICATION TYPE
_DS1 Trunk Board    _DS1 Line Board    _DMI    _ISDN/PRI
_Remote Carrier

FRAMING FORMAT    SIGNALING OPTIONS CODING SCHEME
  _D4              _Robbed Bit          _ZCS
  _Fe              _24th Channel        _B8ZS

TRANSMIT TYPE     ISDN SIGNALING
_Copper           _ 23 B + D
_Fiber            _ 24 B

Slip Count Enabled?_ DS1 Loop Length:_ Interface Identifier:_
External Loop Test Enabled?_

```

- If the Equipment Locations were created via the **carrier** or **pack add** transactions, the APPLICATION TYPE is filled in with the default value.
- If the Equipment Locations were created via the **carrier-parameters add** transaction accessed from the product-admin area, the APPLICATION TYPE is a required field. The cursor is positioned in the APPLICATION TYPE field. You are allowed to select any of the displayed fields by entering **x** in the appropriate field:
 - DS1 Trunk Board (Application 0)
 - DMI (Application 1)
 - DS1 Line Board (Application 2)
 - Remote Carrier (Application 3,4)
 - The Remote Carrier field is displayed only for the *Traditional* Module. With the *Universal* or *XE* Module selected, this field disappears.

b. ISDN/PRI (Application 5)

3. Select the FRAMING FORMAT. The valid selections are **D4** or **Fe**.
4. Enter the SIGNALING OPTIONS. The valid selections are Robbed Bit or 24th Channel. Depending on the APPLICATION TYPE, the field permissions vary:
 - For APPLICATION TYPE 1, 3, and 5, the SIGNALING OPTION field defaults to the 24th channel. This is a display only field. The cursor skips to the CODING SCHEME field.
 - For APPLICATION TYPE 2 (DS1 Lines), signaling is Robbed Bit.
 - If Robbed Bit Signaling is selected (true for the *Universal* and *XE* Modules only), the E-Bit field is displayed.
 - For APPLICATION TYPE 0, you are allowed to select either Robbed Bit or 24th Channel Signaling.
 - To verify the valid selections, press **ESC** ? .
5. Enter the CODING SCHEME. Valid selections are **ZCS** or **B8ZS**. With the ISDN/PRI specified, this field defaults to **ZCS**.
6. Enter the TRANSMIT TYPE. The default is "Copper".
7. Enter the ISDN SIGNALING [Generic 2 only]. Valid selections are **23 B + D** or **24 B**.
 - If the APPLICATION TYPE is 0, 1, 2, or 3, this field defaults to the **23 B + D**. You are not allowed to change the default value.
 - If the APPLICATION TYPE is 5, this field is required. You are allowed to select either of the two values: **24 B** or **23 B + D**. With the **23 B + D** selection, you can assign the D-Channel Group Number via the **d-channel add** command. Make a selection and press **RETURN**.
8. Enter the SPECIAL ACCESS. Valid selections are **SA** or **FX**.
9. Enter the Slip Count Enabled. Valid selections are **y** or **n**.
10. Enter the External Loop Test Enabled. Valid selections are **y** or **n**.
11. Enter the DS1 Loop Length [Generic 2 only]. Valid selections are **0, 1, 2, 3, or 4**. Press **RETURN**.
 - This field only appears for the *Universal* or *XE* Modules.
 - This field is required. To view the valid entries, press **ESC** ? . The short help message "For Loop Length Enter: 0=0-133, 1=134-266, 2=267-399, 3=400-533, 4=533-655" is displayed.
12. Enter the E-Bit [Generic 2 only]. Valid selections are **y** or **n**.
 - The E-Bit field is displayed only if the Robbed Bit signaling is specified and the Module is *Universal* or *XE*.
13. Enter the Interface Identifier [Generic 2 only]. This field is optional. Valid entries are **0-31**.
 - This field is populated for both *Traditional*, *Universal* and *XE* Modules and if the Application Type is 5.
14. Enter the Bit Inversion. Valid entries are **n** or **y**.
 - The Bit Inversion field is displayed, if you select **B8ZS** in the CODING SCHEME field. If you enter **ZCS**, this field does not appear.

15. Page 2 is displayed for APPLICATION TYPE 5 only.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin ds1-isdn add          Page 2 of 2

          Equip Loc ___/___/___

          ISDN PARAMETERS

INTERFACE TYPE          FACILITY TEST CODE          LEVEL 2 PRI TIMERS

_User-side              _None              T203: ___
_Network-side          _Level 2          T200: ___
                      _Level 3
                      _Both

          Hyperactivity Management?_
          Terminal Endpoint Id:___
          Maximum Number of Data Packets:___
          Maximum Number of Retransmissions:___
```

All fields contain the default values but may be changed by placing **x** next to the option required.

16. Enter the INTERFACE TYPE.
17. Enter the FACILITY TEST CODE.
- Select None, if no facility test codes are required.
 - Select Level 2, if Level 2 facility test code is required.
 - Select Level 3, if Level 3 facility test code is required.
 - Select Both, if both Level 2 and 3 facility test codes are required.
18. Enter the LEVEL 2 PRI TIMERS.
19. Enter the Hyperactivity Management [Generic 2 only]. Valid entries are **y** or **n**.
- This field is populated for APPLICATION TYPE 5.
20. Enter the Terminal Endpoint Id. Valid entries are **0-126**.
21. Enter the Maximum Number of Data Packets. Valid entries are **1-7**.
22. Enter the Maximum Number of Retransmissions. Valid entries are **1-10**.

If you enter the **ds1-isdn add** command in the product-admin area, the following screen appears:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm product-admin ds1-isdn add          Page 1 of 2

          Equip Loc ___/___/___

APPLICATION TYPE
  _ DS1 Trunk Board  _ DS1 Line Board  _ DMI      _ ISDN/PRI

FRAMING FORMAT  SIGNALING OPTIONS CODING SCHEME
  x D4           _ Robbed Bit         _ ZCS
  _ Fe           _ 24th Channel       x B8ZS

TRANSMIT TYPE   ISDN SIGNALING   EQUIPMENT TYPE   SYNCHRONIZATION
x Copper        x 23 B + D       x No SCS         x None
_ Fiber         _ 24 B           _ DS1/T1 SCS    _ Primary SCS
               _                _                _ Secondary SCS

Slip Count Enabled?_ DS1 Loop Length:_ Interface Identifier:_
External Loop Test Enabled?_                Bit Inversion? n

```

1. The EQUIPMENT TYPE field. This field is required. The default is **No SCS**. You are allowed to change the entry or leave the default by pressing **RETURN**. Prior to selecting an entry, you have to find out if the SCS equipment is installed:
 - In the product-admin area, enter the **carrier-parameters display** command to verify if the SCS Equipment is installed in the Module Control. If the SCS Equipment is not installed, you are allowed to either specify the **SCS** or select the **No SCS** option. To specify the SCS Equipment:
 - Enter the **carrier-parameters add** transaction. Enable the SCS Equipped field.
 - If the SCS Equipment is installed, when using the **ds1-isdn add** command, select the **DS1/T1 SCS** option in the EQUIPMENT TYPE field.
 - If you select the **No SCS**, the system automatically populates the SYNCHRONIZATION field with **None** (Internal Clock). The SYNCHRONIZATION field becomes a display only field. The cursor will skip over this field.
2. The SYNCHRONIZATION field. The cursor will be positioned in this field only if you selected the **DS1/T1 SCS** entry in the EQUIPMENT TYPE field. Otherwise, the cursor skips to the ISDN SIGNALING field. You are allowed to select any of the three values:
 - None
 - Primary SCS
 - Secondary SCS

For APPLICATION TYPE 5 only, Page 2 of the screen is displayed which is identical to Page 2 in admin or database-admin area. In addition, the Codeset Map Number field appears.

1. The Codeset Map Number field appears for Generic 2 only in the product-admin area; this field is not displayed under the admin or database-admin hierarchy.
 - Use the **codeset-mapping display** command to get the valid Map Number as it is defined in the Generic 2 switch. Press **RETURN**.

- The Codeset Map Number is populated for Application Type 5.

Procedure: Display DS1-ISDN Information

To perform the **ds1-isdn display** transaction,

1. Enter the **ds1-isdn display** command. The **ds1-isdn display** input screen appears. The format of the screen is the same as for the **ds1-isdn add** input screen. For more details, refer to "Procedure: Assign DS1-ISDN and Pack Parameters in Generic 2 and System 85 R2V4".
2. Populate the Equipment Location fields with the valid entries. Press **RETURN**. For the valid values description for both *Traditional* and *Universal/XE* Modules, refer to "Procedure: Assign DS1-ISDN and Pack Parameters in Generic 2 and System 85 R2V4".
3. The **ds1-isdn display** output screen is displayed. The screen is formatted the same way as the **ds1-isdn add** output screen. All displayed fields contain the values entered via the **ds1-isdn add** transaction.

Depending on the Module and Application Types, the output screen varies. If you specify the DS1-ISDN board assigned for the ISDN/PRI Application and the ISDN SIGNALING was set to **23 B + D**, the output screen will be comprised of two pages. Page 2 of 2 will display the ISDN/PRI characteristics.

Procedure: Change DS1-ISDN Pack Parameters

You are allowed to change the characteristics of the specified **ds1-isdn** boards.

1. To invoke the **ds1-isdn change** input screen, enter the **ds1-isdn change** command. The input screen prompts for Equipment Location. The screen looks the same way as the **ds1-isdn add** input screen.
2. Enter the Equipment Location. Press **RETURN**. The **ds1-isdn change** output screen (Page 1 of 2) appears. You are allowed to change the entries made via the **ds1-isdn add** transaction. The description provided for the **ds1-isdn add** screens (Page 1 and 2) applies to the **change** output screens. For a detailed screen description, refer to "Procedure: Assign DS1-ISDN and Pack Parameters in Generic 2 and System 85 R2V4".

You cannot change the Application Type value by entering the **ds1-isdn change** command. You can only do it by following a sequence of procedures described below:

- Enter the **ds1-isdn remove** command to remove the ds1-isdn parameters.
 - Enter the **carrier remove** command to remove the specified carrier.
 - Enter the **carrier add** command to create the Equipment Locations for the specified Application Type.
 - Enter the **ds1-isdn add** command.
3. If you enter the **ds1-isdn change** command to modify the ISDN SIGNALING from **23 B + D** to **24 B** for the Equipment Location assigned to the D-Channel and associated with the trunks, the error message is displayed: "ISDN SIGNALING CANNOT BE CHANGED TO 24 B, IT IS ASSIGNED TO A D-CHANNEL". To successfully administer the **ds1-isdn change** transaction:
 - Enter the **d-channel remove** command to remove the D-Channel Group Assignment for the D-Channel. If the trunks were assigned to that Equipment Location, prior to using the **d-channel remove** transaction,
 - Enter the **trk display** command to find out which trunk is assigned with the D-Channel Group Number.

- Enter the **trk add** or **trk change** command and change the D-Channel Group Number to a NULL.
4. If you enter the **ds1-isdn change** command to replace the **24 B** selection with the **23 B + D**, and there were some trunks assigned to 24 circuits, the error message is displayed: "TRUNKS ASSIGNED TO EQUIP.LOC., CANNOT CHANGE THE ISDN SIGNALING". To successfully administer the **ds1-isdn change** transaction, you have to remove the trunks assigned to that Equipment Location.
 5. You are not allowed to change the SIGNALING OPTIONS, if any trunks are assigned to the **ds1** packs.
 6. You are not allowed to change the display only fields:
 - If the trunks assigned to the DS1 packs are AVD (Alternate Voice/Data), then the signaling defaults to **24th Channel**.
 - For APPLICATION TYPE 5, if the signaling is **24th Channel**, this field cannot be changed.
 - For APPLICATION TYPE 2, Robbed Bit Signaling is required.
 7. To change the Interface Identifier if the trunks have been assigned to the specified Equipment Location:
 - Remove the assigned trunks prior to entering the **ds1-isdn change** command. Otherwise, the error message will be displayed: "TRUNKS ASSIGNED TO EQUI.LOC., CANNOT CHANGE THE INTERFACE IDENTIFIER."

Procedure: Remove DS1-ISDN Pack Parameters

To remove the DS1-ISDN assignment, follow the same steps described in "Procedure: Change DS1-ISDN Pack Parameters".

The **remove** operation cannot be completed when a trunk is assigned to any of 23 circuits if the signaling is **23 B + D** and 24 circuits if the signaling is **24 B**. This error message will be displayed: "EQUIPMENT LOCATION IN USE, CANNOT REMOVE DS1-ISDN CHARACTERISTICS."

If a D-Channel is assigned to that Equipment Location, the error message returned is: "DS1-ISDN CHARACTERISTICS ARE ASSOCIATED WITH D-CHANNEL, REMOVE D-CHANNEL FIRST."

Procedure: Assign DS1 Pack Parameters in System 85 R2V3

You can add, change, remove, or display DS1 circuit pack parameters for System 85 R2V3 with the command **ds1-isdn**. This procedure explains how to assign parameters to DS1 circuit packs. Parameters must be assigned before equipment associated with the packs can be used. Before you use the **ds1-isdn** command, be sure that you have assigned the circuit pack using either the **pack add** command or the **carrier add** command.

1. Enter the command **ds1-isdn add**. The following screen displays if the command is run from admin or database-admin area.


```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin ds1-isdn add          Page 1 of 1

Equip. Loc.:  __/__/__

```

2. Enter the Equipment Location of the DS1 circuit pack. The screen shown below is displayed.

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin ds1-isdn add          Page 1 of 1

Equip. Loc.:  2/0/3/05

APPLICATION TYPE
  x DS1 Trunk Board  _ DS1 Line Board          _ DMI
  _ Remote Carrier (T1 Carrier)                _ Remote Carrier (Fiber)

FRAMING FORMAT      SIGNALING OPTIONS      CODING SCHEME
  x D4                x Robbed Bit                x ZCS
  _ Fe                _ 24th Channel                _ B8ZS

Slip Count Enabled? n
External Loop Test Enabled? n

```

- If the command was executed from the admin or database-admin area, the system detects and displays the Application Type that was specified when the pack was added.
- If the command was executed from the product-admin area, the system displays two more fields: EQUIPMENT TYPE and SYNCHRONIZATION.

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dsl-isdn add          Page 1 of 1

                               Equip. Loc.: ___/___/___

APPLICATION TYPE
  _ DS1 Trunk Board    _ DS1 Line Board        _ DMI
  _ Remote Carrier (T1 Carrier)    _ Remote Carrier (Fiber)

FRAMING FORMAT          SIGNALING OPTIONS          CODING SCHEME
  x D4                  _ Robbed Bit              _ ZCS
  _ Fe                  x 24th Channel          _ B8ZS

EQUIPMENT TYPE          SYNCHRONIZATION
  x No SCS              x None
  _ DS1/T1 SCS          _ Primary SCS
                       _ Secondary SCS

Slip Count Enabled? n
External Loop Test Enabled? n

```

- Note that in the product-admin area, you must specify the Application Type by marking **x** next to the correct type. The system will not automatically fill it in.
 - Some other fields may be filled when the screen is displayed. The administration software is designed to select certain values "automatically" when a specific pack type is chosen to ensure that certain incompatible parameters are not assigned.
3. Enter **x** next to the appropriate FRAMING FORMAT, **D4** or **Fe**.
 4. Enter **x** next to the appropriate SIGNALING OPTION, **Robbed Bit** or **24th Channel**.
 5. Enter **x** next to the appropriate CODING SCHEME. **ZCS** is Zero Code Suppression; **B8ZS** is Bipolar 8 Zero Suppression.
 6. In the product-admin area,
 - Enter **x** next to the appropriate EQUIPMENT TYPE. Select **No SCS** if the SCS board is not installed in the Module Control carrier.
 - Enter **x** next to the appropriate SYNCHRONIZATION field. For more details, refer to the description provided for Generic 2 and R2V4 earlier in this chapter.
 7. Enter **y** or **n** for Slip Count Enabled.
 8. Enter **y** or **n** for External Loop Test Enabled.
 9. Press **(ESC)** **e** or **(EXECUTE)** to end the transaction.

3. NETWORK FEATURE ADMINISTRATION

This chapter and Chapter 9, "Call Distribution" are devoted to network features, with this chapter containing an overview on feature types as well as descriptions and procedures for administering all frequently used features. Chapter 9 provides similar information on the various types of Call Distribution features.

TYPES OF FEATURES

Network features span your telecommunications system. They are available to users in your headquarters, your branch offices and in your warehouses— everywhere a switch is connected to your network. There are two types of network features:

- **Standard Features.** These are included with the switch when you buy it and do not require additional administration.
- **Optional Features.** These can be added to specific switching facilities.

Standard Features

System Class of Service (SYS-COS) administers a wide variety of switch features. Using one transaction, you can define system-level translations that determine the basic configuration of a switch and its place within a specific network architecture. Because of its breadth and power, the **sys-cos** transaction should be used after careful planning and review of the options.

Optional Network Features

Centralized Attendant Service (CAS), Call Distribution and Tenant Services are both optional features that can be purchased separately, either at the time of the switch purchase or later as upgrades. FM administers the hardware and software, for example, trunk groups and lamps, and defines other parameters of these network features. Some tasks must be performed in the Terminal Change Management (TCM) application to make the features fully functional.

On the following pages, you will find a series of overviews that define the features and discuss how specific features work within FM. Even if you are already familiar with a particular feature, you need to know how it can be administered through Manager IV.

SYSTEM CLASS OF SERVICE

System Class of Service (SYS-COS) defines the features and characteristics of a particular switch in a telecommunications network. Each switch in your network is configured by AT&T with a particular Class of Service when it is initialized. However, new requirements or network re-engineering may require changes. Since changes made to a particular switch's Class of Service can affect your entire network, there must be careful planning to ensure that SYS-COS-enabled features function across the network. This is particularly important in a Distributed Communications (DCS) cluster. System Class of Service controls the following switch features:

- System Features
- Autovon Interface
- Autovon Precedence Level
- Automatic Call Distribution (ACD/UCD)
- Attended Switch Features
- Call Detail Recording (CDR)
- [Generic 2.2 only] World Class Routing (WCR)
- [Generic 2.1, System 85] Automatic Route Selection (ARS)
- [Generic 2.1, System 85] Automatic Alternate Routing (AAR)
- Uniform Network Numbering Plan (UNP)
- Network Routing
- Trunk Verification By Terminal
- Abbreviated Dialing
- Automatic Circuit Assurance (ACA)
- Call Coverage
- Administerable Alarms
- Automatic Identification Of Outward Dialing Parameters (AIOD).

All above-mentioned features are arranged in six screens. Each screen includes a group of **sys-cos** features with the parameter fields associated with them. With certain features, under one displayed field a group of parameters is implied. The displayed field is a prerequisite to the parameters grouped under this field. These parameters are not shown on the screen unless this field is enabled. To enable or disable the selected **sys-cos** feature(s), enter **y** or **n** in the associated field(s).

The **sys-cos change** screens are comprised of required, optional and display only fields. The display only fields are populated during system initialization. Via the optional or required fields, you can activate only those features that are already defined on the switch. They are defined using other commands or procedures which are listed in a chart after the **sys-cos change** procedure.

For each optional or required field, a short help message with a list of valid entries is provided. If you enter an invalid value or try to skip the required field by pressing **RETURN**, the short help message associated with the current field is displayed. To invoke a short help message, press **ESC** ?. Use **sys-cos display** to see the switch's current Class of Service assignments.

Changing System Class of Service

Procedure: sys-cos change Command

Remember that you can use Scrapbook with the following procedure if the System Class of Service is the same or similar on several of your switches.

1. Enter the **sys-cos change** command. The system displays the first page of the transaction.

```

AT&T Mgr IV 2.2  SR: 0123456789  DEFINITY G2.2          <target>
fm admin sys-cos change                               Page 1 of 6

                YOU ARE ONLY ACCESSING THE DATABASE

SYSTEM FEATURES

                Call Waiting Enabled? n                WCR Networks 2-7 Enabled? _
                Cache Memory Enabled? n                Multi-Premises Enabled? _
                Music On Hold Enabled? n                DCS Enabled? y
                Tandem Tie Trunks Enabled? n            DCIU Enabled? y
Multi-Function Terminal Enabled? n                    Multi-Machine Node Type: _
                ISDN Enabled? n                        Local Node Number: _
                Call Vectoring Enabled? n              Switch Belongs To CAS? y
                Tenant Services Enabled? n             CAS Main Node Number: _
                Disable Remote Access? n

                WCR to Extension Enabled? _

AUTOVON INTERFACE
                Switch Belongs to AUTOVON: y           Switch Interface Number: _

AUTOVON PRECEDENCE LEVEL
                All Incoming Calls: _                 Outgoing Attendant Calls: _
                Outgoing Terminal Calls: _

```

The following features are displayed:

- System Features
- Autovon Interface
- Autovon Precedence Level.

Some features may have been administered via the related transactions. You are allowed to change their values through the optional and required fields. Note the current values entered in the fields displayed, and look for the fields you want to change. Pressing **RETURN** leads you through these fields.

The SYSTEM FEATURES fields default to **n**. You are allowed to change the default value to **y** in the following fields:

- Call Waiting Enabled
- Cache Memory Enabled
- Music On Hold Enabled
- Tandem Tie Trunks Enabled

- Multi-Function Terminal Enabled.
- ISDN Enabled
- Disable Remote Access.

G2.2 Note:

Some users may wish to disable the remote access feature to discourage illicit use of switch features, especially toll call fraud. This can be done by entering a **y** (yes) in this field. This is a *permanent* change and can only be reversed by AT&T service personnel. Be aware that Trunk Type 50 *cannot* be added if remote access is disabled.

- DCIU Enabled (provided that the DCS Enabled field contains **n**)

You are not allowed to populate the display only fields:

- Call Vectoring Enabled
- Tenant Services Enabled
- AUTOVON
- WCR Networks 2-7 Enabled (Generic 2.2 only) or Standard Network Enabled (Generic 2.1 and System 85)
- Multi-Premises Enabled
- DCS Enabled.

The cursor will skip over the display only fields. These fields are enabled or disabled at system initialization. Enabling or disabling of the Multi-Premises Enabled, DCS Enabled or WCR Networks 2-7 Enabled (or Standard Network Enabled) fields results in bringing up or removing the additional fields associated with them. These additional fields may be the prerequisites to the other fields associated with them. With these features, completing the prerequisites is required.

- The **Multi-Machine Node Type** field is a prerequisite to the **Local Node Number** field. The valid values for the **Multi-Machine Node Type** field are: **1**=DCS, **2**=number portability, **3**=both 1 and 2.
 - If the **Multi-Machine Node Type** field is populated with **1** or **3**, valid entries for the Local Node Number are **1-63**
 - If the **Multi-Machine Node Type** field is populated with **2**, valid entries for the Local Node Number are **1-999**.
- The **Switch Belongs To CAS** field is a prerequisite to the **CAS Main Node Number** field. The CAS Main Node Number field is displayed only if the **Switch Belongs To CAS** field is set to **y**. Otherwise, the CAS Main Node Number field does not appear on the screen.
- For the **CAS Main Node Number** field, valid entries are **1-40**.
- **WCR to Extension Enabled?** is a display-only field. If this field is enabled it provides the capacity to "restart" in network 0 (zero) (which is in the **wcr-dial-plan-definition** transaction).
- The **AUTOVON** field is a prerequisite to the following dependent fields:
 - Switch Interface Number
 - All Incoming Calls
 - Outgoing Attendant Calls
 - Outgoing Terminal Calls.

These fields are displayed only if the AUTOVON field contains **y**. If this field is disabled, the dependent fields do not appear on the screen. For the dependent fields, valid entries vary depending on the values entered in the AUTOVON field.

SYS-COS Prerequisite Fields	Dependent Fields			
Autovon	Switch Inter. Number	All Incom. Calls	Outgoing Attendant Calls	Outgoing Terminal Calls
y	1-40	0-4	0-4	0-4
n	-	-	-	-

2. For DIMENSION FP8 Issues 3.8 and 1.16, the first page of the transaction is as follows:

AT&T Mgr IV 2.2	D2000 FP8	<target>
fm admin sys-cos change		Page 1 of 6
SYSTEM FEATURES		
Call Waiting Enabled? y	Standard Network Enabled? y	
Music On Hold Enabled? y	Data Service Enabled? n	
Tandem Tie Trunks Enabled? y	DCS Enabled? y	
ECTS Enabled? y	DCIU Enabled? y	
Deluxe Voice Enabled? n	Local Node Number: 1	
AP Service Enabled? n	Switch belongs to CAS? n	
CUSTOM INTERCOM MIX	SPEED CALLING MIX	
10/30 Member Mix? y	10/30 Member Mix? y	

3. In Generic 2 and System 85 switches, the following features are displayed on Page 2 of the transaction:

- System Features
- Automatic Call Distribution (ACD/UCD).

```

AT&T Mgr IV 2.2  SR: 0123456789  DEFINITY G2.2                <target>
fm admin sys-cos change                                     Page 2 of 6

SYSTEM FEATURES (continued)

                                Trunk To Trunk Transfer?  _
                                Common Control Duplicated? _
    Digits Chimed:  _          Remote Access Shared With LDN? _
    Digits Forwarded:  _      Demand Print Password Required? n
    Loudspeaker Paging:  _    Info. For Terminal Dialed Calls? _
                                Combined CC/TMS?  n
                                Universal Attendant Conference? n

    BRI Service SPID? n
    BRI Service SPID Number? 005

AUTOMATIC CALL DISTRIBUTION (ACD/UCD)

    Abandoned-Call Search Enabled? y          Supervisor Console Number:  _
    Call Management System Enabled? y          Warning Tone?  _
    ACD Lookahead Interflow? y               Vector Hold Allowed?  _

```

- The **Call Management System Enabled** field cannot be set to "n" until it is busied out first via the **cms-extension** transaction.
- The **Universal Attendant Conference** field can only be administered if trunk groups of type 5 (6-Way Conferencing) do not exist.
- The **BRI Service SPID** field is used to activate the Service SPID feature that may be administered on a BRI terminal and in Generic 2 only; the BRI Service SPID Number field allows you to add the actual SPID number. The Service SPID feature, if administered, enables a BRI terminal plugged into any BRI port to acquire the characteristics of the terminal that was translated for that port, (i.e. class of service, line buttons, feature buttons, etc.).
 - In the BRI Service SPID field, enter **y** to activate the feature, or **n** to disable it.
 - In the BRI Service SPID Number field, you are allowed to enter any ten-digit number within the range of **0-999999999**.
- The **Vector Hold Allowed** field is by default **n** (no) meaning that if a call is placed to a vector in the midst of call processing, the call cannot be put on hold. To reverse the default to allow holding on vector calls, enter a **y** (yes) in this field.

These fields can be administered in System 85 only:

- The **Local Prefix Digit** field appears on this page only for R2V2 switches.
- The **Integrated Telemarketing Service (ITS)** field appears on this page only for System 85 R2V4. If the ITS software has been installed on the system, the ITS field contains **y**. Otherwise, this field is populated with **n**. You cannot administer the ITS field; this field is display only. The system populates the ITS field at initialization.
- The **Answer Supervision** field appears on this page only for R2V2 and R2V3 switches.

The next three fields *only* appear on Generic 2.1 and System 85 switch screens:

- Home NPA.
- Dial 1 for Toll.

— Call-Control FRL.

4. Press **RETURN** for the third page of data. The following features are displayed:
 - Attended Switch Features
 - Call Detail Recording (CDR).

```

AT&T Mgr IV 2.2  SR: 0123456789  DEFINITY G2.2  <target>
fm admin sys-cos change  Page 3 of 6

ATTENDED SWITCH FEATURES

Remote Access to Attendant: _          Trunk to Trunk Calling? n
      Default Extension: _____  Preselected Call Routing? n
Call Answer Voice Terminal? y          Release Loop transfer? y
      Gong Equipment Location: _/_/_/_/_  Timed Recall Time (secs): _

CALL DETAIL RECORDING (CDR)

                                CDR Enabled? n
                                Incoming Calls Recorded? n
CDR Account Code No. Length: 10      Ineffective Attempts Recorded? n
                                CDR BLOCKAGE: 0      Default Timing Interval (secs): _

```

- The **Call Answer Voice Terminal** field is a prerequisite to the **Gong Equipment Location** field. The Gong Equipment Location field is displayed only if the Call Answer Voice Terminal field contains **y**.
- The **Timed Recall Time** (secs) field is required. Valid values are **0** through **98**. If you enter an invalid value, the short help message "Enter the Timed Recall Time (0-98, in even numbered seconds only)" is displayed.
- To enable CDR, enter **y** in the **CDR Enabled?** field, otherwise type **n**.

For System 85 and Generic 2.1 switches only:

- The screen label *CDR Enabled?* is changed to *CDR*.
- The **CDR Prefix Digit** field appears on this page.
- The **Standard Network Enabled** field is a prerequisite to the CDR Prefix Digit field. The CDR Prefix Digit field is displayed only if the Standard Network Enabled field (Page 1) contains **y**.

You are allowed to enter only a working extension (that is one that has not been assigned as an associated or VDN extension) in the **Default Extension** field.

The **CDR Message Length** field appears only for R2V2 and R2V3 switches.

5. Press **RETURN** for the fourth page of data. This screen applies to a Generic 2.2 switch only. The World Class Routing features are displayed:

```

AT&T Mgr IV 2.2  SR: 0123456789  DEFINITY G2.2  <target>
fm admin sys-cos change  Page 4 of 6

```

```

Remote Access Code: 2
Authorization Code Enabled? y

```

```

WORLD CLASS ROUTING (WCR)

```

```

Plan Manual Control Mode? y
Plan In Effect: 6

```

```

Interdigit Timing Interval Length: 18
Begin Route Selection ASAP? y

```

```

CAUTION - Attempting to route as soon as a VNI is determined can
adversely effect processor occupancy during high volume situations.

```

- In the **Remote Access Code** field, enter the code required.
 - **Generic 2.2 only:** Valid entries are: **0** for no code prompting, **1** for a barrier code prompt, **2** for an authorization code prompt, **3** for a speaker verification code prompt, **4** for barrier and authorization codes prompts, and **5** for a barrier code prompt but no prompt for the authorization code.

Note: If you enter **2, 3, 4** or **5** in the **Remote Access Code** field, the **Authorization Code Enabled** field defaults to **y** and cannot be changed.
 - **System 85, Generic 2.1:** Valid entries are: **0** for no code prompting, **1** for a barrier code prompt, **2** for an authorization code prompt, and **3** for speaker verification prompt.

Note: If you enter **2** or **3** in the **Remote Access Code** field, the **Authorization Code Enabled** field defaults to **y** and cannot be changed.
 - Enter **y** or **n** in the **Plan Manual Control Mode** field
 - Populate the **WCR Plan in Effect** field; valid entries are **1 - 7**
 - In the **Interdigit Timing Interval Length** field, enter interdigit timing interval in seconds. The default is **20**. Valid entries are even numbers in the range of **2 - 20**
 - The **Begin Route Selection ASAP?** field defaults to **n**. Enter **y** to select route ASAP.
6. For System 85 and Generic 2.1 switches, the following features are displayed on Page 4 of 6:
- Remote Access and Authorization Codes
 - Automatic Route Selection
 - Automatic Alternate Routing
 - Uniform Network Numbering Plan.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin sys-cos change                Page 4 of 6

                Remote Access Code: _
                AAR/ARS Authorization Code Enabled? y

AUTOMATIC ROUTE SELECTION (ARS)
                ARS Plan Manual Control Mode? y
                ARS Plan in Effect: _

AUTOMATIC ALTERNATE ROUTING (AAR)
                AAR Dial Tone Suppressed? n
                Digit Reserved for AAR Access: _

UNIFORM NETWORK NUMBERING PLAN
                Number of Location Code Digits: _
                Number of Extension Digits: _

```

[Generic 2.1, System 85] The field dependencies affect this screen as follows:

- The **Remote Access Code field** is a prerequisite to the **AAR/ARS Authorization Code Enabled field**. If you enter **2** in the Remote Access Code field, the AAR/ARS Authorization Code Enabled field should be populated with **y**
 - The **ARS Plan Manual Control Mode field** is a prerequisite to the **ARS Plan in Effect field**. You are allowed to change the value in the ARS Plan in Effect field if the ARS Plan Manual Control Mode field is enabled prior to it
 - The **Standard Network field** (page 1) is a prerequisite to the **AAR Dial Tone Suppressed field**. If the Standard Network field is set to **y**, you are allowed to make an entry in the AAR Dial Tone Suppressed field. The valid entry is **y**. If you enter an invalid value, the short help message "Enter "y" to suppress AAR dial tone; otherwise, enter "n"." is displayed
 - The **CDR Prefix Digit field** is related to the **Digit Reserved for AAR Access field**. You are not allowed to have the same values in the two fields, except "0."
 - The **Standard Network Enabled field** is a prerequisite to the **AUTOMATIC ALTERNATE ROUTING** and **UNIFORM NETWORK NUMBERING PLAN** fields. The Standard Network Enabled field must contain **y** for the AUTOMATIC ALTERNATE ROUTING and UNIFORM NETWORK NUMBERING PLAN titles and the fields associated with them to be displayed.
7. Press **RETURN** for the fifth page of data. The following features are displayed:
- Network Routing
 - Trunk Verification By Terminal
 - Abbreviated Dial
 - Automatic Circuit Assurance.

AT&T Mgr IV 2.2	SR: 0123456789	DEFINITY G2.2	<target>
fm admin sys-cos	change		Page 5 of 6
NETWORK ROUTING			
	Symmetrical Routing Depth?	y	
	Pattern Depth:	16	
TRUNK VERIFICATION BY TERMINAL			
	Extension Number:	__	
	Remote Extension Number:	__	
ABBREVIATED DIAL			
	Universal System List Access?	_	
	System List Size Range:	_	
AUTOMATIC CIRCUIT ASSURANCE (ACA)			
	ACA Enabled?	y	
	ACA Failure Referred To:	1	
	Console Number for ACA Referrals:	_	

In System 85 and Generic 2.1 switches, the screen label *Pattern Depth* is changed to *Number Preference*.

To have this page displayed as it is shown, consider the following field dependencies:

- The **Symmetrical Routing Depth** field is a prerequisite to the **Pattern Depth** field. The Symmetrical Routing Depth field must contain **y** to have the Pattern Depth field displayed.
- To properly implement the associated ACA entries, enter **y** in the **ACA Enabled** field.
- The **ACA Failure Referred To** field is a prerequisite to the **Console Number for ACA Referrals** field. The ACA Failure Referred To field must be populated with **1** to have the Console Number for ACA Referrals field displayed.

You are allowed to enter only a working extension (that is one that has not been assigned as an associated or VDN extension) in the Extension Number and Remote Extension Number fields. Press **RETURN** for a final page of data. The following features are displayed:

- Call Coverage
- Administerable Alarms
- Automatic Identification of Outward Dialing (AIOD) Parameters.

```

AT&T Mgr IV 2.2  SR: 0123456789  DEFINITY G2.2                <target>
fm admin sys-cos change                                     Page 6 of 6

CALL COVERAGE

                Caller Response Interval (2 secs): _
                No Answer Interval (alerting cycles): _
                Recent Disconnect Interval (days): _

ADMINISTRABLE ALARMS

                Even Port Peripherals Alarm: 0
                Trunk Software Alarm Disabled? n
                Auxiliary Software Alarm Disabled? n

AUTOMATIC IDENTIFICATION OF OUTWARD DIALING (AIOD) PARAMETERS

                AIOD Enabled? y
                Prefix Digits Sent To CO: 1
                Auxiliary ANI Billing Number: _
                Delay to 2nd Dial Tone (0.1 secs): _

```

The **AIOD Enabled** field is a prerequisite to the following fields:

- Prefix Digits Sent to CO
- Auxiliary ANI Billing Number
 - The **ANI Billing Number** field should be an extension which is a member of the dialing plan associated with a hardware location
 - Delay to 2nd Dial Tone.

The **AIOD** field must contain **y** to have the above-mentioned fields displayed.

- To return to Page 1 of **sys-cos change**, press **RETURN**.
- Look for the fields you want to change, and make changes as appropriate. Press **RETURN** at the end of each page to change data on any of the other pages.
- Press **EXECUTE** to enter the changes.
- After the changes are executed, the screens display again; the first screen is followed by the others. Press **RETURN** to go through the pages as in a display transaction.
- Once you have gone through the pages, press **RETURN** to go to the command path.

Procedure: Making Changes at Another Switch

To change System Class of Service at another switch:

1. Specify a new target in your command path. To change targets, press **ESC t**. You are then prompted for another target.
2. Repeat the previous steps.

The following tables show the related commands or tasks you must complete after changing a System Class of Service feature. After you have changed the feature using **sys-cos**, make additional changes according to the list of dependencies indicated in the tables.

Table 3-1. SYS-COS Related Commands, Page 1 Fields

SYS-COS Feature	Dependency
Call Answering	No dependency.
DCIU enabled	Administer DCS network with DCIU links or switches supporting APs or AUDIX.
DCS	DCIU should be enabled in sys-cos .
CAS	Must be y to make CAS work.
Autovon	Must be set to let Autovon transactions work.
ISDN	Add ISDN compatible trunk type with trk-grp add ; add ann35 circuit pack and parameters with pack add and ds1-isdn add .
Music-on-hold	Add Trunk Type 62, music-on-hold interface with trk-grp add .

Table 3-2. SYS-COS Related Commands, Page 2 Fields

SYS-COS Feature	Dependency
Dialing Plan	No dependency.
Uniform Call Distribution (UCD)	Add Trunk Type 68, UCD delay recorded announcement trunk with trk-grp add .
Enhanced UCD (EUCD)	Define ACD or UCD group information with Adding UCD Groups or with Adding ACD and EUCD Groups.
Automatic Call Distribution (ACD)	
Code call chiming	Add Trunk Type 53, code call interface using trk-grp add .
Loudspeaker paging	Add Trunk Type 54, loudspeaker paging interface with trk-grp add .
Trunk-to-trunk transfer	Administer Centralized Attendant Service (CAS).
Alternate FRL	Enable/disable with altfrl-ctrl change .

Table 3-3. SYS-COS Related Commands: Page 3 Fields

SYS-COS Feature	Dependency
Call Detail Recording (CDR)	If CDR active: activate CDR per-trunk group (trk-grp add/change). If CDR not active: invalidates trunk group activation parameters.
Intercept Treatment	No dependency.

Table 3-4. SYS-COS Related Commands: Page 4 Fields

SYS-COS Feature	Dependency
Remote access	Add Trunk Type 50, remote access trunk (trk-grp add).
Authorization code	Change using auth-code change .
AAR	Define patterns by Adding Routing Patterns. Assign AAR access digit with dial-access-codes change .
ARS	Define patterns by Adding Routing Patterns. Assign ARS access digit using dial-access-codes change . Define time-of-day-plans and the control mode using ars-schedule add or change .

Table 3-5. SYS-COS Related Commands: Page 5 Fields

SYS-COS Feature	Dependency
ACA	Enable and define on trunk groups using trk-grp add or change .
Network type	No dependency.

Table 3-6. SYS-COS Related Commands: Page 6 Fields

SYS-COS Feature	Dependency
Call Coverage Interval	Administer call coverage groups in TCM.
AIOD	Define CO Trunk Types 17 to 20 and APLT Trunks 12 to 15 with trk-grp add or change .

DIALING PLAN

The dialing plan used by your network was set up at system initialization. This chapter explains tasks that relate to administering your system's dialing plan. It is recommended that you consult AT&T technical personnel before administering your network's dial plan. *Any changes made will have a serious impact on your entire system.*

Electronic Tandem Network (ETN) and Distributed Communications System (DCS) environments use a uniform dial plan, where the numbering scheme used in the network is consistent across switches. Tasks in this group include:

- Changing the definition of the first dialed digit using **first-digit**. This can be done from FM or TCM.
- [System 85 R2V2 and DIMENSION System FP8] Using **five-digit dialing** to establish the prefix/thousands digit combination to be used for five digit dialing. This can be done from FM or TCM
- Using the FM command **station-no-steering** to associate a steering code with a dial access code.
- Establishing feature dial access codes with the TCM command **dial-access-codes**.

For more information about TCM commands, see *DEFINITY® Manager IV Terminal Change Management Operations*.

Procedure: Administering First Dialed Digits

When the dial plan is created for each switch, the first dialed digits are defined in the first digit table. This is done in two ways: first, by specifying the number of digits expected when that first digit is dialed, and second, by specifying the call type associated with that digit. Call types specify whether the digit will be used as the first digit of an extension (Call Type 1) or the first digit of a trunk or feature DAC (Call Type 2).

To display the first digit table for a switch, use the command **first-digit display**.

You can activate an unused first digit, change the call type, or change the number of digits expected for a first digit using the command **first-digit change**. *Be aware that such a change can have a major impact on call processing for the switch.*

1. Enter the command **first-digit change**.

First Dialed Digit:	Call Type:	Number of Digits:
0	—	—
1	—	—
2	—	—
3	—	—
4	—	—
5	—	—
6	—	—
7	—	—
8	—	—
9	—	—
*	—	—
#	—	—

2. In the **Call Type** field, enter **1** if the first digit represents an extension call type, or **2** if it is a trunk or feature call type.
3. In the f3Number of Digits field, enter the number of digits to be expected for the call type.
4. Press **EXECUTE** to end the transaction.

Procedure: Administering Five Digit Dialing

For System 85 R2V2 and for DIMENSION System FP8 Issue 3e8, a form of five-digit dialing can be administered via the command **five-digit dialing**. This allows calls to be routed between nodes with the thousands digit as a prefix digit. Follow this procedure to set up five-digit dialing:

1. Use the command **sys-cos change** to define a local prefix digit. All extensions starting with this digit are assumed to be on the local switch, while other extensions dialed will be automatically routed to other nodes.
2. Use the command **first-digit change** to assign the specified prefix digit(s) with a call type of **1** and number of digits expected as **5**.
3. Use **five-digit-dialing add** to define the routing for a particular prefix digit-thousands digit combination.

```

AT&T Mgr IV 2.2          System 85 R2V2          <target>
fm admin five-digit-dialing add          Page 1 of 1

                                Prefix Digit: ___
                                Thousands Digit: ___
                                Destination System Access: ___
                                Location Code/Dial Access Code: ___

```

- Enter the prefix digit and thousands digit being administered.
 - Enter the Destination System Access type as one of the following:
 - Enter **1** for local access.
 - Enter **2** for remote routing using an RNX. The RNX must have been previously defined.
 - Enter **3** for access through a DAC. The DAC must have been previously defined.
4. For types 2 or 3, enter the RNX or DAC in the Location Code/Dial Access Code field.

Dial Access Codes

A DAC is a one-, two-, three-digit code, or a four-digit code (for Generic 2 or System 85 only) used by the switch to provide access to certain switch features or an outgoing trunk group.

Feature DACs are assigned through the TCM command **dial-access-codes change**. For information on Dial Access Encodes, refer to Appendix C, "Generic 2 and System 85 Dial Access Encodes."

Trunk DACs are associated with trunk groups through the FM **trk-grp** transaction when the trunk group is added.

STATION NUMBER STEERING

Generic 2.1 and System 85:

The **station-no-steering** transaction associates a steering code with a Location code (RNX) or DAC.

Generic 2.2: This transaction creates an association between a steering code and either a Dial Access Code (DAC) or Uniform Dialing Plan (UDP) code.

Overview

By entering a steering code, you can assign a block of 1,000 stations (extensions) or a block of 10,000 stations to a trunk or feature DAC, RNX or UDP (Generic 2.2).

Trunk dial access codes must first be assigned using **trk-grp add**; feature DACs must be assigned using the TCM command **dial-access-codes add**. RNX numbers must first be entered using **aar-portability add** if you have a number portability network, or **aar-non-portability add** if you do not.

In Manager IV, if you use a target group as the target, you can associate a steering code and RNX or UDP (Generic 2.2) on several switches in the network with one transaction. Target groups are established by the Manager IV System Administrator.

Command

The **station-no-steering** command is a product-only transaction. This means that the information is sent to the switch, but not to the Manager IV database.

Procedure: Station-no-steering

To associate a steering code with a DAC, RNX, or UDP:

1. Enter the command **station-no-steering add**.

```

AT&T Mgr IV 2.0          DEFINITY G2.2          Connect <target>
fm product-admin station-no-steering add          Page 1 of 6
          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

          Steering Code: _____
          Steering Code Usage: ____

          Node Number:  __
  
```

2. Enter the steering code that represents the block of stations (extensions) to be associated with the DAC, RNX, or UDP.
 - [Generic 2, System 85 R2V3 and R2V4] Valid entries are **0—99999**.
 - [System 85 R2V2] Valid entries are **0—9999**.
3. [Generic 2.1, System 85] Enter **rnx** or **dac** for Steering Code Usage. If you have entered **rnx**, the system prompts for RNX number.
 - [Generic 2.2 only] Enter **udp** or **dac** for Steering Code Usage. If you have entered **dac**, the system prompts for the Dial Access Code.

4. [Generic 2, System 85 R2V4] The Node Number field appears only if the switch is part of an Extension Number Portability network or DCS network. Valid entries are **1-999**.
5. Press **EXECUTE** to complete the transaction.

PROGRAMMABLE INTERCEPT TREATMENT

[Generic 2 and System 85 only]

Programmable intercept treatment allows you to specify the treatment of calls that cannot be completed; it can be based on the source of the call and/or the cause of intercept. That is, you can have more than one type of intercept treatment.

Several considerations must be reviewed before selecting the type of intercept treatment. If intercepted calls will be greeted by a recorded announcement, you must add a recorded announcement trunk group (Trunk Type 52) to the network using **trk-grp add**. Although other recorded announcement trunk groups may be present for use with CAS or UCD, these cannot be used for intercept, which requires a different recorded message.

You must add attendant console features through TCM; this can be done when such assignments are made initially, or by adding, changing, or removing already assigned attendant features. See *DEFINITY® Manager IV Terminal Change Management Operations* for details.

To set up the intercept treatment for restricted calls, you must first define the intercept message and then determine which trunks and/or features will be restricted.

The treatment of calls is administered via the **intercept** object. The verbs supported are: **add**, **display**, **change** and **remove**.

The **intercept add** command is used to specify the type of intercept treatment.

The **intercept display** command allows you to view the intercept treatment assignments.

The **intercept change** command allows you to change the type of treatment that has been previously assigned.

The **intercept remove** command allows you to remove the type of treatment by specifying the call source and the cause of intercept.

Procedure: Setting Programmable Intercept Parameters

1. If recorded announcements will be used for intercept, add a recorded announcement trunk group to the network using **trk-grp add**. For procedural information, see "How to Add Trunks and Trunk Groups" in Chapter 4 [Generic 2, System 85 and DIMENSION FP8].
 - A recorded announcement trunk group is Type 52, which accommodates up to 30 trunks at a time. Additional trunks can be added through **trk add**.
2. Add attendant console features through TCM.
3. To specify the type of intercept treatment, enter **intercept add** and press **RETURN**.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin intercept add		Page 1 of 1
Call Source	Cause of Intercept	
_____	_____	
Select one:	Select one:	
_ Calls from public network	_ Vacant code (DAC)	
_ Calls from private network	_ Restricted trunk or feature	
_ Calls from stations	_ Recently-disconnected station	
_ Any of the above	_ Attendant diversion to recording	
Intercept Treatment:		
_ Tone		
_ Recorded Announcement		
_ Diversion to attendant		
_ Recorded Announcement followed by diversion to attendant		

4. Select one Call Source and one Cause of Intercept; then press **RETURN**.
 - If you select as the call source "Any of the above," you must select "Attendant diversion to recording" as the cause of intercept.
5. Select the type of intercept treatment.
 - If you select the **Attendant Diversion of Recording** field as cause of intercept, you must select **Recorded Announcement** as the type of intercept treatment.
 - The **Recorded Announcement No.** field only appears if you select the **Recorded Announcement** or **Recorded Announcement** followed by the f3Diversion to attendant field.
 - If the **Recorded Announcement No.** field appears, enter the Recorded Announcement number. This is the same recorded announcement number that was selected in the **trk-grp add** transaction.
6. Press **RETURN**.
7. Press **EXECUTE** to enter the data; the screen is displayed again.

Procedure: Displaying Intercept Treatment Assignments

1. Enter the **intercept display** command. Press **RETURN**. The following screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin intercept display		Page 1 of 1
Call Source	Cause of Intercept	
_____	_____	
Select one:	Select one:	
_ Calls from public network	_ Vacant code (DAC)	
_ Calls from private network	_ Restricted trunk or feature	
_ Calls from stations	_ Recently-disconnected station	
_ Any of the above	_ Attendant diversion to recording	

You are allowed to display the intercept treatment assignments by specifying one call source and one cause of intercept.

2. Select one call source and one cause of intercept by typing **x** in the Call Source and in the Cause of Intercept fields. Press **RETURN**. Press **EXECUTE**. The output **intercept display** screen appears. The screen is the same as for the **intercept add** transaction. Refer to "Procedure: Setting Programmable Intercept Parameters."

Procedure: Changing Programmable Intercept Parameters

The **intercept change** transaction allows you to modify the intercept treatment parameters that have been previously defined.

1. Enter the **intercept change** command. Press **RETURN**. The input **intercept change** screen appears. The screen is the same as for the **intercept display** transaction. Refer to "Procedure: Displaying Intercept Treatment Assignments."
2. Select one Call Source and one Cause of Intercept by typing **x** next to these fields. Press **RETURN**. Press **EXECUTE**. The output **intercept change** screen appears. The screen is the same as for the **intercept add** transaction. For detailed information on how to select the type of intercept treatment, refer to "Procedure: Setting Programmable Intercept Parameters."

Procedure: Removing Intercept Treatment Assignments

The **intercept remove** command allows you to remove the type of intercept treatment that has been previously assigned.

1. Enter the **intercept remove** command. Press **RETURN**. The input **intercept remove** screen appears. The screen is the same as for the **intercept display** transaction. For a detailed description, refer to "Procedure: Displaying Intercept Treatment Assignments."
2. You are allowed to remove one type of intercept treatment by specifying one call source and one cause of intercept.

ISDN CODESET MAPPING

DEFINITY Generic 2 switch provides codeset/codepoint mapping capability that allows for backward compatibility with the other AT&T products. This mapping feature implies reformatting the ISDN incoming or outgoing messages according to the ISDN message structure defined in ISDN Primary Rate Interface (PRI) Specifications for Generic 2 and System 85 R2V4.

The ISDN message structure is determined by the assigned codeset. Eight possible codesets, 0 through 7, are specified in the Q.931 Specification:

Codeset 0	Set of Information Elements defined by CCITT (International Telegraph and Telephone Consultative Committee)
Codeset 1-4	Reserved for future CCITT expansion
Codeset 5	Set of Information Elements for national use
Codeset 6	Set of Information Elements for the local serving network
Codeset 7	Set of information Elements for user-specific information.

IX "Information elements (IEs)" A codeset is comprised of 128 Information Elements (IEs) carrying specific information related to terminal capabilities, lamp and ring code information, button and switch hook state changes, data rates, etc. Each IE is assigned a numeric value (codepoint) used as the IE identifier in a mapping table.

To support the ISDN features/services related to the local serving network, Generic 2 creates, verifies and processes messages in Codeset 6 (CS6). In networks including Generic 2 switches, the incoming and outgoing messages are sent between the switches in CS6. No mapping is required.

System 85 R2V4 and 4ESS™ switches use Codeset 7 (CS7). With networks including both Generic 2 and System 85 switches, Generic 2 conforms to the CS6 message structure and System 85 switches use the CS7 message sequence. For the two switches to be able to recognize and process the incoming messages, Generic 2 allows you to reformat the incoming or outgoing messages according to the message sequence used by the Generic 2 or destination switch, respectively.

Recommended Mapping

To make a complete CS7 available, all CS7 IEs must be mapped to CS6. The recommended default codeset/codepoint mappings from Generic 2 to R2V4 are provided in the table below:

Information Element (IE) Name	IE Opcode Value	
	R2V4	Generic 2
Link Layer Parameters	1	64
Packet Layer Parameters	2	62
Logical Link Identification	4	26
Traveling Class Mark	8	8
Display	40	40

The recommended mapping for Generic 2 to R2V4 D-channel is as follows:

Field Name					
CSMAP	CSMIO	FCS	FCP	TCS	TCP
X	0	7	1	6	64
X	0	7	2	6	62
X	0	7	4	6	26
X	0	7	8	6	8
X	0	7	40	6	40
X	1	6	8	7	8
X	1	6	26	7	4
X	1	6	40	7	40
X	1	6	62	7	2
X	1	6	64	7	1

The field names should be interpreted as follows:

- CSMAP** Codeset Map Number
- CSMIO** Incoming/Outgoing Message
- FCS** From Codeset Number
- FCP** From Information Element
- TCS** To Codeset Number
- TCP** To Information Element.

In the **CSMIO** column, the entry "0" designates an incoming message; "1" stands for an outgoing message.

Generic 2 Database Update via Codeset Mapping Transaction

The **codeset-mapping** transaction can be accessed from the admin and product-admin areas under the FM application. This transaction updates or retrieves the specified mapping information from the Generic 2 only. The Manager IV product image database is not affected. You can populate the following fields with the **codeset-mapping** information in Generic 2:

- Codeset Map Number
- Incoming/Outgoing Message
- Mapped From Codeset Number
- Mapped From Information Element
- Mapped To Codeset Number
- Mapped To Information Element
- Number of Mappings Available.

The **Number of Mappings Available** field can only be populated by the system. This field displays available mappings for incoming or outgoing messages.

The **codeset-mapping** transaction can be scheduled for download in a Service Request (SR).

Codeset Mapping Commands

The **codeset-mapping** transaction supports the verbs: **add**, **display**, **list**, and **remove**. With a verb selected, the appropriate input screen is invoked. The **add**, **display**, **list**, **remove** input screens contain optional and required fields.

The required information is determined by the type of mapping selected. For incoming or outgoing messages, you can individually map:

- Codeset to Codeset
- Codepoint to Codepoint
- Codeset to Nothing (delete codeset)
- Codepoint to Nothing (delete codepoint).

To move the entire set of codepoints (128 codepoints) to another codeset, select Codeset to Codeset. To translate the specified codepoint from one codeset format to another, select Codepoint to Codepoint. Mapping Codeset to Nothing allows you to mask the entire codeset for processing. The information provided in this codeset is discarded. Mapping Codepoint to Nothing masks the specified codepoint.

Up to 16 Map Numbers are available to accommodate 16 unique sets of Codeset mappings to be used in connecting to different switches. The total number of mappings allowed per Map number is 510; 255 mappings for incoming messages, and 255 mappings for outgoing messages.

Add a Specified Mapping

To add a mapping for an incoming or outgoing message, use the **codeset-mapping add** command. The system requires you to populate the fields associated with the type of mapping you select.

For example, to map codepoint to codepoint, you are required to populate all displayed fields. The mappings and associated required fields are discussed in "Procedure: Add Codeset/Codepoint Mappings."

If you specify a mapping that already exists in the switch database, the following error message is displayed: "(280 1:4) THE CODESET MAPPING IS ASSIGNED. [12]". To avoid specifying an "assigned" mapping, display the mappings defined in the switch database by entering the **codeset-mapping list** command. The **list** command is described under "List Specified Mappings."

Display a Specified Mapping

You can use the **codeset-mapping display** command to display one Codepoint to Codepoint or Codepoint to Nothing mapping. Generic 2 allows you to specify one codepoint mapping at a time. The **codeset-mapping display** input screen displays the fields that must be populated with the mapping parameters. All fields are required. If you enter a value which does not exist in the switch database, the following error message is displayed: "THE CODESET MAPPING IS UNASSIGNED. [11]."

If the parameters are not available, use the **codeset-mapping list** command to display the required data from the switch database. To display Codeset to Codeset, or Codeset to Nothing mappings, use the **codeset-mapping list** command. For more details, refer to "List Specified Mappings."

List Specified Mappings

You can use the **codeset-mapping list** command to display all Codepoint to Codepoint, Codepoint to Nothing, Codeset to Codeset, and/or Codeset to Nothing mappings. Generic 2 allows you to perform selection by populating the appropriate field or combination of fields in the **codeset-mapping list** input screen:

- Codeset Map Number

- Codeset Map Number and Incoming/Outgoing Message
- Codeset Map Number, Incoming/Outgoing Message and Mapped From Codeset Number
- Codeset Map Number, Incoming/Outgoing Message, Mapped From Codeset Number and Mapped From Information Element.

The above listed field combinations are comprised of required fields only. You cannot invoke the specified screen(s) unless all required fields are populated. For example, to list mapping information matching the specified Codeset Map Number, Incoming/Outgoing Message and Mapped From Codeset Number, you must type valid entries in all three fields:

- Codeset Map Number
- Incoming/Outgoing Message
- Mapped From Codeset Number.

Remove Specified Mapping

To remove a specified mapping, enter the **codeset-mapping remove** command. The **remove** command allows you to remove all mappings for a specified:

- Codeset Map Number
- Codeset Map Number and Incoming/Outgoing Message
- Codeset Map Number, Incoming/Outgoing Message and Mapped From Codeset Number
- Codeset Map Number, Incoming/Outgoing Message, Mapped From Codeset Number and Mapped From Information Element.

Note: The last entry of a Codeset Map Number cannot be removed if this mapping number is defined in the **ds1-isdn** transaction.

Performing Codeset Mapping

You can update or retrieve the mapping information by directly accessing Generic 2 via the **connection create** command or scheduled Service Requests (SRs). To optimize usage of the switch resources, and because of restrictions imposed on port access, scheduling **codeset-mapping** transactions in Service Requests is preferred over direct port access.

Procedure: Add Codeset/Codepoint Mappings

1. To perform a **codeset-mapping add** transaction, you need to populate the input **codeset-mapping add** screen with the appropriate data. To invoke the input screen, enter the **codeset-mapping add** command.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin codeset-mapping add		Page 1 of 1
Codeset Map Number: __		
Incoming/Outgoing Message: _		
MAPPED FROM		
Codeset Number: _		
Information Element: __		
MAPPED TO		
Codeset Number: _		
Information Element: __		

2. Enter the **Codeset Map Number**. Valid entries are **0-15**. This field is required. Press **RETURN**.
3. Enter **i** or **o** in the **Incoming/Outgoing Message** field. Valid entries are: **i** for incoming, **o** for outgoing. This field is required. Press **RETURN**.
4. Enter the f3MAPPED FROM Codeset Number. Valid entries are **0-7**. This field is required. Press **RETURN**.
5. Enter the MAPPED FROM Information Element. Valid entries are **0-127** or **RETURN**.
 - If you are mapping a codepoint to codepoint, all mapping fields are required to be populated as they appear in the input screen. Valid values are **0-127**. Select a number and press **RETURN**.
 - If you are mapping a codeset to codeset, the MAPPED FROM Information Element and MAPPED TO Information Element fields are optional. Skip FROM Information Element field by pressing **RETURN**.
 - If you are mapping a Codeset or a Codepoint to Nothing, press **ESC** e.
6. Enter the MAPPED TO Codeset Number. Valid entries are **0-7** or **RETURN**. Press **RETURN**.
 - If you map a codeset to nothing, this field is optional. Skip the MAPPED TO Codeset Number field by pressing **RETURN**.
 - If you map a codeset to codeset or codepoint to codepoint, this field is required. Valid entries are **0-7**.
7. Enter the MAPPED TO Information Element. Valid entries are **0-127** or **RETURN**. Press **RETURN**.
 - If the MAPPED FROM Information Element field is populated, the cursor will be positioned in this field. If the MAPPED FROM Information Element field is not populated (mapping codeset to codeset or codeset to nothing), the "End of Form" message appears at the bottom of the screen. The **codeset-mapping add** transaction is completed. Press **ESC** e to submit the mapping information.

If you administer the **codeset-mapping add** transaction via direct access to the database, the **codeset-mapping add** screen shows one more field— Number of Mappings Available.

Procedure: Display Codepoint Mapping from the Generic 2 Switch

- To view codepoint mappings as they reside in Generic 2, follow these steps:
 - Enter the **connection create** command to establish connection to the switch.
 - Select the **codeset-mapping display** transaction and press **RETURN**. The **codeset-mapping display** input screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin codeset-mapping display          Page 1 of 1

      YOU ARE DIRECTLY ACCESSING THE PRODUCT

      Codeset Map Number:  __
Incoming/Outgoing Message:  _

      MAPPED FROM

      Codeset Number:  _
Information Element:  __
  
```

- The system will not allow you to skip any field or enter data which does not exist in the switch database.
 - If you try to skip a field by pressing **RETURN**, the appropriate short help message with valid entries appears at the bottom of the screen.
- Enter the Codeset Map Number for the mapping(s) you want to display. This number must exist in the database. Valid entries are **0-15**. This field is required. Press **RETURN**.
- Enter **i** or **o** in the Incoming/Outgoing Message field. This field is required. Press **RETURN**.
- Enter the MAPPED FROM Codeset Number. This number must exist in the database. Valid entries are **0-7**. This field is required. Press **RETURN**.
- Enter FROM Information Element. This number must exist in the database. Valid entries are **0-127** or **RETURN**. This field is required. Press **RETURN** followed by **ESC** e .
- The **codeset-mapping display** output screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin codeset-mapping display          Page 1 of 1

      YOU ARE DIRECTLY ACCESSING THE PRODUCT

      Codeset Map Number:  __
Incoming/Outgoing Message:  _
Number of Mappings Available:  __

      MAPPED FROM

      Codeset Number:  _
Information Element:  __

      MAPPED TO

      Codeset Number:  _
Information Element:  __

```

8. One **Codepoint to Codepoint** or **Codepoint to Nothing** mapping is displayed at a time.
9. The output screen includes the Number of Mappings Available field. This is a **display only** field populated by the system. The system keeps track of the number of incoming/outgoing mappings created. This number is subtracted from 255 to produce the number of available mappings. If the number of created mappings exceeds the limit (255), an error message is generated.

Procedure: List Codeset/Codepoint Mapping from the Generic 2 Switch

The **codeset-mapping list** command allows you to display mappings directly from the Generic 2 switch. To specify which mappings to retrieve, follow these steps:

1. Enter the **connection create** command to establish a connection to the switch.
2. Select the **codeset-mapping list** transaction and press **RETURN**. The **codeset-mapping list** input screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin codeset-mapping list          Page 1 of 1

          YOU ARE DIRECTLY ACCESSING THE PRODUCT

          Codeset Map Number:  __
Incoming/Outgoing Message:  _

          MAPPED FROM

          Codeset Number:  _
Information Element:  __
    
```

3. To specify a list of all mappings assigned to a particular codeset map number, enter the Codeset Map Number. Press **RETURN** to step through the rest of the fields.
 - The Codeset Map Number field is always required. All three other fields are optional.
4. To specify a list of all mappings for all incoming or outgoing messages assigned to a particular codeset map number, populate the two fields only: Codeset Map Number and Incoming/Outgoing Message. Press **RETURN** twice to complete the transaction.
 - These two fields are required. The From Codeset Number and From Information Element fields are optional.
5. To specify a list of all mappings for all incoming or outgoing messages assigned to the particular map and codeset numbers, populate the following fields: Codeset Map Number, Incoming/Outgoing Message, and Mapped From Codeset Number. Press **RETURN** twice to complete the transaction.
 - These three fields are required. The From Information Element field is optional.
6. To specify a list of all mappings for all incoming or outgoing messages, assigned to the particular map, codeset, and information element numbers, populate the following fields: Codeset Map Number, Incoming/Outgoing Message, From Codeset Number, and From Information Element. Press **RETURN** to complete the transaction.
 - All four fields are required.
7. After specifying the selected fields, press **ESC** e to invoke the **Codeset Mapping List** output screen.


```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin codeset-mapping list          Page 1 of 1

          YOU ARE DIRECTLY ACCESSING THE PRODUCT

          Codeset Map Number: __
          Number of Mappings Available: __

Incoming/Outgoing      MAPPED FROM              MAPPED TO
Message               Codeset No.  Info. Element  Codeset No.  Info.Element
-----

```

8. One mapping is displayed at a time. If more than one mapping list is generated, press **RETURN** to page through the available screens.

Procedure: Remove Codeset/Codepoint Mapping from the Generic 2 Switch

The **codeset-mapping remove** command allows you to search for and remove the specified mappings by directly accessing the Generic 2 switch translations. To remove the mappings, follow these steps:

1. Enter the **connection create** command to establish a connection to the switch.
2. Select the **codeset-mapping remove** transaction and press **RETURN**. The **codeset-mapping remove** input screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin codeset-mapping remove          Page 1 of 1

          YOU ARE DIRECTLY ACCESSING THE PRODUCT

          Codeset Map Number: __
          Incoming/Outgoing Message: _

          MAPPED FROM

          Codeset Number: _
          Information Element: __

```

3. To remove all mappings assigned to a particular codeset map number, enter the Codeset Map Number. Press **RETURN** twice to skip the rest of the fields.
 - The Codeset Map Number field is always required. All three other fields are optional.
4. To remove all mappings for all incoming or outgoing messages assigned to a particular codeset map number, populate two fields only: Codeset Map Number and Incoming/Outgoing Message. Press **RETURN** twice to complete the transaction.

- These two fields are required. The From Codeset Number and From Information Element fields are optional.
5. To remove all mappings for all incoming or outgoing messages assigned to a particular map and codeset numbers, populate the following fields: Codeset Map Number, Incoming/Outgoing Message, and Mapped From Codeset Number. Press **RETURN** twice to complete the transaction.
 - These three fields are required. The From Information Element field is optional.
 6. To specify a list of all mappings for all incoming or outgoing messages assigned to the particular map, codeset, and information element numbers, populate the following fields: Codeset Map Number, Incoming/Outgoing Message, From Codeset Number, and From Information Element. Press **RETURN** to complete the transaction.
 - All four fields are required.
 7. After specifying the selected fields, press **ESC** e to invoke the **codeset mapping remove** output screen.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          Connect <target>
fm product-admin codeset-mapping remove          Page 1 of 1

          YOU ARE DIRECTLY ACCESSING THE PRODUCT

          THE CODESET MAPPING HAS BEEN REMOVED SUCCESSFULLY
```

NETWORK SPECIFIC FACILITY IN GENERIC 2

Manager IV provides the ISDN Network Specific Facility (NSF) feature that allows you to specify which switched service (MEGACOM, MEGACOM 800, SDN etc.) is used for incoming and outgoing calls [Generic 2 only]. To specify the switched service, you need to assign the NSF value to the Information Element (IE). IE is a block of data carrying specific information. According to the Q.931 Specification, the ISDN message structure is determined by the assigned set of 128 Information Elements. Assigning the NSF value implies encoding and storing the ISDN Network related information in the Information Element.

Network Specific Facility Value

The NSF information includes:

- ISDN Network Service Value
- ISDN Network Definition
- Parameter Definition (for the *Parameterized* Facility only).

ISDN Network Service Value is a new unique value for the ISDN Network Service. Any number within a range of **1-511** is valid.

ISDN Network Definition is comprised of three fields:

- The *Parameterized/Binary* field is used to define the Parameterized or Binary ISDN Network definition. The facility which does not have the parameters associated with it in the Information Element is defined as Binary. Parameterized ISDN Network denotes the facility having the parameters associated with it in the NSF Information Element. For example, the only Parameterized service currently defined is *Out-Wats Band*.
- The *Feature/Service* field denotes the requested facility as a feature or a service. The list of services currently available includes:
 - SDN
 - MEGACOM®
 - MEGACOM 800
 - IN-WATS
 - WATS maximal subscribed band
 - Long Distance
 - International 800
 - Electronic Tandem Network
 - Private Line
 - AT&T MultiQuest.

The features defined as supplemental to the services are:

- SID preferred
- ANI preferred
- SID only
- ANI only
- Operator
- Presubscribed common carrier operator
- Temporary signaling connection
- B channel connection to APS.

- The *Facility Coding Value* field describes the encodes used to specify the Service or Feature selected. For information, refer to the table of the valid NSF Assignments provided below.

Parameter Definition defines or qualifies the Service or Feature identified as Parameterized. On the screen, you are allowed to make the parameter entries in the Parameter Id field. The Parameter Id is comprised of 7 fields concatenated into a single field. You are allowed to enter any alphanumeric or punctuation character. You can also use this field to save some meaningful information. Leading or embedded blanks or dashes are not permitted.

Following is a table of the valid NSF Assignments as described in the ISDN 2.1 specification.

Network Service Value	Parameterized	Binary	Feature	Service	Facility Cod.Value	Description
1-511	p		f		8	Caller Data
	p			s	1	Out-Wats band
		b	f		1	SID preferred
		b	f		2	ANI preferred
		b	f		3	SID only
		b	f		4	ANI only
		b	f		5	Operator
		b	f		6	Presubscribed common carrier operator
		b	f		9	Temporary signaling connection
		b	f		11	B channel connection to APS
		b		s	1	SDN
		b		s	2	MEGACOM 800
		b		s	3	MEGACOM
		b		s	4	In-Wats
		b		s	5	WATS maximal subscribed band
		b		s	6	ACCUNET® switched digital
		b		s	7	Long distance

Network Specific Facility Commands

The **network-spec-facility** transaction can be accessed from the admin, database-admin and product-admin areas under the FM application. This transaction administers the Network Service Value and associated fields (ISDN Network Definition and Parameter Definition). The verbs supported are: **add**, **display**, **change** and **remove**.

Add NSF Assignment

To assign a value to the NSF Information Element, use the **network-spec-facility add** command. The system requires you to populate the fields associated with the type of the ISDN Network Definition (*Parameterized* or *Binary*) you select.

For example, if you select the *Parameterized* facility, you have to populate both the ISDN Network Definition and Parameter Definition fields. With the *Binary* facility requested, the Parameter Definition fields are not displayed. The ISDN Network Definition fields become the only required fields.

NSF assignments, displaying

You can use the **network-spec-facility display** command to display the NSF information. The **network-spec-facility display** input screen allows you to display the NSF Assignment information by the ISDN Network Service Value.

Change NSF Assignment

You are allowed to change the Parameter Id value by entering the **network-spec-facility change** command. This command can change the values in the Parameter Id field only. Therefore, you can apply the **change** command to the *Parameterized* facility only. If you try to use this command with the *Binary* facility, the error message will be displayed.

Remove NSF Assignment

To remove the NSF Assignment, enter the **network-spec-facility remove** command. If the ISDN Network Facility has been previously assigned in the **ars-pattern** or **aar-pattern** transaction, the **remove** command fails. As a result, the error message will be displayed.

Performing NSF Assignment Commands

All data entered via the **network-spec-facility** transaction will be stored in the Manager IV database. You can update or retrieve the NSF Assignment information by directly accessing the Generic 2 switch or by scheduling Service Requests (SRs). To optimize usage of the switch resources, and because of the restrictions imposed on port access, scheduling **network-spec-facility** transactions in Service Requests is preferred over direct port access.

Procedure: Add NSF Information

1. The **network-spec-facility** transaction can be executed only if the ISDN feature is activated. Prior to using the NSF transaction, enter the **system-class-of-service** command to enable ISDN (a "y" entry in the ISDN field). For more information on the **sys-cos** transaction, refer to "System Class of Service" earlier in this chapter.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin network-spec-facility add                Page 1 of 1

                ISDN Network Service Value: ____

                ISDN NETWORK DEFINITION

                Parameterized/Binary: _
                Feature/Service:
                Facility Coding Value: ____

                PARAMETER DEFINITION

                Parameter Id: _____

```

2. Enter the ISDN Network Service Value. This field is required. Valid entries are **1-511**. Press **RETURN**.
3. Enter the Parameterized/Binary. This field is required. Valid entries are **p** or **b**. Press **RETURN**.
 - To specify a *Binary* facility, enter **b**.
 - To select a *Parameterized* facility, type in **p**. When selected, the *Parameterized* facility requires seven parameters to be specified. These values can be entered via the Parameter Id field which appears under the PARAMETER DEFINITION title. Initially, the Parameter Id field is not on the screen.
4. Enter the Feature/Service. Valid entries are **f** or **s**. Press **RETURN**.
 - To select Feature, enter **f**.
 - To select Service, enter **s**. A list of features and services currently supported is provided in "Network Specific Facility Value."
5. Enter the Facility Coding Value. This field is required. Valid entries are **0-31**. Press **RETURN**.
6. When the "End of Form" message appears, press **EXECUTE** to submit the NSF Assignment information.
7. If the ISDN feature has not been activated, the error message appears: "ISDN SHOULD BE ACTIVATED FIRST IN SYS-COS CHANGE." Otherwise, the command succeeds.

Procedure: Display NSF Information

1. Enter the **network-spec-facility display** command. The following screen displays:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin network-spec-facility display          Page 1 of 1

                ISDN Network Service Value: ____

```

2. You are allowed to select a NSF Assignment by the ISDN Network Service Value. Enter the ISDN Network Service Value. Valid entries are **1-511**. Press **RETURN** followed by **EXECUTE**.
 - This field is required. If the specified NSF Information exists in the database, the **network-spec-facility display** output screen will be displayed. The screen format is similar to the **network-spec-facility add** input screen. If the displayed NSF Information was assigned for the *Parameterized Facility*, the Parameter Id field will be also displayed under the PARAMETER DEFINITION title. For a more detailed description, refer to "Procedure: Add NSF Information."

Procedure: Change NSF Assignment

You are allowed to change the values in the Parameter Id field only.

1. Enter the **network-spec-facility change** command. The screen format is similar to the **network-spec-facility display** input screen. You are not allowed to make any entries in the ISDN Network Service Value or ISDN NETWORK DEFINITION fields. These are display only fields. For a detailed description, refer to "Procedure: Display NSF Information."
 - If you specify a NSF Information assigned to the *Binary Facility*, the error message will be displayed.

Procedure: Remove NSF Assignment

The **network-spec-facility remove** command allows you to remove a NSF Assignment.

1. Enter the **network-spec-facility remove** command and press **RETURN**. The **network-spec-facility remove** input screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin network-spec-facility remove          Page 1 of 1

                ISDN Network Service Value: ____

```

2. Remove a NSF Assignment by specifying the ISDN Network Service Value. Valid entries are **1-511**. Press **RETURN** followed by **EXECUTE**.
 - The **remove** command fails if the ISDN Network Service Value has been previously assigned via the **aar** or **ars** object. The error message will be displayed. To successfully remove the NSF Assignment, enter the **ars change** or **aar change** command and blank out the ISDN Network Service Value. These command(s) are prerequisites to the **network-spec-facility remove** transaction.

BEARER CAPABILITY CLASS OF SERVICE

[Generic 2]

This transaction allows capabilities common to a class of facilities, such as analog line and trunks, digital lines and trunks and Automatic Route Selection/Automatic Alternate Routing (ARS/AAR) routine preferences, to be defined.

The following verbs are supported in the database-admin, admin, and product-admin areas:

- **add**
- **display**
- **change**
- **remove.**

Bearer-Capability-Cos Commands

Bearer-Capability-Cos Add

In the database-admin, admin and product-admin areas:

- The transaction allows the addition and administration of a BCCOS.
- The transaction allows you to add a total of 256 BCCOSs. These BCCOSs can be assigned to an extension, trunk group or AAR/ARS Preference upon administration of these facilities.
- The transaction blocks the addition and removal of BCCOSs 0 - 8 because their values are predefined in the switch and database.
- The transaction blocks the addition of an already working BCCOS.

In the database-admin area:

- One BCCOS record exists for each BCCOS 0 - 255 in the Manager IV database. BCCOSs 0 - 8 will have a state set to "w," that is, working. Other BCCOSs may have been initialized and these also will have a state set to "w". All other BCCOSs have a state set to "a", that is, available.

In the product-admin area:

- The **add** transaction is implemented at the switch with a **change** execute, rather than an **add** execute because all 256 BCCOSs are already reserved in the switch.

Bearer-Capability-Cos Display

In the database-admin, admin, and product-admin areas:

- The transaction allows a BCCOS (0 - 255) to be displayed based on an entered BCCOS number.

Bearer-Capability-Cos Change

In the database-admin, admin, and product-admin areas:

- The transaction allows changes to all the fields in a BCCOS, except those listed below.
- The transaction blocks any changes to the BCCOS number.

Bearer-Capability Remove

In the database-admin, admin, and product-admin areas:

- The transaction allows the removal of an existing BCCOS based on an entered BCCOS number.
- The transaction blocks the removal of BCCOSs 0 - 8.

In the database-admin and admin areas:

- The transaction blocks the removal of a BCCOS if it is assigned to an existing extension, trunk group or AAR/ARS plan.

In the database-admin area:

- The removal of a BCCOS deletes all fields contained in that BCCOS record, except for the BCCOS number, and sets the BCCOS record back to state "a" (available).

In the product-admin area:

- The **remove** transaction is implemented at the switch with a **change** execute rather than a **remove** execute because all 256 BCCOSs are reserved in the switch. All fields in PROC 014, WORDS 1 and 2 are set to 0, except the BCCOS field itself.

Procedure: Performing Bearer-Capability-Cos Commands

1. Enter the following commands: area: **admin**; object: **bearer-capability-cos**; and one of the following verbs: **add**, **display**, **change** or **remove**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin bearer-capability-cos add                Page 1 of 2

Bearer Capability Class of Service: ____

BEARER CAPABILITY CLASS ACTIONS    DATA RATES    FACILITY ATTRIBUTES

      Voice: _                    64000 bps? n    Transport Mode: _
      Mode 1: _                    56000 bps? n    Channel Type: _
      Mode 2: _                    19200 bps? n    Async/Sync: _
      Mode 3: _                    9600 bps? n     Duplex: _
      Mode 0: _                    4800 bps? n     Clock: _
Voice Grade Data: _                2400 bps? n
Unknown Digital: _                1200 bps? n
Unknown Analog: _                 300 bps? n
      Mode 3/2: _                  low bps? n
      X.25: _

```

2. The Last Service Request No. and Date fields will only appear if you are performing a **change** or **display** in admin mode.
3. Enter the Bearer Capability Class of Service number. This is a numeric value that uniquely represents a specific BCCOS and represents a group of information that is common to a class of

facility and routing preference members; i.e., bearer capability, channel type, and data rates. Valid values for this field are **0 - 255**.

The following BCCOSs represent the default values for Manager IV functionality:

- BCCOS 0 - the default class of service for analog lines.
 - BCCOS 1 - the default class of service for Digital Communications Protocol (DCP) data modules administered as lines and trunks.
 - BCCOS 2 - the suggested default value for extensions administered on a Basic Rate Interface (BRI) terminal; this is provided to serve as a template.
 - BCCOS 3 - is predefined. No extensions, trunks or preferences default to this class. This value provides the same action as setting the Alternate Voice/Data flag in R2V4.
 - BCCOS 4 - the default for analog trunks and AAR/ARS preferences.
 - BCCOS 5 - the suggested default value for modem pools; this is provided to serve as a template. No facilities default to this value.
 - BCCOS 6 - the suggested default value and template for Mode 0 data modules. No facilities default to this value.
 - BCCOS 7 - the suggested default value and template for Mode 1 data modules. No facilities default to this value.
 - BCCOS 8 - the suggested default value and template for Mode 3 data modules. No facilities default to this value.
4. Enter the appropriate Bearer Capability Class Action. For DEFINITY Generic 2, there are three valid entries, one of which *must* be selected for each Bearer Capability Class of Service. The valid entries are defined as follows:
- **0** - Circuit Switch - normal circuit switching with no other action required.
 - **1** - Mode 2/Analog Modem Pool. Use this value to insert a modem pool member based on the following:
 - The originating endpoint signaling.
 - The terminating endpoint Mode 2 data rate and mode capability.
 - **2** - Block the Call - intercept the call since it will not work with facilities available; i.e., the call's BCCOS is not supported by the terminating endpoint.

5. For fields represented as Data Rates, enter **y** for a supported data rate, or **n** for an unsupported data rate.

Note: When assigning a BCCOS to an analog extension, analog trunk or AAR/ARS preference, a data rate is not administered.

6. Enter the appropriate Facility Attribute for each field. These fields are explained below:
- Transport Mode - This field specifies the transport mode of a particular facility and is used to check compatibility between originating and terminating endpoints. Valid values for this field are **c** (circuit), **p** (packet), or **b** (both).
 - Channel Type - This field specifies the transmission capability of a 64-kilobit per second bearer channel. Valid values for this field are **c** (clear) or **r** (restricted).
 - *Async/Sync - The valid values for this field are **a** (asynchronous) or **s** (synchronous).

- *Duplex - The valid values for this field are **f** (full duplex) or **h** (half duplex).
- *Clock - The valid values for this field are **e** (external/slaved clock) or **i** (internal clock).

***Note:** These fields are attributes associated with a particular facility and are used for traffic purposes only. Their purpose is to check the compatibility between the originating and terminating endpoints. Additionally, when assigning a BCCOS to an analog extension, analog trunk or AAR/ARS preference, the three fields marked above are not administered.

7. Press **(NEXT PAGE)** to view Page 2 of 2.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin bearer-capability-cos          Page 2 of 2

Bearer Capability Class of Service: ____

DEFAULT ATTRIBUTES

Default Bearer Capability Class: __   Default Transport Mode: _

        Default Data Rate (bps): _____   Default Channel Type: _

```

8. The Bearer Capability Class of Service field is populated with the data entered on Page 1 of 2.
9. The Default Bearer Capability Class field will be populated with one of the following values:
- 0 => voice
 - 1 => mode 1
 - 2 => mode 2
 - 3 => mode 3
 - 4 => mode 0
 - 5 => voice grade data
 - 6 => unknown digital
 - 7 => unknown analog
 - 8 => mode 3/2.
10. The Default Data Rate field will be populated with one of the following values:
- 64000 bps
 - 56000 bps
 - 19200 bps
 - 9600 bps

- 4800 bps
 - 2400 bps
 - 1200 bps
 - 300 bps
 - low bps
 - none.
11. The Default Transport Mode will be populated with either **c** (circuit) or **p** (packet).
 12. The Default Channel Type field will be populated with either **c** (clear) or **r** (restricted).
 13. Press **EXECUTE** to execute the transaction.

SYNCHRONIZING THE PBX CLOCK

The Manager IV system clock should always be synchronized with the switch clock so that scheduled testing, and routing schedules are synchronized. If a switch fails for any period of time, its clock may be out of sync with Manager IV's clock.

Use the command **clock display** to determine whether the clocks are synchronized. This command will connect to the product to display the switch's time, based on a 24-hour clock.

Use the command **clock change** to synchronize the clocks. This command changes the switch clock to match Manager IV's clock; it does not affect Manager IV's clock. The command accounts for differences in time zones. You can use both commands in admin and product-admin areas.

4. TRUNK GROUP AND MODEM POOL ADMINISTRATION

The information involved in administering trunk groups and modem pools is presented in the following tasks:

- D-Channel Administration
- Trunk and Trunk Group Administration
- Modem Pool Administration.

The "D-Channel Administration" task explains how to carry the signaling of 478 B-Channels over one D-Channel, provided the Backup channel is present.

The "Trunk and Trunk Group Administration" task provides detailed material on trunks and trunk groups.

The "Modem Pool Administration" task contains material on how to administer analog and digital trunk groups, their attributes and pairing of trunks in a group. Also, information is provided on compacting the switch's names database using the **names-database compact** command.

D-CHANNEL ADMINISTRATION

[Generic 2 only]

The ISDN PRI facilities require transporting data/voice/video and signaling information via two different kinds of channels: B-Channels and D-Channel, respectively. Manager IV supports carrying the signaling of a group of up to 478 B-Channels over one D-Channel, provided the Backup channel (DCB) is present. Such Non-Facility Associated Signaling (NFAS) reduces the costs of ISDN connectivity with other PBXs and the public network. The NFAS/DCB feature is implemented via the **d-channel** transaction. The Backup channel is introduced to provide reliability for the NFAS/DCB Arrangement.

The Backup channel concept implies administering of two signaling channels: Primary D-Channel and Secondary D-Channel. Such configuration allows for the uninterrupted signaling information transmission in the event of the outage on the Primary D-Channel. If the Primary D-Channel fails to carry the B-Channels information, then the Secondary D-Channel is brought up to replace the Primary D-Channel. All signaling for the B-Channels will then be carried over the Secondary D-Channel.

Prerequisites

To successfully administer the **d-channel** transaction, the following procedures must be performed prior to entering the **d-channel add** command:

- Add carriers to the Manager IV and switch databases.
- Assign the *Traditional* and *Universal* packs.
- Specify ISDN SIGNALING **23B+D**, APPLICATION TYPE **5** (ISDN/PRI), and Interface Identifier through the **ds1-isdn** transaction.

If the prerequisite transactions are not performed, related error messages are displayed and the **d-channel** transaction fails.

D-Channel Group

A D-Channel Group is a set of D-Channels. The set may contain one Primary D-Channel or two (Primary and Secondary) D-Channels. There may be up to 255 D-Channel Groups in the system. A unique number must be assigned to each specified D-Channel Group. Such a NFAS/BCD arrangement includes:

- D-Channel Group Number
- Primary D-Channel
- Secondary D-Channel.

D-Channel Group Number is a unique value for the D-Channel group. Any number within the range of **1-255** is valid.

Primary D-Channel defines the D-Channel to be used for signaling. When assigning Equipment Locations, consider the valid values for the *Traditional*, *Universal* and *XE* modules as shown in the table below.

Physical Address	Module	Cabinet	Carrier	Slot
Generic 2 (Traditional)	0-30	0-7	0-3	5,18
Generic 2 (Universal)	0-30	0	c-e	1-19
Generic 2 (XE)	0-30	0	c-e	1-17

Secondary (Backup) D-Channel is a D-Channel to be used if the Primary D-Channel malfunctions. When specifying the Secondary D-Channel Equipment Location, the same considerations apply as for the Primary D-Channel Equipment Location.

D-Channel Group Commands

The **d-channel** transaction can be accessed from the admin, database-admin and product-admin areas under the FM application. This transaction administers the D-Channel Group Number and associated fields (Primary D-Channel and Secondary D-Channel).

The verbs supported are: **add**, **display**, **change** and **remove**.

Add a D-Channel Group

To add a D-Channel Group, use the **d-channel add** command. This command invokes the **d-channel add** input screen. The following fields are displayed: D-Channel Group Number, Primary D-Channel Equipment Location and Secondary D-Channel Equipment Location. The D-Channel Group Number and Primary D-Channel Equipment Location fields are required. The Secondary D-Channel Equipment Location is an optional field. Once you populate the selected fields and submit the information to the system, the **d-channel add** output screen is displayed that shows the currently defined D-Channel Group.

Display a D-Channel Group

To display a D-Channel Group, enter the **d-channel display** command. This command activates the **d-channel display** input screen. The input screen allows you to specify a D-Channel Group by the D-Channel Group Number(s), Primary D-Channel Equipment Location or Secondary D-Channel Equipment Location. In the D-Channel Group Number field, you are allowed to specify either a single D-Channel Group or a range of up to 20 D-Channel Group Numbers.

You are required to specify only one field. Populate one of the displayed fields and press **EXECUTE**. The **d-channel display** output screen(s) appears. The screen(s) contains all information associated with the specified D-Channel Group(s).

Change D-Channel Group Assignments

The **d-channel change** command allows you to:

- Add a Secondary D-Channel Equipment Location, or
- Change a Primary D-Channel Equipment Location, or
- Change a Secondary D-Channel Equipment Location only, or
- Remove a Secondary D-Channel Equipment Location.

If only the Primary D-Channel Equipment Location has been defined, you can add a Secondary D-Channel Equipment Location successfully through the **d-channel change** command.

The transaction will fail if you try to perform any of these three operations,

- Change the Primary D-Channel Equipment Location
- Change the Secondary D-Channel Equipment Location
- Remove the Secondary D-Channel Equipment Location.

In the admin and database-admin areas, the message: "WARNING: BUSY OUT PRIMARY D-CHANNEL BEFORE CHANGING" or "WARNING: BUSY OUT SECONDARY D-CHANNEL BEFORE CHANGING" is displayed for any of the above mentioned three operations. In the product-admin area, the **d-channel change** transaction will fail for any of the above mentioned three operations.

RECOVERY: Use Manager II or Facilities Diagnostics and then busy out PRIMARY or SECONDARY D-CHANNEL in PROC 627 test 2; come back and run the failed Service Request. It will go through successfully.

Only one D-Channel Group can be changed at a time. To specify a D-Channel Group, enter the **d-channel change** command. The **d-channel change** input screen appears. You are required to populate only one of the displayed fields: D-Channel Group Number, Primary D-Channel Equipment Location or Secondary D-Channel Equipment Location. Populate the selected field and press **EXECUTE**. The **d-channel change** output screen appears. The output screen displays the following fields: the D-Channel Group Number, Primary D-Channel Equipment Location and Secondary D-Channel Equipment Location. The Primary D-Channel Equipment Location and Secondary D-Channel Equipment Location are optional fields. The D-Channel Group Number is a display only field.

Remove a D-Channel Group

To remove a D-Channel Group, enter the **d-channel remove** command. The **d-channel remove** input screen appears. You are allowed to specify a D-Channel Group by the D-Channel Group Number only. Only one D-Channel Group can be removed at a time.

Performing D-Channel Group Commands

All data entered via the **d-channel** transaction is stored in the Manager IV database. You can update or retrieve the D-Channel Group Information by directly accessing the Generic 2 switch or by scheduling Service Requests (SRs). To optimize usage of the switch resources, and because of the restrictions imposed on port access, scheduling **d-channel** transactions in Service Requests is preferred over direct port access.

Procedure: Add a D-Channel Group

1. Add carrier(s) to the Manager IV database and assign four Equipment Locations using the **carrier** or **pack add** transaction (if the carrier exists) in the admin area. For more details, refer to *Hardware Administration*, Chapter 2. With the **carrier** or **pack add** input screen displayed, you are required to populate the following fields:
 - Enter a **y** in the DS1 Carrier field.
 - With the *Traditional* Module, make sure that the "ann35" pack type is specified. With "ann35," you are allowed to use slots 5 and 18 only. Note that only 2 "ann35" packs are allowed per carrier.
 - With the *Universal* or *XE* Module, the "tn767" pack type must be used. To assign the Equipment Locations, select slots 1-19 for the *Universal* Module and 1-17 for the *XE* Module.
 - Enter **5** in the Application Type field for the *Traditional*, *Universal* or *XE* Modules.
2. In the product-admin area, enter the **carrier-parameters add** transaction to add carrier(s) to the switch database. Assign the same Equipment Locations as in the Manager IV database.
 - Enter **11** in the Carrier Type field, if the Module is *Traditional*.
 - Enter **10** in the Carrier Type field, if the Module is *Universal* or **18** if the Module is *XE*.
3. In the admin area, enter the **ds1-isdn add** command.
 - In the ISDN SIGNALING field, select the **23 B + D** option.
 - Enter the Interface Identifier. Valid entries are **0-31**.
4. Enter the **d-channel add** command. The **d-channel add** input screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin d-channel add		Page 1 of 1
D-Channel Group Number: ____		
Primary D-Channel Equipment Location: __/__/__		
Secondary D-Channel Equipment Location: __/__/__		

The input screen contains the three fields: D-Channel Group Number, Primary D-Channel Equipment Location and Secondary D-Channel Equipment Location. The D-Channel Group Number and Primary D-Channel Equipment Location fields are required. You must populate these fields with valid entries. The Secondary D-Channel Equipment Location field is optional.

5. Enter the D-Channel Group Number. This field is required. Valid entries are **1-255**. Press **RETURN**.
6. Enter the Primary D-Channel Equipment Location. This field is required. Press **RETURN**.
 - For both Primary and Secondary D-Channel Equipment Location fields, to select the valid entries for the *Traditional*, *Universal* or *XE* Modules, refer to "D-Channel Group" earlier in this chapter.

7. Enter the Secondary D-Channel Equipment Location. This field is optional.

Procedure: Display a D-Channel Group

1. Enter the **d-channel display** command. The **d-channel display** input screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin d-channel display		Page 1 of 1
Enter Group Number(s) or Equipment Location		
D-Channel Group Number: ___-___		
Primary D-Channel Equipment Location: ___/___/___		
Secondary D-Channel Equipment Location: ___/___/___		

You are allowed to select a D-Channel Group by specifying only one of the three fields:

- D-Channel Group Number
- Primary D-Channel Equipment Location
- Secondary D-Channel Equipment Location.

You can specify either a single D-Channel Group Number or a range of up to 20 D-Channels. Valid range is **1-255**. The **d-channel display** input screen is designed the same way as the one used in the **d-channel add** transaction. For more details, refer to "Procedure: Add a D-Channel Group" earlier in this chapter.

2. To display the D-Channel Group by the Primary D-Channel Equipment Location, skip the D-Channel Group Number by pressing **RETURN**. Populate the Primary D-Channel Equipment Location with the valid entries. Press **RETURN**. Press **EXECUTE**. The **d-channel display** output screen appears.
3. To display the D-Channel Group by the Secondary D-Channel Equipment Location, skip the D-Channel Group Number and Primary D-Channel Equipment Location fields by pressing **RETURN** twice. Populate the Secondary D-Channel Equipment Location with the valid entries. Press **RETURN**. Press **EXECUTE**. The **d-channel display** output screen appears.
4. If you skip the D-Channel Group Number and Primary D-Channel Equipment Location fields, the Secondary D-Channel Equipment Location becomes a required field.
5. The **d-channel display** output screen for a single D-Channel Group Number looks exactly the same way as the **d-channel display** input screen, except all fields are populated as they were specified via the **d-channel add** command.

The **d-channel display** output screen for a range of the D-Channel Numbers consists of two screens:

AT&T Mgr IV 2.2		DEFINITY G2.2	<target>
fm admin d-channel display			Page 1 of 2
D-Channel Group Number	Primary D-Channel Equip.Loc.	Secondary D-Channel Equip.Loc.	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	

6. Page 1 and 2 of the output screen are formatted identically, and can fit up to 20 D-Channel Group Numbers.

AT&T Mgr IV 2.2		DEFINITY G2.2	<target>
fm admin d-channel display			Page 2 of 2
D-Channel Group Number	Primary D-Channel Equip.Loc.	Secondary D-Channel Equip.Loc.	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	
---	---/---/---/---	---/---/---/---	

7. If some of the D-Channel Group Numbers specified in the number range have not been assigned, the error message "D-CHANNEL GROUP NUMBER # IS NOT ASSIGNED" is displayed for each missing D-Channel Group Number. The output screens display only those D-Channel Group Numbers that have been assigned.

Procedure: Change D-Channel Group Assignments

Prior to using the **d-channel change** transaction, display the D-Channel Group selected for changes.

1. Enter the **d-channel display** command to view what changes you want to do.
2. Enter the **d-channel change** command to invoke the **d-channel change** input screen. The input screen is identical to the **d-channel add** input screen. For more details, refer to the "Procedure: Add a D-Channel Group" earlier in this chapter. Press **RETURN**.
 - You are allowed to change only one D-Channel Group Assignment at a time. Ranges are not accepted in the D-Channel Group Number field.
 - You can specify a D-Channel Group by populating one of the displayed fields. This works the same way as the **d-channel display** command. For a more detailed description, refer to "Procedure: Display a D-Channel Group".
 - Once the D-Channel Group is specified, the **d-channel change** output screen appears. The output screen is identical to the **d-channel add** output screen. Refer to "Procedure: Add a D-Channel Group".

- The D-Channel Group Number is a display only field. The cursor skips to the Primary D-Channel Equipment Location field. You can either change the Primary and/or Secondary D-Channel Equipment Location field(s) or skip one or both fields. These fields are optional.

Procedure: Remove a D-Channel Group

You can remove a D-Channel Group by specifying a D-Channel Group Number. If the specified D-Channel Group Number was previously assigned to the Equipment Location using the **trk add** transaction, perform the following prerequisites before issuing the **d-channel remove** command:

1. **Trk display** cannot be done with D-Channel Group Number. Enter the **d-channel-group report** to figure out which trk-grp is associated with the Equipment Location or D-Channel Group Number.
2. Enter the **trk add** or **trk change** command and change the D-Channel Group Number to a NULL.
3. Enter the **d-channel remove** command. The **d-channel remove** input screen is displayed.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin d-channel remove		Page 1 of 1
D-Channel Group Number: ____		

4. Enter the D-Channel Group Number. Valid entries are **1-255**.
 - Only one D-Channel Group can be removed at a time.
 - If the transaction succeeds, the message "D-CHANNEL GROUP NUMBER # WAS REMOVED SUCCESSFULLY" appears at the bottom of the screen.
 - If you enter an invalid D-Channel Group Number, the error message "D-CHANNEL GROUP NUMBER # IS NOT ASSIGNED" is displayed.

TRUNK AND TRUNK GROUP ADMINISTRATION

This chapter explains how to administer trunks and trunk groups with Manager IV. Manager IV assists in the administration of trunks and trunk groups by providing the **trk-grp** and **trk** transactions which allow you to add, display, change and remove trunk groups and add, display, change and remove individual trunks, respectively.

In addition, trunks may be moved from one trunk group to a new trunk group via the **trk move** transaction.

The trunk group transactions allow you to administer CO trunks, Foreign Exchange (FX) trunks, Wide Area Transmission Service (WATS) trunks, tie trunks, Main/Satellite trunks, Digital Service (DS-1) trunks, ISDN trunks [Generic 2 and System 85 R2V4 only], and a group of special trunk types, such as those handling recorded announcements, loudspeaker paging, software queues, music-on-hold, or Integrated Telemarketing Service (ITS) feature. Each version of the switch supports similar trunk types, but the *number* of types supported increases with each switch release. A list of DEFINITY Generic 2 Trunk Types is provided later in this chapter. The list also shows the circuit pack type to be assigned to each trunk type. A table on Trunk Signaling Codes follows that.

Trunk groups are defined by number, trunk type, and, in some cases, Dial Access Code (DAC), which is optional for some trunk types. You also select trunk group features to determine how the trunk group is used in the network, and to add individual trunks to the group.

The **trk-grp/trk** transactions can be accessed from the admin, database-admin and product-admin areas under the FM application. The **trk-grp** transaction administers the product-image database by setting up a trunk group with its attributes such as trunk type, dial access code, route advancing, automatic circuit assurance referral, bearer capability, signaling type, main-satellite and networking. Only 30 trunks can be administered at a time.

Trunk and Trunk Group Commands

Individual trunks are administered with the **trk** object. Trunk groups, except trunk group 17, are administered with the **trk-grp** object. The verbs supported are: **add**, **display**, **change**, and **remove**. Trunk group 17 is administered using the **trk** object command only: **trk add**, **trk display**, **trk change**, **trk remove**, or **trk move**. Trunks are moved with the **trk move** command.

The **trk-grp add** command allows you to add a new trunk group, and at the same time add up to 30 individual trunk members. If there are more than 30 members, members 31 and up must be added using the **trk add** transaction.

The **trk-grp add** transaction is also used to assign the Integrated Telemarketing Gateway (ITG) links which are used exclusively to communicate to the ISDN Gateway and back to the switch. For ISDN Gateway description, refer to "ISDN Gateway" in Chapter 9.

The **trk-grp display** command allows you to display up to 30 trunk group members. Members 31 and up, if present, must be displayed using the **trk display** transaction. The **trk-grp display** command lets you display either by the **trk-grp** value or by Dial Access Code.

The **trk-grp change** command allows you to change the trunk group attributes only (pages 1-4). To change the trunk properties, use the **trk change** command. To administer additional members of a trunk group, use the **trk add** object.

The **trk-grp remove** command allows a trunk group to be removed. Before removing a trunk group, use the **trk remove** command to remove all trunks assigned to the group. The **trk remove** command allows you to remove up to 30 trunks at a time. This command, when specified for Trunk Type 65, or for Integrated Telemarketing Gateway, does not require the user to specify the circuit number.

The same is true for the **trk-grp add** and **trk add** commands. The **trk move** command allows you to move up to 30 trunks to a new trunk group.

Integrated Telemarketing Service/ASAI Gateway Interface

The Integrated Telemarketing Service (ITS) feature is supported by System 85 R2V4 and Generic 2.1 only. Beginning with DEFINITY Generic 2.2, the name of this same feature has been changed to CallVisor™ Adjunct/Switch Application Interface (ASAI) Gateway Interface (hereafter called ASAI Gateway Interface). Even though the feature name differs by the switch it supports, its functionality remains the same for all supported switch types; thus references throughout this section will appear as ITS/ASAI Gateway Interface. The name of the application gateway for this product also differs by switch, but its functionality remains the same for all supported switch types. It is called Integrated Telemarketing Gateway (ITG) in System 85 R2V4 and G2.1, while it is named Adjunct/Switch Application Interface (ASAI) Gateway in Generic 2.2. Therefore references throughout this section will appear as ITG/ASAI Gateway.

ITS/ASAI Gateway Interface provides a Primary Rate Interface (PRI) to an ITG/ASAI Gateway. ITG/ASAI Gateway is an application which administers incoming and outgoing calls over a PRI (ITG/ASAI Gateway) link. The ITG/ASAI Gateway links are defined via the **trk-grp add** transaction.

Normally, to process a call, an agent invokes a caller's billing record to the screen by typing in the caller's account id. The ITS/ASAI Gateway Interface feature eliminates the need for searching and retrieving the caller's record by automating this process. When an agent receives a call, a notification along with call related information is sent to the ITG/ASAI Gateway application which passes this information to the host. The host uses the call information to retrieve the caller's billing record from the database and communicate this record back to the agent's screen. The customer's record is displayed simultaneously with the call arrival.

ITS/ASAI Gateway Interface is enabled automatically at system initialization provided that the ITS/ASAI Gateway Interface software has been installed. To use the ITS/ASAI Gateway Interface feature, you need to assign the ITG/ASAI Gateway links. Manager IV allows you to assign the ITG/ASAI Gateway links by entering the **trk-grp add** transaction. Via the ITG links, System 85 R2V4 and Generic 2.1 can administer the Integrated Telemarketing Gateway (via the ASAI Gateway links, Generic 2.2 can administer the ASAI Gateway) which displays the caller's billing information on your screen simultaneously with the call arrival.

ITG/ASAI Gateway provides sophisticated call management features and enhances telemarketing applications, such as:

- Incoming Call Management (ICM)
- Outgoing Call Management (OCM)
- Transfer/Conference Management.

ICM is responsible for notifying the host computer about the incoming call arrival. This notification also includes information on the caller, such as:

- Automatic Number Identification (ANI)
- Dial Number Identification Service (DNIS) which identifies the reason or application for the call.
- Agent's extension number selected by PBX to receive a call.

Also, this includes information on calls abandoned in queue or new callers selected by the host. Based on the information provided, the host application retrieves the caller's record and displays this record on the agent's screen. Thus, the agent has the customer's information displayed at the same time as the call arrives before the agent is connected to the customer.

OCM allows the host to initiate an outgoing call.

Outgoing call destinations can be selected by the host application or standard ACD features.

Transfer Management allows the host computer to transfer calls and data screens simultaneously to another agent during an existing incoming or outgoing call.

Conference Management sets up a voice/data conference call with another extension.

Procedure: Administering ITG/ASAI Gateway Links

To successfully administer the ITG/ASAI Gateway links, the following prerequisites must be performed prior to entering the **trk-grp add** command:

- Verify via the **sys-cos** transaction that the Integrated Telemarketing Service/ASAI Gateway Interface feature is enabled.
- Enter the **carrier add** or **pack add** command to assign an "ann35" pack to a carrier (DS1 carrier with Application Type 5, slots 5 or 18).
- Enter the **ds1-isdn add** command to assign the **ds1-isdn** parameters to the ITG/ASAI Gateway link. See "Assigning DS1 and ISDN Circuit Pack Parameters" in Chapter 2. Valid entries are **0-30** for Module, **0-7** for Cabinet, **0-3** for Carrier, and **5** or **18** for Slot. Select the **24th channel** for signaling type. Use default values for the rest of the fields.

When administering the ITG/ASAI Gateway links, consider the following:

- A maximum of four ITG/ASAI Gateway links can be added per system. Therefore, only four trunk groups can be designated as related to the ITG/ASAI Gateway links.
- Only one ITG/ASAI Gateway link is allowed per trunk group.
- An ITG/ASAI Gateway link occupies the D-channel which is only one circuit.
- An ITG/ASAI Gateway link cannot be assigned to a trunk group that already contains one physical trunk.
- Only Trunk Type **47** with Signaling Type **20** can support ITG/ASAI Gateway links.

Performing Trunk and Trunk Group Commands

Procedure: How to Add Trunks and Trunk Groups

There are a number of things to consider when you add trunk groups to your system. They include the type of network you are administering and the types of trunks required for your needs. Terminal Change Management (TCM) dependencies must also be considered. The **trk-grp** command produces dynamic screen fields depending on your network and trunk facilities.

You can schedule the **trk-grp add** transaction in a Service Request (SR) for execution after hardware installation. However, if installation is not finished on time, you must cancel or change the time of your SR; otherwise problems may result.

To add a trunk group, use the command **trk-grp add**; it allows you to add a trunk group and up to 30 trunks. If you need more than 30 trunks, use the command **trk add** after **trk-grp add**. Trunk group 17 cannot be added. Use the **trk add** command to add trunks to trunk group 17. For Trunk Group No. 17, the Trunk Type field defaults to **2**. You are not allowed to change the default value.

CAUTION: Do not add equipment locations unless the hardware has been physically installed. Once equipment locations are defined, the switch may try to use the trunk group. If no trunks actually exist, serious errors occur in the switch.

To add the trunk group at the switch at the far end, such as with a tie or DS-1 trunk group, change your target and add the trunk group by repeating Steps 1 through 3 in the following procedure. When assigning a group of tie trunks to an Automatic Alternate Routing (AAR) pattern, assign the trunks at both switches.

Use Scrapbook with the following procedure to create prototype files of features for different trunk types. Use Clipboard with the following procedure to carry similar data from one transaction screen to another. See *Getting Started with DEFINITY® Manager IV* for information on these two time-saving features.

1. Complete the following prerequisites:
 - Use **first-digit display** or **first-digit change** to verify that the first digit of the trunk group's Dial Access Code (DAC) is assigned correctly.

The first digit of a DAC cannot be the same digit as that used for Station Message Detail Recording (SMDR), Automatic Alternate Routing (AAR), Automatic Route Selection (ARS), or extensions. Use **dial-access-codes display** to check the digits assigned to extensions and features. If necessary, use **dial-access-codes change** to change the DAC assignments.

Be aware, however, that changing the first digit of any DAC assignment can have far-reaching effects since the DAC is such a basic element of definition in the network.

- Assign a unique Dial Access Code (DAC) to the trunk group so the system can search on that code when necessary.
- Verify that the appropriate circuit packs are added in the system. To check which circuit packs are currently defined in the system, use the command **unassigned-ckt**.
- Verify that trunk hardware has been installed. You may schedule the transaction in a Service Request, but the hardware must be installed before the scheduled execution time.

If you need to assign a circuit pack for a DS-1 trunk or a circuit pack for ISDN or DMI, use **pack add** or **carrier add** followed by **ds1-isdn** [Generic 2 and System 85 R2V3-R2V4] to assign the pack parameters. For more information, see "Assigning DS1 and ISDN Pack Parameters in Generic 2 and System 85 R2V4" in Chapter 2.

2. To add the new trunk group, enter **trk-grp add** and press **RETURN**. The **trk-grp add** input screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin trk-grp add          Page 1 of 8

                TRUNK GROUP ADMINISTRATION

Trunk Group No.: ____
Dial Access Code: ____      Dial Access Restrict? n
    Trunk Type: ____
    Signaling Type: ____

```

3. Enter the Trunk Group No. field. For any valid trunk type selected, this field is always displayed on pages 1-4. On page 1, this field is required. For Generic 2 and System 85 R2V4, valid entries are between **18-999**. System 85 R2V2-R2V3 and DIMENSION FP8 Issue 3.8 use trunk types **18-255**. A

number between **18** and **99** is valid for DIMENSION FP8 Issue 1.16. On Pages 2 through 4, the Trunk Group No. defaults to the specified value.

4. Enter the Dial Access Code. A valid dial access code has 1 to 4 digits. The first digit can be a **0-9**, * or #, for all trunk types, Dial Access Code is always displayed on Page 1. This field is optional for all trunk types. For Trunk Type 67, leave this field blank; this trunk type cannot be assigned a Dial Access Code.
5. Enter the Trunk Type. This is a required field. For a list of valid numbers, press **(ESC) ?**. The short help message "Enter 5, 6, 12-28, 30-47, 50-55, 57, 58, 62, 65-67, 70-78, 90-93, 100, 103-109, 120. Extended help is available for this field." is displayed. To get extended help with a list of supported trunk types, enter **(ESC) !**. The Trunk Type field is always displayed on Page 1 for any trunk type selected. When specifying this field, consider the following field dependencies:

- [Generic 2 and System 85 R2V4] With Call Vectoring Enabled, Trunk Types 91 and 92 are not allowed.
- You are allowed to change the trunk type if the new Trunk Type is compatible with the old Trunk Type. Trunk Types that are compatible with one another are:
 - 12-15, 32-47, 67, and 70-78
 - 16-28 and 50
 - 30 and 31.

For Generic 2 and System 85 R2V4, the Trunk Type of a trunk group with a Signaling Type of 20 may be changed to any other Trunk Type that supports a Signaling Type of 20. These Trunk Types include: 16, 17, 19, 21, 22, 24, 26, 27, 30, 31, 41-43, 46, 47, 50, 108, 109, and 120.

- The Trunk Type may not be changed for Trunk Types 19, 24, 26, and 27 if CO Line Pickup is active for the trunk group.
- The Trunk Type may not be changed if Route Advance is administered for the trunk group.
- To assign an ITG/ASAI Gateway link, enter **47** in the Trunk Type field. ITG/ASAI Gateway links are not physical trunks. You cannot add an ITG/ASAI Gateway link to a trunk group that has physical trunks already associated with it.
- Only one Trunk Type 65 group (Contact Interface Trunk Group) is required in the system.
- The Signaling Type field is automatically populated with the default value associated with the trunk type selected. Some trunk types allow for one signaling type only. If such is the case, you are not permitted to change the default value. The cursor will skip this field. If the specified trunk type allows for more than one signaling type, you can change the default entry.
 - The Signaling Type field applies to Generic 2 and System 85 R2V4 (only). This field does not apply to System 85 R2V2, R2V3 and DIMENSION FP8 Issues 3.8 and 1.16.
 - If the old signaling type is 20, then when the trunk type is changed, the Signaling Type field will also default to 20.
 - If you assign an ITG link, enter **20** in the Signaling Type field.
 - You are not allowed to change a trunk with Signaling Type value **1** or **2** (Ground Start) to **19** (Loop Start).

- The screens for the **trk-grp add** transaction are dynamic and will display only those fields that relate to the trunk type you enter. The screen shown below is for Trunk Type 19, a Central Office (CO) two-way, automatic-in/direct-outward dial trunk [Generic 2 only]. This screen displays many of the possible fields. The screen for ISDN Trunk Type 120 is shown in

"Administering ISDN".

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp add          Page 1 of 8

          TRUNK GROUP ADMINISTRATION

          Trunk Group No.: ____
          Dial Access Code: ____          Dial Access Restrict? n
          Trunk Type: ____          CO Line Pickup? n
          Signaling Type: ____          Access/Egress to Public Network? n
          Bearer Capability COS: 4          Outgoing Trunk Display? n

          Trunk Name: _____

ROUTE ADVANCE DATA

          Trunk Group 1: ____          Trunk Group 3: ____
          Trunk Group 2: ____          Trunk Group 4: ____

AUTOMATIC CIRCUIT ASSURANCE

          Long Holding Time (hrs): 0          Short Referral Level: 0
          Short Holding Time (secs): 0

```

- The Bearer Capability COS field applies only to Generic 2. For System 85 R2V4, the ITG/ASAI Gateway Link field appears in place of the Bearer Capability COS field. The R2V4 screen is provided in Step 8.
 - The Bearer Capability field defaults to either **1** or **4**. For trunk types 103-109, **1** is displayed. With all other types, **4** appears. This field is optional. You can either use the default value or change the entry to any number from **0** to **255**. For all trunk types selected, this field is always displayed in Generic 2 only.
- For any trunk type selected, the Dial Access Restrict field is always displayed. The field defaults to **y** if either of these conditions is true and may not be changed.
- The CO Line Pickup field contains **y**.
- The Dial Access Code field is displayed and the Trunk Type field contains one of the values: 6, 16, 21, 26, 30, 31, 32, 35, 40, 42, 52, 55, 62, 57, 58, 65, 66, 67, 70, 73, 76, 90, 91, 92, 100.
- If the Dial Access Code field is empty, the Dial Access Restrict field defaults to **n** and may not be changed.
- Depending on the trunk type selected, make entries as appropriate in the following fields:
 - With trunk types 19, 24, 26 and 27,
 - CO Line Pickup. This field defaults to **n**. You can set this field to **y** provided that the Dial Access Restrict field is set to **y**.

- With Trunk Types 6, 12-28, 30-47, 50, 52, 54, 55, 57, 62, 64, 70-78, 100, and 120,
 - Trunk Name. This field is a prerequisite to the Outgoing Trunk Display field. The Trunk Name field does not apply to DIMENSION FP8 Issues 3.8 and 1.16.
 - Outgoing Trunk Display. This field is activated for all trunk types, except: 6, 16, 21, 26, 30-32, 35, 40, 42, 52, 54, 55, 57, 62, 66, 70, 73, and 76. This field is automatically populated with **n**. The Outgoing Trunk Display field does not apply to DIMENSION FP8 Issues 3.8 and 1.16.

Automatic Circuit Assurance (ACA) assists you in identifying possible trunk malfunctions by monitoring the holding times of calls on each trunk facility for which thresholds have been defined. When facilities exhibit unusual holding-time characteristics (that is, very short-holding times or a single, very long-holding time), a referral call can be initiated to a specified attendant console.

Once alerted, you can access the trunk facility that caused the alarm so that you can determine its condition (or "referral level"). When a defective trunk is found, you can report it for repair. In Generic 2 and System 85 R2V4, ACA referrals can be directed to an attendant.

Short-holding time thresholds (in even-numbered, two-second intervals from 0 to 160 seconds) and long-holding time limits (0 to 10 hours or 0 to 24 hours, depending on your target switch) are set for each trunk group using the **trk-grp** command. ACA measures the holding time of each call on each trunk within the group. If the holding time is less than the short-holding time but greater than 0, ACA increments an assigned counter by 1. If the holding time is greater than or equal to the short-holding time, ACA decrements the counter by 1, but never below 0. When the counter reaches the referral level, ACA initiates a referral call and then resets the counter.

- With trunk types 12-28, 30-47, 50, 57, 66, 70-78, 100, 103-109, and 120, the following fields are displayed:
 - Access/Egress to Public Network. This field appears in Generic 2 only.
 - Long Holding Time (secs).
 - Short Holding Time (secs).
 - Short Referral Level (secs). Enter **0** in this field, if the Short Holding Time contains "0". If you enter a value other than **0**, the short help message "If either Short Holding Time or Short Referral Level is 0, then both must be 0." is displayed.
- With Trunk Types 2, 6, 12-15, 17-20, 22-25, 27, 28, 33, 34, 36-39, 41, 43-47, 50, 51, 53, 54, 58, 65, 66, 71, 72, 74, 75, 77, 78, 93, 103-109, and 120, the Trunk Group 1, Trunk Group 2, Trunk Group 3, and Trunk Group 4 fields are displayed, if either of the conditions is true:
 - The Dial Access Restriction field must be **n**.
 - The CO Line Pickup field does not contain **y**.
 - The Trunk Group 1 field is a prerequisite to the Trunk Group 2. If you do not populate the Trunk Group 1, the cursor will skip the Trunk Group 2 field.
 - The Trunk Group 2 field is a prerequisite to the Trunk Group 3. If you do not populate the Trunk Group 2, the cursor will skip the Trunk Group 3 field.
 - The Trunk Group 3 field is a prerequisite to the Trunk Group 4. If you do not populate the Trunk Group 3, the system will skip the Trunk Group 4 field.

- This screen appears for System 85 R2V4 only.

```

AT&T Mgr IV 2.2          System 85 R2V4          <target>
fm admin trk-grp add          Page 1 of 8

          TRUNK GROUP ADMINISTRATION

          Trunk Group No.: ____
          Dial Access Code: ____          Dial Access Restrict? n
          Trunk Type: ____          CO Line Pickup? n
          Signaling Type: ____          Access/Egress to Public Network? n
          ITG Link: n          Outgoing Trunk Display? n

          Trunk Name: _____

ROUTE ADVANCE DATA

          Trunk Group 1: ____          Trunk Group 3: ____
          Trunk Group 2: ____          Trunk Group 4: ____

AUTOMATIC CIRCUIT ASSURANCE

          Long Holding Time (hrs): 0          Short Referral Level: 0
          Short Holding Time (secs): 0

```

The ITG Link field (ASAI Gateway Link if Generic 2.2) applies only to System 85 R2V4 and Generic 2.1. This field appears only if the ITS/ASAI Gateway Interface feature is enabled on the system. To verify, use the **sys-cos display** transaction.

If the Integrated Telemarketing Service/ASAI Gateway Interface field (Page 2 of the **sys-cos** screen) contains **y**, then the ITS/ASAI Gateway Interface software is installed. Otherwise (**n** entry), this feature is disabled: the ITG/ASAI Gateway Link field will not appear on the screen. This field is populated automatically at system initialization.

The ITG/ASAI Gateway Link field defaults to **n**. Valid entries are **y** or **n**. This field provides you with an option of assigning either the ITG/ASAI Gateway links or ISDN trunks. To assign an ITG/ASAI Gateway link, enter **y**.

- To assign ISDN trunks, enter **n** in the ITG/ASAI Gateway Link field.
- The ITG/ASAI Gateway Link field appears only for Signaling Type **20** and Trunk Type **47**.

- Press **RETURN**. Page 2 of the screen appears. Below is the screen you see when you specify the following trunk types: 12-28, 30-47, 50, 57, 66, 70-78, 100, 103-109, and 120.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin trk-grp add                Page 2 of 8

                                TRUNK GROUP ADMINISTRATION

                                Trunk Group No.: ____

GENERAL TRUNK PARAMETERS

                                DS-1 Pad Group: 0                Timed Recall Level: 0
Disconnect Supervision? n                Balance? n
                                Redial Delay Timer: 0                Tie Toll Restriction? n
                                DCS? n                APLT Features Allowed? n
                                Touch Tone In? n                Battery Reversal? n
                                Touch Tone Out? n                Prefix Digits: #123
                                AIOD Billing Number: ____                Alternate Voice/Data(AVD)? n
                                Timed Recall Time: 0

STATION MESSAGE DETAIL RECORDING (SMDR)

                                SMDR Active? n                SMDR Variable Timer: ____
SMDR Account Code Required? n
    
```

- With trunk types 12-28, 30-47, 50, 51, 57, 66, 70-78, 100, 103-109, and 120, the following fields are displayed:
 - DS-1 Pad Group. This field does not apply to System 85 R2V2, and DIMENSION FP8 Issues 3.8 and 1.16.
 - Disconnect Supervision.
 - Redial Delay Timer. This field does not apply to System 85 R2V2, and DIMENSION FP8 Issues 3.8 and 1.16.
 - Battery Reversal.
 - Balance.
 - SMDR Active. This field does not apply to System 85 R2V2, and DIMENSION FP8 Issues 3.8 and 1.16.
 - SMDR Account Code Required. This field appears if the SMDR Active contains **y**. This field does not apply to System 85 R2V2, and DIMENSION FP8 Issues 3.8 and 1.16.
 - SMDR Variable Timer. This field appears if the SMDR Active contains **y**.
 - AVD (Alternate Voice/Data). This field does not apply to DIMENSION FP8 Issues 3.8 and 1.16 and Generic 2.
 - PAD (not shown on screen). Valid entries for the field are **y** or **n**.
 - OPX (Off-Premises Extension). Valid entries for the field are **y** or **n**.
 - Interdigit Time (not shown on the screen). Valid range is **600-1200** in multiples of 20. This field is positioned right below the "Off-Premises Extension".

The PAD, OPX, and Interdigit Time fields appear in DIMENSION FP8 Issues 3.8 and 1.16

only.

- With trunk types 12-15, 17-20, 22-25, 27, 28, 33, 34, 36-39, 41, 43-47, 50, 51, 64, 71, 72, 74, 75, 77, 78, 85, 105-109, the following fields are displayed:
 - Timed Recall Time
 - Timed Recall Level.
- With trunk types 12-15, and 32-47
 - APLT Features Allowed appears.
- With trunk types 32-47 (**trk-grp** number is **18-255**),
 - The Tie Toll Restriction field appears.
- With trunk types 32-47 and 73-78, if the Trunk Group No. falls within the range **18-255**,
 - The DCS field is displayed.
- With trunk types 12-15, 16-28, 30-32, 35-42, 44-47, 50, 51, 64, 70, 72, 73, 75, 76, 78, 85, 86, and 105-109,
 - The Touch Tone In field appears.
- With trunk types 12-15, 17-20, 22-25, 27-28, 33, 34, 36-39, 41, 43-47, 50, 51, 64, 71, 72, 74, 75, 77, 78, 85, and 105-109,
 - The Touch Tone Out field appears.
- With trunk types 32-47 and 70-78,
 - The AIOD Billing Number field appears.
- With trunk types 12-15, 30-47, and 70-78
 - The Prefix Digits field is displayed if signaling type is not 20.

- Press **RETURN**. Page 3 of the screen appears. Below is the screen you see when you specify the following trunk types: 12-28, 30-47, 50, 51, 57, 66, 70-78, 100, 103-109, and 120.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin trk-grp add                Page 3 of 8

                                TRUNK GROUP ADMINISTRATION

                                Trunk Group No.: 18

NETWORK TRUNK PARAMETERS

                                Bridge On Allowed? y                WCR Access? n
                                Trunk Reservation Limit: 0            Ignore Dial Tone Detection? y
                                Echo Suppressor: _                Facility Restriction Level: 0
                                Data Restricted? n                Symmetrical Route? y
                                Conditional Routing? n            Traveling Class Mark: 2
                                Outgoing Overlapped Sending? y    Auth. Code Required? n
                                Dial Tone Suppression? n            ASAP Route Selection? n

DATA TRUNK FEATURES
                                Network Service Value: ____
                                Incoming PRM Seizure? y
    
```

- The following fields are displayed in Generic 2.2 only:
 - Conditional Routing. To select Network Conditional Routing, enter **y**, otherwise enter **n**.
 - Outgoing Overlapped Sending. Enter **y** to select Overlapped Sending, or **n** to collect all digits before sending.
 - Dial Tone Suppression. Enter **y** to suppress dial tone after World Class Routing (WCR) DAC is dialed; otherwise type **n**.
 - WCR Access. Enter **y** if Tie/APLT trunks have WCR access; otherwise type **n**.
 - Ignore Dial Tone Detection. Enter **y** to deactivate dial tone detection; otherwise type **n**.
 - Symmetrical Route. Enter **y** to select a symmetrical route; otherwise type **n**.
 - Traveling Class Mark. Valid entries are **0-2**.
 - ASAP Route Selection. Enter **y** to select route ASAP or **n** to wait for all digits. If the Traveling Class Mark field contains **2** or the Auth. Code Required field contains **y**, then the ASAP Route Selection field defaults to **n** and cannot be changed.
- The Network Service Value field appears in Generic 2 and System 85 R2V4 only. Valid entries are **1-511** or **999**.
- In Generic 2 and System 85, these fields are displayed:
 - Bridge On Allowed. This field defaults to **n** and cannot be changed if trunk type 57 or 66 is specified.
 - Trunk Reservation Limit. For a Generic 2.2 switch, valid entries are **0-15**.
 - Echo Suppressor.

- Data Restricted.
- Facility Restriction Level.
- Authorization Code Required. In Generic 2.2, if you enter **1** or **2** in the Traveling Class Mark field, then the Auth. Code Required field defaults to **n** and cannot be changed.
- The Bearer Capability field does not appear on the screen. This field is displayed in the R2V4 switch only.
- This is a screen you see in Generic 2.1 and System 85 switches when you specify the following trunk types: 12-28, 30-47, 50, 51, 57, 66, 70-78, 100, 103-109, and 120.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin trk-grp add                Page 3 of 8

                                TRUNK GROUP ADMINISTRATION

                                Trunk Group No.: ____

NETWORK TRUNK PARAMETERS

                                Bridge On Allowed? n                AAR/ARS Access? n
                                Trunk Reservation Limit: _            Auth. Code Required? n
                                Echo Suppressor: _                    Facility Restriction Level: _
                                Data Restricted? n                    ETS Network? n
                                AAR Conditional Routing? n            Trunk Group is Tandem? n
                                Digit Collection: 0                    Second TCM? n
                                AAR/ARS Dialing Prefix: _            Bearer Capability: 0

DATA TRUNK FEATURES
                                Network Service Value: ____
                                Outgoing MBO Seizure? n                Retry? n
                                Incoming PRM Seizure? n                Failure Threshold: 0
                                Sending Option? 0                    Glare: 0

```

- The following fields are displayed in Generic 2.1 and System 85 switches:
 - AAR Conditional Routing. This field accomplishes the same functionality as the Conditional Routing field in Generic 2.2.
 - Digit Collection. This field accomplishes the same functionality as the Outgoing Overlapped Sending in Generic 2.2.
 - AAR/ARS Dialing Prefix. This field is displayed only in Generic 2.1 and System 85 switches.
 - Second TCM. This field accomplishes the same functionality as the Traveling Class Mark field in Generic 2.2.
 - The Universal Trunk Time Out field is not shown on the screen. This field applies only to System 85 R2V2, R2V3, and DIMENSION FP8 Issue 3.8 switches.
 - The Remote Access for E&M trunks field is not shown on the screen. This field appears for System 85 R2V3 only.

- The fields AAR Conditional Routing, Second TCM, Echo Suppressor, and Digit Collection are not displayed in System 85 R2V2 and DIMENSION FP8 Issues 3.8 and 1.16.
- [Generic 2.1, System 85] With trunk types 12-15, 32-47, 70-78,
 - The AAR/ARS Access field appears.
- [Generic 2.1, System 85] With trunk types 41-43, 46, or 47, the following fields are displayed:
 - ETS Network. If the ETS Network is **y**, the Trunk Group is Tandem field appears.
- [Generic 2.1, System 85] For trunk types 46 and 47, this field defaults to **n** and cannot be changed.
 - If both the ETS Network and Tandem Termination contain **y**, the Second TCM field is activated.
 - Retry. This field is displayed for all trunk types specified, if the Signaling Type is set to **20**.
- [Generic 2 and R2V4] With trunk types 12-25, 30-32, 35-42, 44-47, and 70-78, the DATA TRUNK FEATURES fields are displayed:
 - Outgoing MBO (Maintenance Busy Out) Seizure. This field does not appear for Signaling Type **20** and for trunk types 16, 21, 26, 30-32, 35, 40, 42, 66, 70, 73, 76.
 - Incoming PRM Seizure. This field does not appear for Signaling Type **20**, or if trunk type is one of 17, 18, 22, 23, 27, 28, 33, 34, 43, 57, 71, 74, or 77.
 - Sending Option. This field is activated if the Signaling Type is set to **20**.

Note:

 - R2V4: This field may be populated with either a **y** (yes) or **n** (no).
 - Generic 2: This field is populated with either a **0**, **1**, or **2**.
- [Generic 2 and R2V4] With trunk types 41, 42, 43, 46, 47, the following fields are displayed:
 - Failure Threshold is displayed.
 - Glare. This field appears for Signaling Type 21 or 22.

All fields under the DATA TRUNK FEATURES title are not displayed in System 85 R2V2-R2V3 and DIMENSION FP8 Issues 3.8 and 1.16.

- Press **RETURN**. Page 4 of the screen appears. This page applies to all switch types - Generic 2 and System 85. The following screen appears when you specify the following trunk types: 12-28, 30-47, 70-78, 103, 104, 106-109, and 120.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp add          Page 4 of 8

                                TRUNK GROUP ADMINISTRATION

                                Trunk Group No.: 122

COST ACCOUNTING INFORMATION

                                IXC: ____          Save Incoming MDRs? n
                                Account ID:
                                Remote NPA/NXX: 123456

MAIN SATELLITE TRUNK FEATURES

                                Main Satellite? y          Transfer Action: 0
                                Prefix:          Dialed Digits Sent:
                                Prefix Deferred? n

```

- With trunk types 12-28, 30-47, 70-78, 103, 104, 106-109, and 20, if Dial Access Code is present,
 - The Account ID field appears.
- With trunk types 12, 13, 16, 19-21, 24-26, 30-32, 35-47, 50, 70, 72, 73, 75, 76, 78, 103, 104, 106, 109, and 120,
 - The Remote NPA/NXX field is activated, if the **trk-grp add** transaction is executed under the admin or database-admin application. In Generic 2.2, valid entries are **000-999999**.
 - The IXC field appears.
 - The Save Incoming MDRs field is activated, if the **trk-grp add** transaction is executed under the admin or database-admin application.
- With trunk type 26-28,
 - The WATS Band field appears.
- With trunk types 70-78, the following MAIN SATELLITE TRUNK FEATURES appear:
 - Main Satellite.
 - Prefix Digits. This field appears only in Generic 2.1 and System 85 switches.
 - Transfer Action. You are not allowed to enter **0** in this field, if it is populated with **2** or **1**.
 - Prefix Deferred. This field is displayed only for trunk types 70, 72, 73, 75, 76, and 78.

— Dialed Digits Sent.

- [Generic 2.2 only] With Trunk Type 120 or if the signaling type is 20, Page 4 of the screen is as follows:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp add    Page 4 of 8

                TRUNK GROUP ADMINISTRATION

                Trunk Group No.: 18

COST ACCOUNTING INFORMATION

                IXC:                               Save Incoming MDRs? n

                Account ID:                         WATS Band:

                Remote NPA/NXX: 123456

ISDN PREFIX DIGITS

Address Type   Prefix Digits           Address Type   Prefix Digits
    0           _____             4             _____
    1           _____             5             _____
    2           _____             6             _____
    3           _____             7             _____
    
```

- With trunk type 120 or if the signaling type is 20, the following ISDN PREFIX DIGITS fields appear:
 - Address Type. This field is display only and is used as a label in conjunction with the Prefix Digits field.
 - Prefix Digits. This field is used to associate the Prefix Digits with the ISDN Address Type. Valid entries are 1-4 digit strings and the first digit may be an * or #.

- Press **RETURN**. Page 5 of the screen appears. For Trunk Types 106, 107, this screen is displayed in Generic 2 only:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp add          Page 5 of 8

                TRUNK GROUP ADMINISTRATION

                Trunk Group No.: ____

EIA PORT PERMISSIONS

                Keyboard Dialing? n          Configuration? n
                                          Busy Out? n

EIA PORT OPTIONS

                Auto Adjust? n          Disconnect Sequence? n
                Permit Mismatch? n      Connection Indication? n
                Dial Echo? n          Parity: 3
                Answer Text? n

EIA PORT DATA RATES

                19200 bps? y   4800 bps? y   1200 bps? y   Low data Rate? n
                9600 bps? y   2400 bps? y   300 bps? y

```

- With trunk types 106 and 107, the following fields are displayed:
 - Keyboard Dialing
 - Configuration. Keyboard Dialing is a prerequisite; when enabled, this field activates the Configuration field.
 - Busyout
 - Auto Adjust. Keyboard Dialing is a prerequisite; when enabled, this field activates the Auto Adjust field.
 - Permit Mismatch
 - Dial Echo. Keyboard Dialing is a prerequisite; when enabled, this field activates the Dial Echo field.
 - Answer Text. Keyboard Dialing is a prerequisite; when enabled, this field activates the Answer Text field.
 - Disconnect Sequence. Keyboard Dialing is a prerequisite; when enabled, this field activates the Disconnect Sequence field.
 - Connection Indication. Keyboard Dialing is a prerequisite; when enabled, this field activates the Connection Indication field.
 - Parity
 - bps 19200, 9600, 4800, 2400, 1200 and 300
 - Low Data Rate. At least, one data rate must be enabled. Keyboard Dialing is a prerequisite; when enabled, deactivates the Connection Indication.

- Press **RETURN**. Page 6 of the screen appears. This screen is displayed for Trunk Types 103-109.

```
AT&T Mgr IV 2.2          System 85 R2V4          <target>
fm admin trk-grp add          Page 6 of 8

                TRUNK GROUP ADMINISTRATION

Trunk Group No.: ____

DIGITAL TRUNK FEATURES

                Duplex Mode: 0          Test Type: 0
                Synch/Asynch: 0        Host Access Clock: 0

DATA RATES

                64000 bps? n          2400 bps? n
                56000 bps? n          1200 bps? n
                19200 bps? n          300 bps? n
                9600 bps? n          Low Data Rate? n
                4800 bps? n
```

This page does not appear in the Generic 2 and DIMENSION switches.

- With trunk types 103-109, the following fields are displayed:
 - Duplex Mode
 - Synch/Asynch
 - Test Type
 - Host Access Clock
 - bps 64000, 56000, 19200, 9600, 4800, 2400, 1200 and 300
 - Low Data Rate. At least, one data rate must be enabled.

- This page appears in System 85 R2V4 for Signaling Type 20 and Trunk Type 47 only if the ITS feature is enabled in the system. This page applies only to the ITG links.
 - Note that the circuit field is not administerable.
 - In the Equipment Location field, enter the module (**0-30**), cabinet (**0-7**), carrier (**0-3**), and slot (**5** or **18**) numbers.
 - Populate the ITG Records field. Valid entries are **0-9999**.
 - Only one link is allowed per trunk group.

AT&T Mgr IV 2.2	System 85 R2V4	<target>
fm admin trk-grp add/trk		Page 7 of 8
Equipment	ITG	
Location	Records	
___/___/___	_____	

- This version of the GROUP MEMBER ASSIGNMENTS page appears for Regular CO trunk types 18 and 20. These trunk types do not support either DS-1 or ISDN.
 - *Universal* and *XE* Modules are not supported.
 - To access Group Members 16-30, use Page 8 which has a similar format.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
Equipment	Night	AIOD
Location	Terminal	Number
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____
//_/_/_	_____	_____

- This version of the GROUP MEMBER ASSIGNMENTS page appears for CO, FX, WATS, DID, TIE, DMI, and Remote Access Trunk Types with Signaling Type 20. These trunk types are: 16, 17, 19, 21, 22, 24, 26, 27, 30, 31, 41-43, 46, 47, 50, 108, 109, and 120.
 - The D-Channel Number field applies only to Generic 2.
 - To access the Group Members 16-30, use Page 8 which has a similar format.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>	
fm admin trk-grp add		Page 7 of 8	
TRUNK GROUP ADMINISTRATION			
Equipment	Night	D-Channel	Interface
Location	Terminal	Number	Endpoint
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-
//_/_/_	_____	_____	-

- This version of the GROUP MEMBER ASSIGNMENTS page appears for CO, FX, WATS, DID, TIE, DMI, Remote Access and EIA Port Trunk Types that support DS-1 without Signaling Type 20. These trunk types are: 16, 21, 22, 24, 26, 27, 30-47, 50, 64, 70-78, 108, 109, and 120.
 - To access Group Members 9-16, use Page 8 which has a similar format.
 - The Remote Access Trunk Number field appears for System 85 R2V2-R2V3 and DIMENSION FP8, if the trunk type is 33, 36, 50, and 64.
 - Do not populate the Disable Signal field for non DS-1 Equipment Locations.
 - The Disable Signal field does not apply to the System 85 R2V2 and DIMENSION switches.

Equipment Location	Night Terminal	Remote Access Trunk Number	Disable Signal?
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n
//_/_/_	_____	___	n

- This version of the GROUP MEMBER ASSIGNMENTS page appears for FX and WATS Trunk Types 23, 25, and 28 which do not support DS-1 or ISDN.
 - To access Group Members 16-30, use Page 8 which has a similar format.
 - *Universal* and *XE* Modules are not supported

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
Equipment	Night	
Location	Terminal	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	
//_/_/	_____	

- This version of the GROUP MEMBER ASSIGNMENTS page appears for trunk types 52 and 90 (only when Call Vectoring is enabled). These trunk types are for Recorded Announcement Interfaces, ACD Second and Other Announcement.
 - To access Group Members 16-30, use Page 8 which has a similar format.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
Equipment Location	Recorded Announcement No.	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	
//_/_/_	_____	

- This page appears in all switch types. For the GROUP MEMBER ASSIGNMENTS screen version shown below, consider the following:
 - With trunk type 54, the GROUP MEMBER ASSIGNMENTS page applies to Loudspeaker Paging Interface.
 - To access Group Members 16-30, use Page 6 which has a similar format.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
Equipment	Paging	
Location	Zone	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	
//_/_/_	___	

- This page appears in all switch types. For the GROUP MEMBER ASSIGNMENTS screen version shown below, consider the following:
 - With trunk type 57, the GROUP MEMBER ASSIGNMENTS page applies to CAS Release Link Outgoing Trunk. This page appears in all switch types.
 - To access Group Members 9-16, use Page 6 which has a similar format.
 - For non DS-1 Equipment Locations, do not populate the Disable Signal field.
 - The Disable Signal field does not appear in System 85 R2V2 and DIMENSION FP8.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
Equipment Location	Night Terminal	Disable Signal?
//_/_/	_____	n
//_/_/	_____	n
//_/_/	_____	n
//_/_/	_____	n
//_/_/	_____	n
//_/_/	_____	n
//_/_/	_____	n
//_/_/	_____	n

- For the GROUP MEMBER ASSIGNMENTS screen version shown below, consider the following:
 - This version of the GROUP MEMBER ASSIGNMENTS page applies to Trunk Type 58.
 - *Universal* and *XE* Modules are not supported.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
	Equipment Location	
	//_/_/	
	//_/_/	
	//_/_/	
	//_/_/	
	//_/_/	
	//_/_/	

- This switch appears in all switch types. For the GROUP MEMBER ASSIGNMENTS screen version shown below, consider the following:
 - With trunk type 65, the GROUP MEMBER ASSIGNMENTS page applies to Contact Interface. Only one Contact Interface Trunk Group is required in the system since all interface boards can be handled with one group.
 - To access Group Members 16-30, use Page 6 which has a similar format.
 - With Board Type **1**, use Board Index range **0-2**. If Board Type is **2**, select Index range **0-13**. Type 3 allows for Index range **0-3**.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin trk-grp add		Page 7 of 8
TRUNK GROUP ADMINISTRATION		
Equipment	Board	Board
Location	Type	Index
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—
//_/_/_	—	—

- This page appears in all switches. For the GROUP MEMBER ASSIGNMENTS screen version shown below, consider the following:
 - With trunk type 66, the GROUP MEMBER ASSIGNMENTS page applies to CAS Release Link Incoming Trunk.
 - To access Group Members 9-16, use Page 6 which has a similar format.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp add     Page 7 of 8

                TRUNK GROUP ADMINISTRATION

                        Equipment
                        Location
                        _/_/_/_/_
                        _/_/_/_/_
                        _/_/_/_/_
                        _/_/_/_/_
                        _/_/_/_/_
                        _/_/_/_/_
                        _/_/_/_/_
                        _/_/_/_/_
```

- This page appears in all switches. For the GROUP MEMBER ASSIGNMENTS screen version shown below, consider the following:
 - With trunk type 90, the GROUP MEMBER ASSIGNMENTS page applies to ACD First Announcement.
 - The Continuous Announcement field does not appear in System 85 R2V2-R2V3 and DIMENSION FP8.
 - To access Group Members 16-30, use Page 6 which has a similar format.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp add          Page 7 of 8

                TRUNK GROUP ADMINISTRATION

Equipment          Recorded          Continuous
Location          Announcement No.  Announcement?
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
_/_/_/_/_         _____         n
    
```

Procedure: How to Display Trunks and Trunk Groups

The **trk-grp display** transaction displays all properties of the trunk group and the first 30 trunks of the group. To display all properties of trunk group 17, always use the **trk display** command.

1. Enter the **trk-grp display** command and press **RETURN**. The **trk-grp display** input screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp display/change          Page 1 of 2

                TRUNK GROUP ADMINISTRATION

Enter only one of the following fields:

    Trunk Group No.: _____
    Dial Access Code: _____
    
```

The input screen shows two fields: Trunk Group No. and Dial Access Code. You are allowed to select a trunk group either by the Trunk Group No. or Dial Access Code. One of these fields is required. Enter the Trunk Group No. or Dial Access Code for the trunk group you want to display. For either field selected, the output screen is identical; the screen displays the properties of the trunk group as they were defined in the database.

- If you populate the Trunk Group No. field, the cursor will skip the Dial Access Code field.
2. Press **RETURN** followed by **ESC** e . The **trk-grp display** output screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin trk-grp display/change          Page 1 of 2

          TRUNK GROUP ADMINISTRATION

Enter only one of the following fields:

    Trunk Group No.: 24
    Dial Access Code: _____          Dial Access Restrict? n
          Trunk Type: 19
          Signaling Type: 1
    Bearer Capability COS: 4
  
```

The output screen has the same format as the **trk-grp add** input screen, except all fields are populated with the specified entries or associated default values. For a more detailed field description, refer to "Procedure: How To Add Trunks and Trunk Groups."

3. To display trunk group members other than the first 30, use the command **trk display**. This command allows you to display up to 30 trunk group members at a time. You may display trunk group members by either:
- entering the ELLs of up to 30 individual trunk group members, or
 - entering a trunk group number and a range of up to 30 members.

IMPORTANT: The order of the trunks displayed via the **trk-grp display** or **trk display** transactions may not be in the same sequence as in the switch. Use **product-admin trk-grp display** or **product-admin trk display** to ensure that you get the correct ordering of the trunks.

Procedure: How to Change Trunks and Trunk Groups

The **trk-grp change** transaction allows you to modify the attributes associated with any trunk group. You are not permitted to change the individual trunk member attributes with this command. Use the **trk change** transaction to change the attributes of individual trunk members or of trunk group 17. Up to 30 members may be changed at a time.

Enter the **trk-grp change** command. The **trk-grp change** input screen is displayed. Enter either the Trunk Group No. or Dial Access Code of the trunk group and press **EXECUTE**. Refer to "Procedure: How to Display Trunks and Trunk Groups" for input and output screen descriptions. The screen format is the same. However, with the **trk-grp change** command, you are allowed to change certain field entries.

- With Trunk Types 19, 24, 26, and 27, you are not allowed to change the Trunk Type and CO Line Pickup fields via the **trk-grp change** command. These fields can be populated only via the **trk-grp**

add transaction. You can change these values by removing the trunk group and re-adding it using the **trk-grp add** command.

- If the route advance is present, the Trunk Type field is display only. The cursor will skip this field. To be able to access the Trunk Type field, first, remove the route advance via the **trk-grp change** command and then enter the **trk-grp change** command a second time. Enter the appropriate value in the Trunk Type field.
- You are not allowed to change the Signaling Type or Trunk Type fields if the ITG Link has been assigned to this trunk group.
- You are allowed to change the Signaling Type field to valid values for a given trunk type. If the trunk group has an ITG/ASAI Gateway link assigned to it, this field is display only.
- If the trunk group has been assigned with an ITG/ASAI Gateway link, you are allowed to change the ITG/ASAI Gateway Records field via the **trk change** transaction.

The procedure provided for the **trk-grp add** transaction applies to the **trk-grp change** transaction as well. Refer to "Procedure: How to Add Trunks and Trunk Groups." Press **RETURN** to step through the available pages associated with the specified Trunk Group No. or Dial Access Code.

Procedure: How to Remove Trunks and Trunk Groups

The **trk-grp remove** command allows a trunk group to be removed only if it has no member trunks. If trunk members are present, you must first use the **trk remove** command to remove the trunk members from the group — 30 trunks at a time. You can then use **trk-grp remove** to remove the group. To remove trunk group 17, always use the **trk remove** transaction. For input and output screen description, refer to "Procedure: How to Display Trunks and Trunk Groups."

1. Enter the **trk remove** command. The following screen appears for System 85 R2V4 only:

```

AT&T Mgr IV 2.2                System 85 R2V4                <target>
fm admin trk remove                Page 1 of 1

                                TRUNK GROUP ADMINISTRATION

Trunk Group No.: ____           Equipment
Is Trunk Type 65? n             Location
    ITG Link? n                 _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/
                                _/_/_/_/

```

The "ITG Link" (ASAI Gateway Link if Generic 2.2) prompt appears only if the ITS/ASAI Gateway Interface feature is enabled in the system.

2. Enter the Trunk Group number. Press **RETURN**.
3. The "Is Trunk Type 65" field defaults to **n**. If you change the default to **y**, the ITG/ASAI Gateway Link field disappears. Then, you can specify the Equipment Location for Trunk Type 65. If you choose the default and press **RETURN**, the cursor is positioned in the ITG/ASAI Gateway

Link field. You have an option of specifying either the ITG/ASAI Gateway link, or an ISDN trunk.

To remove an ITG/ASAI Gateway link,

- Enter **y** in the ITG/ASAI Gateway Link field. Press **RETURN**.
- Enter the Equipment Location of the ITG/ASAI Gateway link. Press **RETURN**.
 - For Trunk Type 65, or for the ITG/ASAI Gateway link, the circuit number is not required. Only four fields are displayed for Equipment Location.
 - Only one ITG/ASAI Gateway link is allowed per trunk group. Therefore, only one Equipment Location displays when you enter **y** in the ITG/ASAI Gateway Link field.

To remove any other type of trunk, enter **n** in the Is Trunk Type 65 and in the ITG/ASAI Gateway Link fields.

Procedure: How to Move Trunks

You can move up to 30 trunks to a new trunk group with the **trk move** command. The new trunk group number entered must be of a compatible trunk type (and Signaling Type for Generic 2 and System 85) so that the trunks are still on the correct circuit pack type for the new trunk group. The 30 specified Equipment Locations need not belong to the same trunk group before the move.

Trunk Group Reports

Many FM managers keep hard copy reports on trunk groups for easy reference. They regularly schedule such reports as the Trunk Group Summary Report, Trunk Group Assignment Report and the Trunk Group-DAC Report to run for all trunk groups in the system, preferably during off-peak hours. Information on ordering these reports is contained in Chapter 12 of this guide.

Generic 2 and System 85 Trunk Types

The following tables list trunk types for Generic 2 and System 85 R2V2-R2V4 switch releases, and also define each specific type. For each trunk type, the traditional and universal circuit packs are provided. Universal pack types are valid only for Generic 2.

Table 4-1. Generic 2 and System 85 Trunk Types

Trunk Name	Type	Definition
Special Trunk	2	Touch Tone digit register
	5	8-way attendant conference circuit
	6	special queue
All 2-way APLT CO Trunks	12	Delay dial/in (wink start or delay dial) and dial tone out
	13	Wink start in/(wink start or delay dial) and dial tone out
	14	delay dial in/dial tone out
	15	Wink start in/dial tone out
Regular CO Trunks	16	1-way automatic in
	17	1-way outgoing DOD
	18	1-way out DOD with party tests
	19	2-way Automatic in/DOD
	20	2-way with party test
Foreign Exchange CO Trunks	21	1-way automatic in
	22	1-way outgoing DOD
	23	1-way out DOD with party test
	24	2-way automatic in/DOD
	25	2-way with party test
WATS Trunks	26	1-way automatic in
	27	1-way outgoing DOD or toll terminal access for TSPS
	28	1-way out DOD with party test
DID CO Trunks	30	Immediate start DID
	31	Wink start DID
TIE Trunks	32	1-way in dial repeating
	33	1-way automatic out
	34	1-way dial repeating out
	35	1-way automatic in
	36	2-way dial repeating both ways
	37	2-way dial repeating in/automatic out
	38	2-way automatic in/dial repeating out
	39	2-way automatic in/automatic out
	40	1-way in, dial repeating and delay dial

(Continued)

Table 4-1. Continued

Trunk Name	Type	Definition
TIE Trunks	41	2-way wink start in/delay dial, wink start out
	42	1-way in, wink start
	43	1-way out, delay dial, wink start
	44	2-way delay, dial repeating
	45	2-way delay dial, dial repeating in/automatic out
	46	2-way dial repeating in/delay dial, or wink start out
	47	2-way dial repeating delay dial in/delay dial, or wink start out
Special Trunks and Interfaces	50	Remote access; 2-way dial tone in/ground start and dial tone out
	51	Telephone dictation interface
	52	Recorded announcement interface
	53	Code call interface
	54	Loudspeaker paging interface
	55	Touch Tone sender
	57	CAS release link trunk outgoing from branch: 1-way automatic out
	58	ANI interface
	62	Music on hold interface
	65	Contact Interface
	66	CAS release link trunk incoming at main; 1-way automatic in
	67	Audio
	68	UCD delay recorded announcement trunk
	90	ACD/EUCD 1st announcement
	91	ACD/EUCD 2nd announcement
	92	ACD/EUCD Original announcement
93	Malicious call trace recorder	

(Continued)

Table 4-1. Continued

Trunk Name	Type	Definition
Main/Satellite Trunks	70	1-way in immediate start
	71	1-way out immediate start
	72	2-way immediate start both ways
	73	1-way wink start
	74	1-way out wink start
	75	2-way start both ways
	76	1-way in delay dial
	77	1-way out delay dial
	78	2-way delay dial both ways
Other Trunks	100	Tone detection
	101	Analog Data Modem pool
	102	Digital data Modem pool
	103	Host access PDM
	104	Host access TDM
	105	AP32 DCP1
	106	EIA 4 Port
	107	ISN/EIA 4 port
	108	DMI Wink In/Auto Out
	109	DMI Wink In/Wink Out
	120	ISDN Dynamic

Note that Trunk Type 68 is only supported for System 85 R2V2.

Table 4-2. Generic 2 and System 85 Circuit Packs

Trunk Name	Type	Traditional		Universal	
		Analog	Digital	Analog	Digital
Special Trunk	2	sn251		tn748	
	5	sn254		none	
	6	none			
All 2-way APLT CO Trunks	12	snn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	13	snn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	14	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	15	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
Regular CO Trunks	16	sn230	ann11 ds1	tn747	tn767 ds1
	17	sn230	ann11 ds1	tn747	tn767 ds1
	18	sn230		tn747	
	19	sn230	ann11 ds1	tn747	tn767 ds1
	20	sn230		tn747	
Foreign Exchange CO Trunks	21	sn230	ann11 ds1	tn747	tn767 ds1
	22	sn230	ann11 ds1	tn747	tn767 ds1
	23	sn230		tn747	
	24	sn230	ann11 ds1	tn747	tn767 ds1
	25	sn230		tn747	
WATS Trunks	26	sn230	ann11 ds1	tn747	tn767 ds1
	27	sn230	ann11 ds1	tn747	tn767 ds1
		sn230	ann11 ds1	tn747	tn767 ds1
	28	sn230		tn747	
DID CO Trunks	30	sn232	ann11 ds1	tn753	tn767 ds1
	31	sn232	ann11 ds1	tn753	tn767 ds1
TIE Trunks	32	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	33	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	34	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	35	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	36	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	37	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	38	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	39	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	40	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1

(Continued)

Table 4-2. Continued

Trunk Name	Type	Traditional		Universal	
		Analog	Digital	Analog	Digital
TIE Trunks	41	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	42	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	43	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	44	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	45	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	46	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	47	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
Special Trunks and Interfaces	50	sn230	ann11 ds1	tn747	tn767 ds1
	51	sn231		tn763	
	52	sn231		tn763	
	53	sn231		tn763	
	54	sn231		tn763	
	55	sn252		tn763 tn748	
	57	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	58	sn244		none	
	62	sn231		tn763	
	64	sn230		tn747	
	65	sn241		tn742 tn746	
	66	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	67	sn231		tn760 tn742 tn746	
	68	sn231			
	90	sn231		tn763	
91	sn231		tn763		
92	sn231		tn763		

(Continued)

Table 4-2. Continued

Trunk Name	Type	Traditional		Universal	
		Analog	Digital	Analog	Digital
Main/Satellite Trunks	70	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	71	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	72	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	73	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	74	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	75	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	76	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	77	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
	78	sn233/243	ann11 ds1	tn760 tn742 tn746	tn767 ds1
Special CO and WATS Trunks	85				
	86				
Other Trunks	100	sn255		tn748	
	101	sn243			
	102	sn270t			
	103	sn270t		tn754	
	104	sn270t		tn754	
	105	sn270t		tn726 tn752	
	106	sn238t		tn726	
	107	sn238t		tn726	
	108		ann11 ds1		tn767 ds1
	109		ann11 ds1		tn767 ds1
120		ann35 isdn		tn767 isdn	

Table 4-3. Trunk Signaling Encodes (Generic 2 and System 85 R2V4 only)

Trunk Type and Description	Signaling Codes							
	E&M		GS		RB	LS	ISDN	Other
	R2V4	G2	R2V4	G2				
Special Trunks:								
2 Touch Tone Reg								0*
5 Conference 6-Party								0*
6 Special Queue								0*
All 2-way Aplt Trunks:								
12 Aplt Delay Dial In/Out	9*	9*						
13 Aplt Delay Dial Out/Wink In	10*	10*						
14 Aplt Dial Tone Out/Delay In	8*	8*						
15 Aplt Dial Tone Out/Wink In	5*	5*						
Regular CO Trunks:								
16 1-Way In Attendant Completing	4,21	28,29†	1*			19	20	
17 1-Way Outgoing DOD	4,21	28,29†	1*			19	20	
18 1-Way Outgoing DODW/Party Test	2*	2*						
19 2-Way Incoming ATTD Completing/DOD	4,21	28,29†	1*			19	20	
20 2-Way with Party Test	2*	2*						
Foreign Exchange Trunks:								
21 1-Way In Attendant Completing	4,21†	28,29†				19	20	
22 1-Way Outgoing DOD	4,21†	28,29†	1*			19	20	
23 1-Way Outgoing DODW/Party Test	2*	2*						
24 2-Way Incoming ATTD Completing/DOD	4,21†	28,29†	1*			19	20	
25 2-Way with Party Test	2*	2*						
WATS Trunks:								
26 1-Way In Attendant Completing	4,21†	28,29†	1*			19	20	
27 1-Way Outgoing DOD or Toll Terminal Access for TSPS	4,21†	28,29†	1*			19	20	
28 1-Way Outgoing DOD W/Party Test		2*						
29 Automatic In WATS (no admin)			1*					
DID Trunks:								
30 Immediate Start DID	4				+3*		20	
31 Wink Start DID	11				3*		20	

Note: In Generic 2, the RB Signaling Encode for the Immediate Start DID trunk defaults to 30.

(continued)

* Default Signaling

† Direct Connects to 4ESS with Multi-Frequency Signaling Require Wink Start In.

+ Call Processing will Eliminate the Wink to Distant End.

Table 4-3. Trunk Signaling Encodes (Generic 2 and System 85 R2V4 only)

* Default Signaling

† Direct Connects to 4ESS with Multi-Frequency Signaling Require Wink Start In.

+ Call Processing will Eliminate the Wink to Distant End.

Trunk Type and Description	Signaling Codes							
	E&M		GS		RB	LS	ISDN	Other
	R2V4	G2	R2V4	G2				
TIE Trunks:								
32 1-Way In Dial Repeating	4*							
33 1-Way Out Automatic	4*	31*						
		32,27						
34 1-Way Dial Repeating Out	4*	4*						
35 1-Way In Automatic	4*	28*	1					
36 2-Way Dial Repeating Both Ways	4*							
37 2-Way Dial Repeat In/Auto Out	4*	31*						
		32,27						
38 2-Way Auto In/Dial Repeat Out	4*	28*	1					
39 2-Way Auto Both Ways	4*	32*	1					
40 1-Way In Dial Rep. Delay Dial	2 ⁺ *	27*						
41 2-Way Dial Repeating WS In WS/DD Out	11,21,22,26*						20	
42 1-Way In Wink Start	11,21,22,26*						20	
43 1-Way Out Wink Start or DD	11,21,22,26*						20	
44 2-Way Dial Repeat, Delay Dial In	27*	8*						
45 2-Way Dial Repeat DD In, WS In Auto Out	27*	8*						
46 2-Way Dial Repeat In, DD/WS Out	12,21,22,25*						20	
47 2-Way Dial Repeat DD In, DD/WS Out	23,21,22,24*	24*					20	
Special Trunks:								
50 Remote Access 2-Way Dial Tone In Ground Start and Dial Tone Out	21		1*				20	
51 Telephone Dictation Interface								7*
52 Recorded Announcement Interface								7*
53 Code Call Interface								7*
54 Loudspeaker Paging Interface			1*					7*
55 Touch Tone Sender								0*
57 CAS Release Link Trunk Outgoing From Branch, 1-Way Out	13*							
58 ANI Interface								6*
62 Music on Hold								0*
65 Contact Interface								0*
66 CAS Release Link Trunk Incoming At Main, 1-Way In	14*							
67 Audio Interface								0*
90 See Note 7, Word 1								7*
91 See Note 7, Word 1								7*
92 See Note 7, Word 1								7*
93 Malicious Call Trace Recorder								7*

(continued)

Table 4-3. Trunk Signaling Encodes (Generic 2 and System 85 R2V4 only)

Trunk Type and Description	Signaling Codes							
	E&M		GS		RB	LS	ISDN	Other
	R2V4	G2	R2V4	G2				
Special TIE Trunks:								
70 1-Way In Immediate Start	15*	15*						
71 1-Way Out Immediate	15*	15*						
72 2-Way Immediate Start	15*	15*						
73 1-Way In Wink Start	16*	16*						
74 1-Way Out Wink Start	16*	16*						
75 2-Way Wink Start Both Ways	16*	16*						
76 1-Way Delay Dial In	17*	17*						
77 1-Way Delay Dial Out	17*	17*						
78 2-Way Delay Dial Both Ways	17*	17*						
Data Trunks:								
100 Tone Detector								0*
101 Analog Data Modem Pool	4*	27*						
102 Digital Data Modem Pool								18*
103 Host Access PDM								18*
104 Host Access TDM								18*
105 AP32 DCPI								18*
106 EIA Port								18*
107 ISN/EIA Port								18*
108 DMI Wink In/Auto Out	5*						20	
109 DMI Wink In/Wink Out	11*						20	
ISDN Trunks:								
120 ISDN Dynamic							20*	

* Default Signaling

† Direct Connects to 4ESS with Multi-Frequency Signaling Require Wink Start In.

+ Call Processing will Eliminate the Wink to Distant End.

Table 4-4. Valid Codes for Generic 2 and System 85 R2V4

Codes	Explanation	Codes	Explanation
00	No Signaling Required	15	E&M Main Satellite, Immediate Start
01	Ground Start	16	E&M Main Satellite, Wink Start
02	Ground Start with Party Test	17	E&M Main Satellite, Delay Dial
03	Loop/Reverse Battery Wink Start	18	'S' Channel Signaling, Host Access-CPP
04	E&M Immediate Start In and Out		'S' Channel Signaling, Host Access-EIA
05	E&M Wink Start In, Immediate Start Out	19	Loop Start
06	ANI Signaling	20	Digital Multiplex Interface ISDN MOS
07	Auxiliary Equipment	21	E&M Wink Start In, Wink Start Out
08	E&M Delay Dial In and Immediate Start Out	22	E&M Delay Dial In, Delay Dial Out
09	E&M Delay Dial In, Wink/ Delay Dial with Dial Tone Out	23	E&M Delay Dial In, Wink/Delay Dial Out
10	E&M Wink Start In, Wink/ Delay Dial with Dial Tone Out	24	E&M Delay Dial In, Wink/ Delay Dial Out with Fail on Timeout
11	E&M Wink Start In, Wink/ Delay Dial Out, Also Known as Universal Sequence	25	E&M Immediate Start In, Wink/ Delay Dial Out with Fail on Timeout
12	E&M Immediate Start In Wink/ Delay Dial Out	26	E&M Wink Start In, Wink/ Delay Dial Out with Fail on Timeout
13	E&M Release Link Trunk Out	27	E&M Delay Dial In, Immediate Start Out with AUTOVON (R2V4)
14	E&M Release Link Trunk In	33-40	Unused

Table 4-5. Valid Codes for Generic 2 only

Codes	Explanation
27	Analog Line Loop
28	E&M Auto in Immediate Start Out
29	E&M Auto in Wink Start Out
30	Loop/Reserve Battery Immediate Start
31	E&M Immediate Start In, Auto Out
32	E&M Auto In and Out

Trunks and Packs for DIMENSION FP8

Table 4-6. DIMENSION Trunk Types

Trunk Name	Type No.	Definition	DIMENSION Pack Type
Special Trunk	2	Touch Tone digit register	lc 010
	5	8-way attendant conference circuit	lc 006
	6	special queue	None
All 2-way APLT CO Trunks	12	Delay dial/in (wink start or delay dial) and dial tone out	lc 226/227/366/426/011/280/432
	13	Wink start in/(wink start or delay dial) and dial tone out	lc 226/227/366/426/011/280/432
	14	delay dial in/dial tone out	lc 226/227/366/426/011/280/432
	15	Wink start in/dial tone out	lc 226/227/366/426/011/280/432
Regular CO Trunks	16	1-way automatic in	lc 008/285
	17	1-way outgoing DOD	lc 008/285
	18	1-way out DOD with party tests	lc 008/285
	19	2-way Automatic in/DOD	lc 008/285
	20	2-way with party test	lc 008/285
Foreign Exchange CO Trunks	21	1-way automatic in	lc 008/285
	22	1-way outgoing DOD	lc 008/285
	23	1-way out DOD with party test	lc 008/285
	24	2-way automatic in/DOD	lc 008/285
	25	2-way with party test	lc 008/285
WATS Trunks	26	1-way automatic in	lc 008/285
	27	1-way outgoing DOD or toll terminal access for TSPS	lc 008/285
	28	1-way out DOD with party test	lc 008/285
DID CO Trunks	30	Immediate start DID	lc 009
	31	Wink start DID	lc 009
TIE Trunks	32	1-way in dial repeating	lc 011/280/432/567
	33*	1-way automatic out	lc 011/280/432/567
	34	1-way dial repeating out	lc 011/280/432
	35	1-way automatic in	lc 011/280/432
	36	2-way dial repeating both ways	lc 011/280/432
	37*	2-way dial repeating in/automatic out	lc 011/280/432/567
	38	2-way automatic in/dial repeating out	lc 011/280/432
	39	2-way automatic in/automatic out	lc 011/280/432
	40	1-way in, dial repeating and delay dial	lc 011/280/432
	41	2-way wink start in/delay dial, wink start out	lc 011/280/432
	42	1-way in, wink start	lc 011/280/432
	43	1-way out, delay dial, wink start	lc 011/280/432
44	2-way delay, dial repeating	lc 011/280/432	

(Continued)

* If OPX is 1, or yes, use pack lc 361

Table 4-6 Continued

Trunk Name	Trunk Type No.	Definition	DIMENSION Pack Type
TIE Trunks	45	2-way delay dial, dial repeating in/automatic out	lc 011/280/432
	46	2-way dial repeating in/delay dial, or wink start out	lc 011/280/432
	47	2-way dial repeating delay dial in/delay dial, or wink start out	lc 011/280/432
Special Trunks and Interfaces	50	Remote access; 2-way dial tone in/ground start and dial tone out	lc 008
	51	Telephone dictation interface	lc 013
	52	Recorded announcement interface	lc 013
	54	Loudspeaker paging interface	lc 013
	55	TOUCH TONE sender	lc 012
	57	CAS release link trunk outgoing from branch: 1-way automatic out	lc 011/280/432
	58	ANI interface	lc 032
	62	Music on hold interface	lc 013
	64	Voice switched gain remote access trunk: 2-way dial tone in/ground start and dial	lc 007
	65	SN241 contact interface	lc 015
	66	CAS release link trunk incoming at main; 1-way automatic in	lc 011/280/432
	67	Audio	lc 013
68	UCD delay recorded announcement trunk	lc 013	
Main/Satellite TIE Trunks	70	1-way in immediate start	lc 011/280/432
	71	1-way out immediate start	lc 011/280/432
	72	2-way immediate start both ways	lc 011/280/432
	73	1-way in wink start	lc 011/280/432
	74	1-way out wink start	lc 011/280/432
	75	2-way wink start both ways	lc 011/280/432
	76	1-way in delay dial	lc 011/280/432
	77	1-way out delay dial	lc 011/280/432
78	2-way delay dial both ways	lc 011/280/432	
Special CO and WATS Trunks	85	2-way automatic in DOD with VSG	lc 007
	86	1-way automatic in with VSG	lc 007
Special Trunks	90	EUCD first announcement	lc 013
	91	EUCD 2nd announcement	lc 013
	92	Queue-of-origin announcement	lc 013
	93	Malicious call trace recorder	lc 013

MODEM POOL ADMINISTRATION

Modems, which convert digital signals to analog signals and vice versa, are used when data terminals and personal computers are communicating with other computers which are remote or not part of your digital switch network. That is, if data must travel a non-digital route to its destination, the signals must be converted to analog. A modem on the receiving end can then convert the signals back to digital.

Modem pooling eliminates the need for a dedicated modem for every data terminal that requires access to analog facilities. With modem pooling, modems are grouped into pools for switched access when required. Since the conversion resource is not permanently attached to the data terminal, the terminal can also access digital facilities when a conversion resource is not needed.

Users can access the modem pool by dialing from a voice or a data terminal. Each modem pool is configured for a particular set of transmission characteristics, such as transmission rate, duplex, and synchronous or asynchronous transmission. Normally, a pool supports only one transmission rate.

Modem pools pair analog and digital trunk groups. One switch can support multiple modem pools, and each pair of trunk groups can support up to 99 conversion resources. Analog circuits that support modem pooling include:

- CO trunks
- TIE trunks
- FX circuits
- WATS lines
- Data ports and General Purpose Ports (GPPs).

Administering Modem Pools on Generic 2 and System 85

The **modem-pool** transaction can be accessed from the admin, database-admin and product-admin areas under the FM application. This transaction administers analog and digital trunk groups, their attributes and pairing of trunks in a group.

The verbs supported are: **add**, **change**, **display**, and **remove**. To add a digital trunk group and an analog trunk group to the system, use the **modem-pool add** command. To change the trunk group characteristics, issue the **modem-pool change** command. To display a modem-pool pair, enter the **modem-pool display** command. To remove a modem-pool pair, first, remove all ELLs assigned to this modem-pool via the **modem-trk remove** transaction. Then remove the analog and digital trunk groups by entering the **modem-pool remove** command.

To add, display or remove more than 10 trunks from the trunk groups, use the **modem-trk** transactions. To add more pairs to already existing modem-pool pairs, use the **modem-trk add** transactions. To display the ELL pairs assigned to the modem pool pair, use the **modem-trk display** command. The **modem-trk** transactions are available in the admin, database-admin, and product-admin areas under the FM application.

The **modem-pool** transaction is supported by three screens (pages). The first two pages display the attribute fields for one pair of digital and analog trunk groups, respectively:

- DIGITAL TRUNK GROUP INFORMATION - Page 1
- ANALOG TRUNK GROUP INFORMATION - Page 2.

Page 3 allows you to specify the Equipment Locations for both digital and analog trunks. Depending what values you enter in some of the displayed fields, the system may change the permissions originally assigned to the related fields or display the related fields which were masked before. As a result, the

cursor will skip certain fields, which used to be optional, or will not advance to the next field unless you make the required entry.

Procedure: Add Modem Pool Trunks

Prior to adding a digital trunk group and an analog trunk group to the system, make sure that the right pack types have been assigned. These may be for *Traditional*, *Universal* or *XE* Modules. You are allowed to select the pack types as follows:

<i>Traditional Pack Type</i> [Generic 2 and System 85]	<i>Universal Pack Type</i> [Generic 2 only]
sn228	tn746
sn229	tn742
sn270t	tn754t
sn243	

Note that the above listed pack types can be used with an analog trunk group, except "sn270t" and "tn754t." These pack types can only be used with a digital trunk group.

- To assign the appropriate pack types, enter the **carrier** or **pack add** transaction. For more details on the command usage, refer to "Hardware Administration" in Chapter 2.
 - If a pack is used for modem pooling, the trunks specified on the pack must be all digital or all analog. You cannot use the same pack for both analog and digital trunks. Once a pack is used for either analog or digital, the rest of the pack must be used for the same type.
- To add a digital trunk group and an analog trunk group, enter the **modem-pool add** command. This command invokes the **modem-pool add** input screen.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin modem-pool add          Page 1 of 3

DIGITAL TRUNK GROUP INFORMATION

      Trunk Group No.: ___      Originate Mode Active? ___
      Dial Access Code: ___      Answer Mode Active? ___
      Trunk Type: ___            Modem Type? ___
      Bearer Capability COS:     First Choice Modem? ___
      Dial Access Restriction?   SMDR Active? ___
      Test Type: ___            SMDR Code Required? ___
                                SMDR Variable Timer (secs): ___

Route Advance Data          Automatic circuit Assurance Data

      Trunk Group 1: ___      Long Holding Time (hrs): ___
      Trunk Group 2: ___      Short Holding Time (secs): ___
      Trunk Group 3: ___      Short Referral Level: ___
      Trunk Group 4: ___

```

3. Enter the Trunk Group No. field. This field is required. Valid entries are **18-999** for Generic 2 and System 85 and **18-255** for System 85 R2V2 and R2V3. Press **RETURN**.
4. Enter the Dial Access Code field. This field is optional. Press **RETURN**.
5. The Trunk Type field defaults to **102**. The cursor skips to the Bearer Capability COS field. You are not allowed to make any entry in the Trunk Type field. This field is display only.
6. The Bearer Capability COS field defaults to **5**. This is an optional field. Valid entries are **0-255**. Enter a valid value and press **RETURN**.
7. If the Dial Access Restriction field is optional, enter **y** or press **RETURN** to use the default value. Valid entries are **y** or **n**. Press **RETURN**.
8. Enter **0, 1** or **2** in the Test Type field. Press **RETURN**.
9. Enter the Originate Mode Active field. You are allowed to either select the default entry **n** or change this value to **y**. Press **RETURN**.
10. Enter the Answer Mode Active field. You are allowed to either select the default entry **n** or change this value to **y**. Press **RETURN**.
11. Enter the Modem Type field. You are allowed to either select the default entry **n** or change this value to **y**. Press **RETURN**.
 - If both the Originate Mode Active and Answer Mode Active fields are populated with **y**, the Modem Type field will default to **y**. The cursor will skip this field because it becomes display only.
12. Enter the First Choice Modem field. This field is required. You are allowed to select either the default entry **n**, or change this value to **y**. Press **RETURN**.
13. Enter the SMDR Active field. This field is optional. You are allowed to either select the default entry **n**, or change this value to **y**. Press **RETURN**.
 - This field is a prerequisite to the SMDR Code Required field. When enabled (**y** entry), the SMDR Active field brings up the SMDR Code Required field. Disabling the SMDR Active field (**n** entry) results in the SMDR Code Required field disappearance.
14. The SMDR Variable Timer (secs) field appears on the screen if the SMDR Active and SMDR Code Required are enabled. Such field dependency is demonstrated in the table below.

SMDR Active	SMDR Code Required	SMDR Variable Timer
y	n	*
y	y	1-99

Note: The asterisk (*) indicates that the field is not displayed.

15. Enter the Trunk Group 1, Trunk Group 2, Trunk Group 3 and Trunk Group 4. Valid entries are **18-999**. Press **RETURN** after populating each group number.
16. Enter the Long Holding Time (hrs) field. Valid entries are **0-10**. Press **RETURN**.
17. Enter the Short Holding Time (secs) field. Valid entries are **0-160**. Press **RETURN**.
18. Enter the Short Referral Level field. Valid entries are **0-30**. Press **RETURN**.
19. Press **RETURN** when the "End of Form" message appears at the bottom of the screen. Page 2 of the screen is displayed. Page 2 allows you to specify the attributes of the analog trunks.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin modem-pool add          Page 2 of 3

ANALOG TRUNK GROUP INFORMATION

      Trunk Group No.: ____          Dial Access Restriction? ____
Dial Access Code: ____          SMDR Active? ____
      Trunk Type: ____          SMDR Code Required? ____
          SMDR Variable Timer (secs): ____

      Trunk Name: _____

```

The short help messages provided for Page 1 apply to Page 2 as well.

1. Enter the Trunk Group No. field. Valid entries are **18-999** for Generic 2 and System 85 R2V4, **18-255** for System 85 R2V2 and R2V3. This field is required.
2. Enter the Dial Access Code field. This field is optional. You are allowed to populate or skip this field by pressing **RETURN**.
 - If you populate this field with a valid entry, the Dial Access Restriction field defaults to **y**.
 - If you skip this field by pressing **RETURN**, the Dial Access Restriction field defaults to **n**.
3. The cursor skips the Trunk Type field. This field defaults to **101**. This field is display only. The cursor is positioned in the Trunk Name field.
4. Enter the Trunk Name field. This field is optional. You are allowed to either populate or skip the field by pressing **RETURN**. The cursor will skip to the SMDR Active.
5. The Dial Access Restriction field is display only. This field defaults to either "y" or "n," depending on the entry in the Dial Access Code field as discussed above. You are not allowed to make any entry. The cursor will always skip this field.
6. Enter the SMDR Active field. The field dependencies described for Page 1 apply to Page 2. For detailed description of the SMDR Active, SMDR Code Required and SMDR Variable Timer (secs) fields, refer to the Page 1 description.
7. With the "End of Form" message displayed, press **RETURN** to invoke Page 3 of the screen.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin modem-pool add                Page 3 of 3

                Digital Trunk   Analog Trunk
                Equip. Loc.     Equip. Loc.
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/
                _/_/_/_/        /_/_/_/_/

```

8. Enter the Equipment Locations (ELLS) of the digital and analog trunk pairs. To place the correct values in the ELL fields via the **modem-pool add** transaction, first, enter the **modem-trk display** command to view the ELL pairs assigned to the modem-pool. Also, there are a number of things to consider for the *Universal, XE* or *Traditional* Module, as shown in the table earlier in this chapter.

You can add up to 30 pairs with this command. Follow the procedure, "Adding Additional Trunks to a Modem Pool," to add more than 30 trunk pairs to the pool.

9. Press **EXECUTE** to run the transaction.

Procedure: Display Modem Pool Trunks

1. To display digital and analog trunk groups, enter the **modem-pool display** command and press **RETURN**. The **modem-pool display** input screen is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin modem-pool display

                Select: Digital Trunk Group No.: ___
                        Analog Trunk Group No.: ___

```

2. Select a digital or analog trunk group by entering the appropriate entry. One of the above displayed fields is required. Valid values are **102** for a digital trunk group, and **101** for an analog trunk group.
- To display a digital trunk group, enter **102** in the Digital Trunk Group No. field. Press **RETURN**. The cursor will skip the Analog Trunk Group No.
 - To display an analog trunk group, press **RETURN**. The cursor will skip to the Analog Trunk Group No. field. Enter **101** for an analog trunk group.

- If you enter an invalid digital trunk group number, this error message displays: "TRUNK GROUP NUMBER IS NOT A DIGITAL TRUNK GROUP."
- If you enter an invalid analog trunk group number, this error message displays: "TRUNK GROUP NUMBER IS NOT AN ANALOG TRUNK GROUP."

The **modem-pool display** output screen (Page 1) is displayed. The screen is formatted the same way as the **modem-pool add** input screen. Except, with the display screens, all fields are display only. The fields are populated with the values entered using the **add** or **change** commands. The default entries for the display only fields have been entered at system initialization.

3. Press **RETURN** to invoke Page 2 of the screen.
4. To have Page 3 displayed, press **RETURN**.

Procedure: Change Modem Pool Trunks

You are allowed to change only the group characteristics for digital and analog trunk groups.

1. To invoke the **modem-pool change** input screen, enter the **modem-pool change** command. The input change screen is formatted the same way as the input display screen. For the input change screen description, refer to "Procedure: Display Modem Pool Trunks."
2. With the digital or analog trunk group selected, the **modem-pool change** output screen is displayed. The description provided for the **modem-pool add** screens applies to the **change** screens. Refer to "Procedure: Add Modem Pool Trunks."

Procedure: Remove Modem Pool Trunks

A modem-pool pair is established when modem-trunks are paired, via either the **modem-trk** or **modem-pool** command. To remove a modem pool, you must first remove all modem-trunk pairs using the command **modem-trk remove**. Then you can remove the modem-pool using **modem-pool remove**.

You cannot add new modem-pool pairs to a modem pool after all trunks have been removed from it.

1. Enter the **modem-trk remove** command to remove all ELLs assigned to this modem-pool.
2. Enter the **modem-pool remove** command. The **modem-pool remove** input screen is displayed. The input screen format is the same as for the **modem-pool display** command.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin modem-pool remove

                Select: Digital Trunk Group No.: ____
                   Analog Trunk Group No.: ____

```

3. Enter the Digital Trunk Group No. field. This field is required. Press **RETURN**.
4. Enter the **Analog Trunk Group No.u1** field. This field is required. Press **RETURN**. For a detailed description of these fields and the short help messages associated with them, refer to "Procedure: Display Modem Pool Trunk Groups."

Administering Modem Pools on DIMENSION FP8

To administer modem pools on DIMENSION System FP8 do the following:

1. Use **modem-attribute add** to administer the attributes (baud rate, duplex mode, and synchronization rate) for each type of modem pool. You can establish up to 15 attributes.
2. Use **modem-pool add** to set up the trunk groups to be used in modem pools. This command identifies the digital and analog trunks that are in the pool but does not pair the trunks.
3. Use **modem-trk add** to add additional trunks to the pool.
4. Use **modem-pair add** to pair a digital trunk with an analog trunk. The trunks must already be part of a modem pool group.

Procedure: Administering Modem Pool Attributes - DIMENSION

1. Enter the command **modem-attribute add** and press **RETURN**.

```

AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin modem-attribute add

Attribute:                      Baud Rate:
                                Synch/Asynch:
                                Duplex Mode:

```

2. Enter the attribute number to be added (**1-15**).
3. Enter the information associated with this attribute.
4. Press **EXECUTE** to run the transaction.

Procedure: Adding Modem Pool Trunk Groups - DIMENSION

1. Enter the command **modem-pool add** and press **RETURN**.
2. Select the type of trunk to be added by typing **x** next to Digital or Analog.

The following screen is displayed for Digital:

```

AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin modem-pool add                Page 1 of 2

                Select Option
                x Digital Modem Trunk Group
                Analog Modem Trunk Group

                Digital Trunk Group Information

Trunk Group No:                Attribute:
Dial access code:                Dial Access
Trunk Type:                Restriction?:

Route Advance Data                Automatic Circuit
Trunk Group 1: __                Assurance Data
Trunk Group 2: __                Long Holding Time: __
Trunk Group 3: __                Short Holding Time: __
Trunk Group 4: __                Short Referral Level: __

```

- The digital trunk type can be either **33** or **37**.
3. Enter the other information for the digital trunk group and press **RETURN**.

```

AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin modem-pool add                Page 2 of 2

                Digital Trunk
                Equip. Loc.
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_
                _/_/_/_ /_

```

4. Enter the equipment location for the digital trunks.

The following screen is displayed for Analog trunks:

```

AT&T Mgr IV 2.2          D2000 FP8          <target>
fm admin modem-pool add          Page 1 of 2

                                Select Option
                                Digital Modem Trunk Group
                                x Analog Modem Trunk Group

                                Analog Trunk Group Information

                                Trunk Group No.:          Attribute:
                                Dial Access Code:          Dial Access
                                Trunk Type: 37            Restriction?:

                                Analog Trunk          Analog Trunk
                                Equip. Loc.          Equip. Loc
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/
                                _/_/_/_/            _/_/_/_/

```

5. Enter the attribute information and equipment location for the analog trunks.
6. Press **EXECUTE** to end the transaction.

Procedure: Pairing Digital and Analog Trunks

In DIMENSION systems, the digital and analog trunks are first added to modem pool groups and then are paired using the **modem pair** command.

1. Enter the command **modem-pair add** and press **RETURN**.

```

AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin modem-pair add                Page 1 of 1

                                Select option
                                Single Modem-Trunk Pair
                                x Multiple Modem-Trunk Pair

                                Digital Trunk                Analog Trunk
                                Equip. Loc.                Equip. Loc.
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
                                _/_/_/_/_                _/_/_/_/_
    
```

2. If you typed **x** next to Single Modem-Trunk Pair, you are prompted to enter only one pair of ELLs.
3. For multiple pairs, enter the ELLs for the digital and analog trunks you want to pair.
 - The trunks must already be part of a digital or analog modem pool trunk group.
 - The paired trunks do not have to belong to the same modem-pool trunk group in order to be paired.
 - The paired trunks must have the same attributes.
4. Press **EXECUTE** to end the transaction.

Procedure: Adding Trunks to a Modem Pool - DIMENSION

Use the command **modem-trk add** to assign additional trunks to an existing modem-pool group.

1. Enter the command **modem-trk add** and press **RETURN**.

```

AT&T Mgr IV 2.2          D2000 FP8          <target>
fm admin modem-trk add          Page 1 of 1

                                Select option
Trunk Group No. :              _ Single Trunk
                                x Multiple Trunks

                                Equip. Loc.          Equip. Loc
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_
                                - /_/_/_/_/_         - /_/_/_/_/_

```

2. Enter the ELLs of the trunks to be added to the group.
3. Press **EXECUTE** to end the transaction.

Procedure: Associating Extensions and Terminals to Modems - DIMENSION

Use **modem-extension add** to associate individual stations and terminals. Before you can pair them, the extension and terminal must be added to the system using the TCM command **extension add**. The extension must be assigned a Class of Service (COS) that does *not* provide data port enabling. Conversely, the terminal must be assigned a class of service with data port enabling.

1. Enter the command **modem-extension add** and press **RETURN**.

```
AT&T Mgr IV 2.2                D2000 FP8                <target>
fm admin modem-extension add    Page 1 of 1

                                Select option
                                x Single Extension-Terminal Mapping
                                _ Multiple Extension-Terminal Mapping

Extension No.: _____      Terminal: _____
                               _____
                               _____
                               _____
                               _____
                               _____
                               _____
                               _____
                               _____
                               _____
```

2. Enter the extension number of the extension and terminal to be paired.
3. Press **EXECUTE** to end the transaction.

COMPACTING THE NAMES DATABASE

[Generic 2 and System 85]

The names database that resides within the switch contains the names associated with specific extensions and trunk groups. These names are viewed on Display Modules. Extension names require a certain number of "words" for retention in the switch names database. For example, a 10-character name requires 6 words; a 20-character name, 12 words; and a 30-character name, 16 words.

A display of the switch's name database will disclose information on the number of names that can still be assigned, the number of words still available, and the number of words that can be gained by compacting the database. If the display indicates that no words can be gained by compacting the database, then the switch's names database is already compact. If, on the other hand, the display indicates that words can be gained through compacting the database, you should use the **names-database compact** command.

The task of compacting the switch's names database involves only the switch itself; it does not affect the Manager IV database. Unlike the database in the switch, the Manager IV database automatically compacts names.

5. NETWORK ADMINISTRATION

This chapter includes detailed material on:

- Distributed Communications System (DCS)
- Data Communications Interface Unit (DCIU)
- Integrated Services Digital Network (ISDN)
- Autovon and Precedence Calling
- Main Satellite.

The "Distributed Communications System" task provides information on how to administer the DCS's External Adjuncts.

The "DCIU" task explains how to administer the DCIU channels and links.

The "ISDN" task introduces two types of the ISDN interface: Primary Rate Interface (PRI) and Basic Rate Interface (BRI).

The "Autovon and Precedence Calling" task provides detailed explanation on administering the Autovon networks.

The "Main Satellite" task explains how to administer main and satellite switches in a main-satellite network.

DISTRIBUTED COMMUNICATIONS SYSTEM

External Adjuncts [Generic 2 and System 85 R2V3, R2V4]

External adjuncts, such as the Distributed Communications System's (DCS) message center, AUDIX (Audio Information Exchange), DIMENSION, System 75 and Applications Processors (AP) can be administered through FM or TCM. The command object **external-adjunct**, executed from the product-admin area, is used by Generic 2 or System 85 R2V3, R2V4 to activate, deactivate, and display adjunct feature operations and characteristics. The verbs used with this command are **change** and **display**. External adjunct information is not stored in the Manager IV database.

[Generic 2, System 85 R2V4] If the Transfer to AUDIX or the DCS Centralized Messaging feature is active, this transaction can be used to associate the network adjunct class (AP, AUDIX, DCS) and the network adjunct number with the node number. It also defines the network machine or node number for each AUDIX or Message Center. Messages are then routed to the correct node in the network. The transaction also administers the associated extension number.

Procedure: Administering External Adjuncts

Adjuncts must be identified to the switch through a series of prompts covering two screens. To administer external adjuncts:

1. If the adjunct needs to be accessed via an extension, assign the extension via **extension add**.
2. [Generic 2, System 85 R2V4] A Dial Access Code (DAC) must be assigned prior to this transaction to activate the Transfer to AUDIX feature. Use **dial-access-codes change**.

- To administer the attributes of the adjunct, enter **external-adjunct change**.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm product-admin external-adjunct change

                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

                Local Adjunct Class:

                Local Adjunct Number:
```

- The message, "This information is retained only in the product," is a reminder that when you are in the product-admin area, you are affecting only the switch database.
- Enter the Local Adjunct Class. Valid entries include: **1** for an AP, **2** for AUDIX, or **3** for DCS. The value specified for local adjunct class is associated with the network adjunct class entered on Page 2 of this screen sequence; both values must be the same.
 - Enter the Local Adjunct Number. Valid entries include: **1-7** for APs, **1-4** for AUDIX, **1-64** for DCS. This number identifies the machine number or node number to be associated with the adjunct class.
 - Press **RETURN** to go to Page 2 of the screen.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm product-admin external-adjunct change          Page 2 of 2

                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

                Local Adjunct Class:

                Local Adjunct Number:

                Local Adjunct Type:

                Version Number:

                N-Digit?

                Scrolling?

                Network Adjunct Number?

                Network Adjunct Class?

                Adjunct Extension Number:
```

- Enter the type of external adjunct in the Local Adjunct Type field. Valid entries include:

Sys 85 AP16	= 1	Sys 75	= 4
Sys 85 AP3B5 or AP3B2	= 2	Sys 85 R1	= 5
AUDIX	= 3	Sys 85 R2	= 6
		DIMENSION	= 7

- Enter the Version Number of the external adjunct (**0-999**). This is the version number of the AP, AUDIX, or DCS.
- Type **y** or **n** in the N-Digit field to specify whether the n-digit format message protocol between the external adjunct and the switch is supported.
- Specify display characteristics by a **y** or **n** entry in the Scrolling? field.
- Enter the Network Adjunct Number. This number identifies the machine or node number associated with the network adjunct class.
- Assign the network adjunct class. Valid entries include: **1** for APs, **2** for AUDIX, **3** for DCS. The network adjunct class must be assigned the same value as the local adjunct class assigned on Page 1.
- [Optional] Enter the extension number to be associated with the network adjunct number.

DCIU ADMINISTRATION

The Data Communications Interface Unit (DCIU), which provides interprocessor communications between the switches in a Distributed Communications System (DCS) cluster, or between the switch and external adjuncts, delivers a new type of application with Generic 2 and System 85 R2V4. This new application is known as the DCS Centralized Messaging Capability/ Enhanced Services; it also permits flexible port assignments for a wide variety of applications.

DCIU-Link Commands

The Data Communications Interface Unit (DCIU) is a small processor that provides the intelligence for the special features of DCIU links. These links allow communication between the central processor and external adjuncts and/or other switches. DCIU administration involves setting the parameters for the DCIU links and channels. The DCIU itself is usually enabled during initialization but you can enable or disable it by executing the **sys-cos** transaction.

There are significant differences between the Generic 2 or System 85 R2V2, and R2V3, and R2V4 versions of DCIU administration, so there are varying procedures for these switch releases.

The following table provides guidance on where you will find information and procedures for your particular switch. The subjects listed in the top row of the chart are covered in this chapter; those in the bottom row of the chart are in Chapter 2, "Hardware Administration" and Chapter 10, "Miscellaneous Applications" unless otherwise noted.

Table 3-8: DCIU and Generic 2 and System 85 Switches

To	See
Add a DCIU channel Administer a DCIU link between a Generic 2, System 85 and an AP a Generic 2, System 85 and AUDIX two switches in a DCS network [Generic 2 and System 85 R2V3-R2V4] Administer DCIU Channels for AP and AUDIX Administer DCIU Channels for DCS [Generic 2 and System 85 R2V3-R2V4] Administer DCIU Channels for Enhanced Services [Generic 2 and System 85 R2V4]	dciu-channel add Administering DCIU Links: Switch to AP Administering DCIU Links: Switch to AUDIX Administering DCIU Links: DCS Network DCIU Administration DCIU Administration DCIU Channel Administration
Administer Digital Multiplex Interface (DMI) [Generic 2 and System 85 R2V3-R2V4] Administer Processor Communications Circuit (PCC) remove, [Generic 2 and System 85 R2V4]	Assigning DS1 and ISDN Circuit Pack Parameters in Chapter 2 Processor Communications Circuit pcc add, change, display, Chapter 10

DIMENSION FP8 1.16, and 3.8 have four links with 20 channels each; the logical link or buffer between the DCIU and a switch is identified as link 5. DCIU administration for DIMENSION FP8 only involves connecting the DCIU to up to four Applications Processors (APs). Before any administration task, you must busy out the DCIU links; when you have concluded administration, you must release the DCIU links.

Generic 2 and System 85 have eight hardware links with 64 channels each; the logical link between the DCIU and a switch is identified as Link 0. For Generic 2 and System 85, you can administer a connection between a DCIU and APs, between two DCIUs connected to switches in a Distributed Communications System (DCS), and (from R2V2 forward) between a DCIU and an Audio Information Exchange (AUDIX). In Generic 2 and System 85, instead of busy out the links, you do the work on a scratchpad or buffer in the DCIU. This feature allows the link to stay in use while you do your administration. In addition, in System 85, both DCIU link and channel administration are preceded by a DCIU refresh command (which sets up the scratchpad prior to DCIU administration) and conclude with a DCIU download command.

In Generic 2 and System 85 R2V4, Distributed Communications System Centralized Messaging Capability/Enhanced Services is a new application type. Generic 2 and System 85 R2V4 also allow flexible DCIU port assignment. Prior to R2V4, the channel number used for connecting the switch to a particular application was hard-coded at the factory. However, in Generic 2 and System 85 R2V4 only the

ports that connect the APs are hard-coded. The rest of the ports can be used for any application, such as DCS or AUDIX. In addition, if one of the ports that is reserved for an AP is not being used, it can be used for a DCS or AUDIX application.

To administer the far-end of DCIU links (that is, the end away from the switch) connected either to an AP or to an AUDIX, you must use adjunct administration to "talk" to APs and AUDIX. You can use Manager IV procedures to perform all DCIU administration within a DCS network; however, you must plan carefully.

Procedure: Busying out DCIU Link

1. To busy out the DCIU link you want to administer, enter **dciu-link busyout** and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link busyout

                                YOU ARE DIRECTLY ACCESSING THE PRODUCT

                                Enter <escape>, then "e" to busyout the entire DCIU

```

2. Enter the number of the link to be enabled.
3. Press **EXECUTE** to enter the data.
4. To assign the DCIU link to the switch, enter **dciu-link change** and press **RETURN** to change the link's status.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change

                                Select Option
                                _ One Link
                                _ All

DCIU
Link
No.
  -

```


5. Type **x** in the One Link field, and then enter the link number to be assigned.
6. Press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change          Page 1 of 1

                                Select Option
                                x One Link
                                _ All

DCIU   DCIU                               Dest.
Link   Link   Baud   Dial                Mach.  Mach.  Local  Link
No.   Assgn? Rate   Up?   Protocol Type   No.   Role   Name
  _   _     _     _     _     _     _     _     _

```

7. Type **y** in the DCIU Link Assgn? field.
 - If **y** already appears in that field, the link is currently assigned. Check your information.
8. Enter the Baud Rate.
 - The baud rate must be the same on both ends of the link.
9. To define the network channels for each link, enter **dciu-channel add** and press **RETURN**.
 - For Generic 2 and System 85 R2V4, see "DCIU Channel Administration [Generic 2 and System 85]" later in this chapter.

```

AT&T Mgr IV 2.2          System 85 R2V3          <target>
fm admin dciu-channel add          Page 1 of 1

                                Does Channel Use a Switch Port?: y
                                Maintenance Channel?: y

                                Component A          Component B

                                Link: _              Link: _
                                Channel: __          Channel: __          Priority: _

```

10. Make entries in each field.

CAUTION: Channel numbers must be the same at both ends of the link.
11. Press **EXECUTE** to enter the data.
12. To assign the link to the AP, use the Manager IV command **ap talk**. Then, use the DCIU link procedures in the *Applications Processor (AP) Administrator's Guide*.
13. To put the link back in service, enter **dciu-link release** and press **RETURN**.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link release

                YOU ARE DIRECTLY ACCESSING THE PRODUCT

                Enter <escape>, then "e" to release the entire DCIU
```

14. Enter the link number.
15. Press **EXECUTE** to enter the data.

Administering DCIU Links: Switch to AP [Generic 2 and System 85]

Use this procedure to administer Data Communications Interface Unit (DCIU) links between a Generic 2 or System 85 switches and up to seven Applications Processors (APs). The links carry signaling information about features on the AP.

The AP features include Message Center Service, Leave Word Calling (low and high priority), Automatic Message Waiting Lamp, Traffic, Station Message Detail Recording (SMDR), AP Clock Synchronization, Distributed Communications System (DCS), Enhanced Services, CMS, and Voice Mail Service.

The Generic 2 and System 85 versions support eight links for use with an AP, a PBX, and (for R2V2 forward) AUDIX in a DCS environment.

To administer DCIU links, you must perform the following steps:

- Begin DCIU administration by using **dciu refresh**. This is explained in the next section, "Procedure: Beginning DCIU Administration."
- Assign the DCIU link to the switch using **dciu-link change**.
- Define the network channels for each link using **dciu-channel add**.
- End DCIU administration by using **dciu download**. This is explained in "Procedure: Ending DCIU Administration" later in this chapter.
- Assign the link to the AP by using AP administration procedures (**ap talk**). (See the *Applications Processor Administrator's Guide* for more information.)

Procedure: Beginning DCIU Administration

This procedure creates a work area that enables you to do DCIU administration without busying out the link.

1. Enter **dciu refresh** and press **RETURN**.

System response:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu refresh

THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Execution of this command will cause the contents
of the scratch pad to be overwritten with the values
currently used in the switch tables.

Choose execute (<esc>-e) or cancel (<esc>-c).
```

Note: No entry is required. The command creates a work area or scratchpad, which is a buffer with values set to those currently in the switch. The procedures that assign links change values in the scratchpad.

When you have finished assigning links, follow "Procedure: Ending DCIU Administration" later in this chapter to download data to the switch.

2. Press **EXECUTE** to process the command.

Procedure: Assigning the DCIU Link: Switch to AP

1. Enter **dciu-link change** and press **RETURN**.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change

                               Select Option
                               _ One Link
                               _ All
```

2. To enable one link, type **x** in the One Link field and press **RETURN**. To enable all links, go to Step 3.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change

                               Select Option
                               _ One Link
                               _ All

DCIU
Link
No.
  -
```

- Enter the link number, and press **EXECUTE**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin dciu-link change

                                Select Option
                                x One Link
                                _ All

DCIU  DCIU                      Dest.
Link  Link   Baud   Dial           Mach.  Mach.  Local  Link
No.   Assgn? Rate   Up? Protocol  Type   No.    Role   Name
  2    n     none   _           b      _     _     dte   _____

BX.25 Level 2 Characteristics :
Retransmission      Frames           Maximum No.       Maximum No.
Time for            Exchanged       Retransmissions   Frames Transmitted
Unackn. Frames     Time           of Ackn. Frames   Without Ackn.
  1                10              2                 7

BX.25 Level 3 Characteristics :

Activity   Ackn.   Intercept   Reset   Restart   Maximum
Timer      Timer   Timer       Timer   Timer     Unackn.
  180      20     180         8       8         Packets
                                     4

```

- Make entries in the first row of fields. The screen shows the default values.

Notes: — Enter **y** in the DCIU Link Assgn? field.

- The baud rate you enter here must match the baud rate you assign to the other end of the link.
- Protocol defaults to BX.25. BX.25 characteristics are also defaulted (as shown in Rows 2 and 3 of data). *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.
- The local role of the link to an AP must be Data Terminal Equipment (DTE) at the switch end.
- Optionally, you can enter a name for the link. The name is saved in the database, *not* in the switch.

- Press **EXECUTE** to enter the data.

- Go to Step 4.

3. To enable more than one link, type **x** in the All field and press **EXECUTE**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin dciu-link change                Page 1 of 3

                                Select Option
                                _ One Link
                                x All

DCIU  DCIU                               Dest.
Link  Link                               Mach.  Mach.  Local
No.  Assgn?  Rate  Dial  Protocol  Type  No.  Role  Link Name
  1   n      none  n    -         -    -    dte  _____
  2   n      none  n    -         -    -    dte  _____
  3   n      none  n    -         -    -    dte  _____
  4   n      none  n    -         -    -    dte  _____
  5   n      none  n    -         -    -    dte  _____
  6   n      none  n    -         -    -    dte  _____
  7   n      none  n    -         -    -    dte  _____
  8   n      none  n    -         -    -    dte  _____

```

The default values are shown on the screen.

- For each link to be used, enter the link number and type **y** in the Link Assgn? field.

Note: Not all links need to be assigned.

- Make entries in other fields as appropriate.

Notes: — Protocol defaults to BX.25. BX.25 characteristics are also defaulted.

— The local role of the link to an AP must be DTE at the switch end.

— Optionally, you can enter a name for the link. The name is saved in the database, *not* in the switch.

— The baud rate you enter here must match the baud rate you assign to the other end of the link.

- [Optional step] Press **RETURN** to view Level 2 BX.25 characteristics. Press **RETURN** again to view Level 3 BX.25 characteristics.

Note: These fields have been defaulted to their best values. *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.

- Press **EXECUTE** to enter the data.

- To define the network channels for each link, enter **dciu-channel add** and press **RETURN**.

Note: For the Generic 2 or System 85 R2V4 target switch, see "DCIU Channel Administration - Generic 2 and System 85 R2V4" later in this chapter.

Procedure: Defining AP Channels

[System 85 R2V2-R2V3]

The **dcui-channel add** transaction allows you to administer a connection between a DCIU and APs, DCIU and DCS, or DCIU and AUDIX. The **dcui-channel add** screen is dynamic. For each feature selected (AP, DCS, or AUDIX), the related fields are displayed.

1. Enter the **dcui-channel add** command. The prompt "Does Channel Use a Switch Port?" displays first. If the channel uses a switch port, enter **y** in the Does Channel Use a Switch Port? field. Press **RETURN**.
2. The Maintenance Channel field appears. You are allowed to select either the Maintenance Channel or one of these features: AP, DCS, or AUDIX, as shown on this screen. To invoke the AP, DCS, and AUDIX fields, enter **n** in the Maintenance Channel? field and press **RETURN**.
3. Enter **x** next to the AP field. Press **RETURN**.

AT&T Mgr IV 2.2	System 85 R2V3	<target>
fm admin dcui-channel add		Page 1 of 1
Select Application	Does Channel Use a Switch Port?: y	
__Maintenance Channel	Maintenance Channel?: n	
__Leave Word Calling (High)		
__Leave Word Calling (Low)		Select Option:
__Auto Message Wait Lamp		x AP
__Traffic		_ DCS
__Station Message Detail Recording		_ AUDIX
__AP Clock Synchronizer		
__Call Management System		
Component A	Component B	
Link: _	Link: _	
Channel: __	Channel: __	Priority: _
(values will be supplied)		

4. Select Application by entering **x** in the appropriate field. Press **RETURN**.

Note: Based on your entries, defaults are supplied for Component A. However, the values are not determined until after you execute the command.
5. Enter the link and channel for Component B and the priority for the link.

Note: The channel for Component B cannot be the same as the channel for Component A.
6. Press **EXECUTE** to enter the data.

Procedure: Ending DCIU Administration

This procedure downloads the data you have entered in the work area to the DCIU.

1. Enter **dciu download** and press **RETURN**.

```
AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin dciu download

                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Execution of this command will cause the contents
of the scratch pad to be copied to the switch tables.
This transaction should be used after all DCIU
translation changes have been made.

Choose execute (<esc>-e) or cancel (<esc>-c).
```

2. Press **EXECUTE** to execute the command.

Administering DCIU Links: Switch to AUDIX [Generic 2, System 85]

Use this procedure to administer Data Communications Interface Unit (DCIU) links between a DCIU at Generic 2 or System 85 R2V2-R2V4 switches and up to four Audio Information Exchanges (AUDIXs). The links carry information concerning voice mail service provided by AUDIX.

In addition to AUDIX, System 85 R2V2 forward supports eight links for use with an AP (Applications Processor), a Private Branch Exchange (PBX), and a Distributed Communications System (DCS) environment.

To administer DCIU links, perform the following steps:

- Begin DCIU administration by using **dciu refresh**. See "Procedure: Beginning DCIU Administration" for details.
- Assign the DCIU link to the switch using **dciu-link change**.
- Define the network channels for each link using **dciu-channel add**.
- End DCIU administration by using **dciu download**. See "Procedure: Ending DCIU Administration" for details.
- Assign the link to AUDIX using Adjunct Administration commands (**audix talk**). Then use AUDIX administration procedures as described in the *AUDIX Administration Guide*.

Procedure: Assigning the DCIU Link: Switch to AUDIX

1. To assign the DCIU link, enter **dciu-link change** and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin dciu-link change

                                Select Option
                                _ One Link
                                _ All

```

2. To assign one link, type **x** in the One Link field and press **RETURN**. Enter the link number in the DCIU Link No. field and press **EXECUTE**. To assign all links, go to Step 3.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change

                                Select Option
                                x One Link
                                _ All

DCIU  DCIU                               Dest.
Link  Link  Baud  Dial                    Mach.  Mach.  Local  Link
No.   Assgn? Rate  Up? Protocol Type      No.   Role  Name
  2    n    none  _      b      _      _    dte  _____
BX.25 Level 2 Characteristics :
Retransmission      Frames      Maximum No.      Maximum No.
Time for            Exchanged  Retransmissions  Frames Transmitted
Unackn. Frames      Time      of Ackn. Frames  Without Ackn.
  1                10          2                7
BX.25 Level 3 Characteristics :

Activity  Ackn.  Intercept  Reset  Restart  Maximum
Timer     Timer  Timer     Timer  Timer     Unackn.
  180     20   180      8     8         Packets
  4

```

- Make entries in the first row of fields.
 - Enter the number of the DCIU link to be assigned.
 - Type **y** in the DCIU Link Assgn? field.
 - The baud rate you enter here must match the baud rate you assign to the other end of the link.
 - Protocol defaults to BX.25. BX.25 characteristics are also defaulted (rows 2 and 3 of data). *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.
 - The local role of the link to AUDIX must be DTE at the switch end.
 - You may enter a name for the link. The name is saved in the database, but not in the switch.
 - Press **EXECUTE** to enter the data.
 - Go to Step 4.
3. To assign more than one link, type **x** in the All field and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change

                                Select Option
                                _ One Link
                                _ All

```

- Enter the DCIU link number, and press **EXECUTE**.

```

AT&T Mgr IV 2.2      DEFINITY G2.1      <target>
fm admin dciu-link change

                                Select Option
                                _ One Link
                                x All

DCIU  DCIU                               Dest.
Link  Link                               Mach.  Mach.  Local
No.   Assgn?  Rate   Dial  Protocol  Type   No.   Role  Link Name
  1    n      none   n     -         -     -     dte  _____
  2    n      none   n     -         -     -     dte  _____
  3    n      none   n     -         -     -     dte  _____
  4    n      none   n     -         -     -     dte  _____
  5    n      none   n     -         -     -     dte  _____
  6    n      none   n     -         -     -     dte  _____
  7    n      none   n     -         -     -     dte  _____
  8    n      none   n     -         -     -     dte  _____

```

- For each link to be used, enter the link number and type **y** in the DCIU Link Assgn? field.
 - Note:** Not all links need to be assigned.
- Make entries in other fields as appropriate.
 - Notes:**
 - Protocol defaults to BX.25. BX.25 characteristics are also defaulted (rows 2 and 3 of data). *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.
 - The local role of the link to AUDIX must be DTE at the switch end.
 - Optionally, you can enter a name for the link. The name is saved in the database, but not in the switch.
 - The baud rate you enter here must match the baud rate you assign to the other end of the link.
- [Optional step] Press **RETURN** to view Level 2 BX.25 characteristics. Press **RETURN** again to view Level 3 BX.25 characteristics.
 - Note:** These fields have been defaulted to their best values. *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.
- Press **EXECUTE**.

Procedure: Defining AUDIX Channels

[System 85 R2V2-R2V3]

The **dciu-channel add** transaction allows you to administer a connection between a DCIU and AUDIX.

1. Enter the **dciu-channel add** command. The prompt "Does Channel Use a Switch Port?" displays first. If the channel uses a switch port, enter **y** in the Does Channel Use a Switch Port? field. Press **RETURN**.
 - If the channel does not use a switch port, enter **n** in this field. The fields associated with the switch port appear. For a detailed information, refer to "Procedure: Defining DCIU Channels" later in this chapter.
2. The Maintenance Channel field appears. You are allowed to select either the Maintenance Channel or one of these features: AP, DCS, or AUDIX, as shown on this screen. To invoke the AP, DCS, and AUDIX fields, enter **n** in the Maintenance Channel field and press **RETURN**.
 - To select a Maintenance Channel, enter **y** in this field. Refer to "Procedure: Defining DCIU Channels" later in this chapter.
3. Enter **x** next to the AUDIX field. Press **RETURN**. The AUDIX No. and Remote Port fields appear on the screen as shown below.

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dciu-channel add      Page 1 of 1

                                Does Channel Use a Switch Port?: y
                                Maintenance Channel?: n

                                Select Option:
AUDIX No.:  __                 _ AP
Remote Port:  __                _ DCS
                                       x AUDIX

Component A                    Component B

    Link:  _                    Link:  _
    Channel:  __                Channel:  __      Priority:  _
(values will be supplied)

```

4. Enter the AUDIX No. Valid entries are **1-4**. Press **RETURN**.
5. Enter the Remote Port field. Valid entries are **1-64**. Press **RETURN**.
6. The Component A and Component B fields display.

Note: Link and channel for Component A are supplied based on previous entries but they do not display until after the command is executed. Use the **dciu-channel display** to view the information.
7. Press **EXECUTE** to enter the data.

Administering DCIU Links: DCS Network

[Generic 2 and System 85 R2V3-R2V4]

Use the following procedure to administer Data Communications Interface Unit (DCIU) links between switches in a DCS network. The links carry signaling messages that make the feature transparency of the Distributed Communications System (DCS) network possible.

Because of the complexity of administering DCIU links in a multi-node network, you should plan out a network map before beginning this procedure.

To administer DCIU links in a DCS Network:

1. Begin DCIU administration by using **dciu refresh**. See "Procedure: Beginning DCIU Administration" for details.
2. Assign the DCIU link to the switch at one end of the link using **dciu-link change**.
3. [Optional step] If your DCS network has alternate routing, define the DCIU route codes using **dciu-route-codes add**.
4. Define the network channels for each link using **dciu-channel add**.
5. Administer the DCIU link at the other end of the link by repeating Steps 2 through 4.
6. End DCIU administration by using **dciu download**. See "Procedure: Ending DCIU Administration" for details.

The System 85 or Generic 2 version supports eight links for use with an AP, a PBX, and (for R2V2 forward) AUDIX in a DCS environment.

DCS Centralized Messaging

Prior to System 85 R2V4, the channel number used for connecting the switch to a particular application was hard-coded at the factory. However, in Generic 2 and System 85 R2V4, only the ports that connect the APs are hard-coded. The rest of the ports can be used for any application, such as DCS or AUDIX. In addition, if one of the ports reserved for an AP is not being used, it can be used for a DCS or AUDIX application.

Generic 2 and System 85 R2V4 allow a Message Center Service (MCS) or AUDIX to be shared by several nodes in a DCS network. Users can now transfer calls to or from AUDIX in a DCS. Messages will be transported through the network to the correct node for the extension. The DCIU channel supports this Enhanced Services feature. The FM transactions needed to support this feature are:

- **station-no-steering** - a transaction that associates the steering code representing a block of extension numbers with an RNX or Dial Access Code (DAC).
- **external adjunct** - a transaction that associates the network adjunct class, such as AUDIX and the network adjunct number with the node number. TCM usually administers this, however, the transaction is available in FM.
- **dciu-channel** - a transaction that associates the new Enhanced Services feature with the network adjunct class and network adjunct number. This is explained in "DCIU Channel Administration for System 85 R2V4 and Generic 2" later in this chapter.

In addition to these FM transactions, the TCM transaction **dac-to-extension** is used to associate the node number of the AUDIX machine with the extension. See *DEFINITY® Manager IV Terminal Change Management Operations* for information on this.

Procedure: Assigning DCIU Links in a DCS Network [Generic 2 and System 85]

1. To define DCIU link characteristics, enter **dcIU-link change** and press **RETURN**.

```

AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin dciu-link change

                Select Option
                _ One Link
                _ All
    
```

2. To define one link, type **x** in the One Link field and press **EXECUTE**. To define all links, go to Step 3.

```

AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin dciu-link change

                Select Option
                x One Link
                _ All

DCIU   DCIU           Dest.
Link  Link   Baud   Dial   Mach.  Mach.  Local  Link
No.   Assgn? Rate   Up?  Protocol Type   No.   Role  Name
  2    n     none   _    b     _    _    dte  _____

BX.25 Level 2 Characteristics :
Retransmission      Frames      Maximum No.      Maximum No.
Time for            Exchanged   Retransmissions  Frames Transmitted
Unackn. Frames      Time        of Ackn. Frames  Without Ackn.
  1                10          2                7

BX.25 Level 3 Characteristics :

Activity   Ackn.   Intercept   Reset   Restart   Maximum
Timer     Timer   Timer       Timer   Timer     Unackn.
  180     20     180        8       8         Packets
                4
    
```

- Make entries in the first row of fields.

Notes: — Enter the number of the DCIU link to be assigned.

— Type **y** in the DCIU Link Assgn? field.

— The baud rate you enter here must match the baud rate you assign to the other end of the link.

- Protocol defaults to BX.25. A help message will inform you to type **b** for BX.25. BX.25 characteristics are also defaulted (rows 2 and 3 of data). *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.
- The local role must be different on either end of the link, that is, if it is Data Communications Equipment (DCE) on one end, it must be defined as Data Terminal Equipment (DTE) at the switch at the other end.
- Optionally, you can enter a name for the link. The name is saved in the database, but not in the switch.
- Go to Step 4.

3. To define more than one link, type **x** in the All field and press **EXECUTE**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change

                               Select Option
                               _ One Link
                               x All

```

- Enter the DCIU link number, and press **EXECUTE**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-link change                                     Page 1 of 3

                               Select Option
                               _ One Link
                               x All

DCIU  DCIU          Dest.
Link  Link          Mach.  Mach.  Local
No.   Assgn?       Rate   Up?   Protocol  Type   No.   Role   Link Name
  1    n           none   n     -         -     -     dte   _____
  2    n           none   n     -         -     -     dte   _____
  3    n           none   n     -         -     -     dte   _____
  4    n           none   n     -         -     -     dte   _____
  5    n           none   n     -         -     -     dte   _____
  6    n           none   n     -         -     -     dte   _____
  7    n           none   n     -         -     -     dte   _____
  8    n           none   n     -         -     -     dte   _____

```

- For each link to be used, enter the link number and type **y** in the DCIU Link Assgn? field.

Note: Not all links need to be assigned.

- Make entries in other fields as appropriate.

Notes: — The baud rate you enter here must match the baud rate you assign to the other end of the link.

— The local role must be different on either end of the link, that is, if it is DCE on one end, it must be defined as DTE at the switch at the other end.

— Optionally, you can enter a name for the link. The name is saved in the database, but not in the switch.

- Press **RETURN** to view Level 2 BX.25 characteristics. Press **RETURN** again to view Level 3 BX.25 characteristics.

Note: These fields have been defaulted to their best values. *It is strongly recommended that these values are not changed.* Use expanded help to get definitions of values in these fields.

4. Press **EXECUTE**.

Enabling DCIU Links [DIMENSION]

Use the following procedures to administer the Distributed Communications Interface Unit (DCIU) links between a switch and an Applications Processor (AP). The links carry signaling information about features on the AP, such as Message Center Service and Leave Word Calling. Since each DCIU has four links, you can attach up to four APs.

1. Busy out the DCIU link to be administered using **dciu busyout**.
2. Assign the DCIU link to the switch by using **dciu-link change**.
3. Define the network channels for each link using **dciu-channel add**.
4. Assign the link to the AP by using your AP administration procedures. (See the *Applications Processor Administration Guide* for more information.)
5. Put the link back in service using **dciu release**.

Baud rate and channel numbers must be the same at both ends of the link.

This procedure assumes that the DCIU and the link hardware have already been installed and that the DCIU has been enabled using the **sys-cos** transaction (see "Changing System Class of Service" in Chapter 3 for more information).

The table below lists the dedicated channel assignments for the links.

Application	AP1	AP2	AP3	AP4
Message Center Service	1	10	15	-
Lv. Wd. Calling/High Priority	2	11	16	-
Lv. Wd. Calling/Low Priority	3	12	17	-
Auto. Msg. Wait Lamp	4	13	18	-
Traffic	5	5	5	5
SMDR	7	7	7	7
Clock Synchronization	8	9	14	19

DCIU Channel Administration in Generic 2 and System 85

Generic 2 and System 85 R2V4 have several DCIU enhancements that change the administration procedure. Generic 2 and System 85 R2V4 allow flexible DCIU port assignment. Prior to System 85 R2V4, the channel number used for connecting the switch to a particular application was hard-coded at the factory. However, in Generic 2 or System 85 R2V4 only the ports that connect the APs are hard-coded. The rest of the ports can be used for:

- DCS (Distributed Communications System)
 - Direct connection between two switch processors
 - Indirect connection between two switch processors with one or two intervening processors (hop connection)
 - Centralized messaging services in a DCS
 - Connection to a switch processor that is not a System 85
 - Alternate routing connections.
- Applications Processor Features
 - Call Management System
 - Leave Word Calling
 - Message Center Service.

In addition, if one of the ports that is reserved for an AP is not being used, it can also be used with one of these features or applications.

Generic 2.2:

For increased efficiency, buffers can be individually assigned for each application administered for DCIU channels. The **dciu-channel:change** transaction allows you to alter the default buffer settings. The **display** verb for the **dciu-channel** command enables you to view current settings.

See the procedures for displaying and changing DCIU Channels later in this chapter.

Procedure: Adding DCIU Channels**[Generic 2 and System 85 R2V4]**

1. Enter the command **dciu-channel add** and press **RETURN**. The following screen is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin dciu-channel add                Page 1 of 1

                Component A                Component B

Does Channel Use a Switch Port? _    Does Channel Use a Switch Port? n

                Link: _
                Channel: __

[partial screen]

                Priority: __

```

2. If the DCIU channel will not use a switch port, type **n** in the Does Channel Use a Switch Port? field for Component A. The screen changes as follows:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin dciu-channel add                Page 1 of 1

                Component A                Component B

Does Channel Use a Switch Port? n    Does Channel Use a Switch Port? n

Link: _                Link: _
Channel: __            Channel: __

[partial screen]

                Priority: __

```

3. Enter the link and channel number of Component A, then go on to administer Component B in Step 6.
4. If the DCIU channel will use a switch port, type **y** in the Does Channel Use a Switch Port? field. The screen changes as follows:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dciu-channel add		Page 1 of 1
COMPONENT A		COMPONENT B
Does Channel Use a Switch Port? y	Does Channel Use a Switch Port? n	
Select Application		
_ Maintenance Channel	Link: _	
_ Message Center Service	Channel: __	
_ Leave Word Calling (High)		
_ Leave Word Calling (Low)		
_ Auto Message Wait Lamp		
_ AP Clock Synchronization		
_ Call Management System		
_ Enhanced Services		
_ Traffic Remote Port : __		
_ Audix		
_ SMDR		
_ DCS		
Link: 0	Channel: __	Priority: __

5. You must select the application you want to assign to a channel; then specify the link, channel, and other necessary parameters. Move the cursor to the appropriate application and type **x**.
 - If you select Maintenance Channel, for Component B, the Remote Port field displays, and Link number **0** is automatically filled in.
 - If you select Message Center, Leave Word Calling (High or Low), Auto Message Waiting Lamp, or AP Clock Synchronization, you are prompted to enter the AP number.
 - If you select Call Management System, Channel Number **64** is automatically filled in.
 - If you select Traffic, Channel Number **5** is automatically filled in.
 - If you select AUDIX, you are prompted to fill in the AUDIX number.
 - If you select SMDR, Channel Number **7** is automatically filled in.
 - If you select Enhanced Services, follow the procedure "Assigning Enhanced Services."
 - If you select DCS, follow the procedure "Enabling DCS."
6. After completing the information for Component A, enter the information for Component B and press **(ESC) e** or **(EXECUTE)** to run the transaction.

Procedure: Assigning Enhanced Services

1. Move the cursor to Enhanced Services and type **x** next to it. Three fields are displayed under Remote Port.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin dciu-channel add      Page 1 of 1

x Enhanced Services
_ Traffic      Remote Port : __
_ Audix       ES Number   : __
_ SMDR        Net Adj Cl  : __
_ DCS         Net Adj Num  : __

```

2. Enter the Remote Port number. A number between **1** and **64** is valid.
3. Enter the ES (Enhanced Services) number. A number between **1** and **63** is valid.
4. Enter the Network Adjunct Class being assigned. The valid choices are: **1** for AP, **2** for AUDIX, and **3** for DCS.
 - The Network Adjunct Class has already been assigned in the TCM transaction **external adjunct add**.
5. Enter the appropriate adjunct number. A number between **1** and **99** will be accepted.
 - The Network Adjunct Number is also assigned in the TCM transaction **external adjunct add**.
6. After completing the information for Component A, enter the information for Component B and press **(ESC)** or **(EXECUTE)** to run the transaction.

Procedure: Enabling DCS

1. Move the cursor to DCS and type **x** next to it.

The screen changes as follows:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dciu-channel add		Page 1 of 1
COMPONENT A		COMPONENT B
Does Channel Use a Switch Port? y	Does Channel Use a Switch Port? n	
Select Application	Alternate Routing? _	
__Maintenance Channel	Link: _	
__Message Center Service	Channel: __	
__Leave Word Calling (High)		
__Leave Word Calling (Low)		
__Auto Message Wait Lamp		
__AP Clock Synchronization		
__Call Management System		
__Enhanced Services		
__Traffic Remote Port : __		
__Audix DCS Number : __		
__SMDR Remote Dest : __		
x_DCS Trunk Gr. __ __ __ __ __ __		
Link: 0 Channel: __		Priority: __

2. Enter the Remote Port, DCS number and Remote Destination number.
3. If Alternate Routing is used, type **y** in the Alternate Routing field. The Destination Code and Postage fields appear in place of the Link and Channel fields for Component B.
 - Enter the Destination Code. Valid entries are **1-255**. This field is required. Press **RETURN**.
 - Enter the Postage value. Valid entries are **2-255**. This field is required. Press **RETURN**.
4. Press **ESC** e or **EXECUTE** to run the transaction.

Procedure: Defining DCIU Routing Codes

Use this procedure to define alternate routes for the DCIU packets if alternate routing is assigned.

1. Enter **dciu-route-codes add** and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-route-codes add

                               Select Option:
                               _ Single Routing Code
                               _ Multiple Routing Codes
    
```

2. Type **x** in either the Single Routing Code or Multiple Routing Codes field and press **RETURN**. If you select multiple, you can input up to 10 codes on one screen.

The following screen is displayed for single:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin dciu-route-codes add

                               Select Option:
                               x Single Routing Code
                               _ Multiple Routing Codes

Destination   Routing   Terminates      Rte 1   Rte 2   Rte 3
Routing Code  Type     at this Switch?  _  _    _  _    _  _
   _          _         _
    
```

3. Enter the destination routing code (**1-255**).
4. Enter the routing type as fixed or routing on failure.
5. Type **y** in the Terminates at this Switch? field if the route will terminate at the target switch.
6. If you type **y** in Step 5, you can specify only one route. Otherwise, enter up to three routes.
7. Press **EXECUTE** to end the transaction.

Procedure: Defining DCIU Channels

[System 85 R2V2-R2V3]

The **dciu-channel add** transaction allows you to administer a connection between a DCIU and DCS.

1. Enter the **dciu-channel add** command. The prompt "Does Channel Use a Switch Port?" displays first. If the channel uses a switch port, enter **y** in this field. Press **RETURN**.
 - If the channel does not use a switch port, enter **n**.
 - Go to Step 14.
2. Enter the Maintenance Channel field. Valid entries are **y** or **n**. To invoke the AP, DCS, and AUDIX fields, enter **n** in the Maintenance Channel field and press **RETURN**.
 - To select a Maintenance Channel, enter **y** in this field. Go to Step 15.
3. Enter **x** next to the DCS field. Press **RETURN**.

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dciu-channel add      Page 1 of 1

                                Does Channel Use a Switch Port?: y
                                Maintenance Channel?: n

Local Port:  ___                Select Option:
Remote Port:  ___                _ AP
Remote DCS Node:  ___           x DCS
                                           _ AUDIX

Trunk Group No.  ___ ___ ___ ___ ___ ___ ___ ___
                ___ ___ ___ ___ ___ ___ ___ ___

Alt. Routing?:  _
  
```

4. Enter the Local Port number. Valid entries are **21-29, 34-36, 42-44, 50-52, or 58**. Press **RETURN**.
5. Enter the Remote Port number. Valid entries are **1-64 etc**. Press **RETURN**.
6. Enter the Remote DCS Node number. Valid entries are **1-40**. Press **RETURN**.
7. Enter the Trunk Group No. Valid entries are **17-256**. Press **RETURN**.
8. Enter the Alternate Routing field. Valid entries are **y** for alternate routing, **n** for no alternate routing. If you enter **y**, the fields related to the alternate routing appear as shown on this screen.

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dciu-channel add      Page 1 of 1

                                Does Channel Use a Switch Port?: y
                                Maintenance Channel?: n

Local Port:  __                Select Option:
Remote Port:  __                _ AP
Remote DCS Node:  __          x DCS
                                _ AUDIX

Trunk Group No.  __ __ __ __ __ __ __ __
                  __ __ __ __ __ __ __ __

Alt. Routing?:  _

Destination
Routing Code:  __                Postage:  __
    
```

9. Enter the Destination Routing Code. Valid entries are **1-255**. Press **RETURN**.
10. Enter the Destination Postage. Valid entries are **2-255**. Press **RETURN**. If you enter **n**, the link and channel fields for Components A and B appear.

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dciu-channel add      Page 1 of 1

                                Does Channel Use a Switch Port?: y
                                Maintenance Channel?: n

Local Port:  __                Select Option:
Remote Port:  __                _ AP
Remote DCS Node:  __          x DCS
                                _ AUDIX

Trunk Group No.  __ __ __ __ __ __ __ __
                  __ __ __ __ __ __ __ __

Alt. Routing?:  _

                                Component A                Component B

                                Link:  _                Link:  _
                                Channel:  __            Channel:  __                Priority:  __
(values will be supplied)
    
```

11. Enter link and channel numbers for Components A and B.
12. Press **EXECUTE** to enter the data.

13. If you enter **n** in the Does Channel Use a Switch Port? field, the following screen appears:

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dciu-channel add      Page 1 of 1

                                Does Channel Use a Switch Port?: n

                                Component A                Component B

                                Link: _                    Link: _
                                Channel: __                Channel: __                Priority: __

```

- Enter link and channel numbers for Components A and B and priority for the link.

14. For Maintenance Channel selected, the screen is as follows:

```

AT&T Mgr IV 2.2                System 85 R2V3                <target>
fm admin dciu-channel add      Page 1 of 1

                                Does Channel Use a Switch Port?: y
                                Maintenance Channel?: y

                                Component A                Component B

                                Link: _                    Link: _
                                Channel: __                Channel: __                Priority: __
                                Remote Port: __            Remote Port: __

```

Populate the Link, Channel and Remote Channel fields as appropriate.

Procedure: Displaying Buffers for DCIU Channels

[Generic 2.2]

1. Enter **dcIU-channel:display** to check current buffer settings.

System Response:

```
AT&T Mgr IV 2.2 SR:          DEFINITY G2.2          <target>
fm database-admin dciU-channel display              Page 1 of 1

                YOU ARE ONLY ACCESSING THE DATABASE

      COMPONENT A                                COMPONENT B
Does Channel Use a Switch Port? y  Does Channel Use a Switch Port? n
Select Application                  Alternate Routing? n
_ Maintenance Channel              Link: 7
_ Message Center Service           Channel: 59
_ Leave Word Calling (High)
_ Leave Word Calling (Low)         Number of Input Buffers: ____
_ Auto. Message Wait Lamp         Number of Output Buffers: ____
_ AP Clock Synchronization
_ Call Management System
_ Enhanced Services
_ Traffic      Remote Port : 14
_ Audix       DCS Number : 8
_ SMDR       Remote Dest: 6
x DCS       Trunk Gr.  _ _ _ _ _
                _ _ _ _ _
                _ _ _ _ _

Link: 0      Channel: 32                      Priority: 1
```

Note the following buffer fields that appear on the screen:

- **Number of Input Buffers** indicates the number of input buffers assigned to a port on the DCIU.
- **Number of Output Buffers** indicates the number of output buffers assigned to a port on the DCIU.

If you entered **dciu-channel:display** from the **product admin** area, the following screen is displayed:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm product-admin dciu-channel display                Page 1 of 1

                                YOU ARE DIRECTLY ACCESSING THE PRODUCT

                                COMPONENT A                                COMPONENT B
Does Channel Use a Switch Port? y  Does Channel Use a Switch Port? n
Select Application                  Alternate Routing? __
_ Maintenance Channel              Link: 1
_ Message Center Service           Channel: 59
_ Leave Word Calling (High)
_ Leave Word Calling (Low)         Number of Input Buffers: 32  16
_ Auto. Message Wait Lamp         Number of Output Buffers: 16  16
_ AP Clock Synchronization
_ Call Management System          Buffer words available to allocate: 5551
_ Enhanced Services              Buffer words allocated to the appl.:178 120
_ Traffic Remote Port : 47
_ Audix DCS Number : 17
_ SMDR Remote Dest: __
x DCS Trunk Gr. __ __ __ __ __ __
                                __ __ __ __ __ __
                                __ __ __ __ __ __

Link: 0      Channel: 37                                Priority: 1

```

Note that in addition to the Input and Output Buffer fields, the following additional fields are displayed in the product-admin area:

- **Buffer words available to allocate:**
- **Buffer words allocated to the appl.:**

Note: In **prod-admin**, the **Number of Input Buffers**, **Number of Output Buffers**, and **Buffer words allocated to the appl.** fields show two columns of data. The first column is known as the scratch pad memory; this column is a record of the changes the user has entered for buffer values. The second column shows the machine table data. The data displayed in this column is the actual data used by the switch.

When the values of the two columns differ, it means that the user's buffer changes have yet to be downloaded to the switch. Use **dciu:download** transaction to copy scratch pad buffer changes to the machine table column. Once download has completed, the two columns should display the same new buffer values. Run **dciu:refresh** before running a **dciu-channel:display** transaction.

The next section describes changing buffers.

Procedure: Changing Buffers for DCIU-Channel

1. Enter **dciu-channel:change**.

The following screen is displayed:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm database-admin dciu-channel change                Page 1 of 1

                                YOU ARE ONLY ACCESSING THE DATABASE

                                COMPONENT A                                COMPONENT B
Does Channel Use a Switch Port? y  Does Channel Use a Switch Port? n
Select Application                    Alternate Routing? n
_ Maintenance Channel                Link: 7
_ Message Center Service              Channel: 59
_ Leave Word Calling (High)
_ Leave Word Calling (Low)            Number of Input Buffers: ____
_ Auto. Message Wait Lamp             Number of Output Buffers: ____
_ AP Clock Synchronization
_ Call Management System
_ Enhanced Services
_ Traffic      Remote Port : 14
_ Audix        DCS Number : 8
_ SMDR         Remote Dest: 6
x DCS          Trunk Gr.  _ _ _ _ _
                                _ _ _ _ _
                                _ _ _ _ _

Link: 0      Channel: 32                Priority: 1
    
```

2. Enter the following field values to assign alternate buffering for your application.

- **Number of Input Buffers**

This field indicates the number of input buffers assigned to a port on the DCIU. Enter one of the following values: " " (**blank**), **2, 4, 8 16, 32, 64, 128**.

- **Number of Output Buffers**

This field indicates the number of output buffers assigned to a port on the DCIU. Enter one of the following values: " " (**blank**), **2, 4, 8 16, 32, 64, 128** and **256**.

3. Press **EXECUTE** to enter your changes into the database.

Note: If you entered this transaction from the **Product Admin** area, the following screen is displayed instead:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm product-admin dciu-channel change                Page 1 of 1

                YOU ARE DIRECTLY ACCESSING THE PRODUCT

                COMPONENT A                                COMPONENT B
Does Channel Use a Switch Port? y  Does Channel Use a Switch Port? n
Select Application                    Alternate Routing? __
_ Maintenance Channel                Link: 1
_ Message Center Service              Channel: 58
_ Leave Word Calling (High)
_ Leave Word Calling (Low)            Number of Input Buffers: 32
_ Auto. Message Wait Lamp             Number of Output Buffers: 16
_ AP Clock Synchronization
_ Call Management System  Buffer words available to allocate: 5551
_ Enhanced Services          Buffer words allocated to the appl.: 178 120
_ Traffic      Remote Port : 47
_ Audix        DCS Number : 17
_ SMDR         Remote Dest: __
x DCS          Trunk Gr.  __ __ __ __ __ __
                __ __ __ __ __ __
                __ __ __ __ __ __

Link: 0      Channel: 37                                Priority: 1

```

The **Number of Input Buffers** and **Number of Output Buffers** fields are displayed as well as the **Buffer words available to allocate** and **Buffer words allocated to the appl.**

ISDN

The ISDN concept is a worldwide standard for integrated voice and data networks. International standards for ISDN are still evolving; they are set by the CCITT (International Telegraph and Telephone Consultative Committee).

There are two types of interfaces for ISDN: the Primary Rate Interface (PRI) which is supported by Generic 2 and System 85 R2V4, and the Basic Rate Interface (BRI) which is only supported by Generic 2. The ISDN feature, standard on Generic 2 and System 85 R2V4, cannot be enabled from Manager IV, but it can be administered from Manager IV.

The Primary Rate Interface provides an ISDN connection for switches. This covers both public and private network switch-to-host computer connections and host computer-to-network connections. With PRI, individual stations work within the network provided by the local switch and do not have direct ISDN connectivity.

The Basic Rate Interface provides for direct station interface. With BRI, each station has its own interface that sends and receives control and signaling messages. BRI is supported by Generic 2 but not by System 85 R2V4.

The following FM transactions are needed to administer ISDN on Generic 2 or System 85 R2V4.

- Assign the ISDN circuit pack parameters via **ds1-isdn**. See "Assigning DS1 and ISDN Circuit Pack Parameters" in Chapter 2 for the complete procedure.
- Assign the new ISDN trunk group and its signaling and other parameters via the **trk-grp** transaction.
- Assign information about the ISDN trunk type and bearer capability to an AAR or ARS pattern via **aar-pattern** or **ars-pattern**. See "Adding an AAR Pattern to the Database" and "Adding an ARS Pattern to the Database" in Chapter 6 for the complete procedures.

AUTOVON AND PRECEDENCE CALLING

The Autovon network is a military network providing preemption capabilities for calls related to national defense. Calls route over precedence capable trunks. Calls of higher precedence can preempt calls of lower precedence. All precedence calls *must* complete; if they cannot be answered by the destination station, they route to the attendant.

You can use Manager IV to administer Autovon using the **autovon** command. This command allows you to:

- Specify the destination switch at the local and far end. To do this, select "Destination Data" in the **autovon add** command. This allows you to enter the trunk groups, precedence levels, home office code (NNX), and thousandths or first digit of the Autovon dial access codes.
- Associate trunk groups and trunk group precedence levels with the switch. To add trunk groups to an already existing switch, select "Trunk Groups" in the **autovon add** command. To change only the precedence level of a trunk group, use **autovon change**.
- Specify the thousandths digits and (for the local switch) first digits of the Autovon dial access code for the switch. To do this for an already existing switch, select "Thousandths/First Digit" (local or non-local, depending on the type of switch) in the **autovon add** command.

Warning Manager IV cannot currently handle AUTOVON configurations that contain TRACS data in which multiple NNXs are associated with a single destination PBX. (see Proc 305, Word 2 for confirmation.)

The **autovon remove** command is used to remove trunk group data, the NNX, or the thousandths and first digits associated with an Autovon switch. If you remove the NNX, all thousandths digits are removed. If you remove all the thousandths digits, the NNX is automatically removed. If you have removed all the trunk groups, the NNX, and the thousandths digits for a destination switch, the destination is automatically removed.

Procedure: Administering Autovon Networks

These prerequisites must be performed before you can use the **add** verb:

- The switch must be specified as part of an Autovon network, and the switch interface number must have been specified via the **sys-cos** command.
 - The trunk groups must be added to the system using **trk-grp add**. Trunks should be Advanced Private Line Termination (APLT) trunks, Type 12-15.
 - Precedence digits are assigned for Autovon via the TCM command **precedence-digit**.
 - The "Attendant Diversion to Recording" feature should be enabled for Autovon calls via the command **intercept**.
 - If you are adding first digits, use **first-digit change** to establish the first-digits as type 1 for use by extensions.
1. Enter **autovon add**. Four options are displayed.
 2. Use **x** to select one of the following options:
 - To add destination information for your switch and the switch at the far end, select "Destination Data" to specify trunk groups, a precedence level, and thousandths and first digits for the switch.

MAIN SATELLITE

A Main/Satellite switch configuration is a private network that serves two or more locations within a restricted geographic area. The main switch shares its features and centrally located attendant services with the satellite switches.

The **main-satellite** transaction allows you to administer the main or satellite switch configuration in a main-satellite network. The verbs supported are: **change** and **display**.

The **main-satellite change** command changes a main switch to a satellite switch, or a satellite switch to a main switch in a main-satellite network. This command changes or displays remote dial transfer and extended trunk access trunk group data for a satellite switch. This attribute is specified at the initialization of a switch.

The **main-satellite display** command displays information for the switch you are connected to. When using the **main-satellite change** command, consider the following:

- If the main switch is changed to a satellite, another switch must change to the main.
- A switch may serve as a main or as a satellite switch, but not as both.
- The extended trunk access trunk group must be a main-satellite trunk group, type 70 to 78. This trunk group must be defined in the network. Refer to the trunk and trunk group administration commands described in Chapter 4, "Trunk Group and Modem Poll Administration."

6. NETWORK ROUTING

Routing incoming and outgoing calls throughout your network is a function affecting the efficiency and cost-effectiveness of your telecommunications system. It is done through routing patterns. A routing pattern is an ordered list of preferences of trunk groups or routes used by a switch to complete a call. Each routing pattern has one or more trunk groups. These patterns control the particular route or path that a call takes on your company's private network or on the public network. For patterns with more than one trunk group, the trunk groups are arranged in order of priority (first choice, second choice, etc.). Preference 1 is the highest priority or most preferred and accessible route (the least expensive and shortest path), Preference 2 is the next highest priority and so on. The most direct and least expensive routes are entered first with Preference 1, then the next desirable route and so on with the expensive and least direct routes entered last with the highest preferences. Each preference maps to a trunk group.

The use of routing patterns ensures that all outgoing calls follow the most efficient, least expensive routes. The two features that allow you to define routing patterns in Generic 2.1 and System 85 switches are Automatic Alternate Routing (AAR) and Automatic Route Selection (ARS). AAR routes calls on your network over your private lines; ARS routes calls from your private network to the public network.

In Generic 2.2, the World Class Routing (WCR) feature replaces Automatic Route Selection and Automatic Alternate Routing. The WCR feature provides digital analysis and route selection on a Generic 2.2 in a general way. For a detailed description of the World Class Routing feature, refer to Chapter 7, "World Class Routing."

AUTOMATIC ALTERNATE ROUTING

The AAR feature provides alternate routing for private network calls, so that intra-network calls follow the most direct path. The release of the switch, such as Generic 2.1 or System 85 R2V2-R2V4, determines the number of patterns the PBX can accommodate, and the number of preferences you can associate with each pattern. The preference is associated with the location code (RNX) of a switch. The following table indicates the maximums in patterns and preferences for each switch release:

AAR Capacities		
Switch	No. of Patterns	No. of Preferences
DIMENSION FP8 Issue 1.16	180	4
DIMENSION FP8 Issue 3.8	255	16
System 85 R2V2	255	4
System 85 R2V3	640	16
Generic 2.1, System 85 R2V4	640	16

An AAR pattern must be translated for every RNX that can be dialed on your network. In some cases, you can use one AAR pattern for several RNX codes.

The first choice preference is the most direct route; if the trunks in that preference are all busy, AAR automatically re-routes the call onto the trunk(s) defined in the second preference. You can also define public network trunk groups as part of an AAR pattern, but usually these are the last choice in the preference list.

Only switches equipped with AAR software are capable of recognizing RNX codes. Tandem switches in a network have AAR software; main switches usually do not. In addition, remember that RNX codes are understood only by your private network and are meaningless to the public network.

AAR uses subnetwork trunking to route calls partially over the public network. This feature allows the switch to insert digits, delete digits, re-group digits, or insert pauses as needed to conform to the uniform numbering plan of a destination switch.

- If an intertandem or tandem tie trunk is a route in an AAR pattern, the RNX code is needed to route the call. Therefore, the dialed digits are not modified and are outpulsed in the uniform dialing format, including the RNX code.
- If an access tie trunk is a route in an AAR pattern, the dialed RNX must always be deleted from the digits dialed before outpulsing to the main switch, since the main switch will not use AAR to route the call.
- If a public network trunk group is a route in a pattern, the dialed RNX must be deleted before outpulsing. In addition, public network trunks require an NPA/office code to be inserted to route a call.

Each pattern, preference and trunk group combination may be assigned a Facilities Restriction Level (FRL). The lowest FRLs are assigned to the lowest preferences and higher FRLs to the more expensive higher preference numbers. A user's extension must have an FRL of equal or higher value in order to use that preference or have an authorization code to overcome the FRL assigned to the extension's class of service.

AAR-Pattern Commands

The **aar-pattern** transaction can be accessed from the admin, database-admin, and product-admin areas under the FM application. This transaction supports the different switch releases: Generic 2.1, System 85 R2V2-R2V4, and DIMENSION FP8 (1.16 and 3.8). The verbs supported are: **add**, **change**, **display**, **remove** and **insert**:

1. The **aar-pattern add** command allows you to add one or more preferences at a time in the admin or database-admin areas. When used in the product-admin area, this transaction lets you add only one preference at a time. In all areas, if the specified aar-pattern already exists, you can add a preference at the end of the list without gaps.
2. The **aar-pattern change** command is used to change the data associated with the selected preference. In Generic 2.1, this command changes the data of one or more preferences at a time when used in the admin or database-admin areas. In the product-admin area, you can change only one preference at a time.
3. The **aar-pattern display** command provides two options: to display a specific preference or all preferences at a time. If you select one preference, the output screen will consist of one page. For all preferences, the number of pages displayed will depend on the switch release (8 pages for Generic 2.1 and System 85 R2V4, 6 pages for R2V3 and DIMENSION FP8 3.8, and 3 pages for R2V2 and DIMENSION FP8 1.16). In the database-admin and admin areas, the **aar-pattern display** transaction displays all preferences assigned to a pattern number. In the product-admin area, this command displays only one preference at a time.
4. The **aar-pattern remove** command removes either any preference on the list or all preferences at a time in all areas.

The system does not allow gaps. The specified preference will be deleted. The location of the deleted preference will be filled in by the next preference on the list and so on. All preferences which are added back decrement their numbers by one.

5. The **aar-pattern insert** command inserts a new preference anywhere in an existing aar-pattern list. A preference can be also inserted at the end of the list, without having a gap. The system implements the **insert** transaction by moving all lower preferences to the higher preferences and adding the new preference at the specified position.

- You can insert a preference only if the number of preferences in an aar-pattern is ≥ 1 and < 16 .
- You cannot insert a new preference if the number of existing preferences has reached a limit (4 for DIMENSION FP8 1.16 and R2V2, and 16 for the rest of the preferences).
- You cannot insert a preference if there are no preferences existing in an aar-pattern.

The **insert** and **remove** verbs are supported by the following switch releases: Generic 2.1, System 85 R2V2-R2V4 and DIMENSION.

Prerequisites

Before administering the **aar-pattern** transaction, the following prerequisites have to be administered:

- Trunk groups must be fully defined in the network before they can be assigned as preferences in routing patterns, using the **trk-grp-add** command. If the Trunk Type is not ISDN Dynamic, leave the ISDN Trunk Type field blank in an aar-pattern screen (Generic 2.1, System 85 R2V4). See "How to Add Trunks and Trunk Groups" in Chapter 4 using the **trk-grp add** command, when you want to define trunk groups.
- Use the **bearer-capability-cos add** command to define Voice or Voice Grade, Mode 0, Mode 1, Mode 2, and Mode 3 fields before administering the Bearer Capability Class of Service field (Generic 2 only). For System 85 R2V4, these fields are administered in an aar-pattern transaction itself.
- The ISDN Network Specific Facility (NSF) Value must be assigned before you can specify the ISDN Network Service field. Enter the **network-spec-facility** command to assign the NSF Value (Generic 2 only).

Administering AAR

To administer AAR with Manager IV, do the following:

1. Define the AAR pattern by using **aar-pattern add**.
2. Assign the pattern to a location code (RNX) or node number:
 - [System 85 R2V2 and DIMENSION System FP8] Use **aar-rnx add**.
 - [Generic 2.1 or System 85 R2V3, R2V4 Non-Portability Switches] Use **aar-non-portability add** to map location code to node number and node number to pattern number.
 - [Generic 2.1 or System 85 R2V3, R2V4 Number Portability Network] Use **aar-portability add** to map the location code to a first digit and to map the node number to an AAR pattern. The switch maps first digit to node number based on the information in the network's dial plan.
 - If Satellite Hop is in use, you can establish separate patterns for each call category for each switch. The screen will prompt you if you enter **y** to indicate that Satellite Hop is in use.
3. [Generic 2.1 or System 85 R2V3, R2V4 Number Portability Network] Use **portability-routing add** to map first and second digits to location code in the Portability Routing table for the network.

Note: This command should be run using the product ID of the portability network. The command automatically downloads the information for all switches in the portability network, so that the routing table is consistent for the entire network.
4. [Generic 2.1 or System 85 R2V3, R2V4] If Satellite Hop Administration is being used, use **aar-call-categories change** to associate the AAR Conditional Routing Count with an AAR Call Category.

Note: The screens shown below are for Generic 2.1 and System 85 R2V4. Screens will differ slightly for other switch releases; differences are noted in the procedure.

Procedure: Adding an AAR Pattern to the Database

An AAR pattern defines the means of routing a call to a point on the private network. AAR patterns may have up to 16 preferences, except for System 85 R2V2 and DIMENSION FP8 Issue 1.16, which may have only 4. Preferences may include overflow routes to the public network. An AAR pattern is defined by assigning trunk groups to preferences.

1. Enter **aar-pattern add** and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-pattern add          Page 1 of 8

Pattern Number: ____

      Trunk   IXC/           Wait   OXXX
      Group  ISDN          Min.  Warn   Dial   Calls
Pref.  No.    ID           FRL   Tone? Tone?  Allowed?
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  ____  ____  ____          -    -    -    -    -
  
```

2. Enter the Pattern Number. Valid entries are **2-640**. DIMENSION FP8 System 1.16 allows 180 patterns; System 85 R2V2 and DIMENSION FP8 System 3.8 allow 255 patterns; Generic 2.1 and R2V3, R2V4 allow 640 patterns.
3. Enter the preference and its associated information. DIMENSION (1.16) and System 85 R2V2 allow 4 preferences; Generic 2.1, System 85 R2V3, R2V4 and DIMENSION (3.8) allow 16. No gaps are allowed in the preference numbering sequence.
 - The trunk group number you enter must have been added already via **trk-grp add**.
 - [Generic 2.1 and System 85 R2V4] Enter the IXC/ISDN ID (Interexchange Carrier Identifier or ISDN Network Identifier) of the IX carrier. If the IXC entered is not the same as the Vendor ID of the trunk group, a warning appears.
 - [System 85 R2V3 and DIMENSION 3.8] The IXC/ISDN ID field is headed "IXC."
 - [System 85 R2V2, DIMENSION FP8 1.16] The IXC/ISDN ID field does not appear.
 - **Note:** If you leave the IXC/ISDN ID field blank, 0 will be downloaded to the switch.
 - In the Min. FRL field, enter the minimum FRL (**0-7**) required for a call to be routed on this preference (**0** is used for the most accessible, **7** denotes the least desirable).
 - In the Warn Tone? field, type **y** if the caller should receive a warning tone before the call is routed over this facility. Otherwise, enter **n**.

- In the Wait Dial Tone? field, type **y** if the system should wait for dial tone before outputting the digits. Otherwise, enter **n**.
 - In the 0XXX Calls Allowed? field, type **y** if dial "0" calls are allowed on this facility, and **n** if they are not. If they are not allowed, the system assumes that any dialed number beginning with "0" is an attendant-seeking call; if they are allowed, the system output pulses all digits dialed after the "0."
4. Press **(NEXT PG)** to get the second page of the screen, where Subnetwork Routing information is entered.
- The **(NEXT PG)** key takes you to the next page even if you have not entered data in all fields. The **(RETURN)** key moves you to the next field.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-pattern add          Page 2 of 8

Pattern Number: ____

      Pref  Off-  No. of  Intl  DDD at  Digits
           Network? Deleted  Dest.? Dest.?  Inserted
-----
-         -         -         -         -         _____
-         -         -         -         -         _____
-         -         -         -         -         _____
-         -         -         -         -         _____
-         -         -         -         -         _____
-         -         -         -         -         _____
-         -         -         -         -         _____
-         -         -         -         -         _____

```

5. In the Off-Network field, type **y** if the preference is to route calls off network. In this case, the system will delete the RNX before routing the call.
6. In the No. of Digits Deleted field, enter the number of digits to be deleted (**0-7**) before outputting.
7. If you typed **n** in Off Network, the cursor skips the destination fields.
8. Fill in up to 20 digits to be inserted in the Digits Inserted field (for Generic 2.1, System 85 R2V3-R2V4, and DIMENSION 3.8; 12 digits for R2V2 and DIMENSION 1.16). For a DDD destination, enter the complete 10-digit LDN of the distant location. That is, enter the area code, NPA and station number. For the IDDD destination, enter the complete number for the destination including access code and country code.
9. Press **(NEXT PG)**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-pattern add          Page 3 of 8

Pattern Number: ____

GROUP ONE          GROUP TWO          GROUP THREE          GROUP FOUR
Pref  Pause No. Outpl  Pause No. Outpl  Pause No. Outpl  Pause Outpl
      Len.   Dig  Type   Len.   Dig  Type   Len.   Dig  Type   Len.   Type
____  ____  ____  ____  ____  ____  ____  ____  ____  ____  ____
____  ____  ____  ____  ____  ____  ____  ____  ____  ____  ____
____  ____  ____  ____  ____  ____  ____  ____  ____  ____  ____
____  ____  ____  ____  ____  ____  ____  ____  ____  ____  ____
    
```

10. Digits can be inserted in up to four digit groups, and you can specify pauses between each group. For each digit group, do the following:
 - Enter the number of seconds (**2-16** for the GROUP ONE, **0-16** for the remaining groups) that the system should pause to wait for dial tone from the distant end before outpulsing digits. This must be an even number.
 - In the No. Dig field, enter the number of digits (**1-15**) to be inserted before outpulsing.
 - Type **r** in the Outpl Type field if the digits are outpulsed with rotary; type **t** for touch-tone outpulsing.
 - Populate the Digits Inserted field on the second page of the screen only if at least one group in subnet trunking of that preference is used.
 - There cannot be gaps in between the groups.
11. [System 85 R2V2, R2V3, and DIMENSION] This is the last page of the screen.
12. [Generic 2.1 and System 85 R2V4] Press **(NEXT PG)** to go on to Page 4 if ISDN is active. You can administer the ISDN fields in Generic 2.1 and System 85 R2V4 only. For System 85 R2V4, the following screen is displayed:

```

AT&T Mgr IV 2.2          System 85 R2V4          <target>
PATH fm admin aar-pattern add          Page 4 of 8

Pattern Number: ____

ISDN          -----BEARER CAPABILITY -----
Trunk  Network
Pref  Type  Service  Voice or  Mode 1  Mode 2  Mode 3  Mode 0
      ____  ____  Voice or  1      1      1      1
      ____  ____  Voice Grade
    
```

13. Enter a valid ISDN trunk type. When the trunk type associated with the corresponding trunk group is an ISDN DYNAMIC trunk (type 120), the trunk type must be administered for the preference. Only these trunk types can be used: 17, 27, 41, 43, 46-47, 108, 109. Choose from these codes:
 - 17 1-way outgoing DOD CO
 - 27 1-way outgoing DOD WATS

- 41 2-way Wink In, Delay Dial or Wink Out Tie
 - 43 1-way out Delay Dial or Wink Tie
 - 46 2-way Dial Repeating In, Delay or Wink Out Tie
 - 47 2-way Dial Repeating Delay In, Delay or Wink Out Tie
 - 108 Wink In, Automatic Out DMI, Host dial tone out
 - 109 Wink In, Wink Out DMI Host dial tone out.
14. In the Network Service field, enter the network facility used. Choose from these codes:
- 0-255 selectable WATS band
 - 256 outgoing DID call
 - 257 software defined network
 - 258 presubscribed common carrier operator
 - 259 megacom
 - 260 operator handled
 - 261 WATS maximal subscribed band
 - 999 ACCUNET switched.
15. In the Voice or Voice Grade, Mode 1, Mode 2, Mode 3, and Mode 0 fields, type **1** if the mode is supported, or **0** if it is not supported.
16. Press **EXECUTE** to enter the data.
17. Press **RETURN** to go to the command path.

For Generic 2.1, the following screen is displayed:

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin aar-pattern add                Page 4 of 8

Pattern Number: ____

      ISDN      ISDN
      Trunk     Network
Pref  Type     Service      Bearer Capability
      _____
      _____
      _____
      _____
      _____
      _____
      _____
      _____
      _____
      _____
  
```

In Generic 2.1, two new fields have been introduced; ISDN Network Service and Bearer Capability Class of Service.

- The ISDN Network Service field replaces the Network Service field used in the R2V4 switch. In Generic 2.1, you are not allowed to use this field, unless you assigned the "Network Specific Facility Value" using the **network-spec-facility add** command. For more details, refer to "Network Specific Facility in Generic 2" in Chapter 3.
- The Bearer Capability feature was introduced in Generic 2.1. This feature determines what type of traffic can be carried in an ISDN trunk. In Generic 2.1, the Bearer Capability Class of Service field replaces the R2V4 fields; Voice or Voice Grade, Mode 0, Mode 1, Mode 2, and Mode 3. Prior to administering the Bearer Capability COS, use the **bearer-capability-cos** transaction to populate these fields with **0, 1, or 2**. For more details, refer to "Prerequisites" earlier in this chapter.

Procedure: Adding an AAR Pattern to the Switch

In the product-admin area, the **aar-pattern add** transaction is used to add a single preference to an existing pattern.

1. Enter the **aar-pattern add** command and press **RETURN**. The following screen is displayed (Generic 2.1):

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm product-admin aar-pattern add                Page 1 of 1
        YOU ARE DIRECTLY ACCESSING THE PRODUCT

        Pattern Number:  ___          Digits Deleted:  _
        Preference Number:  ___        Digits Inserted:  _____
        Trunk Group No.:  ___          Off-Network?  _
        IXC/ISDN Identifier:  ___      International Dest.?  _
        Facility Restriction Level:  ___  DDD at Dest.?  _
        Warning Tone?  ___            ISDN Trunk Type:  _
        Wait Dial Tone?  ___          ISDN Network Service:  _
        OXXX Calls Allowed?  ___      Bearer Capability COS:  _

        AAR SUBNETWORK TRUNKING

        GROUP ONE          GROUP TWO          GROUP THREE          GROUP FOUR
        Pause Length:  _  Pause Length:  _  Pause Length:  _  Pause Length:  _
        No. of Digits:  _  No. of Digits:  _  No. of Digits:  _  Outputpulse Type:  _
        Outputpulse Type:  _  Outputpulse Type:  _  Outputpulse Type:  _
    
```

The product-admin **aar-pattern add** input screen is comprised of one page.

2. Populate the fields with valid entries and press **RETURN** followed by **EXECUTE**. For a detailed field description, refer to "Procedure: Adding an AAR Pattern to the Database."

Procedure: Changing an AAR Pattern

The **aar-pattern change** transaction is used to change either one preference from an assigned pattern or all associated preferences. For all releases, these two options are provided only in the database-admin and admin areas. In the product-admin area, you are allowed to change only one preference at a time.

If you select the "One Preference" option, only that preference is changed in the database and only that preference is downloaded to the switch. With the "All Preferences" option, only those preferences that have been changed are downloaded to the switch which reduces the access time.

The **aar-pattern change** transaction allows you to access and change the specified preference(s) only. Only selected preferences are displayed and downloaded to the switch.

1. In the database-admin or admin area, enter the **aar-pattern change** command. The **aar-pattern change** screen is displayed. The screen contains two fields: Pattern Number and All Preference Numbers?. You are allowed to select either one or all preferences by entering **n** or **y** in the All Preference Numbers? field, respectively.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm database-admin/admin aar-pattern change      Page 1 of 1

                YOU ARE ONLY ACCESSING THE DATABASE

                Pattern Number:  ___

                All Preference Numbers?  _
                Preference Number:  ___

```

2. Enter the Pattern Number. This field is required. Press **RETURN**.
3. In the All Preference Numbers? field, enter **y** or **n**. This field is required. Press **RETURN**.
 - If you enter **y**, the **aar-pattern change** input screen is displayed. The screen is comprised of 8 pages.
 - If you enter **n**, the Preference Number field is displayed. This field allows you to select a single preference which is just a one page screen.
4. Enter the Preference Number. This field is required. Press **RETURN**. The **aar-pattern change** input screen for Generic 2.1 is displayed. The screen is comprised of one page.

In the product-admin area, you are allowed to change only one preference at a time.

1. In the product-admin area, enter the **aar-pattern change** command. The **aar-pattern change** screen is displayed. You are prompted for one preference number:

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm product-admin aar-pattern change            Page 1 of 1

                Pattern Number:  ___
                Preference Number:  ___

```

2. Populate the displayed fields. Both Pattern Number and Preference Number fields are required.

3. In the **aar-pattern change** input screen, you are not allowed to change the Pattern Number and Preference Number fields. These are display only fields. All remaining fields are optional.
4. For a single or all preferences selected, the output screen(s) are the same as in the **aar-pattern add** transaction used in the appropriate area. For a detailed field description in the database-admin and admin areas, refer to "Procedure: Adding an AAR Pattern to the Database." In the product-admin area, refer to "Procedure: Adding an AAR Pattern to the Switch."

Procedure: Displaying AAR Pattern Information

Generic 2.1 allows you to display either one or all preferences at a time in all areas. The **aar-pattern display** command invokes the following screen:

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm database-admin/admin/product-admin aar-pattern display  Page 1 of 1

                YOU ARE ONLY ACCESSING THE DATABASE

                Pattern Number:  __

                All Preference Numbers?  __
                Preference Number:  __

```

This display screen is the same for all switch releases. For a single or all preferences selected, the output screen(s) are the same as in the **aar-pattern add** transaction accessed from the appropriate area. For a detailed field description, refer to "Procedure: Adding an AAR Pattern to the Database."

Procedure: Inserting an AAR Preference

The **aar-pattern insert** transaction allows you to insert a new preference in an aar-pattern. This transaction is implemented via a series of "change" operations for the highest numbered preferences, and the new preference is added at the specified position.

For example, if three preferences are assigned to an aar-pattern in the product-admin area, to insert a new preference in the second position, the system performs the following operations:

- Replaces Preference 2 with the new preference. On the screen, the following message appears: "Replacing the existing Preference 2 data with the new Preference 2 data."
- Replaces Preference 3 with the Preference 2. On the screen, the following message appears: "Replacing Preference 3 data with Preference 2 data in pattern x."
- Adds the specified preference. On the screen, the following message appears: "Adding Preference 4 data in pattern x."

You can use the **aar-pattern insert** command in any area.

1. Enter the **aar-pattern insert** command. Press **RETURN**. The **aar-pattern insert** screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm product-admin aar-pattern insert          Page 1 of 1

          YOU ARE DIRECTLY ACCESSING THE PRODUCT

          Pattern Number:  ___          Digits Deleted:  _
          Preference Number:  ___          Digits Inserted:  _____
          Trunk Group No.:  ___          Off-Network?  _
          IXC/ISDN Identifier:  ___          International Dest.?  _
          Facility Restriction Level:  ___          DDD at Dest.?  _
          Warning Tone?  ___          ISDN Trunk Type:  _
          Wait Dial Tone?  ___          ISDN Network Service:  _
          OXXX Calls Allowed?  ___          Bearer Capability COS:  _

          AAR SUBNETWORK TRUNKING

          GROUP ONE          GROUP TWO          GROUP THREE          GROUP FOUR
          Pause Length:  _  Pause Length:  _  Pause Length:  _  Pause Length:  _
          No. of Digits:  _  No. of Digits:  _  No. of Digits:  _  Outputpulse Type:  _
          Outputpulse Type:  _  Outputpulse Type:  _  Outputpulse Type:  _

```

2. Enter the preference information for the new trunk group. The screen is the same as in the **aar-pattern add** transaction used in the product-admin area. For a detailed field description, refer to "Procedure: Adding an AAR Pattern to the Switch."
3. To view the new preferences and their positions, use the **aar-pattern display** command. The new preference appears in the specified position. All lower preferences are moved to the higher preferences and the preference numbers are incremented by one.

Procedure: Removing an AAR Preference

In Generic 2.1, you are allowed to remove one or all preferences at a time. One preference can be removed from anywhere on the list.

1. Enter the **aar-pattern remove** command. In all areas, the **aar-pattern remove** screen for Generic 2.1 is as follows:

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm database-admin/admin/product-admin aar-pattern remove  Page 1 of 1

          YOU ARE ONLY ACCESSING THE DATABASE

          Pattern Number:  ___

          All Preference Numbers?  ___
          Preference Number:  ___

```

2. Enter the Pattern Number. This field is required. Press **RETURN**.
3. Enter **y** or **n** in the All Preference Numbers? field. Press **RETURN**.

- If you type in **y**, all preferences associated with the specified pattern number are removed.
- If you select **n**, the specified preference are removed from the assigned pattern. The output screen shows the remaining preferences in an ordered sequence. If you are removing a preference somewhere in the middle of the list, all highest numbered preferences will have these numbers decremented by one.

Procedure: Assigning AAR Patterns to RNXs

[System 85 R2V2 and DIMENSION System FP8]

The **aar-rnx** command associates an AAR pattern with an on-network Location Code (RNX).

1. Enter **aar-rnx add** and press **RETURN**.

```

AT&T Mgr IV 2.2                System 85 R2V2                <target>
fm admin aar-rnx add

RNX (Location Code)  Pattern Number
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____
____  ____           _____

```

2. Enter up to 10 location codes and pattern numbers.
 - The first digit of the location code cannot be the same as the first digit of the Station Message Detail Recording (SMDR) account code or the digit reserved for AAR (usually 8) or ARS (usually 9) access. To check the digit used for these codes, use **dial-access-codes display**.
3. Press **EXECUTE** to end the transaction.

Procedure: Administering Conditional Routing Counts

The **aar-call-categories** command administers the call category assigned to each AAR conditional routing count. These assignments are used by the Generalized Routing Selection feature in conjunction with the Satellite Hop Control feature.

The AAR conditional routing count indicates the number of satellite links that have already been used to route the call. The call category value indicates how many satellite hops are allowed.

1. Enter the command **aar-call-categories change** and press **RETURN**.

AAR Conditional Routing Count	Call Category
0	0
1	0
2	0

2. Enter the call category number to be associated with each conditional routing count.
3. Press **EXECUTE** to end the transaction.

Adding New Trunk Groups to AAR Patterns

Use this procedure to add new trunk groups to AAR routing patterns. You may need to do this when performance reports indicate that current engineering is not adequate or when there is increased call volume to an area.

Before you can add trunks to a pattern, the pattern must already be established in the network.

To add trunks to a routing pattern do the following:

- Add the new trunk group(s) to the network using **trk-grp add**.
See "How to Add Trunks and Trunk Groups" in Chapter 4 for procedural information.
 - If you are only adding more trunks to existing trunk groups, use **trk add**. Once the trunks are added to a trunk group, they become part of the routing pattern of the trunk group.
- Use **aar-pattern display** to display the existing preferences for the pattern to be changed.
 - Use **aar-rnx report** to get a list of pattern numbers currently associated with RNXs. For Generic 2.1 and System 85 R2V4, use **aar-non-portability report**.
- Add the trunk group(s) to a routing pattern using **aar-pattern add**.
 - If the new trunk group will be the last preference in the sequence, follow the procedure for "Adding an AAR Pattern to the Database" earlier in this chapter, and add the new preference after the existing preferences.
 - If the preference will come before the last preference in the sequence, refer to "Procedure: Inserting an AAR Preference."

This procedure must be done at the switches on both ends of the trunk groups for AAR.

AUTOMATIC ROUTE SELECTION

[Generic 2.1, System 85 R2V2-R2V4, DIMENSION]

The ARS feature provides alternate routing for calls using the public network. The feature is controlled by a group of software tables, and it collects and interprets enough dialed digits to route the call using these tables.

ARS can help reduce costs because you can use higher-cost facilities more sparingly. For instance, you can route calls made to a public network number partially over your less expensive private network. To do this, ARS uses 10-to-7 Digit conversion to convert 10-digit public access numbers to 7-digit private access numbers. Sub-network trunking can be used to convert a 7-digit number to a public access number when necessary.

ARS can also route calls over a less expensive Wide Area Transmission Service (WATS) line in preference to using a Foreign Exchange (FX or regular CO trunks. You can also design a plan that conforms to your own network's traffic patterns and avoid possible congestion.

Trunk groups are assigned to ARS patterns in the same way that trunk groups are assigned to AAR patterns. ARS preferences, however, are associated with Numbering Plan Areas (NPAs) and/or Central Office (CO) exchange codes, rather than with network RNXs or location codes.

Based on the dialed digits, an ARS call is routed using one or all of these tables:

- Home NPA (HNPA) table, which points to the routing patterns used within the same NPA as the switch.
- 3-digit FNPA (Foreign NPA) table is used to route calls to an entire NPA other than the home NPA of the switch or to request 6-digit routing for a specific foreign NPA.
- 6-digit table used to further subdivide a foreign NPA into NPA-NXX (area code and office code) combinations. This option allows different facilities to be used to route calls to different office codes within a foreign NPA.

Patterns may be assigned to three different time-of-day plans to take advantage of the varying costs of calling over the public network (that is, business hours, evening, and night rates). You can override a schedule to take advantage of holidays, when rates may be low all day. Interexchange Carrier (IXC) access allows you to specify access to Other Common Carriers (OCC) in your routing preferences. The routing translation includes the digits necessary for access to the OCCs so that callers do not have to dial those digits to use the other facilities. There is always one plan used. It is optional to use the two additional plans.

The following table indicates the maximums in patterns and preferences for each switch release:

ARS Capacities		
Switch	No. of Patterns	No. of Preferences
DIMENSION FP8 Issue 1.16	64	10
DIMENSION FP8 Issue 3.8	64	16
System 85 R2V2	64	16
System 85 R2V3	64	16
Generic 2.1, System 85 R2V4	64	16

Administering ARS

Trunk groups must be fully defined in the network before they can be assigned as preferences in routing patterns. Use "How to Add Trunks and Trunk Groups" in Chapter 4 to define the trunk groups.

To administer ARS with Manager IV, use the steps below; the procedures are explained in the following pages.

1. Define the ARS pattern using **ars-pattern add**.
2. [Generic 2.1 or System 85 R2V4 with Tenant Services] Define the Routing Designator using the command **ars-call-categories add**. See "Tenant Services" in Chapter 10 for more information.
3. Assign the ARS pattern to either a local or foreign area code by using **hnpa add** or **fnpa add**.
4. If 6-digit routing was specified on the **fnpa** transaction, assign the pattern to 6-digit routing by using **ars-6-dig add**.
5. Administer changes to time-of-day routing plans using **ars-schedule**.
6. Administer ARS toll tables using **ars-toll**. Each preference may have a toll table associated with it.

Procedure: Adding an ARS Pattern to the Database

An ARS pattern, which defines the most cost-effective means of routing a call to a point on the public network, is set up by assigning trunk groups to preferences.

1. Enter **ars-pattern add** and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin ars-pattern add          Page 1 of 8

ARS Plan Number: _          Pattern Number: __

      Trunk   ISDN
      Group  IXC/
Pref.  No.   ID   Min   Warn   Dial   Distant  Send 1  Toll
      .     .   .   FRL   Tone?  Tone   Home   for   Table
      .     .   .   .     .     .     NPA   Toll  No.
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —
      —     —   —   —     —     —     —     —     —

```

Note: The screens shown below are for Generic 2.1 and System 85 R2V4. Some fields on the screens for System 85 R2V3 and R2V2 will look different; differences are noted in the procedure.

2. Enter the plan and pattern numbers.
3. Enter the preference number and its associated information. Each ARS pattern may have up to 16 preferences, except for DIMENSION 1.16, which may only have 10. No gaps are allowed in the preference numbering sequence.

- Pattern 1 is reserved for intercept treatment. All unassigned office codes are assigned to Pattern 1.
4. The trunk group number you enter must have been added already via **trk-grp add**.
 5. Enter the ISDN IXC/ID of the IX carrier (Generic 2.1 and System 85 R2V4). For System 85 R2V3 and DIMENSION 3.8, this field is headed "IXC/ID".
Note: If you leave the IXC/ISDN ID field blank, 0 will be downloaded to the switch.
 6. In the Min. FRL field, enter the minimum FRL required for a call to be routed on this preference. Information on Facilities Restriction Levels (FRLs) is found in Chapter 1.
 7. In the Warn Tone? field, type **y** if the caller should receive a warning tone before a call is routed over this facility.
 8. In the Wait Dial Tone field, type **y** if the system should wait for dial tone before outpulsing the digits.
 9. In the Send 1 for Toll field, type **y** if the prefix digit 1 is required by the local CO for making a call to the CO at the other end of the trunk group preference.
 10. In the Toll Table No. field, enter the number of the toll table associated with this preference. This table identifies the calls to a specified office code at the distant end that are considered local and which are considered toll.
 11. Press **RETURN** to display Page 2 of the screen.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin ars-pattern add          Page 2 of 8

ARS Plan Number:  _          Pattern Number:  __

Pref.          No. of          Digits
               Deleted          Inserted
_____          _____          _____
_____          _____          _____
_____          _____          _____
_____          _____          _____
_____          _____          _____
_____          _____          _____
_____          _____          _____
_____          _____          _____
    
```

12. Enter the Digits Deleted. This field is required.
13. Enter the Digits Inserted. You can populate this field only if at least one group in subnet trunking of that preference is used. Press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin ars-pattern add          Page 3 of 8

ARS Plan Number: _      Pattern Number: __

GROUP ONE      GROUP TWO      GROUP THREE      GROUP FOUR
Pref.  Pause No. Outpl  Pause No. Outpl  Pause No. Outpl  Pause Outpl
      Len.  Dig Type   Len.  Dig Type   Len.  Dig Type   Len.  Type
-      -    -    -    -    -    -    -    -    -    -
-      -    -    -    -    -    -    -    -    -    -
-      -    -    -    -    -    -    -    -    -    -

```

For all switch releases, this screen is the same. For each digit group do the following:

- Enter the number of seconds (**2-16**) that the system should pause before outpulsing digits. This must be an even number.
- In the No. Dig field, enter the number of digits (**0-15**) to be inserted before outpulsing.
- Type **r** in the Outpl Type field if the digits are outpulsed with rotary; type **t** for touch-tone outpulsing.

14. Press **RETURN**. For System 85 R2V4, the screen is as follows:

```

Mgr IV Release 2.2          System 85 R2V4          <target>
fm admin ars-pattern add          Page 4 of 8

ARS Plan Number: _      Pattern Number: 2

ISDN      -----BEARER CAPABILITY -----
Trunk  Network
Pref.  Type  Service  Voice  Mode1  Mode2  Mode3  Mode0
-      -    -        1     1     1     1     1

```

For Generic 2.1, the following screen is displayed:

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm database-admin/admin ars-pattern add          Page 4 of 8

      YOU ARE ONLY ACCESSING THE DATABASE

ARS Plan Number:          Pattern Number.: ____

      ISDN      ISDN
      Trunk     Network
Pref. Type  Service  Bearer Capability
Class of Service

-      -      -      -
-      -      -      -
-      -      -      -
-      -      -      -
-      -      -      -
-      -      -      -
-      -      -      -
-      -      -      -

```

When the ARS preference is an ISDN dynamic trunk, the trunk type must be administered for the preference. Only these trunk types can be used: 17, 27, 41, 43, 46, 47, 108 and 109. On this screen, enter a valid ISDN trunk type. Choose from these codes:

- 17 1-way outgoing DOD CO
 - 27 1-way outgoing DOD WATS
 - 41 2-way Wink In, Delay Dial or Wink Out Tie
 - 43 1-way out Delay Dial or Wink Tie
 - 46 2-way Dial Repeating In, Delay or Wink Out Tie
 - 47 2-way Dial Repeating Delay In, Delay or Wink Out Tie
 - 108 Wink In, Automatic Out DMI, Host dial tone out
 - 109 Wink In, Wink Out DMI Host dial tone out.
15. Enter the network facility used under ISDN Network Service. Choose from the following facility codes:
- 0-255 selectable WATS band
 - 256 outgoing DID call
 - 257 software defined network
 - 258 presubscribed common carrier operator
 - 259 megacom
 - 260 operator handled
 - 261 WATS maximal subscribed band
 - 999 ACCUNET switched.

16. For Generic 2.1, Page 4 includes two new fields: ISDN Network Service and Bearer Capability Class of Service.
- The ISDN Network Service field replaces the Network Service field used in the R2V4 switch. In Generic 2.1, you are not allowed to use this field, unless you assigned the "Network Specific Facility Value" using the **network-spec-facility add** command. For more details, refer to "Network Specific Facility in Generic 2" in Chapter 3.
 - Prior to administering the Bearer Capability COS, use the **bearer-capability-cos** transaction. For more details, refer to "Prerequisites" earlier in this chapter.
17. Press **EXECUTE** to enter information.

Procedure: Adding an ARS Pattern to the Switch

In the product-admin area, the **ars-pattern add** transaction is used to add a single preference to an existing pattern.

1. Enter the **ars-pattern add** command and press **RETURN**. The following screen is displayed [Generic 2.1]:

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm product-admin ars-pattern add  Page 1 of 1
                                YOU ARE DIRECTLY ACCESSING THE PRODUCT

                                ARS Plan Number:  _           Digits Deleted:  _
                                Pattern Number:  _           Digits Inserted:  _____
                                Preference Number:  _         Dial 1 Required:  _
                                Trunk Group No.:  _           Distant Home NPA:  _
                                IXC/ISDN Identifier:  _        Toll Table Index:  _
                                Facility Restriction Level:  _  ISDN Trunk Type:  _
                                Warning Tone?  _           ISDN Network Service:  _
                                Wait Dial Tone?  _         Bearer Capability COS:  _

                                ARS SUBNETWORK TRUNKING

                                GROUP ONE           GROUP TWO           GROUP THREE           GROUP FOUR
                                Pause Length:  _   Pause Length:  _   Pause Length:  _   Pause Length:  _
                                No. of Digits:  _ No. of Digits:  _ No. of Digits:  _   Outpulse Type:  _
                                Outpulse Type:  _ Outpulse Type:  _ Outpulse Type:  _
  
```

2. Populate the fields with valid entries and press **RETURN** followed by **EXECUTE**. For a detailed field description, refer to "Procedure: Adding an ARS Pattern to the Database."

Procedure: Changing an ARS Pattern

The **ars-pattern change** transaction allows you to access and change the specified preference(s) only. Only selected preferences are displayed and downloaded to the switch.

1. In the database-admin or admin area, enter the **ars-pattern change** command. The **ars-pattern change** screen is displayed. The screen contains the following fields: ARS Plan Number, Pattern Number and All Preference Number?. You are allowed to select either one or all preferences by entering **n** or **y** in the All Preference Numbers? field, respectively.

AT&T Mgr IV 2.2	DEFINITY G2.1	<target>
fm database-admin/admin	ars-pattern change	Page 1 of 1
ARS Plan Number: ___ Pattern Number: ___ All Preference Numbers? ___ Preference Number: ___		

2. Enter the ARS Plan Number (**1-3**). This field is required. Press **RETURN**.
3. Enter the Pattern Number (**2-64**). This field is required. Press **RETURN**.
4. In the All Preference Numbers? field, enter **y** or **n**. This field is required. Press **RETURN**.
 - If you enter **y**, the **ars-pattern change** input screen is displayed. The screen is comprised of 8 pages.
 - If you enter **n**, the Preference Number field is displayed. This field allows you to select a single preference.
5. Enter the Preference Number. This field is required. Press **RETURN**. The **ars-pattern change** input screen for Generic 2.1 is displayed. The screen is comprised of one page.

In the product-admin area, you are allowed to change only one preference at a time.

1. In the product-admin area, enter the **ars-pattern change** command. The **ars-pattern change** screen is displayed. You are prompted for one preference number:

AT&T Mgr IV 2.2	DEFINITY G2.1	<target>
fm product-admin	ars-pattern change	Page 1 of 1
ARS Plan Number: ___ Pattern Number: ___ Preference Number: ___		

2. Populate the displayed fields. Both Pattern Number and Preference Number fields are required.
3. In the **ars-pattern change** input screen, you are not allowed to change the ARS Plan Number, Pattern Number and Preference Number fields. These are display only fields. All remaining fields are optional.
4. For a single or all preferences selected, the screen(s) are the same as in the **ars-pattern add** transaction accessed from the appropriate area. For a detailed field description in the database-admin and admin areas, refer to "Procedure: Adding an ARS Pattern to the Database." In the product-admin area, refer to "Procedure: Adding an ARS Pattern to the Switch."

Procedure: Displaying ARS Patterns

You are allowed to display either one or all preferences at a time in all areas.

1. Enter the **ars-pattern display** command. The following screen appears:

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm database-admin/admin/product-admin ars-pattern display  Page 1 of 1

                ARS Plan Number:  __
                Pattern Number:  __
All Preference Numbers:  __
                Preference Number:  __

```

The screen and field description provided for the **ars-pattern change** transaction in the database-admin and admin areas is applicable here.

In the product-admin area, the **display** verb allows you to display one or all preferences at a time. For a detailed description, refer to "Procedure: Changing an ARS Pattern."

2. Press **EXECUTE**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin ars-pattern add                                     Page 1 of 1

                ARS Plan Number:  _
                Pattern Number:  __

Pref.   Trunk  ISDN          Wait  Distant  Send 1  Toll
        Group  IXC/          Dial  Home     for     Table
        No.   ID    FRL    Warn  Tone?   Tone?   NPA    Toll   No.
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -
-----  ---  ---    -    -      -      ---    -     -

```

3. Note the current preferences to determine where in the sequence to put the new trunk group.
 - If the new trunk group will be the last preference in the sequence, follow the procedure for "Adding an ARS Pattern to the Database."
 - If the new trunk group will come before the last preference in the sequence, see "Inserting an ARS Preference".

Procedure: Inserting an ARS Preference

The **aar-pattern insert** transaction allows you to insert a new preference in an aar-pattern. This transaction is implemented via a series of "change" operations for the highest numbered preferences, and the new preference is added at the specified position.

For example, if three preferences are assigned to an aar-pattern in the product-admin area, to insert a new preference in the second position, the system performs the following operations:

- Replaces preference 2 with the new preference. On the screen, the following message appears: "Replacing the existing Preference 2 with the new Preference 2 data."
- Replaces preference 3 with preference 2. On the screen, the following message appears: "Replacing Preference 3 with Preference 2."
- Adds the specified preference. On the screen, the following message appears: "Adding Preference 4."

The **ars-pattern insert** transaction can be used in any area.

1. Enter the **ars-pattern insert** command. Press **(RETURN)**. The **ars-pattern insert** screen is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm product-admin ars-pattern insert                Page 1 of 1
        YOU ARE DIRECTLY ACCESSING THE PRODUCT

        ARS Plan Number:  _           Digits Deleted:  _
        Pattern Number:  _           Digits Inserted:  _____
        Preference Number:  _         Dial 1 Required:  _
        Trunk Group No.:  _           Distant Home NPA:  _
        IXC/ISDN Identifier:  _       Toll Table Index:  _
        Facility Restriction Level:  _ ISDN Trunk Type:  _
        Warning Tone?  _             ISDN Network Service:  _
        Wait Dial Tone?  _           Bearer Capability COS:  _

        ARS SUBNETWORK TRUNKING

        GROUP ONE           GROUP TWO           GROUP THREE           GROUP FOUR
        Pause Length:  _   Pause Length:  _   Pause Length:  _   Pause Length:  _
        No. of Digits:  _ No. of Digits:  _ No. of Digits:  _   Outputpulse Type:  _
        Outputpulse Type:  _ Outputpulse Type:  _ Outputpulse Type:  _
  
```

2. Enter the preference information for the new trunk group. The screen is the same as in the **ars-pattern add** transaction used in the product-admin area. For a detailed field description, refer to "Procedure: Adding an ARS Pattern to the Switch."
3. To view the new preferences and their positions, use the **ars-pattern display** command. The **ars-pattern display** output screen will display all preferences which will have one more preference than before entering the **insert** command. The new preference will be inserted in the specified position. All lower preferences will be moved to the higher preferences and the preference numbers will be incremented by one.

Procedure: Removing an ARS Preference

In Generic 2.1, you are allowed to remove one or all preferences at a time. One preference can be removed from anywhere on the list.

1. Enter the **ars-pattern remove** command. In all areas, the **ars-pattern remove** screen for Generic 2.1 is as follows:

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm database-admin/admin/product-admin ars-pattern remove  Page 1 of 1

                ARS Plan Number:  ___
                Pattern Number:   ___
All Preference Numbers? ___
                Preference Number: ___
  
```

2. Enter the ARS Plan Number (**1-3**). This field is required. Press **RETURN**.
3. Enter the Pattern Number (**2-640**). This field is required. Press **RETURN**.
4. Enter the All Preference Numbers? (**y** or **n**). This field is required. For a detailed description, refer to "Procedure: Changing an ARS Pattern". Press **RETURN**.

Assigning ARS Patterns to Area Codes (NPAs)

[Generic 2.1, System 85, DIMENSION]

ARS patterns can be assigned to the local (home) NPA or to non-local (foreign) NPAs. The home NPA must have been defined via the **sys-cos** transaction. Follow the appropriate procedure below.

Procedure: Assigning ARS Patterns to the Home NPA

1. Enter **hnpa add** and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin hnpa add                                             Page 1 of 1

Office Code   Pattern No.   Office Code   Pattern No.
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  ___         ___         ___         ___
  
```

2. Enter the office code and pattern number.
 - [Generic 2.1 or System 85 R2V4 with Tenant Services] The screen prompts for a Routing Designator instead of a Pattern Number. The routing designator must be previously defined using **ars-call-categories add**. See "Tenant Services" in Chapter 10 for details on this command.
 - If you want to block calls to a particular office code, enter **1** rather than the pattern number. The call will go to intercept.
3. Press **EXECUTE** to enter the information.

Foreign NPA Commands

The **fnpa** transaction administers Automatic Route Selection (ARS) patterns for foreign Numbering Plan Area (NPA) code combinations. This transaction can be accessed from the database-admin, admin, and product-admin areas. The verbs supported are: **add**, **display**, and **change**.

To assign an ARS pattern(s) to a Foreign NPA(s), use the **fnpa add** command. This transaction allows you to select one of these routings:

- **3-digit routing** - may handle all calls.
- **6-digit routing** - may handle calls differently to office codes within the area code.
- **Combination routings (3-digit & 6-digit)** - may be used for the same FNPA under different plans.

3-Digit Routing

You are allowed to select 3-digit routing for any time-of-day plan or for all time-of-day plans by entering **3** in the appropriate Translation Digits field(s). The Translation Digits fields are required.

6-Digit Routing

You are allowed to select 6-digit routing for any time-of-day plan or for all time-of-day plans by entering **6** in the appropriate Translation Digits field(s). The Translation Digits fields are required.

You will be allowed to populate a table of allowed 6-digit routing patterns. The first allowed pattern will serve as a default for any office codes not explicitly defined in the 6-digit routing table. Use **ars-6-digit add** to assign the 6-digit area code/office code combinations to one of the allowed patterns defined for 6-digit routing by the **fnpa** transaction for that area code.

3-Digit & 6-Digit Routing

To use both 3-digit and 6-digit routing for the same FNPA, enter a number (**3** or **6**) in the selected Translation Digits field(s).

Depending on the switch release, you are allowed to add from 4 to 10 patterns for 6-digit routing. For System 85 R2V2 and DIMENSION FP8, only four patterns can be added. For Generic 2.1 or System 85 R2V3, R2V4, up to ten patterns are allowed.

To display the ars 3-digit and/or 6-digit information, enter the **fnpa display** command. The **fnpa change** command allows you to replace a 6-digit translation with a 3-digit translation and vice versa.

Procedure: Assigning ARS Patterns to Foreign NPAs

1. All patterns or routing designators (if Tenant Services is on) must have been added previously.
2. Enter **fnpa add** and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin fnpa add                Page 1 of 1

Foreign NPA: ____

Plan Number          Translation Digits
-----            -
1
2
3

THREE DIGIT ROUTING PATTERNS

Plan 1: 1          Plan 2: 1          Plan 3: 1

SIX DIGIT ROUTING PATTERNS

1: 1    3: 1    5: 1    7: 1    9: 1
2: 1    4: 1    6: 1    8: 1    10: 1

Pattern No. 1 has intercept treatment

```

3. Enter the Foreign NPA number. This field is required. Valid entries are **200-219, 300-319, 400-419, 500-519, 600-619, 700-719, 800-819, and 900-919**.

4. Enter **3** for 3-digit routing or **6** for 6-digit routing in each Translation Digits field. The Translation Digits fields are required. Via the Translation Digits fields, you may select all 3-digit or all 6-digit routings, or combinations.
 - To select only 3-digit routings, enter **3** in the Translation Digits fields for Plan Number 1, 2 and 3. Press **RETURN**.
 - To select only 6-digit routings, enter **6** in the Translation Digits fields for Plan Number 1, 2 and 3. Press **RETURN**.
 - To select both 3-digit and 6-digit routings, enter **3** for 3-digit and **6** for 6-digit routings in the selected Translation Digits field(s). **RETURN**.
5. The THREE DIGIT ROUTING PATTERNS fields appear only if you selected at least one 3-digit routing.
 - Enter the pattern number in each Plan field. Valid entries are **1-64**. The default pattern number of 1 (intercept) appears for each time-of-day plan. Change this to the pattern number you want for each plan.
 - If your switch is DIMENSION FP8 and the Deluxe Voice feature is *on*, you cannot access the Translation Digits fields for Plan Number 2 and 3.
6. The SIX DIGIT ROUTING PATTERNS fields appear only if you selected at least one 6-digit routing.
 - You are allowed to enter up to 10 6-digit routing patterns at a time depending on the switch type. These fields are optional. Valid entries are **1-64**. The default is **1**. You may enter a valid entry or skip any field(s) by pressing **RETURN**.
7. The screen depicted is for Generic 2.1 or System 85 R2V4, which allows ten 6-digit routing patterns.
8. [Generic 2.1, System 85 R2V4 with Tenant Services] The screen prompts you for a Routing Designator instead of a Pattern Number.
The routing designator must be previously defined using **ars-call-categories add**. See "Tenant Services" in Chapter 10 for details on this command.
9. Press **EXECUTE** to enter the data.
10. If 6-digit routing was specified, you can now assign the 6-digit pattern(s) to area code/office code combinations as outlined in "Procedure: Assigning 6-Digit Routing Patterns" below.

Procedure: Displaying ARS Patterns Assigned to Foreign NPAs

1. Enter the **fnpa display** command and press **RETURN**. The input **display** screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin fnpa display                Page 1 of 1

Foreign NPA: ____

```

2. Enter the Foreign NPA number. This field is required. Valid entries are **200-219, 300-319, 400-419, 500-519, 600-619, 700-719, 800-819, and 900-919**. Press **RETURN**. Press **EXECUTE**. The output **display** screen appears. The screen will contain the ars 3-digit and/or 6-digit information as it has been defined in the database. The output **fnpa display** screen is identical to the **fnpa add** screen. For detailed information, refer to "Procedure: Assigning ARS Patterns to Foreign NPAs."

Procedure: Changing ARS Patterns Assigned to Foreign NPAs

The **fnpa change** transaction allows you to change the 3-digit translations to 6-digit translations and vice versa. If you change a 6-digit to a 3-digit translation, the system removes all 6-digit translations from the database.

1. Enter the **fnpa change** command and press **RETURN**. The input **fnpa change** screen appears. To invoke the output **fnpa change** screen, populate the Foreign NPA field with a valid number. The input and output **fnpa change** screens are identical to the **fnpa display** screens. For a detailed description, refer to "Procedure: Displaying ARS Patterns Assigned to Foreign NPAs".

Note: You are not allowed to change the Foreign NPA number. This field is display only.

Administering the 6-Digit Routing Table

The **ars-6-dig** transaction administers 6-digit routing patterns by assigning an Automatic Route Selection (ARS) pattern to a 6-digit Numbering Plan Area (NPA)/office code combination. If Tenant Services is present, a routing designator is used instead of an ARS pattern number. The switch can store up to 999 NPA/office code combinations. Up to 40 combinations can be administered at a time. This transaction can be accessed from the database-admin, admin, and product-admin areas. The verbs supported are: **add**, **display**, and **change**.

To assign a 6-digit routing pattern, use the **ars-6-dig add** command. You can block calls to a specified area/office code combination by associating the 6-digit combination with pattern 1, which is reserved for intercept.

To view 6-digit routing patterns associated with area/office code combination as they reside in the Manager IV database, enter the **ars-6-dig display** command.

To reassign routing patterns to the other area/office code combinations, use the **ars-6-dig change** command.

Procedure: Assign 6-Digit Routing Patterns

The **ars-6-dig add** transaction allows you to assign an NPA/office code combination to a 6-digit routing pattern/designator. You can also use this command to block calls to a specified NPA/office code combination. You are allowed to add up to 40 office codes at a time. Office codes not explicitly defined in the table will default to the first of the allowed patterns defined via the **fnpa** transaction for that area code.

The transaction will not complete successfully if the 6-digit translation is not defined in the database. Prior to assigning routing patterns/designators, you need to perform the following prerequisite transactions:

- Enter the **fnpa display** transaction to view the allowed patterns for 6-digit routing in the particular area code.
 - If the pattern has not been defined, enter the **fnpa change** command to add the pattern to allowed patterns for 6-digit routing.
1. Enter the **ars-6-dig add** command and press **RETURN**. The following screen is displayed.

AT&T Mgr IV 2.2		DEFINITY G2.1		<target>			
fm admin ars-6-dig add						Page 1 of 1	
Foreign NPA: ____							
OFFICE	PATTERN	OFFICE	PATTERN	OFFICE	PATTERN	OFFICE	PATTERN
CODE	NO.	CODE	NO.	CODE	NO.	CODE	NO.
____		____		____		____	
____		____		____		____	
____		____		____		____	
____		____		____		____	
____		____		____		____	
____		____		____		____	
____		____		____		____	
____		____		____		____	

Note: If Tenant Services is present, the screen will display "ROUTING DESIGNATOR" instead of "PATTERN NO".

2. Enter the Foreign NPA number. Valid entries are **200-219, 300-319, 400-419, 500-519, 600-619, 700-719, 800-819, and 900-919**. This field is required. Press **RETURN**.
3. Enter the Office Code. Valid entries are **200-999**. The first OFFICE CODE field is required. Press **RETURN**. The cursor is positioned in the first PATTERN NO. field.
4. Enter the PATTERN NO. value. Valid entries are **1-64**. The first PATTERN NO. field is required. Press **RETURN**. The rest of the OFFICE CODE and PATTERN NO./ROUTING DESIGNATOR fields are optional.
5. Press **EXECUTE** to enter the data.

Procedure: Display 6-Digit Routing Patterns

The **ars-6-dig display** transaction allows you to view the pattern numbers/designators associated with an area code/office code combination. You can display a single office code, a list of codes, or a range of them.

1. Enter the **ars-6-dig display** command. The input **ars-6-dig display** screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.1	<target>
fm admin ars-6-dig display		Page 1 of 1
Foreign NPA: ____		
Office Code(s): _____		

2. Enter the Foreign NPA number. Valid entries are **200-219, 300-319, 400-419, 500-519, 600-619, 700-719, 800-819, and 900-919**. This field is required. Press **RETURN**.
3. Enter the Office Code. Valid entries are **200-999**. You are allowed to specify a single office code, a list of codes, or a range of them. Press **EXECUTE**. The output **ars-6-dig display** screen appears.

Procedure: Change 6-Digit Routing Patterns

The **ars-6-dig change** transaction allows you to reassign an NPA/office code combination(s) to another routing pattern(s)/designator(s). You can change up to 40 codes at a time.

1. Enter the **ars-6-dig change** command. The input **ars-6-dig display** screen appears.
2. Enter the Foreign NPA number. The output **ars-6-dig change** screen appears. The cursor is positioned in the PATTERN NO./ROUTING DESIGNATOR field. Press **EXECUTE**.
3. Enter the PATTERN NO./ROUTING DESIGNATOR. You are allowed to blank out this field, type in a new value, or leave the displayed entry. This field is optional. Press **EXECUTE**.

Procedure: Administering ARS Toll Tables

ARS toll tables identify which calls to a specified office code are considered toll calls and which are considered local at the distant end. If dial 1 for toll has been specified for the preference, the system inserts a 1 before a toll call, and does not insert a 1 before a local call. A toll table must be specified for each preference in an ARS pattern.

Once established, toll tables should need to be changed only when regional operating companies change the toll versus non-toll designation of areas they serve. For example, if one NPA is changed to two or more new NPAs and office codes are moved to the new NPA, the office codes must be removed from one toll table and added to another.

To administer toll tables do the following:

1. Enter the command **ars-toll add**.

AT&T Mgr IV 2.2		DEFINITY G2.1				<target>			
fm admin ars-toll add						Page 1 of 1			
Toll Table No.: __									
OFFICE	TOLL	OFFICE	TOLL	OFFICE	TOLL	OFFICE	TOLL	OFFICE	TOLL
CODE		CODE		CODE		CODE		CODE	
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-
—	-	—	-	—	-	—	-	—	-

2. Enter the Toll Table number.
3. Enter the office codes associated with this toll table.
4. Type **y** in the TOLL field if a call placed to this office code is a toll call.
5. Press **EXECUTE** to end the command.

Adding New Trunk Groups to ARS Patterns

[Generic 2.1, System 85, DIMENSION]

Use this procedure to add new trunk groups to ARS routing patterns. You may need to do this when performance reports indicate that current engineering is not adequate or when there is increased call volume to an area.

Before you can add trunks to a pattern, the pattern must already be established in the network. To add trunks to a routing pattern do the following:

- Add the new trunk group(s) to the network using **trk-grp add**. See "How to Add Trunks and Trunk Groups" in Chapter 4 for procedural information.

If you are only adding more trunks to existing trunk groups, use **trk add**. Once the trunks are added to a trunk group, they become part of the routing pattern that the trunk group is in.
- Use the command **ars-pattern display** to display existing preferences for the pattern.

Use **hnpa report** or **fnpa report** to get a list of patterns currently assigned.
- Add the trunk group(s) to a routing pattern using **ars-pattern add**.
 - If the new trunk group will be the last preference in the sequence, follow the procedure for "Adding an ARS Pattern to the Database" earlier in this chapter.
 - If the new trunk group will come before the last preference in the sequence, refer to "Procedure: Inserting an ARS Pattern".

When you are routing from your switch to a Central Office (CO), you must make changes on your switch and advise the CO to make corresponding changes.

Procedure: Administering ARS Schedules

To check whether or not the ARS schedule is now in automatic or manual mode, use the command **sys-cos display**. Use the command **sys-cos change** to change the mode from one to the other.

Remember that only one time-of-day plan can be in effect at any given time. To administer the ARS schedules:

1. Enter the command **ars-schedule add**. The following screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin ars-schedule add

      Add Automatic(a) or Manual Override(m) or Both(b)?: _
  
```

2. To set the schedules up to take effect automatically, type **a**. To input a clocked manual override, type **m**. Type **b** for both. The screen shown below is for both; only the upper portion of the screen appears for automatic overrides, and only the lower portion appears for manual overrides.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin ars-schedule add

Add Automatic(a) or Manual Override(m) or Both(b)?: _

DAY: ____

Time          Plan          Active?
__:__         -             -
__:__         -             -
__:__         -             -
__:__         -             -
__:__         -             -
__:__         -             -

Clocked Manual Overrides          Return to Automatic Control
DAY: ____                          DAY: ____
Time: __:__                        Time: __:__
Plan: _

```

3. For automatic scheduling, you can enter up to six changes for each day. When scheduling is in automatic mode, plans are in effect continuously.
 - Enter the day of the week for which automatic plans are being input, as **mon** through **sun**.
 - Enter the time the override should take effect.
 - Enter the plan number (**1** through **3**) to be in effect.
 - Type **y** if the plan is currently available, **n** if it is not.

Note: If only one plan is in use by the system, make one entry for each day of the week showing plan 1 for 24 hours.
4. The manual override capability allows a change in the schedule for a particular time period. This allows you to take advantage of special rates, then return to automatic control at a specified time period.
 - Enter the day the override should take effect.
 - Enter the time the override should take effect.
 - Enter the plan to be in effect during this time period.
 - Enter the day the override should return to automatic control. The maximum length that a manual override can be in effect is seven days.
 - Enter the time the override should return to automatic control.
5. Press **EXECUTE** to run the command.

EXTENSION NUMBER PORTABILITY

[Generic 2.1 and System 85 R2V3-R2V4]

See: Chapter 7, "World Class Routing" for the Generic 2.2 version of Extension Number Portability.

Overview

Extension Number Portability (ENP) allows users in an Electronic Tandem Network (ETN), with or without DCS, or another environment, to retain their numbers when moving to a different node within a multi-switch network.

AAR is used to route calls in an ENP network. Location codes are mapped to first digits, which map to a node number. The node numbers are then mapped to a pattern number. In an ENP network, first and second digits are also mapped to location codes ("pseudo-RNXs" that represent the number portability network) in a network-wide portability routing table. This is what allows users to change from node to node without changing their extension number.

Note: Most users will have an ETN composed of both portable and non-portable switches. The next sections describe how a call is processed within an ENP network, however the few differences that apply for non-ENP network calls are additionally included.

Call Routing within an ENP Network

Understanding the Dialing Plan

At initialization, blocks of extensions are allocated among the switch nodes included in the network. A dialing plan is also established that imposes a consistent numbering scheme for all the extensions in the switch network. When a call is placed, the function of the dialing plan is to analyze the numbers that compose the extension. The disposition of the call depends on the translations contained in the dial plan. For example, the first digit of the dialed number identifies the calling type. This information determines how the call should be processed.

Note: The **first-digit display** command is used to check first-digit translations.

Within the dialing plan, extensions can be either unassigned (reserved for future use), or assigned. When an extension is assigned it is homed to a particular node in the network. Further, assigned extensions can be either available or working for their home node.

The database files associated with each individual Manager IV target in a network contain information about the particular set of extensions that are exclusively assigned to that target. At the network level, a master file is created by the initialization process that contains location (node) information for every extension in the network. This network file enables the user to identify extension node locations and to move easily within the network from one node to another.

TCM Commands

Portable and non-portable extensions can be administered with the following TCM commands:

- **ext-to-node** display lists a cross reference of extensions with node assignments.
- **extension move** moves extensions from node to node.
- **number-group add** assigns extensions to a node.
- **number-group remove** removes extension assignments from a node.

- **number-group move** moves extensions (number groups) from one node to another.

FM Commands

The procedures that following for administering portable and non-portable nodes in the network use the following commands:

- **aar-non-portability add** is used to include a non-portable switch node in the network.
- **aar-portability add** is used to include a portable switch node in the network.
- **portability routing add** maps first and second digits to a particular node for portable switches only.

ENP Call Processing

1. Node numbers are mapped to AAR pattern numbers using the object, **aar-portability**.
2. Switches with ENP share a common set of home RNXs and a pseudo-RNX for the network.
 - The pseudo-RNX is mapped to first digit and second digit in the network's portability routing table. This table is updated using the object, **portability-routing**.
 - RNXs are mapped to first digit using the object, **aar-portability**.

Non-ENP Call Processing

1. For switches without ENP, the node number is mapped to a location code (RNX). The node-to-location code mapping is administered using the object, **aar-non-portability**.
2. For switch nodes without ENP portability, RNXs are mapped to AAR pattern numbers using the object, **aar-non-portability**.

Call Processing Checks

The following checks are performed on incoming calls:

- System uses the Location Code to First Digit table to determine to which first digit the incoming RNX relates.
- If the Location Code is mapped to a node number rather than to a first digit, the system knows it is a non-portable call. It then checks the RNX-to-Pattern Number table to get the pattern number associated with the RNX and uses that pattern to route the call.
- If the location code is mapped to a first digit, the system checks the network dial plan for the first digit and the extension. The network dial plan tells the system to which node the first digit and extension points.
- If the network dial plan contains an asterisk, this indicates that the extension belongs to the local node, and the call is processed locally.
- If the network dial plan indicates that the call belongs to another portable node, the system checks the Node Number to Pattern Number table to get the AAR pattern number associated with that node.
- The system then checks the Portability Routing Table against the first digit and second digit. The pseudo-RNX in the table is used to convert the number to a 7-digit private network number, which is outputted to the correct node using the correct AAR pattern number.

Tasks that relate specifically to ENP are covered in "Procedure: Assigning AAR Patterns in an Extension Number Portability Network" later in this chapter. The procedure for assigning AAR patterns in such a network is part of the material.

Procedure: Adding Patterns without Extension Number Portability

For Generic 2.1 or System 85 R2V3, R2V4 in a network without ENP, enter the following commands:

1. Enter **aar-non-portability add** and press **RETURN**.
2. If Satellite Hop Administration is not used in your network, type **n** in the Satellite Hop Administration? field.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-non-portability add          Page 1 of 1

                Satellite Hop Administration: n

Location Code      Node No.      Pattern No.      First Digit
  ---              ---              ---              -----
    
```

3. For a four-digit dialing plan,
 - Enter the Location Code (RNX) of each switch
 - Enter the Node number (usually the same value as the RNX)
 - Enter the Pattern number associated with the RNX.

For a five-digit dialing plan,

- Enter the Location Code (RNX) of each switch
 - Enter the Node number (usually the same value as the RNX) if the pattern number is other than 641
 - Enter the Pattern number associated with the RNX
 - Enter the First Digit number if the pattern is 641.
4. If Satellite Hop Administration is used in your network, type **y** in the Satellite Hop Administration? field.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-non-portability add

                                Satellite Hop Administration: y

Location Code      Node No.      Call Category      Pattern No.
  _____          _____          0                  _____
                   _____          1                  _____
                   _____          2                  _____

Location Code      Node No.      Call Category      Pattern No.
  _____          _____          0                  _____
                   _____          1                  _____
                   _____          2                  _____

Location Code      Node No.      Call Category      Pattern No.
  _____          _____          0                  _____
                   _____          1                  _____
                   _____          2                  _____

```

- Enter the location code of each switch.
 - The node number and call category is automatically filled in. You can change the node by typing over the number that appears.
 - Enter the pattern number associated with each call category.
5. Enter **EXECUTE** to end the transaction.

Procedure: Assigning AAR Patterns in an Extension Number Portability Network
[Generic 2.1 and System 85 R2V3, R2V4]

1. Enter **aar-portability add** and press **RETURN**.
2. To map location code to first digits, type **x** in the Location Code to 1st Digit Mapping field.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-portability add          Page 1 of 1

x Location Code to 1st Digit Mapping
_ Node No. to Pattern No. Mapping

      Location Code          First Digit
      -----
      576                    7
      550                    7
      -----
      -----
      -----
      -----
[partial screen]
    
```

- Enter the location codes and the first digits associated with them. Enter the location code for each switch in the NP network, as well as the pseudo-RNX assigned to the ENP network itself.
 - Press **EXECUTE** to end the transaction.
3. To map node number to pattern numbers, type **x** in the Node No. to Pattern No. Mapping field.
 - If Satellite Hop Administration is used in your system, type **y** in the Satellite Hop Administration? field. Enter the node number and pattern number (**2-641**) for each call category.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-portability add          Page 1 of 1

_ Location Code to 1st Digit Mapping    Satellite Hop Administration y
x Node No. to Pattern No. Mapping

      Node No.          Call Category          Pattern No.
      -----
      -----          0                    -----
      -----          1                    -----
      -----          2                    -----

      Node No.          Call Category          Pattern No.
      -----
      -----          0                    -----
      -----          1                    -----
      -----          2                    -----

      Node No.          Call Category          Pattern No.
      -----
      -----          0                    -----
      -----          1                    -----
      -----          2                    -----
    
```


- If Satellite Hop Administration is not used, type **n** in the Satellite Hop? field. Enter the node number of the destination PBX and the pattern number associated with it.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin aar-portability add          Page 1 of 1

_ Location Code to 1st Digit Mapping    Satellite Hop Administration n
x Node No. to Pattern No. Mapping

                Node No.          Pattern No.
                _____          _____
                2                  31
                _____          _____
                _____          _____
                _____          _____

```

4. Press **EXECUTE** to enter the data.
5. Press **ESC** t to change targets.
6. To map first and second digits to location code, change the target to the ENP Subnetwork ID associated with a corporation name or ID. The ENP Subnetwork ID identifies the portion of the Manager IV database allocated for maintaining portability-routing related information. This ID is not associated with a particular switch, but includes ENP routing information for every node in the network.

Originally, the product and corporate information would have been entered during installation via the **system-administration corporation add** transaction.

See: "Procedure: Adding a Corporate Description" in *DEFINITY® Manager IV System Administration* for details.

For a list of targets use the command **product list**, or see the Manager IV System Administrator.

7. Enter the **system-administration corporation display** transaction to determine the Number Portability Subnetwork ID and use this ID as a target.
8. After the target has been established, enter **portability-routing add** and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin portability-routing add          Page 1 of 2

                Do you want detailed output? n

Switch Id.      Choice          Switch Id.      Choice
Switch1_____  _y_          _____      _____
Switch2_____  _y_          _____      _____
Switchxx_____  _y_          _____      _____
_____          _____          _____      _____
_____          _____          _____      _____

```

9. This screen is display only. It displays the non G2.2 switch IDs of the nodes in the number portability network. Press **RETURN** to get to Page 2.

AT&T Mgr IV 2.2			DEFINITY G2.1		
fm admin portability-routing add			<target> Page 2 of 2		
First Digit	Second Digit	Location Code	First Digit	Second Digit	Location Code
7	2	550	-	-	---
7	5	550	-	-	---
-	-	---	-	-	---
-	-	---	-	-	---

[partial screen]

10. Enter each first and second digit combination and the location code associated with it. The location code should be the "pseudo-RNX" assigned to the ENP network.
11. Press **EXECUTE** to run the transaction. The command automatically downloads the routing table to each non-G2.2 switch in the ENP network.

Note:

- If your extension number portability network consists of G2.2 nodes in addition to G2.1 and System 85 nodes, administer each G2.2 node that is to be included in the ENP network. This ensures that routing is consistent across the ENP network.
- The **portability-routing** transaction for G2.1 and System 85 maps to the **wcr-digit-modification** and **wcr-dial-plan-definition** transactions for G2.2.

See: "WCR Extension Number Portability Administration" section in Chapter 7, "World Class Routing" for complete details on setting up an Extension Number Portability Subnetwork consisting of Generic 2.2 switches.

ARS INTERNATIONAL CALL ROUTING

Generic 2.1 and System 85 R2V4 provide ARS International Call Routing capability that allows international calls to be routed over specified trunk groups, both public and private. This feature allows users to take advantage of different network calling prices and route international calls over the most direct least-cost routes available for private/public networks.

The ARS International Call Routing Feature administers international call dialing sequences by associating them with routing designators. The routing designators are automatically mapped to the corresponding ARS patterns according to time-of-day or day-of-week. ARS patterns identify the trunk group preferences over which the call traffic will be routed.

The international call dialing sequences determine how to route all calls that start with indicated digit sequence (which routing designator must be associated with the international number). These codes are:

1. International Dial Access Code (IDAC)
 - IDAC is made of the first three digits. For an international call to be recognized, IDAC must always start with **01**. By these digits, IDAC identifies the call as an international call. The third digit is the first digit of the country code.
2. Country code
 - Country code identifies the country for which the call is targeted. A country code may have 1 to 3 digits, and must be specified right after **01**. This code is required.
3. City code
 - City code identifies the city for which the call is targeted. A city code may contain 1 to 4 digits, and must be specified right after the country code. This code is required. A list of valid country and city codes is provided in Table 6-1 later in this chapter.
4. Local telephone number.
 - This number is optional; it may be specified right after the city code.

The first three calling sequences, IDAC, country code, and city code, are required. A minimum of 7 digits must be used to specify IDAC, country code and city code. Depending on the number of digits contained in a country code and a city code, the International Calling Code can be specified with less than 7 digits. To create a valid international number, this calling code must be padded with as many trailing zeros as needed to form a 7-digit entry.

For example, the required three dialing sequences for London, England, are: **01** for a starting sequence, **44** for a country code, and **1** for a city code. These three sequences form a 5-digit calling code, **01441**. To make this code a valid 7-digit number, you must append to it two zero. The valid calling code will be **0144100**.

Digits 8 through 18 are optional. For example, the international number **0191842227391** can be broken down into the following codes:

- **019** is an IDAC where **01** is the call starting sequence, and **9** is the first digit of country code **91**
- **91** is a country code
- **842** is a city code
- **227391** a local telephone number.

Administering ARS International Call Routing

ARS International Call Routing can be administered via the **ars-international-routing** transaction from the database-admin, admin, and product-admin areas. You are allowed to administer up to 20 call routings at a time. The verbs supported are: **add, display, change** and **remove**.

To associate an International Calling Code with a corresponding Routing Designator, use the **ars-international-routing add** command. For the transaction to complete successfully, the ARS preferences must be defined in the database via the **ars-pattern add** transaction.

To view the International Calling Code - Routing Designator associations as they reside in the database, use the **ars-international-routing display** transaction.

To change the international call routing, you need to change the Routing Designator associated with the specified call code. Use the **ars-international-routing change** transaction to associate the specified international number with a new Routing Designator.

To remove the specified international calling code, use the **ars-international-routing remove** transaction. This transaction allows you to remove Calling Code number(s).

Procedure: Associate IDACs with Routing Designators

The **ars-international-routing add** transaction allows you to associate IDACs with Routing Designators. Up to 20 IDACs can be administered at a time. Routing Designator identifies the ARS pattern to be associated with the international call. Prior to administering an international call, define the ARS pattern by entering the **ars-pattern add** transaction. For a detailed description, refer to "Automatic Route Selection" earlier in this chapter.

The transaction will not complete successfully if these calling sequences have not been defined in the database.

Valid international calling sequences are provided in Table 6-1 later in this chapter.

1. Enter the **ars-international-routing add** command. The **ars-international-routing add** screen appears. You are allowed to specify up to 20 International Calling Codes. For each International Calling Code entered, a corresponding Routing Designator field must be populated, as shown on this screen.

AT&T Mgr IV 2.2		DEFINITY G2.1		<target>
fm admin ars-international-routing add			Page 1 of 1	
International Calling Code	Routing Designator	International Calling Code	Routing Designator	
012345678901234567	64	0157167	7	
0124589127	29	01589567	24	
0124790	14	0160367	57	
012489345	27	0165689567	55	
012589257	4	016790367	24	
013570	36	01694572456	19	
01368945	42	0173569017	27	
0138124	29	0174812346	27	
01472567	36	01934789012	29	
0149167	19	019876543210987654	64	

2. Enter the International Calling Code. The first calling code is required. Valid entries are **0** through **9**. Press **RETURN**.

- All International Calling Code numbers must start with **01**.
- The minimum code length allowed is 7 digits. You may enter up to 18 digits. When administering this transaction, digits 8 through 18 must be unique. For example, if the number **0191842227391** has already been assigned, to specify other International Calling Code numbers from the product-admin area, consider the following:
 - You are not allowed to include the same calling sequence **227391** (digits 8-13 in a given example) in any other international number. For example, **01918422273913** is an invalid number. An error message will be generated. If you change any digit within the specified sequence, this number will be accepted.

For example, valid entries are:

0191842237391
0191842227392
01918422293715
0191842527391

- You are not allowed to create a new number by truncating already existing number. In the database-admin area, the system does not have that capability to perform data check for a partial number matching. The number like **01918422273** will not be accepted if the number **0191842227391** exists.
3. Enter the Routing Designator. The first routing designator field is required. The rest of the fields are optional. You may populate these fields or skip any of these fields. Valid entries are **1-64**. Press **RETURN**.
4. Press **EXECUTE**.

Procedure: Display International Number to Routing Designator Mappings

The **ars-international-routing display** transaction allows you to view the routing designators that correspond to the specified international numbers. You are allowed to specify up to 20 calling codes at a time.

1. Enter the **ars-international-routing display** command. The input **ars-international-routing display** screen appears. You are allowed to specify up to 20 International Calling Codes as shown on this screen:

International Calling Code	International Calling Code
012345678901234567	0157167
0124589127	01589567
0124790	0160367
012489345	0165689567
012589257	016790367
013570	01694572456
01368945	0173569017
0138124	0174812346
01472567	01934789012
0149167	019876543210987654

2. Enter the International Calling Code. The first Calling Code field is required.
 - All International Calling Code numbers must start with **01**.
 - The minimum code length allowed is 7 digits. You may enter up to 18 digits.

The rest of the fields are optional.

3. Press **EXECUTE** to submit the data. The output **ars-international-routing display** screen is displayed. The screen is identical to the **ars-international-routing add** screen. For a detailed description, refer to "Procedure: Associate IDACs with Routing Designators."

Procedure: Change Routing Designator for the Specified International Calling Code

The **ars-international-routing change** transaction allows you to associate the specified international number to another routing designator. You are allowed to change up to 20 routing designators.

1. Enter the **ars-international-routing change** command.
The input **ars-international-routing change** screen displays. The screen is identical to the input **ars-international-routing display** screen. For more details, refer to "Procedure: Display International Number to Routing Designator Mappings."
2. Enter the International Calling Code(s). Press **RETURN**. The output **ars-international-routing change** screen appears. The screen is identical to the **ars-international-routing add** screen. For a detailed description, refer to "Procedure: Associate IDACs with Routing Designators." The cursor is positioned in the first Routing Designator field.
3. Enter a new Routing Designator. This field is required.
 - The International Calling Code field is display only.
4. Press **EXECUTE** to submit the modified data.

Procedure: Remove Routing Designator for the Specified International Calling Code

The **ars-international-routing remove** transaction allows you to remove the specified international call. You are allowed to remove up to 20 calls.

1. Enter the **ars-international-routing remove** command. The input **ars-international-routing remove** screen displays. The screen is identical to the input **ars-international-routing display** screen. For more details, refer to "Procedure: Display International Number to Routing Designator Mappings."
2. Enter the International Calling Code(s). You are allowed to enter up to 20 codes. Press **RETURN**. The system will remove the International Calling Code - Routing Designator associations from the database and the switch.

Table 6-1. World Numbering Plan

World Numbering Zone 1: USA, Canada

World Numbering Zone 2: Africa, Greenland, Faroe Islands, Aruba

Spare: 28, 290, 291, 292, 293, 294, 295, 296

World Numbering Zone 3: Europe except Soviet Union

World Numbering Zone 4: Europe except Soviet Union

World Numbering Zone 5: Mexico, Central, S. America, St. Pierre,

Miquelon

World Numbering Zone 6: Pacific

Spare: 693, 694, 695, 696, 697, 698, 699

World Numbering Zone 7: Soviet Union

World Numbering Zone 8: East Asia + Marisat

Spare: 80, 83, 851, 854, 857, 858, 859, 870, 874, 875, 876, 877, 878, 879,

Spare: 881, 882, 883, 884, 885, 887, 888, 889, 89

World Numbering Zone 9: Middle East, Indian Subcontinent

Spare: 970, 975, 978, 979, 99

Country	CC	Routing Codes
Aden	969	
Afghanistan	93	
Albania	355	
Algeria	213 (214, 215 also assigned but not used)	
		00 INT'L ACCESS
American Samoa	684	
Andorra	33 628 33 078 ?	
Angola	244	
Anguilla	1 809 407	
Antigua	1 809	
Argentina	54	
		1 Buenos Aires 51 Cordoba 21 La Plata 41 Rosario 64 San Juan

Country	CC	Routing Codes
Aruba	297	8
Ascension Island	247	
Australia	61	0014 881 011 USA Direct 00 INT'L ACCESS 0 INTERNAL TOLL ACCESS 7 Brisbane 3 Melbourne 2 Sidney 42 Wollongong (including Shellharbour & Kiama) 02 Hobart, Tasmania 03 Tasmania 04 Tasmania 82xx xxxx Adelaide 83xx xxxx Adelaide 84x xxxx Adelaide 79 xxxx Adelaide 68 Outback New South Wales 85 South Australia 86 Northern Territory 89 Darwin, Northern Territory 80 Broken Hill, NSW
Australian External Territories (Norfolk Island)	672	
Austria	43	022 903 011 USA Direct 316 Graz 5222 Innsbruck 732 Linz Donau 1 Vienna 222 Vienna
Azores	351	
Bahamas	1 809	800 872-2881 USA Direct
Bahrain	973	
Bangladesh	880	431 Barisal 31 Cittagong 2 Dhaka 41 Khulna
Barbados	1 809	
Barbuda	1 809	
Belgium	32	11 00 10 USA Direct 00 INT'L ACCESS 3 Antwerp 2 Brussels 91 Ghent 41 Liege

Country	CC	Routing Codes
Belize	501	2 Belize City 4 Corozal Town 7 Punta Gorda 092 Sam Ignacio
Benin	229	
Bequia	1 809 45	
Bermuda	1 809 800 872-2881 USA Direct	234, 6, 8 292, 3, 5, 7
Bolivia	591	42 Cochabamba 2 La Paz 33 Santa Cruz
Botswana	267	21 Francistown 31 Gaborone 38 Jwaneng 34 Kanye 33 Lobatse
Benin	229	
Brazil	55	000 8010 USA Direct 31 Belo Horizonte 61 Brasilia 21 Rio de Janeiro 11 San Paulo 800 872-2881 USA Direct
British Virgin Islands	1	
Brunei Darussalam	673	2 Bandar Seri Begawan 3 Kuala Belait 4 Tutong
Bulgaria	359	32 Plovdiv 82 Rousse/Ruse 2 Sofia 52 Varna
Burkina Faso (Up Volta)	226	
Burma	95	
Burundi	257	
Caicos Island	1 809	946
Cameroon	237	
Canada	1	
Canary Islands	34	

Country	CC	Routing Codes
Cape Verde Islands	238	
Cayman Islands	1 809 1872 USA Direct 94	
Central African Republic	236	
Chad	235	
Chile	56	41 Concepcion 2 Santiago 32 Valparaiso
China	86	1 Beijing/Peking 591 Fuzhou 20 Ghungzhou/Canton 21 Shanghai
Christmas Island	672	
Cocos (Keeling) Islands	672	
Colombia	57	60 Armenia 58 Barranquilla 1 Bogota 23 Cali 66 Cartego 4 Medellin 56 Santa Marta
Comoros	269	
Congo	242	
Cook Islands	682	
Costa Rica	506	
Cote d'Ivoire, La	225	
Cuba	53	FROM Miami, dial 700-460-1000
Cyprus	357	00 INT'L ACCESS 51 Limassol 2 Nicosia 61 Paphos
Czechoslovakia	42	00 (from Prague) INT'L ACCESS elsewhere dial Prague followed by 00) 7 Bratislava 5 Brno 6994 Havirov 69 Ostrava 2 Prague
Dem Peop Rep Korea (N)	850	

Country	CC	Routing Codes
Denmark	45	0430 0010 USA Direct 009 INT'L ACCESS 8 Aalborg 6 Aarhus 1 Copenhagen 2 Copenhagen 7 Oddense
Dominican Republic	1	800 872-2881 USA Direct
Diego Garcia	246	
Djibouti	253	
Dominica	1 809	
	44	
Dominican Republic	1 809	
Ecuador	593	2 Ambato 7 Cuenca 4 Guayaquil 2 Quito
Egypt	20	3 Alexandria 97 Aswan 88 Asyut 13 Benha 2 Cairo
El Salvador	503	
Ellice Islands	688	
Equatorial Guinea	240	
Ethiopia	251	1 Addis Ababa 1 Akaki 4 Asmara 3 Assab 6 Awassa
Falkland Islands	500	
Faroe Islands (Denmark)	298	
Fed Rep of Germany (W)	49	0130 0010 USA Direct 00 INT'L ACCESS
Fiji	679	
Finland	358	9800 100 10 USA Direct 990 INT'L ACCESS 15 Epoo-Ebbo 0 Helsinki 31 Tammefors-Tampere 21 Turku-Abo

Country	CC	Routing Codes
France	33	19 0011 USA Direct 05 FREE CALL 12 INFO 16 INT'L ACCESS 19 INT'L ACCESS 36 15 VIDEOTEX 93 Monaco 56 Bordeaux 7 Lyon 91 Marseilles 93 Nice 1 Paris
French Antilles	596, 590?	
French Guiana	594	
French Polynesia	689	
Futuna	681	
Tahiti	689	
Gabon	241	
Gambia	220	001 199 220 0010 USA Direct
Germany, DDR (E)	37	INT'L ACCESS varies 2 Berlin 51 Dresden 30 Frankfurt 41 Leipzig 91 Magdeburg
Germany, West	49	30 Berlin 228 Bonn 69 Frankfurt 89 Munich
Ghana	233	21 Accra 81 Koforidua 51 Kumasi 31 Takoradi
Gibraltar	350	00 INT'L ACCESS
Greece	30	00 800 1311 USA Direct 00 INT'L ACCESS 1 Athens 81 Iraklion/Kritis 41 Larissa 1 Piraeus Pireefs 241 Rhodes
Greenland	299	2 Godthaab 11 Soendre Stroemfjord 50 Thule

Country	CC	Routing Codes
Grenada	1 809 872 USA Direct	440-1, 2, 3, 7, 9xxx 443-5xxx 444-4, 6, 8xxx
Grenadines	1 809	45 Bequia Mustique
Guadelupe	590	
Guam	671	
Guantanamo Bay	53	99 US Naval Base
Guatemala	502	199 USA Direct 9 Antigua 2 Guatemala City 9 Quezaltenango
Guinea	224	4 Conakry 61 Kindia 51 Labe 68 Mamou
Guinea-Bissau	245	
Guyana	592	5 Bartica 2 Georgetown 3 New Amsterdam
Haiti	509	3 Cap Hatien 5 Cayes 2 Gonaive 1 Port au Prince 121 All other
Honduras	504	
Hong Kong	852	008 1111 USA Direct 5 Hong Kong 3 Kowloon 0 New Territories
Hungary	36	00 36 0111 USA Direct 00 INT'L ACCESS 1 Budapest 52 Debrecen 96 Gyor 46 Miskolc
Iceland	354	6 Akureyri 2 Keflavik 1 Reykjavik

Country	CC	Routing Codes
India	91	22 Bombay 33 Calcutta 44 Madras 11 New Delhi
Indonesia	62	22 Bandung 21 Jakarta 61 Medan 24 Semarang
Iran	98	31 Esfahan 51 Mashad 41 Tabriz 21 Tehran
Iraq	964	1 Baghdad
Ireland	353	INT'L ACCESS = 16 Area codes of form 0xx or 0xxx to call England, dial 03+ (shortcut) to call Belfast, dial 084+ 21 Cork 1 Dublin 91 Galway 6 Limerick 61 Limerick
Israel	972	4 Haifa 2 Jerusalem 3 Ramat Gan 3 Tel Aviv
Italy	39	172 1011 (Rome & Milan only) USA Direct 00 INT'L ACCESS 549 San Marino 55 Florence 10 Genoa 2 Milan 81 Naples 6 Rome (xxxx, xxxxx, xxxxxx, xxxxxxx) 66982 Vatican City 41 Venice
Ivory Coast	225	
Jamaica	1 809	0 800 872-2881 USA Direct

Country	CC	Routing Codes
Japan	81	0039 111 USA Direct INT'L ACCESS = 001 City code = 1-4 dig, Dir num = 4-8 dig 82 Hiroshima 75 Kyoto 6 Osaka 11 Sapporo 3 Tokyo 45 Yokohama
Jordan	962	6 Amman 2 Irbid 4 Jerash 3 Karak 3 Ma'an
Kenya	254	35 Kisumu 11 Mombasa 2 Nairobi 37 Nakuru 11 Shanzu
Khmer Republic	855	
Kiribati Rep	686	(Gilbert Islands)
Korea (S)	82	32 Inchon 51 Pusan 2 Seoul 53 Taegu
Kuwait	965	24 Kuwait City
Laos	856	
Lebanon	961	
Lesotho	266	
Liberia	231	
Libya	218	61 Benghazi 51 Misuratha 21 Tripoli 23 Zawai
Liechtenstein	41 75	
Luxembourg	352	00 INT'L ACCESS
Macao	853	
Madagascar	261	
Madeira	351	91
Malawi	265	531 Domasi 474 Makwasa 50 Zomba

Country	CC	Routing Codes
Malaysia	60	4 Alor Star 5 Ipoh 7 Johor Bahru 3 Kajang, Kuala Lumpur 6 Port Dixon
Maldives	960	
Mali	223	
Malta	356	
		0 INT'L ACCESS
Northern Mariana Islands (Saipan)	670	
Marisat (Atlantic)	871	
Marisat (Pacific)	872	
Marisat (Indian)	873	
Marshall Islands	692	871 Ebeye 9 Majuro
Martinique	596	
Mauritania	222	
Mauritius	230	
Mayotte	269	
Mexico	52	INT'L ACCESS = 180 748 Acapulco 988 Cancun 461 Celaya 271 Cordoba Cuernavaca (xxxxxx) 671 Culiacan 36 Guadalajara 621 Hermosillo (xxxxx) 281 Jalapa 471 Leon 99 Merida 5 Mexico City (xxx xx xx) 83 Monterrey 121 Tampico 66 Tijuana 721 Toluca 17 Torreon 29 Veracruz
Micronesia	691	370 Kosrae 320 Ponape 330 Truk 350 Yap

Country	CC	Routing Codes
Miquelon	508	
Monaco	33 93	
Mongolia	976	
Montserrat	1 809	
	491	
Morocco	212, (210, 211 assigned but not used)	00 INT'L ACCESS 8 Agadir 48 Beni-Mellal - Casablanca 34 El Jadida
Mozambique	258	
Namibia	264	673 Grootfontein 631 Keetmanshoop 661 Mariental
Nauru	674	
Nepal	977	
Netherlands	31	06 0229111 USA Direct 09 INT'L ACCESS 20 Amsterdam (xxxxxx, xxxxxxxx) 10 Rotterdam 70 The Hague
Netherlands Antilles	599	7 Bonaire 9 Curacao 3 St. Eustatius 5 St. Maarten Saba Statia Bonaire
Nevis	1 809	469
New Caledonia	687	
New Hebrides	678	
New Zealand	64	000 911 USA Direct 9 Auckland 3 Christchurch 24 Dunedin 71 Hamilton

Country	CC	Routing Codes
Nicaragua	505	4 Wellington 341 Chinandega 42 Diriamba 311 Leon 2 Managua 43 San Marcos
Niger	227	
Nigeria	234	77 Bauchi 1 Lagos 683
Niue		
Norfolk Island	672	
North Mariana Islands	670	
Norway	47	050 12 011 USA Direct 095 INT'L ACCESS 5 Bergen 2 Oslo 4 Stavanger 7 Trondheim
Oman	968	
Pakistan	92	51 Islamabad 21 Karachi 42 Lahore
Palau	680	
Panama	507	
Papua New Guinea	675	
Paraguay	595	21 Asuncion 31 Concepcion
Peru	51	54 Arequipa 14 Callao 14 Lima 44 Trujillo
Philippines	63	32 Cebu 82 Davao 33 Iloilo City 2 Manila
Poland	48	12 Crakow 58 Gdansk 22 Warsaw

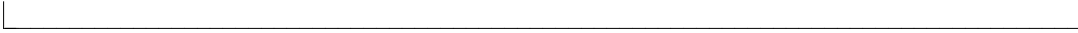
Country	CC	Routing Codes
Portugal	351	00 (07 in some areas) INT'L ACCESS 39 Coimbra 1 Lisbon 91 Madeira 2 Porto 65 Setubal
Principe	239	
Prune (Palm) Island	1	
Puerto Rico	1 809	
Qatar	974	
Reunion (France)	262	
Romania	40	0 Bucuresti 51 Cluj-Napoca 16 Constanta
Rwanda	250	
Saint Christopher (Saint Kitts)	1 809	800 872-2881 USA Direct 465
Saint Lucia	1 809	45
Saint Martin		800 1011 USA Direct
Saint Pierre	508	
Saint Vincent	1 809	
Saipan	670	532 Rota Island 234 Susupe City 433 Tinian Island
Samoa (US)	684	
Samoa (Western)	685	
San Marino	39 549, 541?	
Sao Tome	239	
Saudi Arabia	966	2 Al Khareeq/Makkah/Jeddah 3 Hofuf 4 Medina/Al Balad 1 Riyadh
Senegal	221	
Seychelles	248	
Sierra Leone	232	
Singapore	65	800 0011 USA Direct
Solomon Islands	677	
Somalia	252	

Country	CC	Routing Codes
South Africa	27	09 INT'L ACCESS 21 Cape Town 31 Durban 11 Johannesburg 12 Pretoria
Spain	34	07 INT'L ACCESS 3 Barcelona 28 Las Palmas/Canary Islands 1 Madrid 54 Seville 6 Valencia
Sri Lanka	94	1 Colombo Central 8 Kandy 1 Kotte 41 Matara
Sudan	249	
Suriname	597	
Swaziland	268	
Sweden	46	020 795 611 USA Direct 009 INT'L ACCESS 020 FREE CALL 31 Goteborg 40 Malmo 8 Stockholm 21 Vasteras
Switzerland	41	046 05 0011 USA Direct 00 INT'L ACCESS 75 Liechtenstein 61 Basil 31 Berne 22 Geneva 41 Lucerne 1 Zurich
Syria	963	
Taiwan	886	47 Changhua 36 Chunan 7 Kaohsiung 32 Keelung 6 Tainan 2 Taipei

Country	CC	Routing Codes
Tanzania	255	51 Dar Es Salaam 61 Dodoma 68 Mwanza 53 Tanga 54 Zanzibar
Thailand	66	2 Bangkok 44 Burirum 39 Chanthaburi
Tobago	1 809	
Togo	228	
Tokelan	690	
Tonga	676	(Currently blocked)
Trinidad	1 809	
Tunisia	216, 217 (not used)	00 INT'L ACCESS 2 Bizerte 7 Kairouan 2 Msel Bourguiba 1 Tunis
Turkey	90	99 INT'L ACCESS 711 Adana 4 Ankara (1...) 1 Istanbul 51 Izmir
Turks Island	1 809	946
Tuvalu	688	
Uganda	256	42 Entebbe 43 Jinja 41 Kampala, Kyambogo

Country	CC	Routing Codes
Union Island	1	
United Arab Emirates	971	2 Abu Dhabi 6 Ajman, Sharjah, Umm-Al-Quwain 3 Al Ain 58 Aweir 4 Dubai 70 Fujairah 77 Ras-Al-Khaimah
United Kingdom	44	0800 89 00 11 USA Direct 0800 89 10 17 (toll free USA number?) City codes = 1-5 digits, Dir num = 3-7 digits 010 INT'L ACCESS Operator = 100, Directory Assist = 192 Faults = 151, General Inquiries = 191 Cellnet Access (Cellular) = 0850 Vodaphone Access (Cellular) = 0836 INWATS = 0800 957-like svcs = 0898 Local radio = 44-xxx-8061 (xxx = city code) Time = 44-xxx-8081 (xxx = city code) Weather = 44-xxx-8091 (xxx = city code) 232 Belfast 21 Birmingham 222 Cardiff 0001 Dublin 31 Edinburgh 392 Exeter 41 Glasgow 51 Liverpool 1 London (changing to 71/81 in 1990) 0602 Nottingham
United States	1	1 TOLL in most areas 10xxx CARRIER 011 INT'L DIAL ACCESS 01 INT'L CREDIT/OP ASSIST 010 INT'L CREDIT/OP ASSIST 800 FREE CALL = 800 Switched 56Kb = 700-56x-xxxx Switched 64Kb = 700-737-xxxx Test numbers often use exchanges 571-577

Country	CC	Routing Codes
Uruguay	598	332 Canelones 532 Mercedes 2 Montevideo
USSR	7	892 Baku 831 Gorky 044 Kiev 812 Leningrad 017 Minsk 095 Moscow 048 Odessa 013 Riga 014 Tallinn 012 Vilnius
Vanuatu	678	
Vatican City	39	6 6982 ?
Venezuela	58	51 Barquisimeto 2 Caracas 61 Maracaibo 41 Valencia
Vietnam	84	
Virgin Islands	1 809	49 UK Virgin Islands
Wallis		681
Western Samoa	685	
Yemen (Arab Republic)	967	2 Amran, Sanaa 4 Taiz, Yarim 3 Zabid
Yemen (Peop Dem Rep)	969	
Yugoslavia	38	99 INT'L ACCESS 11 Belgrade 71 Sarajevo 82 Titograd 41 Zagreb
Zaire	243	12 Kinshasa 222 Lubumbashi
Zambia	260	2 Chingola, Kitwe, Luanshya, Ndola 1 Lusaka
Zanzibar	259	(Use 255 54)
Zimbabwe	263	9 Bulawayo 4 Harare 20 Mutare



7. WORLD CLASS ROUTING

The World Class Routing (WCR) feature is designed to provide dialed digit analysis and route selection on a Generic 2.2 switch in a general way. This feature replaces the Automatic Route Selection (ARS) and Automatic Alternate Routing (AAR) features used on Generic 2.1 and System 85 switches without distinction between the capabilities of the older ARS and AAR features. A detailed overview of the WCR feature is provided in Chapter 1, "World Class Routing (WCR) Feature Overview."

Inside the switch, there are 8 World Class Routing networks. All networking features normally associated with either ARS or AAR are now provided via networks 0 through 7 and the routing patterns can be shared by all networks. In addition, all these networks provide the new capabilities of the World Class Routing.

Networks are distinguished only by the access code dialed and the digits to be analyzed. A call from any single network may be redirected to any other network by converting the dialed digits to the format expected by the latter network.

Network 0 is a special network that provides an interface between the WCR feature and the Internal Dialing Plan (IDP). Network 0 is not the internal dial plan and is not considered a routing network: it is used primarily to specify digit modification on outgoing calls for the Extension Number Portability (ENP) or Uniform Dial Plan (UDP) * routing. When other networks restart in Network 0, the Network 0 translations are not used; instead, the call is sent directly to the Internal Numbering Plan for analysis.

Network 1 is provided as part of the basic functionality of the switch and retains the toll and non-toll access codes to allow the function of the ARS feature.

The WCR features can be provided via networks 0-7 or Network 1 only. Administration of networks 0 and 2-7 is an optional feature. You may administer the WCR features only on Network 1 if the Standard Network feature is not installed (check the status by looking at the WCR Networks 2-7 field in the **sys-cos display** transaction). The WCR features can be provided via networks 0-7 if the Standard Network feature is present on the system. For more details on the Standard Network feature, refer to Chapter 3, "Network Feature Administration."

This chapter describes in detail all WCR features currently administered on a Generic 2.2. Data for the administered WCR features can be obtained by using the following World Class Routing reports:

- World Class Routing Dial Plan Report
- World Class Routing Digit Modification Report
- World Class Routing Digit Sending Report
- World Class Routing ISDN Feature Parameters Report
- World Class Routing Pattern Report
- World Class Routing Route Translation Report
- World Class Routing Toll Free Tables Report.

World Class Routing reports are available on a Generic 2.2 only. All World Class Routing reports are described in detail in Chapter 12, "Facilities Management Reports."

* For more information on UDP, see the "Station Number Steering" procedure in Chapter 3 of this manual.

For supplemental reference, applications, and procedural information for networking administration of the Generic 2 switch, refer to *DEFINITY® Communications System Generic 2 World Class Routing Implementation Manual*.

WCR NETWORK INFORMATION ADMINISTRATION

The World Class Routing (WCR) Network Information Administration feature allows you to define "global" parameters associated with each network on a Generic 2.2 switch. These include:

- *Account Code Required.* This parameter is used to force the entry of account codes either before or after dialing WCR Dial Access Code (DAC). Account Code Required is administered on a per network basis. This feature can be administered on an extension class of service basis using the **class-of-service** transaction and on a trunk group basis using the **trk-grp** transaction
- *Dial Tone Suppression.* This parameter is used to set or suppress dial tone after dialing the Network DAC
- *Toll Prefix Required.* This parameter is used to specify if a toll prefix code is required for all calls in the corresponding network. Toll prefix restrictions do not apply to the operator assisted (calls routed with a string type of "operator assistance" in the **wcr-dial-plan** transaction) or international (calls routed with a string type of "international" in the **wcr-dial-plan** transaction) calls
- *Network Name (Non-Switch Data).* This parameter allows you to assign any name to your network.

If the Standard Network feature has been installed, you can administer these parameters for networks 0 through 7. If the Standard Network feature is not present, these characteristics can be administered for Network 1 only.

Commands

The WCR Network Information Administration capability is provided via the **wcr-network-information** transaction. The verbs supported are: **display** and **change**. These transactions can be accessed from the admin, database-admin, or product-admin area under the FM application.

The **wcr-network-information display** transaction is used to display network routing information parameters for the WCR network(s).

The **wcr-network-information change** command allows you to change the global characteristics of the WCR Network(s). You can also use this command to associate a user-defined network name with each WCR network.

Procedure: Changing Network Parameters

During initialization, Manager IV creates a record for each valid Network. The record(s) will be populated with default values. You can change the default entries in the fields using the **wcr-network-information change** command.

1. Enter the command **wcr-network-information change**. The system will display Page 1 of the transaction screen. If the Standard Network feature is present, the transaction screen shows parameters for networks 0 through 7.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin wcr-network-information change                Page 1 of 1
    
```

Network Number	Suppress Dial Tone?	CDR Account Code	Dial Toll Prefix?	Network Name
0	y	1	y	Internal Dial Plan
1	y	2	y	ARS
2	n	0	n	AT&T
3	n	1	n	Corporate
4	n	0	n	_____
5	n	0	n	_____
6	n	0	n	_____
7	n	0	n	_____

Administer network parameters for networks 0 through 7 as follows:

- The Network Number field defaults to a Network number (**0-7**) and cannot be changed.
- In the Suppress Dial Tone? field, enter **y** to suppress the dial tone after dialing Network DAC, otherwise type **n**. This field is required. Default is **n**. Press **RETURN**.
- In the CDR Account Code field, enter one of these values:
 - 0** - Account Code is not required.
 - 1** - Account Code is required, must be dialed before WCR DAC.
 - 2** - Account Code is required, may be dialed after WCR DAC.
 This field is required. Default is **0**. Press **RETURN**.
- In the Dial Toll Prefix? field, enter **y** if a dial toll prefix code is required for all calls in the corresponding network, otherwise enter **n**. This field is required. Default is **n**. Press **RETURN**.
- To associate each network with a name, populate the Network Name field. This field defaults to *NULL*. You may populate the Network Name field with any alphanumeric string, 1 to 30 characters in length. This field is optional. Press **EXECUTE**.

If the Standard Network feature is not present, only Network 1 will be displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin wcr-network-information change                Page 1 of 1
    
```

Network Number	Suppress Dial Tone?	CDR Account Code	Dial Toll Prefix?	Network Name
1	y	2	y	ARS

You can define the Network Name only in the admin or database-admin area. The Network Name is not transmitted to the switch.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm product-admin wcr-network-information change          Page 1 of 1
    
```

Network Number	Suppress Dial Tone?	CDR Account Code	Dial Toll Prefix?
-----	-----	-----	-----
0	y	1	y
1	y	2	y
2	n	0	n
3	n	1	n
4	n	0	n
5	n	0	n
6	n	0	n
7	n	0	n

Procedure: Displaying Network Parameters

Use the **wcr-network-information display** transaction to view network routing information parameters for all WCR networks or Network 1.

1. Enter the command **wcr-network-information display**. The screen format is similar to the **wcr-network-information change** screen. For a detailed screen description, refer to "Procedure: Changing Network Parameters."

WCR DIALPLAN DEFINITION ADMINISTRATION

The World Class Routing (WCR) Dialplan Definition Administration feature allows you to administer definition of the dialing plan for each WCR network. Dialing plan definition includes the ability to specify all dialing digit strings along with their associated parameters. The following parameters are used to define a set of actions and conditions to be performed by the switch when the specified digit string is recognized by the switch software:

- WCR Network
- String ID
- Minimum String Length
- Maximum String Length (if variable length string)
- String Type
- Action Encode
- Action Object
- Action Attribute
- Continue indicator
- Reanalyze indicator
- VNI (Virtual Nodepoint Identifier) Operation indicator
- VNI Freeze indicator
- Dial Tone indicator.

Dialing strings are specified to be members of the following string classes: Account Code, Interexchange Carrier, Toll Prefix, International Access, Operator Assistance, and Address.

All strings in a Network's Dial Plan are defined by 3 attributes:

- A *String Identifier* (SI) that represents a sequence of dialed digits. Digit strings, if they exist, must be dialed in the following order: Account Code, IXC, Toll Prefix, and then Address string.
If a digit string is dialed out of order, the switch blocks the call.
- A *String length* that may be from 1 to 18 digits in length.
- A *String type* that logically identifies one of 6 basic string classes: Account Code, Interexchange Carrier, Toll Prefix, International Access, Operator Assistance, and Address.
Each string type can be specified for either Standard Network or Exception Network (standard or exception string).

Within the switch, a distinction is made between a standard and an exception string. A standard string may not contain the wild card character ("*") used to indicate any digit, 0 through 9.

An exception string may or may not contain the "*" character. Exception strings are identified by the suffix 'x' at the end of the string type.

Dialed string digits are first parsed based on standard digit analysis, and then exception digit analysis. Exception digit analysis overrides standard digit analysis.

The Dialplan Definition feature is administered via the **dial-plan-definition** transactions which allow you to:

- Add up to 10 strings along with their associated parameters
- Display up to 62 strings (normal and exception) that use a specified String Identifier
- Select and change up to 62 strings (normal and exception) that use a specified String Identifier
- Remove up to 10 distinct strings via a single screen.

Prerequisites

If the Standard Network feature is not present, you may administer only Network 1.

Commands

The WCR Dialplan Definition Administration capability is provided via the **wcr-dial-plan-definition** transactions. The verbs supported are: **add**, **display**, **change**, and **remove**. These transactions can be accessed from the admin, database-admin, or product-admin area under the FM application.

Procedure: Adding String IDs to a Specified Network

Use the **wcr-dial-plan-definition add** transaction to add a String ID to a given network.

1. Enter the **wcr-dial-plan-definition add** command. The following screen is displayed:

```
AT&T Mgr IV 2.2 SR: 0123456789  DEFINITY G2.2                <target>
fm admin wcr-dial-plan-definition add                        Page 1 of 1

WCR Network: 1                                             <-----ACTION----->    C R O F T
                                                                o e p r o
String          Encode  Object  Attrib  n a e z n
Length  String  Rlv->0  Rlv->VNI Rlv->FRL  t n r e e
String ID      Min Max  Type   Rst->1  Rst->DMI Rst->Net  - - - - -
-----
900576         10  31  addr    0      1023    0      n y 0 n n
-----
-----
-----
-----
-----
-----
-----
-----
-----
-----
-----
-----
```

2. Enter the WCR Network. This field defines the WCR network to which the associated String ID and String ID parameters shall be added. Valid entries are **0-7**. This field is required. Press **RETURN**.

Note: Network 0 (zero) cannot be used if the Standard Network feature has not been enabled.

3. Enter the String ID. This field specifies a set of dialed digits and may be from 1 to 18 digits in length. Valid entries are **0-9** or "*" (wild card character); the "*" indicates any digit, 0 through 9 and is used for defining exception strings only. You **MAY NOT** use the "*" for specifying standard strings. Press **RETURN**.

Notes:

- The String ID may be the entire dialed digit string, or a logical subset of the dialed digit string such as a toll prefix code or IXC code.
 - The number of digits in the String ID field cannot exceed the number of digits specified in the Min String Length field.
 - When specifying the String ID, you are not allowed to enter spaces between digits.
4. Enter the Min String Length. This field indicates that all strings starting with the defined String ID and with the minimum string length as specified are to be acted upon according to the associated parameters. Valid entries are **1-31**. This field is required. Press **RETURN**.
5. Enter the Max String Length. This field specifies the upper bound of string lengths which the specified String ID identifies. This field is required if the string corresponding to the String ID is a variable length string. String IDs which are applicable to a range of string lengths are referred to as variable length String IDs.

If populated, the Max String Length field indicates that all strings that start with the defined String ID and have a length greater than or equal to the Minimum String Length and less than or equal to the Maximum String Length are to be acted upon according to the associated parameters. Valid entries are **2-31**. Press **RETURN**.

6. Enter the String Type. This field identifies one of 6 basic string type classes. You are allowed to enter one of these values:
- **acct** = Account Code (Standard Network)
 - **acctx** = Account Code (Exception Network)
 - **ixc** = Interexchange Carrier (Standard Network)
 - **ixcx** = Interexchange Carrier (Exception Network)
 - **toll** = Toll Prefix (Standard Network)
 - **tollx** = Toll Prefix (Exception Network)
 - **intl** = International (Standard Network)
 - **intl**x = International (Exception Network)
 - **oper** = Operator Assistance (Standard Network)
 - **operx** = Operator Assistance (Exception Network)
 - **addr** = Address (Standard Network)
 - **addrx** = Address (Exception Network)

Note: In Network 0, the only valid strings for restarts are: international, operator assistance, and address.

This field is required. Press **RETURN**.

7. The ACTION Encode, ACTION Object and ACTION Attribute fields identify the associated String ID and define a set of actions to be taken for routing and further processing of a call.
- Enter the ACTION Encode. This field defines the action to be taken once the string is recognized. Valid entries are **0** (Resolve) and **1** (Restart). This field is required. Default is **0**. Press **RETURN**.
 - **0** - indicates that the String ID should be resolved to a Virtual Nodepoint Identifier (VNI) (a VNI entry in the ACTION Object field); a Facility Restriction Level (an FRL entry in the ACTION Attribute field) can be specified as a resolution attribute to prevent unauthorized users from completing calls which include a given string.
 - **1** - indicates that the String ID should be modified using the Digit Modification Index; the Network Digit Analysis of the string should restart in the specified network (an entry in the ACTION Attribute field).
 - Enter the ACTION Object. This field indicates whether to use a VNI for routing the call or DMI for modifying the string. Valid entries are **0-1023** for a VNI or **0-4095** for a DMI. This field is required. Press **RETURN**.
 - If the ACTION Encode field contains **0**, the Network Digit Analysis is resolved to a VNI. Valid VNI entries are **0-1023**. **0** indicates that the string does not affect route selection. This is useful for account codes among other strings. Without the subsequent modification, the VNI defaults to the WCR Pattern number. However, this association may be modified based on the following features:
 - Time of Day Plan
 - Conditional Routing
 In this case, the FRL may be optionally specified to prevent unauthorized users from completing calls which include the given string. This is useful to block calls to certain inter-exchange carriers or 900-type numbers.
 - If the ACTION Encode field contains **1**, a DMI must be specified to modify the string. Then Network Digit Analysis of the string will be restarted. Valid DMI range is **0-4095**. A WCR Network Number must be provided in the ACTION Attribute field to indicate in which network analysis should be restarted.
 - Enter the ACTION Attribute. This field is required. Press **RETURN**.
 - If the ACTION Encode field contains **0**, enter the FRL that defines the type of access to the dialed number. Valid entries are **0-7**.
 - If the ACTION Encode contains **1**, then enter the WCR Network Number to restart digit analysis in. Valid entries are **0-7**.

Notes:

- If either the standard network or **WCR to Extension Enabled** fields have *not* been enabled, then values **1 - 7** can be entered in the **ACTION Attrib** field if the **ACTION Encode** is **1**.
- If the Standard Network or **WCR to Extension Enabled** features are enabled and the string type is either **addr**, **addrx**, **intl**, **intl**, **oper**, or **operx**, then valid entries are **0-7**. For the remaining string types, valid values are **1-7**.
- **0** FRL allows all callers unconditional access to the dialed number.
- **0** WCR Network Number causes restarting analysis in the Internal Dial Plan.

8. Enter **y** or **n** on the Cont (Continue) field. This field indicates whether or not the specified String ID is followed by additional dialed digits that require further analysis and therefore demand that digit collection should continue. This field is required for both **0** and **1** action encodes. Default is **n**.
- **y** indicates that more digits are to be collected
 - **n** indicates that no more digits are to be collected
- Note:** Whenever the Max String Length field is populated, or if the ACTION Encode field is set to **1 (Restart)** and the ACTION Attribute field contains **0**, then the Cont. field is set to **n** and cannot be changed.
9. Enter **y** or **n** in the Rean (Restart Analysis) field. This field indicates whether the current string (which may or may not have been converted) will be reanalyzed. This field is required. Default is **y**.
- This field applies only when the ACTION Encode is set to **0**
 - **y** indicates that the current string is to be reanalyzed
 - **n** indicates that the current string may not be reanalyzed; if ACTION Encode is **1**, then this field is set to **y** and cannot be changed.
10. Enter **0** or **1** in the Oper (VNI Operation) field. This field indicates how to construct a final VNI based on the associated String ID. This field is required. Default is **0**. Press **RETURN**.
- If the ACTION Encode is set to **0**,
- **0** sets the VNI utilized for route selection to the VNI specified in the ACTION Object field.
 - **1** combines the VNI in the ACTION Object field with the VNI which has been established by analysis of a previous string (or strings) in the dialed number.
 - **2** resets the VNI to zero.
11. Enter **y** or **n** in the Frze (Freeze VNI) field. This field indicates whether subsequent VNIs can be operated on (set, reset or combined) with the current VNI. This field is required. Default is **n**. Press **RETURN**.
- **y** will "freeze" VNI at the current value, and therefore will disallow subsequent set, reset and combine operations.
 - **n** will not "freeze" VNI at the current value, and therefore will allow subsequent set, reset and combine operations.
- Note:** This field is set to **n** when the ACTION Encode is set to **0** and the Cont field is **n**, and it cannot be changed.
12. Enter **y** or **n** in the Tone field. This field indicates whether the dial tone is applied after string is collected. This field is required. Press **RETURN**.
- This field is set to **y** and cannot be changed under the following conditions:
 - The ACTION Encode field is set to **0** and

- The Cont field contains **y** and
- the Restart Analysis is **y**

OR

- The ACTION Encode field is set to **1** and
- The Cont field contains **y** and
- the Restart Analysis is **n**

- **n** will not add dial tone after the entire string has been collected.

13. Press **EXECUTE**.

Procedure: Changing the Attributes for All String IDs

Use the **wcr-dial-plan-definition change** transaction to change the attributes for all specified String IDs on a particular network.

1. Enter **wcr-dial-plan-definition change** then press **RETURN**. The following screen is displayed:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm database-admin wcr-dial-plan-definition change      Page 1 of 1

                YOU ARE ONLY ACCESSING THE DATABASE

                        Display all:_____
    
```

2. Enter **y** (yes) to change attributes for all string IDs for a network.
3. The following screen is displayed if you entered **y**:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin wcr-dial-plan-definition change              Page 1 of 1

                WCR Network:  __

                        String ID: _____
    
```

4. Enter the WCR Network field with a value ranging from **0-7** then press **RETURN**.
5. Next, enter the String ID. This field specifies a set of dialed digits and may be from 1 to 18 digits in length; valid entries are **0-9**. The wild card character (*) may be used as a substitute for any digit, 0 through 9, and is only used for defining exception strings. Press **RETURN** to enter this information.

Note: The String ID may be the entire dialed digit string, or a logical subset of the dialed digit string such as a toll prefix code or IXC code.

6. The next screen that appears is similar to the **wcr-dial-plan-definition add** screen that appeared previously in this chapter, except that the fields are populated with data. Note that for standard strings, **WCR Network**, **String ID** and **Minimum String Length** are display-only fields; exception strings contain these three fields in addition to the **string type** field as display-only. The remaining attribute fields on this screen may be changed as needed. Refer to "Procedure: Adding String IDs to a Specified Network" previously described in this chapter for a detailed description of these screen fields.
7. When you have completed the changes you are entering for all the string IDs, press **EXECUTE** to enter this new information into the database.

Procedure: Changing the Attributes for Specific String IDs

1. To change the attributes for specific String IDs on a network, enter **wcr-dial-plan-definition change** then press **RETURN**. The following screen is displayed:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm database-admin wcr-dial-plan-definition display          Page 1 of 1

                                YOU ARE ONLY ACCESSING THE DATABASE

                                Display all:_____

```

2. Enter **no** to indicate that you do not want to change all string IDs — just selected ones.
3. The next screen is displayed:

```
AT&T Mgr IV 2.2           DEFINITY G2.2           <target>
fm database-admin wcr-dial-plan-definition change     Page 1 of 1

                YOU ARE ONLY ACCESSING THE DATABASE

                                Change all: n

WCR Network:  __

                                String      Minimum
                                ID           String
                                --           Length
                                -----
                                -----
                                -----
                                -----
                                -----
                                -----
                                -----
                                -----
                                -----
                                -----
                                -----
```

- 4. Enter the WCR Network field with a value ranging from **0-7** then press **(RETURN)**.
- 5. Next, enter the String IDs. This field specifies a set of dialed digits and may be from 1 to 18 digits in length. Valid entries are **0-9**.
- 6. Next, enter the defined string length and type for the string ID. Up to 10 string IDs may be specified on this screen. with a minimum of one row required. When you have completed entering this field, press **(RETURN)**.
- 7. The next screen that appears is similar to the **wcr-dial-plan-definition add** screen that appeared previously in this chapter, except that the fields are populated with data. Note that for standard strings, **WCR Network, String ID** and **Minimum String Length** are display-only fields; exception strings contain these three fields in addition to the **string type** field as display-only. The remaining attribute fields on this screen may be changed as needed. Refer to "Procedure: Adding String IDs to a Specified Network" previously described in this chapter for a detailed description of these screen fields.
- 8. When you have completed your changes, press **(EXECUTE)** to enter the new information into the database.

Procedure: Displaying All Strings Utilizing a Specified String ID

- 1. To display all strings utilizing a specified String ID, enter the **wcr-dial-plan-definition display** command then press **(RETURN)**.
- 2. The initial screen is displayed:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin wcr-dial-plan-definition display          Page 1 of 1

```

Display all:_____

3. Enter **y** (yes) to indicate that you want to display all string IDs based on the string ID that is specified.
4. The input **display** screen appears. Specify the appropriate WCR Network and String IDs. Press **EXECUTE**.
5. A total of 62 strings that may use the same String ID can be displayed.

Note: For more information on the fields displayed, refer to "Procedure: Adding String IDs to a Specified Network" in this chapter.

Procedure: Displaying Specific Strings IDs

1. To display specific string IDs, enter the **wcr-dial-plan-definition display** command then press **RETURN**.
2. The initial screen is displayed:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin wcr-dial-plan-definition display          Page 1 of 1

```

Display all:_____

3. Enter **n** (no) to indicate that you do not want to display all string IDs but rather specific string IDs instead.
4. The input **display** screen appears. Specify the WCR Network and the String IDs with their respective length and type. Up to ten string IDs may be entered at a time. Press **EXECUTE**.
5. The selected string IDs are displayed with complete field information.
6. For more information on the fields displayed, refer to "Procedure: Adding String IDs to a Specified Network" in this chapter.

Procedure: Removing Specified String IDs

Use the **wcr-dial-plan-definition remove** transaction to remove all strings within the specified string class that utilize a specified String ID.

1. Enter the **wcr-dial-plan-definition remove** command. Press **RETURN**. The following screen appears:

```

AT&T Mgr IV 2.2 SR: 0123456789  DEFINITY G2.2          <target>
fm admin wcr-dial-plan-definition remove             Page 1 of 1

WCR Network: 1

                String                Minimum
                ID                    String
                --                    Length
                --                    ----
                900576                 10    addr
                -----                ----
                -----                ----
                -----                ----
                -----                ----
                -----                ----
                -----                ----
                -----                ----
                -----                ----
                -----                ----
                -----                ----
    
```

2. The WCR Network, String ID, Minimum String Length, and String Type (at least one row) fields are required. For a detailed field description, refer to "Procedure: Adding String IDs to a Specified Network." Populate the fields as appropriate. Press **EXECUTE**.
3. Within the specified network, all strings matching the specified String ID, Minimum String Length and String Type will be removed. You are allowed to remove a maximum of 10 strings at a time.

WCR PATTERN ADMINISTRATION

The World Class Routing (WCR) Pattern Administration feature allows you to define parameters associated with all preferences within a network routing pattern, for all WCR networks. A routing pattern is an ordered list of preferences of trunk groups or routes used by a switch to complete a call. On a Generic 2.2 switch, routing patterns are used to route incoming and outgoing calls throughout a WCR network. For information on pattern administration on Generic 2.1, System 85, and DIMENSION switches, refer to Chapter 6, "Network Routing."

Each routing pattern consists of one or more preferences, each with an associated trunk group used to define the particular route or path to be taken by a call. For a given call, when a pattern is selected, the trunk group associated with the first preference is used to attempt to complete the call. If all trunks in this trunk group are busy, then the trunk group associated with the second preference is used to attempt to complete the call, etc. Usually, the least expensive route is assigned to Preference 1. The lower the preference number, the higher the priority of the preference. For example, Preference 1 has a higher priority than Preference 2, Preference 2 has a higher priority than Preference 3, and so on. Each preference maps to a trunk group.

The WCR Pattern Administration capability is provided via the **wcr-pattern** transactions. For a given pattern, this transaction will allow up to 16 preferences along with the associated parameters for each preference to be administered.

Prerequisites

Prior to administering the attributes of a pattern/preference combination, make sure that the specified trunk group exists in the switch and the Manager IV database. To define trunk groups, use the **trk-grp add** transaction. For more details, refer to "How to Add Trunks and Trunk Groups" in Chapter 4.

Commands

The **wcr-pattern** transaction can be accessed from the admin, database-admin, or product-admin area under the FM application. This transaction is supported only on Generic 2.2. The verbs supported are: **add**, **change**, **display**, **insert**, and **remove**.

1. The **wcr-pattern add** command allows you to add up to 16 preferences along with the associated parameters for each preference to be entered. In all areas, if the specified wcr-pattern already exists, you can add a preference at the end of the list without leaving gaps.
2. The **wcr-pattern change** command allows you to specify either a single preference or all preferences to be changed for a specified pattern number.
3. The **wcr-pattern display** command allows you to specify either a single preference or all preferences to be displayed for a specified pattern number.
4. The **wcr-pattern remove** command removes either a single preference or all preferences for a specified pattern. For the pattern being administered,
 - The specified preference must have been previously defined
 - The system does not allow gaps. Starting at the specified preference, the next higher preference will be changed into the current preference number. Processing shall continue in this manner from the specified preference to the highest numbered currently existing preference with each preference number decremented by one.

- The **wcr-pattern insert** command inserts a new preference anywhere in an existing wcr-pattern/preference list. A preference can be also inserted at the end of the list, without having a gap.

The system implements the **insert** transaction by automatically removing all higher numbered preferences than the specified preference, then inserting the selected preference, and then automatically adding back all the higher numbered preferences with each preference number incremented by 1. You can insert a preference only if the number of preferences in a wcr-pattern is \geq (greater than or equal to) 1 and $<$ (less than) 16.

Procedure: Adding a WCR Pattern

The **wcr-pattern add** transaction is used to add up to 16 preferences along with the associated parameters to a WCR pattern. In addition, for a specified pattern, this command allows you to add preferences after the current set of existing preferences.

- Enter **wcr-pattern add** and press **RETURN**. The **wcr-pattern add** input screen appears. Page 1 of the screen allows you to add up to 8 preferences. Use Page 2 to define Preferences 9 through 16. You can access this transaction in the admin, database-admin, or product-admin area.

AT&T Mgr IV 2.2		DEFINITY G2.2				<target>		
fm database-admin/admin/product-admin wcr-pattern add							Page 1 of 2	
WCR Pattern Number: 2								
Pref.	Trunk Group No.	Min FRL	Warn Tone	Toll Free Index	Digit Modify Index	Digit Send Index	ISDN Send Index	Bearer Capability COS
1	999	7	2	63	4095	511	1023	255
2	542	0	0	none	0	0	---	4
---	---	-	-	---	---	---	---	---
---	---	-	-	---	---	---	---	---
---	---	-	-	---	---	---	---	---
---	---	-	-	---	---	---	---	---
---	---	-	-	---	---	---	---	---

Initially, the Bearer Capability COS field does not appear on the screen. This field will be displayed after you submit the new preference(s) along with the associated parameters to the database. More details are provided in the description of the Bearer Capability COS field.

- In the WCR Pattern Number field, enter the pattern number. Valid entries are **1-1023**. This field is required.
- For each preference, the following information is required:
 - In the Pref. field, enter the preference number. Valid entries are **1-16**. Generic 2.2 allows 16 preferences. You may not skip preference numbers; no gaps are allowed in the preference numbering sequence. The numbers have to be sequential.
 - In the Trunk Group No. field, enter the Trunk Group number. Valid entries are **18-999**.
 - In the Min FRL field, enter Minimum Facility Restriction Level (**0-7**); **0** is used for most accessible, **7** denotes the least desirable.

- In the Warn Tone field, enter warning tone indicator (**0**, **1**, or **2**). Enter **0** if the caller should not receive the warning tone, **1** to generate warning tone only for toll calls, or **2** to produce warning tone on all calls.
- In the Toll Free Index field, enter the toll free call indicator as follows:
 - **all** if all numbers are toll free calls.
 - **none** if all numbers are toll calls. This is a default.
 - **1-63** to assign one of 63 possible toll free indices. The same toll free index may be used for more than one pattern and preference.
- Enter the Digit Modification Index. This field provides the index to a set of digit modification attributes administered via the **wcr-digit-modification** transaction. Valid entries are **0-4095**. Default is **0**.
The same index may be used for more than one pattern and preference. For more details on the Digit Modification Index, refer to "WCR Network Digit Modification Administration" later in this chapter.
- Enter the Digit Send Index. This field provides the index to a set of digit sending attributes administered via the **wcr-digit-send** transaction. Valid entries are **0-511**. Default is **0**.
The same index may be used for more than one pattern and preference. For more details on the Digit Sending Index, refer to "WCR Network Digit Sending Administration" later in this chapter.
- Enter the ISDN Sending Index. This field provides the index to a set of ISDN sending attributes administered via the **wcr-isdn-parameters** transaction. Valid entries are **0-1023**. Populate this field as appropriate. The system checks if the trunk Signaling Type of the trunk group entered in the Trunk Group No. field is ISDN (Signaling Type 20). If the Signaling Type is 20, then this field is required. Otherwise, the following error message will be displayed: "Trunk Group X in Pref. Y is not ISDN; leave the ISDN Send Index field blank." Proceed as instructed by blanking the ISDN Send Index field.
The same index may be used for more than one pattern and preference. For more details on the ISDN Sending Index, refer to "WCR ISDN Feature Parameters Administration" later in this chapter.
- Repeat the above described steps for as many preferences as you intend to define (maximum of 16).
- When all preferences have been defined, press **EXECUTE** to load the new preferences into the database.
- The Bearer Capability COS (BCCOS) field appears. The BCCOS field will contain a default value based upon the BCCOS of the Trunk Group associated with a given preference. The BCCOS of a Trunk Group is administered via the **trk-grp add**, or **trk-grp change** transaction.

Procedure: Changing a WCR Pattern

The **wcr-pattern change** transaction allows you to change parameters associated with either a single preference or all preferences within a specified routing pattern. You can access this transaction in the admin, database-admin, or product-admin area.

The **wcr-pattern change** transaction allows you to access and change the specified preference(s) only. If the specified pattern and preference does not exist in the database or has not been assigned in the switch, the error message "Preference X of WCR Pattern Y is not assigned" will be displayed.

1. Enter the **wcr-pattern change** command and press **RETURN**. The **wcr-pattern change** screen is displayed. The screen contains two fields: Pattern Number and All Preference Numbers?. You are allowed to select either a single preference or all preferences by entering **y** or **n** in the All Preference Numbers? field, respectively.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm database-admin/admin/product-admin wcr-pattern change    Page 1 of 1

                WCR Pattern Number: ____
            All Preference Numbers? n
                Preference Number:  __

```

2. Enter the WCR Pattern Number (**1-1023**). This field is required. Press **RETURN**.
3. In the All Preference Numbers? field, enter **y** for all preferences, or **n** for one preference. This field is required. If you select the "One Preference" option, only that preference will be changed in the database and only that preference will be downloaded to the switch. With the "All Preferences" option, only those preferences that have been changed will be downloaded to the switch which reduces the access time. Press **EXECUTE**.
 - If you enter **y**, the **wcr-pattern change** input screen is displayed. The screen is comprised of two pages.
 - If you enter **n**, the Preference Number field is displayed. This field allows you to select a single preference which is just a 1 page screen.
4. Enter new information and press **EXECUTE** to load the changed information into the database. Note that you are not allowed to change the WCR Pattern Number and Pref. fields.

Procedure: Displaying WCR Pattern Information

The **wcr-pattern display** transaction allows you to display either a single preference or all preferences associated with a specified WCR pattern. You can access this transaction in the admin, database-admin, or product-admin area.

1. Enter **wcr-pattern display** and press **RETURN**. The following screen appears.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm database-admin/admin/product-admin wcr-pattern display    Page 1 of 1

                Pattern Number:  __
            All Preference Numbers?  __
                Preference Number:  __

```

2. Select the preference(s) as described in "Procedure: Changing a WCR Pattern"; the screens for the **wcr-pattern display** and **wcr-pattern change** transactions are identical. Press **EXECUTE**. The **wcr-pattern display** output screen appears.

Procedure: Inserting a WCR Preference

The **wcr-pattern insert** transaction allows you to insert a new preference in a specified WCR pattern. The specified Pattern record must have been defined in the database (database-admin, or admin) and have been assigned in the switch (product-admin). This transaction is implemented via a series of remove operations for the highest numbered preferences, and the new preference is added at the specified position.

For example, if three preferences are assigned to a wcr-pattern in the database-admin, admin, or product-admin area, to insert a new preference in the second position, the system performs the following operations:

- Removes all higher numbered preferences than the specified preference
- Inserts the selected preference
- Adds back all the higher numbered preferences with each preference number incremented by 1.

You can use the **wcr-pattern insert** command in any area.

1. Enter the **wcr-pattern insert** command. Press **RETURN**. The input **insert** screen appears.
2. Enter the WCR Pattern Number. Press **EXECUTE**. The following screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm database-admin/admin/product-admin wcr-pattern insert  Page 1 of 1

WCR Pattern Number: 2

      Trunk
Pref. Group  Min  Warn  Free  Modify  Digit  Digit  ISDN  Bearer
      No.    FRL  Tone  Index  Index  Send  Send  Send  Capability
      5     999  7    2    63    4095  511  1023  255

```

Initially, the BCCOS field does not appear on the screen. This field will be displayed after you insert the new preference along with the associated parameters to the database.

3. Enter the preference information for a new trunk group. The screen is the same as in the **wcr-pattern add** transaction. For a detailed field description, refer to "Procedure: Adding a WCR Pattern to the Switch." Press **EXECUTE**.
4. The updated pattern information is downloaded to the database, and the screen with the new information is displayed. The new preference appears in the specified position. All lower preference numbers are incremented by one and moved to the higher preference number.

Procedure: Removing a WCR Preference

The **wcr-pattern remove** transaction allows you to remove a single preference or all preferences for a specified wcr-pattern in the admin, database-admin, or product-admin area. A preference can be removed from anywhere on the list if this preference exists for the pattern being administered.

1. Enter the **wcr-pattern remove** command. In all areas, the **wcr-pattern remove** screen is as follows:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm database-admin/admin/product-admin wcr-pattern remove  Page 1 of 1

          Pattern Number: ___
    All Preference Numbers? n
          Preference Number: ___
  
```

2. Enter the Pattern Number. This field is required. Press **RETURN**.
3. Enter **y** or **n** in the All Preference Numbers? field. Press **RETURN**.
 - If you type in **y**, all preferences associated with the specified pattern number are removed.
 - If you select **n**, the specified preference is removed from the assigned pattern. If you are removing a preference somewhere in the middle of the list, all higher numbered preferences are decremented by one and moved to lower preference numbers.
 - For a single preference that is being removed, the success message is displayed: "Preference X of WCR pattern Y successfully removed."
 - When all preferences have been removed, the success message "All preferences of WCR pattern X successfully removed" is displayed.

WCR NETWORK DIGIT MODIFICATION ADMINISTRATION

The World Class Routing (WCR) Network Digit Modification feature allows administration of the digit modification parameters that determine if a particular pattern/preference should delete and/or insert dialing digits into the chosen digit stream. The digit modification parameters define the number of digits deleted and digits to be inserted for a particular Digit Modification Index.

The WCR Network Digit Modification feature is administered via the **wcr-digit-modification** transaction which allows you for up to 4095 Digit Modification Indices to:

- Delete up to 31 digits
- Insert up to 31 digits.

Commands

The WCR Network Digit Modification Administration capability is provided via the **wcr-digit-modification** transactions. The verbs supported are: **change** and **display**. These transactions can be accessed from the admin, database-admin, or product-admin area under the FM application.

Procedure: Changing Digit Modification Parameters

Use the **wcr-digit-modification change** command to modify the digit modification parameters ("number of digits deleted" and "digits inserted" associated with the specified Digit Modification Index (Indices)).

1. Enter the **wcr-digit-modification change** command. The input **change** screen is displayed:

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin wcr-digit-modification change              Page 1 of 1

Digit Modification Indices: 4076-4085

```

2. Enter the Digit Modification Index number. You are allowed to enter a single index, a list of comma separated indices (up to 5) or a range of up to 20 indices. Valid entries are **1-4095**. This field is required. Press **EXECUTE**.

Note: For Digit Modification Index **0**, parameters are predefined and may not be changed.

3. For the specified Digit Modification Index (set of indices), the associated number of digits deleted and digits inserted are displayed.

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-digit-modification change                Page 1 of 2
    
```

Digit Modification Index	Number Digits Deleted	Digits Inserted
-----	-----	-----
4076	31	1234567890123456789012345678901
4077	0	-----
4078	0	-----
4079	0	-----
4080	0	-----
4081	all	*7351246524#
4082	0	-----
4082	0	-----
4082	0	-----
4083	15	-----
4084	0	-----
4085	6	810288

4. The Digit Modification Index field contains the numbers that you entered on the input screen. If you entered a range of numbers, they appear in ascending order. This field is display only and cannot be changed.
5. For the specified Digit Modification Index, enter the corresponding number of digits deleted in the Number Digits Deleted field. Valid entries are **0-31** or **all** for all digits to be deleted. Press **RETURN**.
6. For the specified Digit Modification Index, enter the corresponding number of digits inserted (insertion string) in the Digits Inserted field. The string may consist of 1 to 31 digits. Each digit may be **0-9**, **#**, or *****. No blanks are allowed within a data string. This field is optional. Press **RETURN**.
7. At the end of data entry, press **EXECUTE**.

Procedure: Displaying Digit Modification Parameters Information

Use the **wcr-digit-modification display** transaction to view the network digit deletion/insertion parameters that determine if a particular pattern/preference should delete and/or insert dialing digits into the chosen digit stream.

1. Enter the **wcr-digit-modification display** command. The input **display** screen appears.
2. Specify the Digit Modification Index (Indices) for which you want to display the information. Valid range is **0-4095**. Press **EXECUTE**.
3. For the specified Digit Modification Index (Indices), the associated number of digits deleted and digits inserted will be displayed. The **display** screens are identical to the **change** screens. For a detailed field description, refer to "Procedure: Changing Digit Modification Parameters."

WCR TOLL-FREE TABLES ADMINISTRATION

The World Class Routing (WCR) Toll-Free Tables feature allows you to administer WCR Toll Free number tables. There are 63 Toll-Free tables that can be administered. Each Toll-Free table contains a list of toll free address strings (call numbers). A call is toll free if the number was placed into the Toll-Free table, otherwise, it is a toll call.

The WCR **pattern** transaction allows you to administer each WCR Pattern/Preference to indicate whether calls should be treated as toll or toll free. In general, you may specify one of the following:

- All calls are to be considered toll free
- All calls are to be considered toll
- Only the address strings whose first N digits match any string within the associated Toll-Free table are to be considered toll free.

For more details on Patterns/Preferences, refer to "WCR Pattern Administration" earlier in this chapter.

Prerequisites

Prior to administering Toll-Free table numbers, make sure that the following prerequisite transactions have been performed:

- The set of VNIs to be used to route calls have been defined via the **wcr-dial-plan-definition** transaction
- Valid routing patterns for WCR networks have been defined via the **wcr-pattern add** transaction.

Commands

The **wcr-toll-free-tables** transaction can be accessed from the admin, database-admin, or product-admin area under the FM application. This transaction is supported only on Generic 2.2.

The verbs supported are: **add**, **display**, and **remove**.

- The **wcr-toll-free-tables add** command allows you to add up to 50 strings to a specified Toll-Free table
- The **wcr-toll-free-tables display** command allows you to display the toll/toll free status of a single string or a list of up to 5 strings
- The **wcr-toll-free-tables remove** command allows you to remove up to 50 strings from the specified Toll-Free table.

Procedure: Adding Strings to WCR Toll-Free Tables

The **wcr-toll-free-tables add** transaction is used to add up to 50 strings to the specified WCR Toll-Free Table.

1. Enter **wcr-toll-free-tables add** and press **RETURN**. The **wcr-toll-free-tables add** input screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>		
fm admin wcr-toll-free-tables add		Page 1 of 1		
Toll Free Table Number: 5				
Toll Free String IDs				
201436	211	3456722	3551212	5671245
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

2. Enter the Toll Free Table Number. This number points to one of 63 Toll-Free tables available on the system. Valid entries are **1-63**. This field is required. Press **RETURN**.
3. Enter the Toll Free String IDs. You are allowed to define up to 50 toll free strings. At least one String ID is required. For each string ID, you may enter up to 7 digits. Press **EXECUTE**.

Notes:

- String IDs may not contain any spaces between digits.
- When adding a new toll free String ID, verify that there are no other strings in the same Toll-Free table that have a length shorter than the string being added and match the first N digits of the string being added, otherwise, an error condition will result.
- When adding a new toll free String ID, verify that there are no other strings in the same Toll-Free table that have a length longer than the string being added and whose first N digits match the string being added, otherwise, an error condition will result.

Procedure: Displaying Toll/Toll Free Status of String ID(s)

The **wcr-toll-free-tables display** transaction allows you to display the "toll/toll-free" status of a single string or a list of up to 5 strings. Full display of the Toll-Free table should be done by using the **fm report-admin wcr-toll-free-tables report**.

1. Enter **wcr-toll-free-tables display** and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin wcr-toll-free-tables display                Page 1 of 1

Toll Free Table Number: 5

Routing String IDs: 201436,211,3456722,3551212,5671245

```

2. Enter the Toll Free Table Number. Valid entries are **1-63**. This field is required. Press **RETURN**.
3. In the Routing String IDs field, enter a single string or a list of up to 5 strings. Press **EXECUTE**.
4. For each specified String ID, the status information will be displayed as follows:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin wcr-toll-free-tables display                Page 1 of 10

Toll Free Table Number: 5

Routing
String ID      Toll Status
-----
201436        toll
211           toll
3456722       toll free
3551212       toll free
5671245       toll free

```

5. The Toll Free Table Number and Routing String IDs fields will contain values entered via the input **display** screen. These fields are display only and cannot be changed.
6. The Toll Status field will contain one of these values: **toll** or **toll free**. This field is display only. The system compares the address strings that are to be sent on the target trunk group and all entries in the corresponding Toll-Free table. A string is considered to be "toll" if it is not present in this Toll-Free table. If a string is in the Toll-Free table, then it is considered to be "toll free."

Procedure: Removing Strings from the Toll-Free Table

The **wcr-toll-free-tables remove** transaction allows you to remove up to 50 strings from the specified Toll-Free table.

1. Enter **wcr-toll-free-tables remove** and press **RETURN**. The **wcr-toll-free-tables remove** input screen appears. All screens for the **remove** transaction are the same as described for the **wcr-toll-free-tables add** command. For a detailed field description, refer to "Procedure: Adding Strings to WCR Toll-Free Tables."
2. Enter the Toll-Free Table Number. Press **RETURN**.
3. For each selected Toll-Free table, you are allowed to remove up to 50 strings. Press **EXECUTE**.

WCR NETWORK DIGIT SENDING ADMINISTRATION

The WCR Network Digit Sending Administration feature allows you to administer the digit sending parameters that are used by the Digit Sending software to determine the format of the outgoing digits. Additional digits can be inserted into the outpulsed digits format including a Dial Access Code (DAC), Interexchange Carrier (IXC), TOLL PREFIX and/or a pound (#) sign.

The switch outpulses digits in the following order: DAC, IXC, TOLL PREFIX, ADDRESS, TCM(s), '#'. Outpulsed digits may be partitioned into groups. A pause length can be inserted between digit groups. Valid pause lengths are: 0, 2, 4, 6, 8, 10, 12, 14 or 16 seconds.

The Digit Sending Index (DSI) points to a set of digit sending parameters for a particular pattern and preference. Refer to "WCR Pattern Administration" earlier in this chapter for details. The range of valid Digit Sending Indices is **0** through **511**. However, DSI **0** is the default and cannot have its digit sending parameters changed.

Commands

The **wcr-digit-send** transaction can be accessed from the admin, database-admin and product-admin areas under the FM application. The verbs supported are **change** and **display**.

Procedure: Changing Digit Sending Parameters

Use the **wcr-digit-send change** transaction to define the digit sending parameters for the specified set of Digit Sending Indices.

1. Enter the **wcr-digit-send change** transaction. The following screen appears:

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin wcr-digit-send change          Page 1 of 1

Digit Sending Indices: 502-511

```

2. Enter a single Digit Sending Index number, a list of comma separated index numbers (up to 5) or a range of up to 10 index numbers. At least one index number must be specified. Index **0** (zero) may not be changed. Press **(EXECUTE)**.

The output **change** screen is displayed:

Digit Sending Index		Send DAC	DAC Digits	Send IXC	CIC Digits	Send Toll Prefix	Toll Prefix Digits	Send #
-----	-----	-----	-----	-----	-----	-----	-----	-----
502	1	_____	1	_____	5	247	_____	y
503	2	#87	2	1234	4	123	_____	n
504	3	*123	3	425	3	789	_____	y
505	0	_____	0	_____	2	_____	_____	n
506	1	_____	1	_____	1	_____	_____	y
507	2	*221	2	89	0	_____	_____	n
508	3	#89	2	89	5	742	_____	y
509	1	_____	1	_____	4	321	_____	n
510	2	#88	0	_____	1	_____	_____	y
511	2	*31	2	0101	5	111	_____	n

3. For each DSI index listed, populate these fields as follows:

- In the Digit Sending Index field, the index number(s) selected on the previous screen are displayed. This field is display only and cannot be changed.
- Enter the Send DAC number. This field is required. Valid entries are:
 - **0** = do not send any DAC (default)
 - **1** = send dialed DAC only
 - **2** = send dialed DAC or administered DAC
 - **3** = send administered DAC only.

Press **RETURN**.

- In the DAC Digits field, enter a blank, or a 4-digit number in the form *ZNNN*, where *Z = 0-9*, * (asterisk) sign, or a # (pound) sign, and *N = 0-9*. Press **RETURN**.

Notes:

- If the Send DAC field is **0** or **1**, then the DAC Digits field will be blank and cannot be changed.
- If the Send DAC field is **2** or **3**, then the DAC Digits field is required.

- Enter the Send IXC number. This field is required. Valid entries are:
 - **0** = Do not send any IXC (default)
 - **1** = Send the dialed IXC only
 - **2** = Send the dialed IXC or administered IXC
 - **3** = Send the administered IXC only.

Press **RETURN**.

- In the CIC (Carrier Identification Code) Digits field, enter a blank or a 4-digit number in the form *NNNN* where *N = 0-9*. Press **RETURN**.

Notes:

- If the Send IXC field is **0** or **1**, then the CIC Digits field will be blank and cannot be changed.
- If the Send IXC field is **2** or **3**, then the CIC Digits field is required.

- Enter the Send Toll Prefix number. This field is required. Valid entries are:

- **0** = Do not send any toll prefix (default)
- **1** = For toll calls, send the dialed toll prefix
- **2** = For toll calls, send the dialed toll prefix, or if a toll prefix was not dialed, send the administered toll prefix
- **3** = For all calls, send the dialed toll prefix
- **4** = For all calls, send the dialed toll prefix, or if a toll prefix was not dialed, send the administered toll prefix
- **5** = For toll calls, send the administered toll prefix
- **6** = For all calls, send the administered toll prefix.

Press **RETURN**.

- In the Toll Prefix Digits field, enter a blank or a three-digit number in the form *NNN* where *N* is a digit **0-9**. Press **RETURN**.

Notes:

- If the Send Toll Prefix field is **0**, **1** or **3**, then the Toll Prefix Digits field will be blank and cannot be changed.
- If the Send Toll Prefix field is **2**, **4**, **5** or **6**, then the Toll Prefix Digits field is required.

- The Send # field indicates if a # (pound) sign is to be sent after the digit string. This field is required. Valid entries are:

- **y** (yes) - a # sign will be sent after the entire digit string has been sent
- **n** (no) - no # sign will be sent (default).

Press **RETURN**. Page 2 of the **wcr-digit-send change** transaction appears.

AT&T Mgr IV 2.2 SR: DEFINITY G2.2 <target>											
fm admin wcr-digit-send change Page 2 of 2											
Digit Sending Index	GROUP ONE			GROUP TWO			GROUP THREE			GROUP FOUR	
	Pause Len.	No. Dig	Send Mode	Pause Len.	No. Dig	Send Mode	Pause Len.	No. Dig	Send Mode	Pause Len.	Send Mode
502	2	31	t	2	31	t	2	31	t	2	t
503	4	all	t	—	—	—	—	—	—	—	—
504	2	31	t	2	all	t	—	—	—	—	—
505	4	8	t	2	12	t	6	all	t	—	—
506	2	31	t	2	all	t	—	—	—	—	—
507	2	31	t	2	all	t	—	—	—	—	—
508	2	31	t	2	all	t	—	—	—	—	—
509	2	31	t	2	all	t	—	—	—	—	—
510	2	31	t	2	all	t	—	—	—	—	—
511	2	31	r	—	—	—	—	—	—	—	—

4. The outgoing digits may be partitioned into up to 4 groups. Each group may contain up to 31 digits. All fields for Group One are required. Populate these fields for each index you wish to change:
 - The Digit Sending Index field. This field is display only and cannot be changed.
 - Enter the Pause Length number. Valid values are the even numbers in the range **0-16**. Select the values as follows:
 - **0** (zero) seconds - to indicate that the digits must be sent immediately when the outgoing trunk is seized
 - **2-16** seconds (even numbers only) - to indicate the delay in seconds before the digits are sent.
 Press **RETURN**.
 - Enter the Number of Digits that are being sent in this group. Valid entries are:
 - **1-31** - any number in this range
 - **all** - send all remaining digits
 Press **RETURN**.
 - Enter **t** for touch-tone or **r** for rotary in the Send Mode field. This applies to trunks only. Press **RETURN**.
5. Populate the fields in GROUP TWO, GROUP THREE, and GROUP FOUR by following the steps provided for GROUP ONE.

Notes:

- If the Pause Len. field is populated for any group, then the No. Dig and Send Mode fields are required.
- If the No. Dig field is **all** for any group, then you do not need to populate any field for the remaining groups.
- If none of these groups: GROUP ONE, GROUP TWO, or GROUP THREE contains **all** in the No. Dig field, then the Pause Len. and Send Mode fields in GROUP FOUR are required.

Procedure: Displaying Digit Sending Parameters

Use the **wcr-digit-send display** transaction to view the digit sending parameters associated with the specified Digit Sending Indices (DSIs).

1. Enter the **wcr-digit-send display** command. The **wcr-digit-send display** screen appears.
2. Enter the Digit Sending Index (Indices) you wish to view along with its associated parameters. You are allowed to specify a single DSI index, a list of comma separated indices (up to 5), or a range of up to 10 indices. Press **EXECUTE**.

Screens are displayed that show the digit sending parameters for the DSIs you have specified. The **display** screens are identical to the **change** screens. For a detailed screen description, refer to "Procedure: Changing Digit Sending Parameters."

WCR ISDN FEATURE PARAMETERS ADMINISTRATION

The WCR ISDN (Integrated Services Digital Network) Feature Parameters Administration allows you to define for each ISDN sending index the ISDN specific parameters that should be used as part of the ISDN message set for all trunk groups that reference the ISDN index.

These include the following ISDN parameters:

- *Network Service Value (NSV)* - a 3-digit field in a call-detail record that identifies the tariffed public network service (such as WATS, MEGACOM®) and the Software Defined Network (SDN) requested for a call. The NSV is needed to accommodate Call-by-Call (CBC) Service Selection in an ISDN which allows a communications system to request services and/or features on a per call basis
- *ISDN Type of Address* - identifies the ISDN type of address in terms of CCITT (International Telegraph and Telephone Consultative Committee) standards
- *ISDN Numbering Plan Identification* - identifies the numbering plan in terms of CCITT standards
- *IXC Encoding Option* - identifies whether the IXC should be included as part of the Network Specific Facility/Trunk Network Service (NSF/TNS) Information Element, or in the Called Party Number (CDN) Information Element.

Prerequisites

Prior to administering the ISDN feature parameters, the following transactions should be performed first:

- Use the **sys-cos change** transaction to enable ISDN for the switch (set the ISDN Enabled field to **y**)
- Use the **wcr-dial-plan-definition** command to define a set of Virtual Nodepoint Identifiers (VNIs) to be used for routing calls
- Use the **wcr-pattern add** transaction to define valid routing patterns that may be utilized by WCR networks
- Use the **network-spec-facility add** transaction to add switch translation for each Network Service Value that is referenced by this transaction.

Commands

The WCR ISDN Feature Parameters are administered via the **wcr-isdn-parameters change** and **wcr-isdn-parameters display** transactions. These commands can be accessed from the admin, database-admin and product-admin areas under the FM application.

Procedure: Changing ISDN Feature Parameters

Use the **wcr-isdn-parameters change** transaction to modify the ISDN Feature Parameters associated with the specified ISDN Sending Index (Indices). The ISDN Sending Index points to a set of ISDN parameters that comprise part of the ISDN message set. The parameters can be changed for up to 20 ISDN Sending Indices.

1. Enter the **wcr-isdn-parameters change** command. The following screen displays:

```

AT&T Manager IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin wcr-isdn-parameters change          Page 1 of 1

ISDN Sending Indices : 1010-1019

```

2. In the ISDN Sending Indices field, enter the ISDN Sending Index. This field is required. Valid entries are **1-1023**. You are allowed to enter a single index, a list of comma separated index numbers or a range of up to 20 index numbers. Press **EXECUTE**.
3. The output **change** screen appears which shows the requested ISDN Sending Indices in ascending numerical order along with their associated parameters.

```

AT&T Manager IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin wcr-isdn-parameters change          Page 1 of 1

      Sending      Service      Type      Number      IXC
      Index        Value      Address   Plan ID     Option
      -----
      1010         159       2         8           0
      1011         159       0         0           0
      1012         159       0         0           0
      1013         159       0         0           0
      1014         45        1         1           1
      1015         159       0         0           0
      1016         423       2         1           0
      1017         159       0         0           0
      1018         159       0         0           0
      1019         218       3         9           1

```

4. Enter the Network Service Value. This number identifies the ISDN network characteristics that are to be used with the Network Specific Facility Information Element. Valid entries are 1-3 digit numbers in the range from **1** to **511**. This field is optional. Press **RETURN**.
5. Enter the ISDN Type Address. This field identifies the ISDN address type for a call. This field is required. Valid entries are:
 - **0** - Unknown (**default**)
 - **1** - International number
 - **2** - National number
 - **3** - Network specific number
 - **4** - Subscriber number
 - **6** - Abbreviated number
 - **7** - Reserved for extension.

Press **RETURN**.

6. Enter the Number Plan ID. This field identifies an ID of the numbering plan to be used with the Called Party Number Information Element. This field is required. Current encodes include:
 - **0** - Unknown (**default**)
 - **1** - ISDN/telephony numbering plan
 - **2** - Telephony numbering plan
 - **3** - Data numbering plan
 - **4** - Telex numbering plan
 - **8** - National numbering plan
 - **9** - Private numbering plan
 - **15** - Reserved for extension.

Press **RETURN**.

7. Enter the IXC Option. This field indicates whether the Interexchange Carrier (IXC) should be included in the Network Specific Facility (NSF)/Trunk Network Service (TNS) Information Element, or in the Called Party Number (CDN) Information Element. This field is required. Valid entries are:
 - **0 (default)** - Code IXC in NSF IE or TNS IE
 - **1** - Code IXC in CDN IE

Press **EXECUTE**.

Procedure: Displaying ISDN Feature Parameters

Use the **wcr-isdn-parameters display** transaction to view parameters for up to 20 ISDN Sending Indices on a single screen. Valid range is **0-1023**. The **display** screens are identical to **change** screens. For a detailed screen description, refer to "Procedure: Changing ISDN Feature Parameters."

WCR NETWORK ROUTING ADMINISTRATION

The WCR Routing Administration feature allows you to define for each Call Category the mapping of Virtual Nodepoint Identifiers (VNIs) to WCR routing patterns. The mapping is used by the WCR's Generalized Route Selection software to determine which pattern number a call should be routed to.

By default, for Call Category 0, the switch maps each VNI to the WCR pattern with the same cardinal number. The procedure in this section describes how you can change these default parameters to set up your own mapping scheme.

Route selection can also be modified using the Call Category parameters. Call categories allow control of the VNI to pattern mapping based on the following switch features:

- *Time of Day Plan Routing*. This feature allows dynamic rearrangement of the VNI to pattern mapping based on the time of day, for up to seven time intervals during each day.
- *Conditional Routing*. This feature allows dynamic selection of the routing pattern based on how many satellite hops a call has experienced.

The WCR Network Routing feature is administered using the **wcr-route-translation** transaction. For a selected Call Category, up to 50 VNI/WCR Pattern associations can be changed and/or displayed.

Prerequisites

Before running the **wcr-route-translation** command, the following WCR features should be administered first:

- Define the set of Virtual Nodepoint Identifiers (VNIs) that are to be used for routing calls. Use the **wcr-dial-plan-definition** command
- Define each Call Category's Time of Day Plan Routing and Conditional Routing (Satellite Hops) using the **wcr-call-category change** command
- Define valid routing patterns that may be used by WCR networks using the **wcr-pattern add** command.

Commands

The **wcr-route-translation** transactions can be accessed from the admin, database-admin and product-admin areas under the FM application. The verbs supported are **change** and **display**.

Procedure: Changing WCR Route Translation Parameters

The **wcr-route-translation change** transaction is used to change the routing parameters previously assigned to each Call Category/VNI combination via the **wcr-pattern add** transaction.

1. Enter the **wcr-route-translation change** transaction. The following screen appears:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-route-translation change                Page 1 of 1

                Call Category: 123
Virtual Nodepoint Identifiers (VNIs): 1-50
    
```

2. Enter the Call Category. This field is required. Valid entries are **0-255**. Press **RETURN**.
3. In the Virtual Nodepoint Identifiers (VNIs) field, enter a single VNI, a list of comma separated VNIs (up to 5) or a range of up to 50 VNIs. This field is required. Valid entries are **1 through 1023**. Press **EXECUTE**. The output **wcr-route-translation change** screen is displayed.

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-route-translation change                Page 1 of 2

                Call Category:123

                WCR                WCR                WCR                WCR                WCR
                Pattern            Pattern            Pattern            Pattern            Pattern
                -----            -----            -----            -----            -----
1              11              21              31              41
2              12              22              32              42
3              1023             13              1013             23              1000             33              1022             43              1023
4              14              24              34              44
5              15              25              35              45
6              1010             16              1011             26              1012             36              1013             46              1010
7              17              27              37              47
8              991              18              993              28              995              38              199              48              399
9              72              19              73              29              72              39              75              49              32
10             20              30              40              50
    
```

4. The VNI fields contain the values entered through the input screen. These fields are display only and cannot be changed.
5. Enter the WCR Pattern number. Valid entries are **1-1023**. This field is optional. Press **RETURN**.
6. Press **EXECUTE**.

Procedure: Displaying WCR Route Translation Parameters

The **wcr-route-translation display** transaction is used to display the WCR patterns assigned to each VNI/Call Category combination. For a selected Call Category, you are allowed to display up to 50 VNI/WCR Pattern associations.

1. Enter the **wcr-route-translation display** transaction. The **wcr-route-translation display** input screen appears. All screens for the **display** transaction are the same as described for the **wcr-route-translation change** command. For a detailed field description, refer to "Procedure: Changing WCR Route Translation Parameters" earlier in this chapter.

WCR CALL CATEGORY DEFINITION ADMINISTRATION

The World Class Routing (WCR) Call Category Definition feature allows you to administer the Call Category definition parameters that determine modifications to be made to the VNI to WCR pattern mapping. Without modification, each VNI number maps to the WCR pattern number. Their default mapping may be changed using the **wcr-route-translation** transaction. The **wcr-route-translation** transactions are described in detail in the "WCR Network Routing Administration" section. Use the **wcr-call-category** transactions to further modify this mapping based on the following switch features:

- *Time of Day Plan Routing* (Schedule) - allows dynamic rearrangement of the VNI to Pattern mapping based on the time of day, for up to 6 plan changes per day
- *Conditional Routing* - this routing is determined by how many satellite hops a call has traversed in reaching the switch. The Call Category Definition feature allows dynamic selection of the routing pattern based on the number of satellite hops.

Note: ADD PARTITION TYPE AND PARTITION NUMBER TOO????

Prerequisites

Prior to administering a WCR Call Category, the following prerequisites should be performed first:

- Use the **wcr-schedule** transaction to activate Time of Day Plans if they are referenced by **wcr-call-category**
- Use the **wcr-dial-plan-definition** transaction to define the set of Virtual Nodepoint Identifiers (VNIs) to be used for routing calls
- Use the **wcr-pattern add** transaction to define valid routing patterns for WCR networks.

Commands

The WCR Call Category Definition feature is provided via the **wcr-call-category** transaction. The verbs supported are **change** and **display**. These transactions can be accessed from the admin, database-admin and product-admin areas under the FM application. The following procedures for changing and displaying call category definition parameters will differ with the absence or presence of Tenant Services. Thus, this section will separately document procedures without Tenant Services and with Tenant Services.

Procedure: Changing Call Category Definition Parameters without Tenant Services

The **wcr-call-category change** transaction is used to modify the Call Category definition parameters associated with each Time of Day/Conditional Routing Count pair. These Call Categories are used by the **wcr-route-translation** transaction to modify the VNI to WCR Pattern mapping. This allows the call routing to change dynamically based on the Time of Day Plan currently in effect in the switch, along with the Conditional Routing Count associated with the call.

1. Enter the **wcr-call-category change** transaction. The following input screen displays:


```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-call-category change    Page 1 of 1

All Plan Numbers? y

All CRCs? y
    
```

2. Press **RETURN** if question, you will be prompted to fill in the "Plan Number" (not shown on the above screen).
3. Press **RETURN** if will be prompted to fill in the "CRC" (not shown on the above screen).

Notes:

"Plan Number" (not shown on the screen) is prompted if "no" is answered to the "All Plan Numbers?" question.

"CRC" (not shown on the screen) is prompted if "no" is answered to the "ALL CRCs?" question.

The following output screen displays after the input screen.

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-call-category change    Page 1 of 1

Plan   CRC   Call Category           Plan   CRC   Call Category
----   ---   -
1     0     _____           5     0     _____
1     1     _____           5     1     _____
1     2     _____           5     2     _____
2     0     _____           6     0     _____
2     1     _____           6     1     _____
2     2     _____           6     2     _____
3     0     _____           7     0     _____
3     1     _____           7     1     _____
3     2     _____           7     2     _____
4     0     _____
4     1     _____
4     2     _____
    
```

You are allowed to modify the Call Category field only.

4. Enter the Call Category. This field is required. Valid entries are **0-255**. Default is **0**. Press **RETURN**.
5. The Plan (Time of Day Plan) and CRC (Conditional Routing Count) fields are display only and cannot be changed.
 - The Plan (Time of Day Plan) field shows all plans available for WCR networks. Up to 7 plans are available
 - The CRC field contains a count of the satellite links a call has used to reach the local switch. The number of hops can be specified using the following values:
 - **0** = no satellite links
 - **1** = 1 satellite link used
 - **2** = 2 satellite links used.
6. Press **EXECUTE**.

Procedure: Displaying Call Category Definition Parameters

without Tenant Services"

Use the **wcr-call-category display** transaction to view the call category definition parameters associated with each Time of Day/Conditional Routing Count pair.

1. Enter the **wcr-call-category display** transaction. The **display** screen appears. This screen is the same as for the **wcr-call-category change** transaction. For a detailed field description, refer to "Procedure: Changing Call Category Definition Parameters."

Procedure: Changing Call Category Definition Parameters

with Tenant Services"

The **wcr-call-category change** transaction is used to modify the Call Category definition parameters associated with each Time of Day/Conditional Routing Count pair and partition type and partition number if Tenant Services is activated. (for further information on Tenant Services see Chapter 10, Tenant Services section. These Call Categories are used by the **wcr-route-translation** transaction to modify the VNI to WCR Pattern mapping. This allows the call routing to change dynamically based on the Time of Day Plan currently in effect in the switch, along with the Conditional Routing Count associated with the call.

1. Enter the **wcr-call-category change** transaction. The following input screen displays:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-call-category change                Page 1 of 1

All Partition Numbers?  ___
    Partition Type:  _____
    Partition Number:  _____
All Plan Numbers:  ___
    Plan Number:  ___
    All CRCs:  ___
    CRC:  ___
    Call Category?  ___

```

2. ??
3. ??
4. ??
5. ??

Notes:

The following output screen displays after the input screen.

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-call-category change    Page 1 of 1

Partition Type: Extension Partition Number: 123

      Plan   CRC   Call Category           Plan   CRC   Call Category
      ----   ---   -
      1     0     217                     5     0     _____
      1     1     217                     5     1     _____
      1     2     217                     5     2     _____
      2     0     217                     6     0     _____
      2     1     217                     6     1     _____
      2     2     217                     6     2     _____
      3     0     217                     7     0     _____
      3     1     217                     7     1     _____
      3     2     217                     7     2     _____
      4     0     217
      4     1     217
      4     2     217
    
```

You are allowed to modify the Call Category field only.

6. Enter the Call Category. This field is required. Valid entries are **0-255**. Default is **0**. Press **RETURN**.
7. The Plan (Time of Day Plan) and CRC (Conditional Routing Count) fields are display only and cannot be changed.
 - The Plan (Time of Day Plan) field shows all plans available for WCR networks. Up to 7 plans are available
 - The CRC field contains a count of the satellite links a call has used to reach the local switch. The number of hops can be specified using the following values:
 - **0** = no satellite links
 - **1** = 1 satellite link used
 - **2** = 2 satellite links used.
8. Press **EXECUTE**.

Notes:

This example output screen assumes that the call category is changing to 217 for all plans and all CRCs for partition number 123.

If all partitions were changing, then a message would indicate that the call category for all partitions, all plans, and all CRCs has successfully changed.

Procedure: Displaying Call Category Definition Parameters

with Tenant Services"

Use the **wcr-call-category display** transaction to view the call category definition parameters associated with each Time of Day/Conditional Routing Count pair.

1. Enter the **wcr-call-category display** transaction. The **display** screen appears. This screen is the same as for the **wcr-call-category change** transaction. For a detailed field description, refer to "Procedure: Changing Call Category Definition Parameters."

WCR TIME OF DAY PLAN ADMINISTRATION (SCHEDULE)

The World Class Routing (WCR) Time of Day Plan (Schedule) feature allows you to administer the WCR "Plan in Effect" which specifies which Time of Day Plan shall be considered active. If dynamic control of the "Time of Day Plan" is required, you may also administer the 7 Day Clock table that defines which time of day plan is active at each moment of time.

If the need arises, you may administer the "Clocked Manual Override" feature to override the automatic "Time of Day Plan" control provided by the 7 Day Clock table. To take advantage of special rates (during weekends, holidays, and other off-times), the manual override capability allows you to temporarily change your automatic and continuous schedule. You can specify the time you want the override to go into effect as well as the time to remove the override and return to the automatic schedule.

Time of Day Plan can be set to a single value, if required, via the **sys-cos change** transaction. For more details, refer to Chapter 3, "Network Feature Administration."

Prerequisites

Prior to administering a WCR Schedule, run the **clock change** transaction to synchronize the switch and the database clock.

Commands

The **wcr-schedule** transaction can be accessed from the admin, database-admin and product-admin areas under the FM application. The verbs supported are **add**, **change**, **display** and **remove**.

Procedure: Assigning WCR Schedule(s) for the Specified Day

Use the **wcr-schedule add** transaction to assign the WCR Time of Day Plan(s). Up to six assignments are allowed for the specified day.

1. Enter the **wcr-schedule add** command. The following screen is displayed:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-schedule add                Page 1 of 1

Add Automatic(a) or Manual Override(m) or Both(b)?: b

DAY: ____

      Time                Plan                Active?
      ____ : ____        ____                ____
      ____ : ____        ____                ____
      ____ : ____        ____                ____
      ____ : ____        ____                ____
      ____ : ____        ____                ____
      ____ : ____        ____                ____

Clocked Manual Override                Return to Automatic Control
DAY: ____                DAY: ____
Time: ____ : ____                Time: ____ : ____
Plan: _
    
```

2. In the Add Automatic(a) or Manual Override(m) or Both(b)? field, enter one of these values: **a**, **m**, or **b**. This field is required. The screen is dynamic. Depending on the selection you make, the screen appears different. Press **RETURN**.

- If you select Automatic Override (**a** entry), the Clocked Manual Override and Return to Automatic Control fields do not appear on the screen. For the automatic scheduling of your Plan, you must specify at least one data set as follows:
 - In the DAY field, enter the day of the week (**mon, tue, wed, thr, fri, sat, or sun**). This field is required. Press **RETURN**.
 - In the Time field, enter the time of the day based on the 24 hour clock. Press **RETURN**.

Note: Times entered for the same day must be greater than the current time.
 - In the Plan field, enter the WCR Plan number. Valid entries are **1-7**. Press **RETURN**.
 - In the Active field, enter **y** to make the Plan active, otherwise, enter **n**. Press **RETURN**.

Automatic schedules are in effect continuously .

- If you select Manual Override (**m** entry), only Clocked Manual Override and Return to Automatic Control fields appear on the screen. You may use this screen to set the manual override of your automatic schedule as well as the time when to end it and return to the automatic schedule.

The Clocked Manual Override (CMO) fields are required. To override your automatic schedule, populate the CMO fields as follows:

- In the CMO DAY field, enter the day of the week (**mon, tue, wed, thr, fri, sat, or sun**) the override is to take effect. This field is required. Press **RETURN**.

- In the CMO Time field, enter the time the override is to take effect: **0-23** for hours, and 15 increments for minutes, for example, **0, 15, 30,** and **45**. This field is required. Press **RETURN**.
- In the CMO Plan field, enter the number of the Plan you are overriding. Valid entries are **1-7**. This field is required. Press **RETURN**.

The Return to Automatic Control (RTAC) fields are optional. Populate the RTAC fields if you want to end the manual override and return to the automatic schedule.

- In the (RTAC) DAY field, enter the day of the week (**mon, tue, wed, thr, fri, sat,** or **sun**) you want to end the override and return to the automatic schedule. This field is optional. Press **RETURN**.
- In the (RTAC) Time field, enter the time you want to end the override and return to the automatic schedule: **0-23** for hours, and 15 increments for minutes, for example, **0, 15, 30,** and **45**. This field is required. Press **RETURN**.

Note: Clocked Manual Override and Return to Automatic Control times must be different.

- If you select Both Automatic and Manual Override (**b** entry), the screen is as shown above. Populate all fields as appropriate. For a detailed field description, refer to the explanation provided for the Automatic (**a** entry) and Manual (**m** entry) Override.
- Press **EXECUTE**.

Procedure: Changing WCR Schedule(s) for the Specified Day

Use the **wcr-schedule change** transaction to change the currently assigned WCR Time of Day Plan(s) for the specified day.

1. Enter the **wcr-schedule change** command. The input **change** screen is displayed:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-schedule change                Page 1 of 1

      Add Automatic(a) or Manual Override(m) or Both(b)? : b

      DAY:  ____

```

2. Select the Automatic, Manual Override or Both by entering **a, m,** or **b** in the Add Automatic(a) or Manual Override(m) or Both(b)? field. This field is required. Depending on your selection, the screen appears different. All **change** screens are the same as it was described for the **wcr-schedule add** transaction. For a detailed screen description, refer to "Procedure: Assigning WCR Schedule(s) for the Specified Day." Press **RETURN**.

3. In the DAY field, enter the day of the week (**mon, tue, wed, thr, fri, sat, or sun**). This field is required. Press **RETURN**. The screen for your selected day is displayed with the fields populated. Depending on the Plan selected (**a, m, or b** entry), you are allowed to change the following fields:
 - *Automatic* Plan (**a** entry) - the Active field only
 - *Manual Override* Plan (**m** entry) - the CMO and RTAC DAY, Time and Plan fields
 - *Both* (**b** entry) Plans - the Active, CMO and RTAC DAY, Time, and Plan fields

Note: Clocked Manual Override and Return to Automatic Control times must be different.
4. Press **EXECUTE**.

Procedure: Displaying WCR Schedule(s)

Use the **wcr-schedule display** transaction to display the WCR Time of Day Plan assignments.

1. Enter the **wcr-schedule display** command. The following screen is displayed:

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin wcr-schedule display                Page 1 of 1

      Add Automatic(a) or Manual Override(m) or Both(b)?: b

      DAY: ____
    
```

2. In the Add Automatic(a) or Manual Override(m) or Both(b)? field, enter one of these values: **a, m, or b**. This field is required. Press **RETURN**. The **wcr-schedule display** screen is dynamic. Depending on the selection you make, the screen appears different.
3. In the DAY field, enter the day of the week (**mon, tue, wed, thr, fri, sat, or sun**). This field is required. Press **RETURN**. The screen for your selected day is displayed with the fields populated. All **display** screens are the same as described for the **wcr-schedule add** transaction. For a detailed screen description, refer to "Procedure: Assigning WCR Schedule(s) for the Specified Day."

Procedure: Removing a WCR Schedule

Use the **wcr-schedule remove** transaction to remove a WCR Time of Day Plan Assignment. You can remove an Automatic Plan, Manual Override or both.

1. Enter the **wcr-schedule remove** command. The following screen is displayed:

AT&T Mgr IV 2.2 SR:	DEFINITY G2.2	<target>
fm admin wcr-schedule remove		Page 1 of 1
Add Automatic(a) or Manual Override(m) or Both(b)?: b		
DAY: ____		
	Time	
	__ : __	
	__ : __	
	__ : __	
	__ : __	
	__ : __	
	__ : __	
Remove Manual Override Schedule?: n		

Note: The Remove Manual Override Schedule field appears only when you select to remove the Manual Override (**m** entry) or Both (**b** entry).

2. Select the Plan to remove by entering **a**, **m**, or **b** in the Add Automatic(a) or Manual Override(m) or Both(b)? field. This field is required. Press **RETURN**.
 - To remove the Automatic Plan (**a** entry) for the particular day, you must specify at least one data set as follows:
 - In the DAY field, enter the day of the week (**mon, tue, wed, thr, fri, sat, or sun**). This field is required. Press **RETURN**.
 - In the Time field, enter the time of the day based on the 24 hour clock. Press **RETURN**.
 - Press **EXECUTE**.
 - If you selected the Manual Override Plan (**m** entry), the Remove Manual Override Schedule field appears on the screen. This field is display only and cannot be changed. Press **EXECUTE**.
 - To remove Both Plans (**b** entry) for the particular day, you must specify at least one data set as follows:
 - Specify the DAY and Time by following the steps provided for removing the Automatic Plan. Press **RETURN**.
 - In the Remove Manual Override Schedule field, enter **y** to remove both Automatic and Manual Override Plans; to remove only Automatic Plan, enter **n**. Press **RETURN**.
 - Press **EXECUTE**.

For each Plan you try to remove, the system displays a message stating whether the **wcr-schedule remove** transaction was successful.

WCR EXTENSION NUMBER PORTABILITY ADMINISTRATION

[Generic 2.2]

Overview

Extension Number Portability (ENP) is a feature that allows extension numbers to be moved from one node to another within a multinode Electronic Tandem Network (ETN), with or without DCS. To implement this feature, each switch node within an ENP subnetwork is assigned a unique node number that identifies the switch location where the extension resides.

ENP can be fully implemented with WCR as long as the standard network has been activated. Up to seven routing networks are used for Generic 2.2 switches to provide private network call routing. These seven networks are also used for an ENP subnetwork.

Network Digit Analysis and Dialing Plan

Home Location Codes

Each location code used in the ENP subnetwork must be defined as a "home location code" on each node in the subnetwork. This is done in the WCR private network that supports the ENP subnetwork using the **wcr-dial-plan-definition:add** transaction, and constitutes the dialing plan for that network.

- **Setting Up the Dialing Plan in the ENP Network (Incoming Calls)**

In the WCR network used for ENP, each home location code must be defined by a string identifier. This may require defining the complete set of location codes, or, if the first, or first and second digits of all the location codes are common, it may be possible to use a 1- or 2-digit string identifier. This must be done on each switch in the ENP network.

Dialing Plan

- **Setting Up the Dialing Plan in Network 0**

In Network 0 (zero), each extension number group must be defined by a string identifier. This corresponds to the extension number group assignments defined in the **number-group** transaction. Usually, one or two digits are sufficient to identify each block of extension numbers. This is done at system setup time.

The restart action passes the dialed digits to digit modification using the digit modification index number (entered in **wcr-dial-plan-definitions**) and then routes the call using the VNI specified in the **wcr-portability** transaction.

Network Digit Modification

There are two cases where digit modification is used with ENP. One is for home location codes and one is for ported extensions. This is done using the **wcr-digit-modification** transaction.

Home Location Codes (Incoming Calls)

Once an incoming tie trunk call has been identified as belonging to a home location code, digit modification performs the digit deletion and/or insertion required for extension number addressing. For incoming tie trunk calls, digit modification is used to correct the network address (usually by deleting the location code) to an extension number for the home location code. When digit modification is completed, the call is restarted in Network 0, which then passes it to the internal dial plan for processing. WCR Network 0 does not perform digit analysis on these incoming calls.

Dialing Plan (Outgoing Calls)

Once an extension number has been identified as a ported extension, digit modification performs the digit deletion and/or insertion required for network addressing. For outgoing calls in extension number format, digit modification inserts the digits necessary (using the location code) to form a WCR network address. When digit modification is complete, reanalysis in the network specified in the **wcr-dial-plan-definition** transaction is not required because VNI is assigned using the **wcr-portability:change** transaction.

The next sections describe the prerequisites and procedures needed to establish a WCR ENP subnetwork.

Initialization

- It is assumed the ETN network and ENP subnetworks have been defined for the corporation's network at initialization time, and further, the defined ETN and ENP nodes have been associated with a particular switch product.

See: Chapter 4, "Defining and Testing Elements of Manager IV" in the *DEFINITY® Management IV Installation, Initialization and Maintenance Manual*. This chapter contains procedures for adding a corporation and switch products.

- After products have been added, each Manager IV database associated with each product must be initialized with switch and non-switch data.

See: Chapter 5, "Initializing the Manager IV Database" in the *DEFINITY® Management IV Installation, Initialization and Maintenance Manual*.

Note: When initialization successfully completes, the local ENP switch numbers for each node in the network are defined. Enter the command, **sys-cos display**, to view this information.

ENP Administration

Prerequisites

See: For background information on WCR, refer to the "World Class Routing (WCR) Feature Overview" in Chapter 1, "Getting Started with Facilities Management." In addition, Chapter 7 contains detailed descriptions of all the WCR features.

Because the WCR ENP feature includes associations with other WCR features, it is important to check that parameters have been assigned correctly and consistently before administering ENP.

- **Call Category**
This feature handles alternate scheduling and conditional routing definitions that supersede the default VNI to WCR pattern mapping. Enter the **wcr-call-category display** command to check that these definitions are appropriate.
- **WCR Pattern**
A routing pattern(s) is an ordered list of trunk group preferences used by a switch to complete a call. Enter the **wcr-pattern display** command to check for the pattern(s) you will be using in this procedure and the associated preferences.
- **WCR Routing Translation**
For each call category, this feature maps a WCR pattern to a VNI. Enter the **wcr-routing-translation display** command to check that the mapping is consistent with previous definitions.
- **Dial Plan**
Essentially, the action encode parameter for this feature determines if a string ID (all or part of the dialed digits) should be resolved or restarted. A **resolve** action (identified by a **0**) maps the string to a VNI which then routes the call. A **restart** action (identified by a **1**) requires that Digit Modification be

used to complete call processing. This is administered using the **wcr-dial-plan-definition** transaction. The next paragraph describes digit modification used for restarted strings.

- **Digit Modification Index (DMI)**

The DMI determines if a particular pattern or preference should have digits inserted or deleted to the string before the call can be processed. This enables the string to restart in the specified network. This is administered using the **wcr-digit-modification** transaction.

Note: The G2.2 transactions, **wcr-dial-plan-definition** and **wcr-digit-modification**, map to the **portability-routing** transaction for non-G2.2 switches.

Procedure: Mapping ENP Node Numbers to VNIs

Each node number in the ENP subnetwork must be associated with its corresponding WCR VNI. Specify this mapping by running this next procedure for *each* G2.2 node that is to be included in the ENP subnetwork.

1. Enter **wcr-portability-routing:change** then press **RETURN**.

The next screen is displayed:

AT&T Mgr IV 2.2	SR:	DEFINITY G2.2	<target>
fm admin wcr-portability-routing change			Page 1 of 1
ENP Node Numbers: _____			

- Valid entries range from 1 to 999.
 - You can enter a single node, a list of up to five node numbers, or a range of node numbers. Up to 20 nodes may be displayed for a single transaction.
2. Enter your node number selections. Press **EXECUTE** to run the transaction.

The next screen is displayed:

ENP Node		ENP Node	
Number	VNI	Number	VNI
1	0	11	0
2	0	12	0
3	8	13	5
4	1001	14	0
5	0	15	0
6	0	16	0
7	0	17	0
8	556	18	0
9	0	19	0
10	11	20	0

Note: Previously defined VNIs are automatically populated for their associated ENP nodes. VNIs range from 0 - 1023. (Zero is the default).

- To modify this screen, enter new VNIs then press **EXECUTE** to run the transaction.

Note: This feature also allows you to display ENP Node Numbers associated with VNIs. Use the **wcr-portability-routing:display** transaction.

Administering Extensions in the ENP

If a user or a group of users move from one location to another within an ENP network, the ability to move users' extensions is essential. The following administrative tasks provide the means to check the status of users' extensions as well as to make extension changes for user moves.

- To view all the currently assigned extensions associated with a particular ENP node, use the TCM **extn-to-node:display** or the TCM **extn-to-node:report** commands.
- Use the TCM **number-groups:move** transaction to move groups of extensions from one ENP node to another ENP node. The **extension:move** transaction should only be used for moving a single extension.

See: the *DEFINITY® Manager IV Terminal Change Management Operations* for more information on these transactions. "Extension Number Portability Within the ETN" section in Chapter 2 provides information on moving number groups and "Extension and Terminal Transactions" section in Chapter 3, provides information on moving extensions.

End of Procedure

8. CONTROLLING NETWORK USE

Manager IV helps you to control network use so you can monitor and protect the resources of your private network.

This chapter provides information on how you provide this service to your company.

The FM administrator can ensure that high-cost trunks are not used unless necessary and that those who need access to facilities always have it. You can block calls to a particular number or set of numbers by using the restriction feature or by assigning NPAs or exchange or location codes to Pattern "1" (intercept treatment) with the Automatic Alternate Routing (AAR) or Automatic Route Selection (ARS) features.

FACILITY RESTRICTION LEVELS

Facility Restriction Levels (FRLs) define network calling privileges. One of eight FRLs is assigned to trunks and extensions to control who can make calls on what trunk. FRLs are assigned to the extension class of service by the Terminal Change Management (TCM) application and to trunks by the FM application. Lower FRLs are used for the most generally accessible trunks with 0 being the lowest (used for the least expensive facilities) and 7 being the highest and thus used for the most expensive facilities. The degree of accessibility declines as the numerical values increase. In order for a call to be completed, the calling extension's FRL must be equal to or greater than the trunk's FRL. Thus, if a user's extension has an FRL of 7 and the trunk has one of 4, the call can be completed on that trunk, but if a user's FRL is 3 and a trunk has an FRL of 6, the call cannot be completed.

The FRL feature is flexible enough to let you assign a wide range of calling privileges. Private network trunks usually have low FRLs, and public network trunks usually have high ones. Thus, most employees can call anywhere on the private network, but they may not be able to use some or all public network facilities.

Additional flexibility is provided with Alternate FRLs that are associated with regular FRLs. An FRL of 3 might have an Alternate FRL of 6 or 7 so that at certain times callers with extensions with low FRLs might either have access to more trunk groups. Only one set of FRLs can be in effect at any one time. Either the console attendant or the FM administrator can control which set is in effect. For example, before going home at night, an attendant could activate a set of Alternate FRLs that raises all the trunk group FRLs so that no unauthorized personnel can access any network resources during the night. Authorized personnel would then be given authorization codes to override the high FRLs.

When the switch exhausts all call routing possibilities based on the caller's FRL without finding an available trunk, it may prompt the caller for an authorization code. Authorization codes are assigned FRLs, and are then associated with individual users, rather than with extensions. Thus, a person whose authorization has a high FRL can make a call from a phone with a low FRL by keying in an authorization code.

An authorization code can also be used to allow a user to access special network facilities from outside the network, thus protecting the private network from unauthorized use.

You can define how authorization codes are used within your network by assigning attributes to authorization codes with the **auth-code** command. See "Administering Authorization Codes" below.

To see a list of authorization codes and their attributes, run the report **auth-frl report** (which runs by authorization code) or **frl-auth report** (which runs by FRL). You can run these reports for one, a range, or all authorization codes or FRLs.

Barrier codes are security codes used to allow remote users to access a switch and its features, and to prevent unauthorized access to the system. There is only one barrier code per switch. Barrier codes can

be displayed but not changed through FM. If you ever need to change the barrier code, contact AT&T Services. Display of the barrier code is restricted to those users responsible for controlling access to the system.

Administering Authorization Codes

You can add, change, display, or remove authorization codes with the command **auth-code**. This command is also available in TCM.

Before authorization codes can be used on a switch, they must be enabled via **sys-cos**. Use **sys-cos display** to check if authorization codes have been enabled.

In Manager IV, you can assign authorization codes to FRLs in several switches with one transaction by using a target group as a target. Target groups are established by the System Administrator.

Procedure: Adding Authorization Codes

Use this procedure to add an authorization code to the system and assign its parameters.

1. Enter the command **auth-code add**.

The system prompts you to enter the authorization code to be added. The code can be 4 to 7 digits long and cannot begin with a 1.

2. The following screen is displayed.

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin auth-code add

Auth Code(s): 23456

Auth Code FRL Network Access?  Auth Code FRL Network Access?
23456      -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
_____   -      -              _____ -      -
```

3. In the FRL field, enter the Facility Restriction Level to be assigned to the Authorization Code. FRLs range from 0 through 7, with 7 allowing the most accessibility.
 - When the authorization code is dialed by the caller, the FRL associated with the code overrides the FRL associated with the extension being used to place the call for the duration of that call only.
4. In the Network Access? field, type y if you want the user to be able to access private network facilities from the public network. If not, type n.
5. [Generic 2.1 or System 85 R2V4 with Tenant Services] In the Extn Part field, enter the extension partition associated with this authorization code.

- Tenant Services is not supported on Generic 2.2
 - This field does not appear if Tenant Services is not present
 - Extension Partition 0 is the default assignment
 - Users in different partitions cannot share authorization codes
 - The number of digits in the authorization code must be the same for all tenants in a partition.
6. You can add up to 24 authorization codes with one transaction.
 7. When all information is entered, press **EXECUTE** to run the transaction.

MISCELLANEOUS TRUNK RESTRICTION GROUPS

You can assign trunk groups to Miscellaneous Trunk Restriction Groups (MTRGs) in order to restrict user access. A maximum of eight restriction groups can be provided, and each group can contain from one to four trunk groups. Trunk groups are assigned by Dial Access Code (DAC).

MTRG restrictions are administered via the **misc-trk-rst-grp** object. The verbs supported are **add**, **display**, **change** and **remove**.

The **misc-trk-rst-grp add** command is used to assign the trunk groups to MTRGs.

The **misc-trk-rst-grp display** command allows you to display existing MTRGs.

The **misc-trk-rst-grp change** command allows you to change MTRG restrictions that have been previously assigned.

The **misc-trk-rst-grp remove** command allows you to remove MTRG restrictions by specifying the DAC.

Procedure: Assigning Miscellaneous Restrictions

1. To assign trunk groups to MTRGs, enter the **misc-trk-rst-grp add** command. The following screen is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm misc-trk-rst-grp add

DAC: _____                Trunk Group # : _____

                                Indicate with [x]
MTRG1: _                      MTRG5: _
MTRG2: _                      MTRG6: _
MTRG3: _                      MTRG7: _
MTRG4: _                      MTRG8: _

```

2. Enter the Dial Access Code. Valid entries are 1-4 digits. The first digit may be * or #. Press **RETURN**.
3. Type an x next to the MTRG(s) to which you want to assign the trunk group. You are allowed to assign DAC to more than one MTRG. Press **EXECUTE**. The Trunk Group # field appears on the screen.

MTRG restrictions are assigned to voice terminals through line class of service. Any number of the eight MTRGs can be assigned to each of the 63 line classes of service. Use the TCM command **class-of-service** to assign an MTRG to a class of service.

When a voice terminal is assigned a class of service, the voice terminal will not have access to any trunk groups that are assigned to MTRGs associated with that class of service.

Procedure: Displaying Miscellaneous Restrictions

1. Enter the **misc-trk-rst-grp display** command. The following screen appears.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin misc-trk-rst-grp display          Page 1 of 1

To display Misc. Trunk Restriction Groups per DAC, enter:   DAC: ____

                                OR

To display DAC's assigned to a Misc.Trunk Restriction Group, enter: MTRG:
```

You are allowed to display existing MTRGs by specifying DAC or MTRG. Depending on your selection, the output **display** screen differs.

2. To display MTRGs by DAC, type in a valid entry in the DAC field.
3. Press **RETURN**.
4. Press **EXECUTE**. The output **display** screen appears. The screen is the same as described for the **misc-trk-rst-grp add** transaction. For more details, refer to "Procedure: Assigning Miscellaneous Restrictions" earlier in this chapter.
5. To display MTRGs by a MTRG number, enter a number in the MTRG field. Valid entries are **1-8**.
6. Press **RETURN**.
7. Press **EXECUTE**. The following screen is displayed.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin misc-trk-rst-grp display          Page 1 of 1

Misc Restriction Group: 2

          DAC: #100          DAC: ____
          Trunk Group #: 100          Trunk Group #: ____

          DAC: ____          DAC: ____
          Trunk Group #: ____          Trunk Group #: ____
```

Procedure: Changing Miscellaneous Restrictions

You are allowed to change one or more MTRG restrictions previously assigned to trunk groups.

1. Enter the **misc-trk-rst-grp change** command. Press **RETURN**. The input **change** screen appears.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin misc-trk-rst-grp change          Page 1 of 1

          Dial Access Code: ____
```

2. Enter the DAC. Press **RETURN**.
3. Press **EXECUTE**. The output **change** screen is displayed. The screen is the same as described for the **misc-trk-rst-grp add** transaction. For a detailed screen description, refer to "Procedure: Assigning Miscellaneous Restrictions" earlier in this chapter. Populate the fields as appropriate. Press **RETURN**.
4. Press **EXECUTE**.

Procedure: Removing Miscellaneous Restrictions

You can remove MTRG restrictions by the Dial Access Code.

1. Enter the **misc-trk-rst-grp remove** command. The input **remove** screen is displayed. The screen is the same as described for the **misc-trk-rst-grp change** transaction. For more information, refer to "Procedure: Changing Miscellaneous Restrictions" earlier in this chapter.
2. Enter a valid entry in the DAC field. Press **RETURN**.
3. Press **EXECUTE**.

TANDEM AND TRUNK TO TRUNK ACCESS

Manager IV allows you to administer restricted dial entry numbers that restrict trunk to trunk and tandem trunk access. Trunk to trunk restrictions prevent the attendant or switch from inadvertently connecting the two trunks. Tandem tie restrictions prevent incoming tie trunks on private networks from connecting to trunk facilities within the switch. It is usually used for tandem switches in an ETN or other private network.

Enter the command **tandem-trk-trk add** to:

- Associate trunk DACs with up to 16 restricted dial entry numbers.
- Associate trunk groups with any of these 16 dial entry numbers, thereby restricting the trunks' access to the DAC.

Before these restrictions can be administered, the trunk groups must be added and associated with DACs using **trk-grp add**.

Procedure: Adding Restricted Entries

There are two types of restricted entries: entries for tandem tie connections and entries for trunk-to-trunk connections. Use this procedure to establish one or both of these restricted entry types.

1. Enter **tandem-trk-trk add**.

- Three options are displayed.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin tandem-trk-trk add          Page 1 of 1

                                Select Option:
                                x Restricted Entries for Tandem Tie
                                _ Restricted Entries for Trunk to Trunk
                                _ Tandem Tie or Trunk to Trunk Restrictions

Restricted      Dial      Restricted      Dial
Dial Code      Access      Dial Code      Access
Entry No.      Code       Entry No.      Code

  —           —           —           —
  —           —           —           —
  —           —           —           —
  —           —           —           —
  —           —           —           —
  —           —           —           —
  —           —           —           —
```

2. Enter **x** next to the Restricted Entries for Tandem Tie or Restricted Entries for Trunk to Trunk field, depending on which type of restriction you want to administer.

- The following screen is displayed. (If an **x** is placed in the third option, the screen will be displayed for entering the restrictions, see "Procedure: Adding Trunk Restrictions" below).

3. Enter restricted dial code entry number (**1-16**).
4. Enter the DAC that you want to be associated with the restricted dial code entry number. The DAC can be 1-4 digits and can start with # or *.
5. Press **EXECUTE** to enter the data.

Procedure: Adding Trunk Restrictions

1. Enter **tandem-trk-trk add**.
 - Three options are displayed.
2. Select the Tandem Tie or Trunk to Trunk Restrictions field with an **x**. (The third option)
 - The following screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin tandem-trk-trk add

                               Select option:
                               _ Restricted Entries for Tandem Tie
                               _ Restricted Entries for Trunk to Trunk
                               x Tandem Tie or Trunk to Trunk Restrictions

Trunk
Group
No.   Type  1  2  3  4  5  6  7  8  9  10 11 12 13 14 15 16
-----
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -
----- -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  -

```

3. Enter trunk group number **18-999**.
4. Enter type as either **tan** for tandem or **trk** for trunk-to-trunk.
5. Enter **x** in the appropriate restricted dial code entry number to restrict access from that trunk group to the DAC associated with the dial code entry number. This association was established in the previous procedure "Administering Restricted Entries".
6. Press **EXECUTE** to end the transaction.

CODE RESTRICTION LEVELS

This feature allows restriction of calls by selected extension numbers to areas defined by specific area codes and/or office codes. Each of the 63 line classes of service is assigned a code restriction level of 1, 2, 3, or 0 as shown in the table below. Then, each selected area/office code is assigned a level of 1, 2, 3, or 0. Level 1 is most restricted; level 0 is least restricted. Voice terminals are allowed access only to those levels that are less restrictive than their level. For example, an extension with code restriction level 2 can access any area or office code with a restriction level of 1 or 2. An extension assigned as level zero can access any specified code.

Code Restriction Level Access

Line Class of Service Code Restriction Level	Area or Area Code and Office			
	1	2	3	0
1	y	n	n	n
2	y	y	n	n
3	y	y	y	n
0	y	y	y	y

The four code restriction levels can be assigned to two types of trunk groups using the command **code-rst-level add**. Central Office (CO) trunk groups are assigned to a primary code restriction group. CO or Foreign Exchange (FX) trunk groups can be assigned to a secondary code restriction group.

Code restriction may limit access to area and/or office codes on as many as five CO trunk groups and as many as four FX trunk groups. There is one list of allowed codes that serves the CO trunk groups; each FX trunk group is served by a separate list of allowed codes. The allowed codes are associated with trunk groups and code restriction levels using the command **allowed-codes add**.

In addition to the **add** verb, you can also **change**, **display** or **remove** code restriction groups and allowed codes.

As with MTRGs, Code Restriction assignment to an extension or to groups of extensions is done through the TCM **class-of-service** transaction.

Procedure: Administering Code Restriction Levels

Before you can administer code restriction levels, the trunk groups must be added to the system using **trk-grp add**. The code restriction levels must also be assigned to terminals using the TCM command **class-of-service**.

1. Enter the command **code-rst-level add**.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>						
fm admin code-rst-level add		Page 1 of 2						
Trunk Group No: ___								
Primary/Secondary: _								
Dial 1 Required: _	Dial 1 Required: _							
Home NPA: ___	Distant NPA: ___							
Is Central Office a Digit Absorbing Step by Step Office? _								
Enter Digit Treatment Type for Each Digit:								
1= Digit Not Absorbed	4= Digit Absorbed if First Dialed							
2= Digit Absorbed Repeatedly	5= Digit Absorbed if Second Dialed							
3= Digit Absorbed Once	6= Digit Absorbed if First or Second Dialed							
Digits Entered and Appropriate Treatment								
	2	3	4	5	6	7	8	9
	—	—	—	—	—	—	—	—

2. In the **Trunk Group No.** field, enter the trunk group number to be restricted. Valid entries are **18-999**. Press **RETURN**.
3. In the **Primary/Secondary** field, enter **p** for primary (CO) restriction groups, or **s** for secondary (CO or FX) restriction groups. If you select primary restriction groups, only the **Dial 1 Required** and **Home NPA** fields (the left column) appear on the screen. With the secondary restriction groups selected, only the **Dial 1 Required** and **Distant NPA** fields appear (the right column.)
4. In the **Dial 1 Required** field, type **n** if Dial 1 is not required; type **t** if it is required for toll calls with NPA; type **a** if it is required for all.
5. For primary groups, enter the Home NPA; for secondary groups enter the Distant NPA of the trunk group. Select the correct values as follows: **2-9** for the first digit, **0-1** for the second, and **0-9** for the third digit.
6. Type **y** if the CO is a **Digit Absorbing Step by Step Office**, and **n** if it is not. The **Enter Digit Treatment Type for Each Digit** and **Digits Entered and Appropriate Treatment** fields only appear if you enter **y** in the **Is Central Office a Digit Absorbing Step by Step Office** field.
7. Press **RETURN** to go to Page 2.

AT&T Mgr IV 2.2		DEFINITY G2.2		<target>	
fm admin code-rst-level add				Page 2 of 2	
Trunk Group No: 19					
Primary/Secondary: s					
NPA or NXX or NPA-NXX Combinations					
		Code Rest			Code Rest
NPA	NXX	Level	NPA	NXX	Level
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-
---	---	-	---	---	-

- The trunk group number and primary/secondary fields are filled in with the information from Page 1.
8. Enter the NPA, NXX or NPA/NXX Combinations along with the code restriction level (**0-3**) you want to associate with them. The NPAs and NPA/NNXs associated to primary and secondary groups are those "allowed" for each code restriction level user.
 - Valid entries for NPA are **2-9** for the first digit, **0-1** for the second, and **0-9** for the third digit.
 - Valid entries for NXX are **2-9** for the first digit, **0-9** for the second, and **0-9** for the third digit.
 9. In the **Code Rest Level** field, select the correct value as follows:
 - **0**: the office or area code is accessible to line extension with a code restriction of 0.
 - **1**: is accessible to line extensions with a code restriction level of 0, 1, 2 or 3.
 - **2**: is accessible to line extensions with a code restriction level of 0, 2 or 3.
 - **3**: is accessible to line extensions with a code restriction level of 0 or 3.

Notes

- Primary code restriction groups can have up to 1000 entries composed of up to 160 Numbering Plan Areas (NPAs), 800 location codes (NXXs) in the HNPA, and 40 foreign NPA/NXX combinations.
- Up to four secondary restriction groups can be established, each with as many as 40 entries.
- If a code restriction level of 3 is entered for an NPA, the NPA must be defined using **allowed-codes**.
- To add a new NPA code to the primary 6-digit list, the NPA must be entered using this command, then defined using **allowed-codes**.

Procedure: Administering Allowed Code Lists

The command **allowed-codes** is used to associate an NPA, Office Code, or NPA-NXX Combination with a trunk group. Before you can do this, you must use **code-rst-level** to assign an office code or area code to the trunk group and to assign a code restriction level to the 3-digit allowed office area codes.

1. Enter the command **allowed-codes add**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin allowed-codes add          Page 1 of 1

      Trunk Group No: ____

                NPA or NXX or NPA-NXX Combinations
                Code          Code          Code          Code
                Rest          Rest          Rest          Rest
      NPA  NXX  Level  NPA  NXX  Level  NPA  NXX  Level  NPA  NXX  Level
      ____  ____  -    ____  ____  -    ____  ____  -    ____  ____  -
      ____  ____  -    ____  ____  -    ____  ____  -    ____  ____  -
      ____  ____  -    ____  ____  -    ____  ____  -    ____  ____  -
      [partial screen]

```

2. Enter the trunk group number to be allowed access to the specified NPA, NXX or NPA-NXX combinations.
3. Enter the NPA, NXX, or NPA-NXX combination along with the code restriction level associated with them.
 - For primary restriction groups, only foreign NPAs with office codes may be entered.
 - For secondary restriction groups, NPAs only or NPAs with office codes may be entered.
 - Each NPA/office code entry in the trunk group table is six digits long.

FREELIST

A freelist is a list of telephone numbers that any user of your network is free to call. The freelist overrides access levels assigned with allowed codes. For each of your network's switches, this list can include area codes, office codes (in the local area), or service codes accessible to all. Each freelist can contain up to 10 codes.

You can change codes, effectively adding and/or removing them, and also display the codes on each list using the command **freelist**.

CALL RESTRICTION

Restricting calls means controlling the calls made by those who use your network. Tasks within this subgroup include blocking calls to an area code, an area code/office combination, or specific Direct Distance Dialing (DDD) numbers, removing such restrictions, and also displaying what restrictions have been assigned.

Use the following procedures to block call completion to:

- An entire area code (3-digit routing). This is explained in "Blocking Calls to an Area Code" below.
- An area code/office code combination (6-digit routing). This is explained in "Blocking Calls to An Area Code/Office Code Combination".
- A group of DDD numbers or a specific DDD number. This is explained in "Blocking Calls to Specific DDD Numbers," and may be the most frequently used blocking procedure.

Since there are many other ways to control the use of your facilities, use this procedure only when you want to be able to completely block calls to a particular type or types of number.

Procedure: Blocking Calls to an Area Code

To block all calls to a specific area code, perform these steps:

1. To determine if routing to an area code is already defined, enter **fnpa display** and press **RETURN**.
2. In the Foreign NPA field, enter the area code you want to check.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin fnpa display          Page 1 of 1

Foreign NPA: ____

Plan Number          Translation Digits
-----
1
2
3

THREE DIGIT ROUTING PATTERNS

Plan 1: 1          Plan 2: 1          Plan 3: 1

SIX DIGIT ROUTING PATTERNS

1: 1    3: 1    5: 1    7: 1    9: 1
2: 1    4: 1    6: 1    8: 1    10: 1

Pattern No. 1 has intercept treatment

```

- If pattern numbers other than **1** are displayed for a plan on the screen, use the command **fnpa change** to assign intercept to the selected plan. Assigning intercept to a plan means that access to that NPA is completely blocked for the time-of-day that plan is in operation.
 - If the message "NPA ____ has intercept treatment for all plans" is displayed on the screen, it means the NPA is already blocked for use, use **fnpa change** to remove the blocking if desired, for all or part of the day.
 - If the NPA is not present, use **fnpa add** to add the NPA.
3. Enter the command **fnpa add** or **fnpa change**, as determined above.

System response:

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin fnpa change                Page 1 of 1

Foreign NPA: ____

Plan Number          Translation Digits
-----
1
2
3

THREE DIGIT ROUTING PATTERNS

Plan 1: 1          Plan 2: 1          Plan 3: 1

SIX DIGIT ROUTING PATTERNS

1: 1    3: 1    5: 1    7: 1    9: 1
2: 1    4: 1    6: 1    8: 1    10: 1

Pattern No. 1 has intercept treatment

```

4. Enter the area code to which you want calls blocked in the NPA field.
5. Enter pattern **1** for each time-of-day plan, that you want calls blocked and a pattern number or a blank for plans where calls are allowed.

If each plan is populated with **1**, all calls to this area code now get intercept treatment and 6-digit routing is not required. To find out how intercept is handled, use **sys-cos display** or **intercept display**.

Note: If Tenant Services is on, the screens will show "ROUTING DESIGNATOR" instead of "PATTERN NO".

6. Press **EXECUTE** to enter the data.

Procedure: Blocking Calls to Specific Area Code & Office Code Combinations

You can block calls to a specific area code/office code combination via the **ars-6-digit change** or **ars-6-digit add** transaction. Follow the procedure as described below:

1. To determine if 6-digit routing to the area code/office code combination is already defined, enter **ars-6-dig display** and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin ars-6-dig display      Page 1 of 1

      Foreign NPA: ____

OFFICE  PATTERN  OFFICE  PATTERN  OFFICE  PATTERN  OFFICE  PATTERN
CODE    NO.     CODE    NO.     CODE    NO.     CODE    NO.

____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____

```

- If pattern numbers other than **1** are displayed, use the command **ars-6-dig change** to assign intercept to the selected combination(s).
 - If the message, "Six digit translation does not exist," is displayed, use the **fnpa change** command to blank out at least one plan field, then add the allowed patterns for a 6-digit translation. Enter the command **ars-6-dig add** to assign intercept and other routing as desired.
2. Enter either **ars-6-dig change** or **ars-6-dig add**, as determined above.

```

AT&T Mgr IV 2.2                DEFINITY G2.1                <target>
fm admin ars-6-dig change      Page 1 of 1

      Foreign NPA: ____

OFFICE  PATTERN  OFFICE  PATTERN  OFFICE  PATTERN  OFFICE  PATTERN
CODE    NO.     CODE    NO.     CODE    NO.     CODE    NO.

____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____
____    ____    ____    ____    ____    ____    ____    ____

```

Note: If Tenant Services is on, the screens will show "ROUTING DESIGNATOR" instead of "PATTERN NO".

3. Enter the area code and office code(s) to which you want to block calls. You can specify as many office codes as you want to be blocked.
4. Enter Pattern **1** next to each office code, where intercept is required.

All calls to this area code/office code combination are now blocked. To find out how intercept is handled, use **sys-cos display** or **intercept display**.

5. Press **EXECUTE** to enter the data.

Note: To totally block all calls to an area code, only 3-digit routing is required. Use **fnpa add** or **fnpa change** command.

Procedure: Blocking Calls to Specific DDD Numbers

To block calls to specific Direct Distance Dialing (DDD) numbers:

1. To determine if any related DDD numbers are already restricted, enter the command **restriction display** and press **RETURN**.
 - If you want a list of *all* restricted numbers, use **restriction report**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin restriction display

      NPA (Area Code):___ Office Code:___ 7 to 10 Digits:___
  
```

- Enter the area code, office code, and at least the first digit of the line part of the number(s).
- Press **EXECUTE**.

```

AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm admin restriction display

      NPA (Area Code):___ Office Code:___ 7 to 10 Digits:___

      ___   ___   ___   ___   ___   ___   ___   ___   ___
      ___   ___   ___   ___   ___   ___   ___   ___   ___
      ___   ___   ___   ___   ___   ___   ___   ___   ___
      ___   ___   ___   ___   ___   ___   ___   ___   ___

[partial screen]
  
```

- If numbers appear that include the number(s) you want to restrict, your numbers are already restricted.
- If the message, "The NPA/office code digits entered are not in the restricted call category" is displayed, no related numbers are currently restricted. Follow the next step to restrict a number. If numbers appear but your numbers are not included, follow the next step to restrict your numbers.

- If numbers appear that are a subset of your number(s), follow the procedure "Changing Blocking to Specific DDD Numbers" below. For example, suppose you want to block all calls to 303 538 7, but specific DDD numbers, such as 303 583 7100, are already listed. You must first remove the more specific number (the one with more digits defined) and then add the more general number (the one with fewer digits defined).
2. To block calls to specific DDD numbers, enter **restriction add** and press **RETURN**.

System response:

AT&T Mgr IV 2.2			DEFINITY G2.1			<target>		
fm admin restriction add						Page 1 of 1		
NPA			NPA			NPA		
Area	Office	7-10	Area	Office	7-10	Area	Office	7-10
Code	Code	Digits	Code	Code	Digits	Code	Code	Digits
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

3. Enter NPA area codes and office codes.
4. Enter 7, 8, 9, or 10 digits.
 - You must specify at least 7 digits (the area code, office code, and the first digit of the line), but you can specify up to 10 digits (the total line number). The number of digits you enter depends on whether you want to block calls to one specific number or to a group of numbers. For example:

303 538 7 blocks calls to all lines beginning with 7;

303 538 794 blocks calls to all lines beginning with 794;

303 538 7946 blocks calls to line 7946, leaving calls to all other lines with starting digit 7 open.
5. To check what numbers you've blocked, use **restriction display**.
6. Press **EXECUTE** to enter the data.

Procedure: Changing Blocking to Specific DDD Numbers

Use this procedure if there is already blocking to a specific DDD and you want to block a more general number. For example, let's say a restriction to 303 578 2291 exists and you now want to block calls to 303 578.

To do this, you must first remove the more specific blockage, then add back the more general blockage.

1. Enter **restriction remove** and press **RETURN**.

NPA			NPA			NPA		
Area	Office	7-10	Area	Office	7-10	Area	Office	7-10
Code	Code	Digits	Code	Code	Digits	Code	Code	Digits
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

2. Enter the specific DDD numbers to be removed.
3. Press **EXECUTE**.
4. Enter **restriction add** and press **RETURN**.

AT&T Mgr IV 2.2			DEFINITY G2.1			<target>		
fm admin restriction add								
NPA			NPA			NPA		
Area	Office	7-10	Area	Office	7-10	Area	Office	7-10
Code	Code	Digits	Code	Code	Digits	Code	Code	Digits
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

5. Enter the digits of the numbers you want to restrict. The number you removed from the restriction table will still be restricted since it is part of this group.
6. Press **EXECUTE** to enter the data.

CALL DETAIL RECORD (CDR) FORMAT IN GENERIC 2 AND SYSTEM 85

The **cdr** command is used to establish the format of Call Detail Records (CDRs). CDRs are collected by such polling devices as the Local Storage Unit or the Call Detail Recording Unit and transferred to Manager IV or to a host computer. Possible formats include:

- 15 word standard
- 18 word standard
- 18 word ISDN standard
- 24 word standard
- 24 word variable format.

If a standard format is to be used, only the type of format is selected in the **cdr** transaction. For the 24-word variable format, when using **cdr add**, you must specify the contents of the record, as well as the position and length of the fields on the record.

CDR format can be added, removed, and displayed.

In the database-admin or admin areas, if 24-word variable format is to be used, the contents of the record are displayed in order. In addition, the description of each item encode is also provided.

In product-admin, the contents of the record are displayed in the order of the respective encode values. The starting cell number and length of each selected item encode also displays. In addition, the description of each item encode is also provided.

Procedure: Assigning a CDR

1. Enter the command **cdr add**; the following screen is displayed.

```

AT&T Mgr IV 2.2   SR:0123456789   DEFINITY G2.2   <target>
fm admin cdr add                                     Page 1 of 6

Select exactly one standard format:

_ 15 word standard
_ 18 word standard
_ 18 word ISDN standard
_ 24 word standard
x 24 word variable

      CDR record length:  24
      Opcodes provided?
          Format: c
      SMDR Message Length:
      Account Code Length:

```

If the 24-word variable format is selected, these additional fields are displayed: CDR record length, Opcodes provided, Format, SMDR Message Length, and Account Code Length. Default values are shown.

2. Enter **y** or **n** in the Opcodes provided? field.
3. Enter **15** or **18** in the SMDR Message Length field.
4. Enter one of these values **1-15** in the Account Code Length field.
5. Press **RETURN**. Page 2 of the screen appears.

```
AT&T Mgr IV 2.2   SR:0123456789   DEFINITY G2.2           <target>
fm admin cdr add                                     Page 2 of 6

Specify format of CDR record by marking field/s desired with an 'x':
_ Call duration - hours
_ Call duration - minutes
_ Call duration - tenths of a minute
_ Condition code
_ Trunk access code dialed
_ Trunk access code used
x Dialed number (WCR Routed Number)      Position:      Item Length:
_ Calling number
_ Account code
_ Authorization code
_ Time in queue
_ Facility restriction level
_ 10-thous dig of 5-dig extn
_ Incoming circuit id
_ Feature flags
_ Outgoing circuit id
```

6. The Dialed Number (WCR Routed Number) field is displayed in Generic 2.2 only. In Generic 2.1 and System 85 switches, this field label is Dialed Number.
7. The Position and Item length fields appear next to a field marked with an 'x'.
 - Enter one of these values **1-96** in the Position field. This field is required.
 - Enter the Item length field. This field is required. Valid entries are **1-31**.
8. Press **RETURN**. Page 3 of the screen displays.

```

AT&T Mgr IV 2.2   SR:0123456789   DEFINITY G2.2   <target>
fm admin cdr add                                     Page 3 of 6

```

```

Specify format of CDR record by marking field/s desired with an 'x':
_ Outgoing circuit id (hund dig)
_ Incoming circuit id
_ Interexchange carrier code
_ Time of day - hours
_ Time of day - minutes
_ date - month
_ date - day
_ date - year
_ Incoming trunk dial access code
_ Precedence level digit
_ Attendant console number
_ ISDN network specific facility
_ Extension partition number
_ Node number
_ ISDN bearer class
_ QDN/VDN

```

9. Press **RETURN**. Page 4 of the screen appears.

```

AT&T Mgr IV 2.2   SR:0123456789   DEFINITY G2.2   <target>
fm admin cdr add                                     Page 4 of 6

```

```

Specify format of CDR record by marking field/s desired with an 'x':
x Agent Login           Position:   Item length:
_ ISDN cause value
_ UUI counter
_ Control mode
_ Time of day plan set
_ 1st dial access code
_ 2nd dial access code
_ 3rd dial access code
_ 4th dial access code
_ 5th dial access code
_ 6th dial access code
_ 7th dial access code
_ 8th dial access code
_ 9th dial access code
_ 10th dial access code
_ 11th dial access code

```

10. Enter the appropriate information. Dial access codes are shown on Pages 4 and 5 of the screen.

```
AT&T Mgr IV 2.2   SR:0123456789   DEFINITY G2.2           <target>
fm admin cdr add                                     Page 4 of 6

Specify format of CDR record by marking field/s desired with an 'x':

x 12th dial access code           Position:           Item length:
_ 13th dial access code
_ 14th dial access code
_ 15th dial access code
_ 16th dial access code
_ 17th dial access code
_ 18th dial access code
...
_ 24th dial access code
```

11. Press **RETURN** to have Page 6 of the screen displayed. In Generic 2.1 and System 85 switches, Page 6 of 6 is blank. This Page is displayed only in Generic 2.2.

```
AT&T Mgr IV 2.2   SR: 0123456789   DEFINITY G2.2           <target>
fm admin cdr add                                     Page 6 of 6

Specify format of CDR record by marking field/s desired with an 'x':
x WCR Number Sent                 Position: 6         Item length: 5
x WCR Pattern Used                Position: 12        Item length: 5
x WCR Preference Used             Position: 17        Item length: 5
```

12. The WCR Number Sent, WCR Pattern Used, and WCR Preference Used fields are used to administer the World Class Routing feature supported in Generic 2.2. Therefore, Page 6 of 6 is displayed in a Generic 2.2 switch only. For each of these fields selected, populate the Position and Item length fields.

REMOTE ACCESS BY SPEAKER VERIFICATION

A new feature was introduced with the Generic 2.1 and System 85 R2V4 releases that requires remote users to utter a pass phrase to gain access to switch services. This security feature, which also requires entry of a system wide barrier code, relies on a device known as the Speech Processing Adjunct (SPA). The full name of this option is Enhanced Remote Access Security by Speaker Verification (ERAS/SV). It can be retrofitted to R2V3 switches.

When a user attempts to make a call through your switch from the public network, the SPA accepts or rejects the spoken pass phrase and communicates this decision to the switch. If the pass phrase is accepted, the remote user hears a dial tone; if it is rejected, the user is intercepted.

The role of Manager IV in administering ERAS/SV involves:

- Completing the **spa-alarm add** transaction. This procedure, which provides the switch with the proper register and bit addresses to check for alarms raised by the SPA, is only required for switches equipped with the ERAS/SV feature.
- Selecting the type of security screening to be used with remote users by updating one field on the **sys-cos** transaction screen. This is described below.
- Adding new feature access codes through the **dial-access-codes** transaction. These new codes are shown below.

The Spa-Alarm Transaction

Spa-alarm procedures can be executed under the admin and product-admin areas. The system stores three kinds of address information when the **add** verb is used: alarm type, unit type and unit number. In addition to **add**, the verbs **change**, **display** and **remove** can be used. You will probably want to use a Service Request for the admin area when you are adding **spa-alarm** data, but with **change** and **display**, a direct connection to the switch is required to show what is stored there already.

Procedure: Adding Speaker Verification for Remote Users

To use the **spa-alarm** transaction:

1. Enter **admin spa-alarm add**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin spa-alarm add          Page 1 of 1

          Alarm Type:  _

          Unit Type:   _

          Unit Number: _

```

2. Enter **1** in the Alarm Type field for a Major alarm or **2** for a minor alarm.
3. Enter **63** in the Unit Type field for external equipment and **64** for external processors.
4. The Unit Number field accepts numbers from **1-32**.
5. Press **EXECUTE**.
 - Your entries are cleared and the screen is ready for you to begin another **spa-alarm add** transaction.

Related System Class of Service Features

To enable the ERAS/SV feature to be used with remote users, you need to update the Remote Access Code on the **sys-cos change** transaction screen:

- Enter the **sys-cos change** command to invoke the **sys-cos change** screen. Press **RETURN** to get the screen with the Remote Access Code field displayed.
- Enter **3** in the Remote Access Code field. This entry enables the Speaker Verification feature.

Related Dial Access Codes

The four feature dial access codes, related to the ERAS/SV feature and administered through the **dial-access-codes** transaction, are:

Encode	Meaning
101	Speaker verification accept
102	Speaker verification failed
103	Speaker verification invalid A-Code
104	Speaker verification time out

QUEUING

The Queuing feature provides a waiting list for incoming/outgoing calls when all the accessible routes (trunk groups) for completing a call are busy. This feature increases the efficiency of trunk usage for both on-network and off-network calls. It is especially useful during peak periods when, because of excess traffic, outgoing calls would otherwise repeatedly receive intercept signals.

For Centralized Attendant Service (CAS) or the different kinds of Automatic Call Distribution (ACD) features, queuing refers to handling incoming calls. To administer the Queuing feature for CAS, ACD or Uniform Call Distribution/Enhanced Uniform Call Distribution (UCD/EUCD), you must assign a special queuing trunk group (Type 6). In CAS, Trunk Type 6 is used to serve the attendant queue as described in "Centralized Attendant Service," in Chapter 10. For detailed information on ACD or UCD/EUCD, refer to "Automatic Call Distribution (ACD/UCD) Administration" or "Uniform Call in Automatic Distribution (UCD)/Enhanced UCD(EUCD) Administration", in Chapter 9.

Queuing can be assigned to tandem tie trunks, access tie trunks, Central Office trunks, Foreign Exchange trunks, and Wide Area Telecommunications Service trunks.

Trunk Group Queuing

Manager IV allows you to determine whether or not the Queuing feature can be used, either on a switch-by-switch or on a network-wide basis. To activate system queuing on a particular switch, use the **sys-queue** command; then use **trk-grp-queue** to specify the queuing parameters associated with specific trunk groups. These parameters include:

- The type of queuing assigned to outgoing trunk groups or whether incoming trunk groups will be queued.

For outgoing queuing:

- The maximum number of calls that will be held in queue at one time
- The length of time that calls will be held in queue before they are dropped
- Differences in priority.

You can also display system queuing priorities and generate a queuing status report.

Types of Queuing

Each trunk group has its own queue that can be **Ringback**, **Off-Hook** or combinations of these two kinds of queuing. For **Off-Hook** queuing, a trunk group can be assigned two queues: a **priority queue** and a **nonpriority queue**. **Ringback** queuing is always **nonpriority**. The following four types of queuing are available:

- Type 1** Off-Hook Queuing
- Type 2** Ringback/Priority Off-Hook Queuing
- Type 3** Off-Hook/Priority Off-Hook Queuing
- Type 4** Ringback/Priority Off-Hook Queuing.

Ringback Queuing (RBQ) signals the user that the call cannot be completed, but allows the user to hang up the phone after attempting the call. The user is then called back as soon as a line becomes available.

With **RBQ**, the time out period of 0 to 60 minutes can be adjusted in one minute increments. If the line is busy when the system tries to ring back, it tries twice to reach the caller at an interval you determine; after the two attempts the call is lost.

Off-Hook Queuing (OHQ) requires that the user remain off-hook after attempting the call until a line becomes available. With **OHQ**, the time out period, 0.1 to 4.0 minutes, is adjustable in six-second (0.1-one minute) increments. Music-on-hold, which provides music while the user waits, is also available with **OHQ**.

The advantage of **OHQ** is that the switch does not need to know the identity of the calling terminal. The obvious disadvantage is that the user must spend time at the phone, and the user's terminal is also not available for incoming calls while off hook.

Because of these disadvantages, off-hook queues are designed for shorter waits in queue than **RBQ**. Although the wait for a connection to an outgoing trunk may be shorter, the trunk group occupancies are generally lower for **OHQ** than they are for **RBQ**.

Queues are set up as **priority** or **non-priority** to give certain facilities (stations or attendants, for example) faster access to trunk facilities. A **priority** queue must be emptied before any calls in a **non-priority** queue can be completed.

Adding Queuing to Your System

Use this procedure to activate the queuing feature on a switch and then to assign queuing parameters to specific trunk groups originating at that switch. Queuing must be activated on the switch in order to be activated on a trunk group.

You may find it helpful to use Scrapbook with the following procedure if you want queuing to have the same or similar parameters on several switches or trunk groups.

To activate queuing, perform the following steps:

1. Activate system queuing on a switch via **sys-queue change**.
2. Assign queuing information to individual trunk groups via **trk-grp-queue add**.

Prerequisites

A trunk group must be defined in the system via **trk-grp add** before queuing can be assigned to it. Queuing can also be activated or deactivated using **trk-grp-queue change**.

Off-hook queuing requires the assignment of an audio trunk type to accommodate music or announcements. The audio trunk type is 67.

Procedure: Activating System Queuing

1. Enter **sys-queue change** and press **RETURN**.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin sys-queue change		Page 1 of 1
Queuing Active? y	PATTERN QUEUING	
	Number of Preferences: ___	
No. of Active Queue Records: _____		
Threshold FRL: _		
Raised FRL: _		
Queue Type: _		
Audio Trunk Group: _____		
Max. No. Queue Records Allowed: _____		

2. Enter **y** in the Queuing Active field. If **y** already appears in the field, queuing is currently activated on the switch.
3. Change queuing information if appropriate.
 - Audio Trunk Group and all fields beneath it appear only in the product-admin area. They do not appear in database-admin.
 - When a queue times out on an AAR/ARS call, one final attempt is made to complete the call. If the call's FRL equals or exceeds the Threshold FRL, the call's FRL can be escalated to the value for Raised FRL. The call is then processed, using either the original or the Raised FRL, whichever is higher.
 - In the Queue Type field, enter **1** for offhook, non-priority; **2** for offhook, priority; or **3** for ringback queuing.
 - Pattern Queuing will show for R2V3 and R2V4 only. Specify the number of preferences that can be used to queue calls in an AAR/ARS pattern. On earlier switch releases, queuing is done only on the first choice trunk group in the pattern until time-out occurs.
4. Press **EXECUTE** to enter the data. The screen again displays the data.

Procedure: Assigning Queuing Information to a Trunk Group

1. Enter **trk-grp-queue add** and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin trk-grp-queue add      Page 1 of 1

Trunk Group #: ____
Trunk Type: ____
      Outgoing Trunk Group Data
      Queuing Active?: _

      Queue Lengths                Wait Times
Nonpriority Queue Length: ____    Nonpriority Off-Hook Queue Wait: ____
Priority Queue Length: ____        Priority Off-Hook Queue Wait: ____
                                      Ringback Queue Wait: ____

Route Advance Allowed? :_        Ringback Restriction Type:_

      Incoming Trunk Group Queue Type:_
    
```

2. Make appropriate entries in these fields.
 - You can make entries in both off-hook and ringback fields.
 - Ringback queuing is not allowed for Tie Trunk Types 36, 38, 39, 41, and 44-47.
3. Press **EXECUTE** to enter the data.
4. [Optional] Add queuing to other trunk groups by repeating Step 2.

Note: The outgoing and incoming trunk queue data appears according to the trunk type. For example, not all incoming trunks may have incoming queuing, for it only appears for valid trunk types.

9. CALL DISTRIBUTION

This is the second of two sections on network features. It deals with the AT&T call distribution features that allow incoming calls to be terminated, without attendant assistance, at an idle terminal in a pre-arranged group. Call distribution features are useful in handling a high volume of incoming calls. Each of the features listed below minimizes call completion time, the need for attendant service and the use of Direct Inward Dialing (DID) trunks. The AT&T call distribution features are:

- Uniform Call Distribution (UCD)
- Automatic Call Distribution (ACD)
- Enhanced Uniform Call Distribution (EUCD)
- Call Vectoring.

The term Automatic Call Distribution (ACD) is used in two ways: it can be used as a generic term to describe all call distribution systems, or it can identify a specific AT&T system. See the explanation below under "Notes on Terminology". Under most call distribution systems, incoming calls are directed to a group queue and then distributed using a pre-established hunting pattern. If all terminals are busy, a call remains in queue until a terminal is available.

Each terminal in an UCD, ACD, or EUCD group can receive calls either as a group (split) member or as an individual system terminal. One terminal in each group is designated as the controlling terminal and is assigned to the group supervisor. The group is given an associated extension number (LDN) which, when dialed, places the incoming call in the group queue. The associated extension number is not assigned to any actual extension. With Call Vectoring, however, a call is not sent to a group, split, or queue but to the least-busy agent.

Call Distribution Attributes

Uniform Call Distribution (UCD) features permit incoming trunk calls, local voice terminal calls, and attendant extended calls to terminate directly to the next idle terminal in a pre-arranged group, or split, of terminals. UCD distributes incoming calls using a circular or uniform hunting sequence that begins at the terminal next in line (according to a pre-arranged sequence) after the terminal that received the previous call. If the selected terminal is busy when the incoming call is received, the next terminal in the sequence is checked, then the next, and so on; if all terminals are busy, the call remains in queue until a group terminal becomes idle.

Direct hunting follows a linear pattern and always begins at the controlling terminal. If the controlling terminal is busy, the other terminals in the hunting sequence are checked to determine if any are idle. If all terminals are busy, the call remains in queue until a terminal becomes idle.

Enhanced Uniform Call Distribution (EUCD) replaces and enhances the UCD feature. EUCD allows you to initiate the circular hunting of UCD or to demand the hunting always begin with the controlling terminal.

Automatic Call Distribution (ACD) permits calls to terminate directly to the agent in a pre-arranged group whose terminal has been idle the longest. ACD also incorporates the capabilities of EUCD.

Generic 2 and System 85 R2V4 support **Call Vectoring**, a sophisticated call handling feature generally used in conjunction with ACD. For more information, see "Call Vectoring" later in this chapter.

Call Coverage

A Call Coverage path is a sequence of extensions to which calls can be redirected under certain circumstances. You can add, change, display, or remove a Call Coverage path through Manager IV for Generic 2, System 85 and DIMENSION System FP8, Issue 3.8 only. A Call Coverage Group includes the conditions and the extensions specified in setting up the path. You can set up a path that includes up to three extensions or up to two extensions and a UCD group (or ACD group for Generic 2 and System 85 R2V3/V4).

For Generic 2, and System 85 R2V4, if Call Vectoring is present, you can set up a path that includes a Vector Directory Number (VDN).

Each extension, UCD group (or ACD group for Generic 2 and System 85 R2V3/R2V4), or VDN within the path is referred to as a point. The three points will then form a particular group. The path is assigned a number which is also given to the group. For example, if extension 1234 is assigned Call Coverage by Call Coverage Path 12, that extension's calls are sent to the extensions in Call Coverage Group 12 in the order that you have specified.

Note that the UCD group (or ACD for Generic 2 and R2V3/R2V4) may be assigned as the *last* point in the coverage path. However, if the Generic 2/R2V4 Call Vectoring feature is enabled, a VDN may instead be the last point in the coverage path.

In addition to the Call Coverage Group number, Call Coverage path attributes include the ability to determine when an outside call or an inside call is to be sent to Call Coverage. For each, you can specify that the incoming call will be covered when the extension is active, busy, or both, or after a no-answer interval (for which you specify the number of unanswered rings).

Dual coverage is a capability available on Generic 2 and System 85 R2V3/R2V4. It permits the coverage points in two Call Coverage paths to function as if they belonged within a single Call Coverage Group. If each of the two paths contains three points (the maximum number), then the dual coverage capability allows six coverage points. Each path may have different attributes. Dual coverage is administered through a single transaction through which TCM prompts you to enter information for both paths. Call Coverage is administered via TCM.

Call Forwarding and Call Distribution

IX "Call distribution" Call Forwarding can be used to forward calls routed to another ACD or UCD group queue, an individual terminal, attendant queue, or centralized attendant queue. An ICI (Incoming Call Identification) message is displayed alphanumerically for each call routed to an attendant. Call Forwarding offers the following features:

- Call Forwarding—Follow Me. When activated, this feature immediately routes the incoming call to the ACD or UCD group queue; when inactive, this feature allows the call to remain in the group queue 7 seconds before forwarding.
- Call Forwarding—Busy/No Answer. If activated when all terminals are busy at the time a call is received, this feature places the incoming call in the group queue 7 seconds before forwarding. If in those 7 seconds an idle group terminal becomes available, the call is routed to that terminal instead. This feature provides queue overflow; if the number of calls in a queue exceeds a preset level, the call longest in queue can be forwarded to another PBX location. This, in turn, can provide Overload Balancing.
- Call Forwarding—All Calls. This feature forwards any call directed to the ACD or UCD group (except from the attendant) to a local PBX attendant, station, or CAS attendant.

Notes on Terminology

ACD has a different meaning in the context of Centralized Attendant Service (CAS). In that case, ACD refers to a specific piece of hardware, the call distribution device, which distributes incoming calls automatically among a group of attendants. In this chapter, ACD is used exclusively for Automatic Call Distribution on groups.

The term "split" is used on some Manager IV screens. A split is a group of agents assigned to answer incoming calls. A split is also referred to as an ACD or UCD group.

Feature Availability

The table below shows which switch releases are compatible with specific features.

Switch	Feature Availability	
	Issue	Feature Name
DIMENSION	FP8, 1.16	UCD
DIMENSION	FP8 3.8	EUCD
System 85	R2V2	EUCD
System 85	R2V3,V4	ACD
System 85	R2V4	ACD, Call Vectoring
DEFINITY	Generic 2.1, 2.2	ACD, Call Vectoring

UNIFORM CALL DISTRIBUTION (UCD)/ENHANCED UCD (EUCD) ADMINISTRATION

UCD [DIMENSION FP8 1.16 only], EUCD [System 85 R2V2 and DIMENSION FP8 3.8]

In the following chapter, UCD refers to both UCD and EUCD, except where noted.

Administering UCD/EUCD with Manager IV

The sequence of tasks associated with adding Uniform Call Distribution and the supporting hardware to your Manager IV system is similar to ACD Manager IV administration. However, the commands and screens used for UCD groups are different. To administer UCD with Manager IV:

- Define UCD features using **sys-cos change**. See "Defining ACD Features on the Switch" later in this chapter, for more information.
- Assign extensions to members and to the group supervisor using the TCM transaction **extension add**.
- Assign the associated extension numbers for the Queue Directory Number and Priority Extension using the TCM transaction **associated-extension**.
- Add trunk groups using **trk-grp add**. See the procedure "How to Add Trunks and Trunk Groups" in Chapter 4 for more information. Trunk groups that are needed for UCD include the following:
 - The incoming trunks that will terminate at the UCD group.
 - Delayed recorded announcement trunks (Type 68).
 - Queuing trunk group (Type 6); assign one queuing trunk per UCD group.
 - A Contact Interface (Type 65) trunk group. UCD status lamps provide the attendant with information about specific lines and inform them when the number of calls waiting in the queue exceeds a specified threshold. You can use Manager IV to add, remove, or change lamp assignments.

To monitor the status of the UCD or EUCD queue, check to ensure that there is a Contact Interface trunk group in the switch. If not, use the **trk-grp add** command to assign a Contact Interface trunk group (Type 65) and lamp circuits. If you need more than 30 trunks, enter the **trk add** command after **trk-grp add**. When adding Contact Interface trunks, enter **3** as the Board Type.

Up to 15 lamps can each be assigned to a queue as warning indicators of too many calls waiting in the queue. The Contact Interface type is specified on the **trk-grp add** screen.

For DIMENSION FP8 1.16 only, to measure terminating trunks, assign Contact Interface Type 4 via the **ucd-lamps** command.

- Music-on-Hold interface (Type 62).
- Set up UCD groups. To create the group and assign its attributes, use the command **ucd-grp add**. To assign members to the group, use the command **ucd-members add** for System 85 R2V2 or DIMENSION. The maximum number of UCD groups is 28; the maximum number of members in a group is 40.

- [Optional step] Associate incoming trunk groups with specific UCD groups or splits using **term-trk-grps change**.
- [System 85 R2V2 and DIMENSION 3.8] For EUCD only, associate specific announcements (by announcement number or ELL) with specific trunk groups or splits using **ucd-announcements**. A single delayed recorded announcement can be assigned to each EUCD group. The recorded announcement may incorporate the music-on-hold feature. The UCD announcement screen is the same as that for ACD announcements. See "Administering ACD Recorded Announcements" later in this chapter.
- [Optional step, DIMENSION System FP8 1.16 only] Add UCD trunk status indicator lamps using **ucd-lamps add**.
- [Optional step] Add UCD queue status indicator lamps using **ucd-status-lamps add**.

Administering UCD/EUCD Groups

Refer to "ACD/UCD/EUCD Groups" later in this chapter.

Procedure: Administering UCD Group Members

[System 85 R2V2 and DIMENSION 3.8 only]

The **ucd-members display** transaction can be accessed from the product-admin area only.

1. Enter **ucd-members display** and press **RETURN**.
2. Enter **x** in the By UCD Group No. field to display all members of a specified group.

```

AT&T Mgr IV 2.2  SR:          System 85 R2V2          <target>
fm admin ucd-members display                               Page 1 of 1

                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Select Display Option:
  x By UCD Group No.          UCD Group No.: ____
  By Member Extension No.    Member Number(s)

```

- Enter the number of the group for which you want to display members, then the member number(s) you want to see. The display also shows the first available member in the group and the number of members available.
- Press **EXECUTE**.

Administering UCD Lamps

Status lamps can be used to monitor the status of the EUCD members [System 85 R2V2 and DIMENSION 3.8] or of UCD trunks [DIMENSION 1.16 only]. To administer lamps to measure the trunks, use the command **ucd-lamps**. To administer lamps to measure the UCD member status, use **ucd-status-lamps**.

Before you can administer trunk measurement lamps, you must use **trk-grp add** and/or **trk add** to assign a Contact Interface trunk group (Type 65) and lamp circuits. Assign the Contact Interface for DIMENSION 1.16 only, as Type 4, UCD trunk.

Procedure: Trunk Status Lamps (ucd-lamps)

[DIMENSION System FP8 1.16 only]

Use this procedure to add status indicator lamps to measure UCD trunk status.

1. Enter **ucd-lamps add** and press **RETURN**.

```
AT&T Mgr IV 2.2  SR:          D2000 FP8          <target>
fm admin ucd-lamps add          Page 1 of 1

      Trunk Equip Loc          Board          Circuit
                                Index          Index
      _/_/_/_/_/             _             -
      _/_/_/_/_/             _             -
      _/_/_/_/_/             _             -
      _/_/_/_/_/             _             -
      _/_/_/_/_/             _             -
      _/_/_/_/_/             _             -
      _/_/_/_/_/             _             -
```

2. In the Trunk Equip Loc field, enter the ELL of the trunk to be measured. The trunk locations that you enter must terminate at a UCD group, but each can belong to a different UCD group.
3. Enter the Board Index (**0-15**) and Circuit Index (**0-7**) of the Contact Interface equipment associated with the appropriate status lamp.
4. Press **EXECUTE** to enter the data.

Procedure: Administering UCD Member Status Lamps

[System 85 R2V2 and DIMENSION 3.8 only]

The **ucd-status-lamps add** transaction administers lamps that display Uniform Call Distribution (UCD) member status information.

Equipment locations must be added in pairs. Paired locations are represented on the 106B display unit. This pairing allows the switch to light all lamps when the test button on the 106B is pressed; there is one test button per unit. Paired equipment locations must be consecutive circuits on an sn224 circuit pack.

1. Enter the command **ucd-status-lamps add** to administer member status lamps.

```

AT&T Mgr IV 2.2  SR:          System 85 R2V2          <target>
fm admin ucd-status-lamps add                          Page 1 of 1

                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT
Display Unit                    Paired
Equipment Location: ___/___/___/___   Equipment Location: ___/___/___/___

Column  Member  UCD                Column  Member  UCD
No.      No.    Grp                No.      No.    Grp
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -
-        -      -                -        -      -

```

2. Enter the Equipment Location.
 - When populating the ELLs, select the correct values for the *Traditional* Module. For more details, refer to the explanation provided for the *Traditional* Module in Chapter 2, "Hardware Administration".
3. Enter the Member Number and the UCD Group number of the member to be associated with each of the 20 status lamps on the display unit.
4. Press **EXECUTE** to enter the data.

Procedure: Displaying Trunk Groups Terminating to UCD Groups

The **term-trk-grps display** command allows you to display the trunk groups terminated to UCD groups by Trunk Group Number only. The screens are the same as for the trunk groups terminating to ACD groups. Except, wherever ACD is referenced, UCD is used instead. For a detailed description, refer to "Procedure: Displaying Trunk Groups Terminating to ACD Groups".

Procedure: How to Terminate Trunk Groups to UCD Groups

Use this procedure to associate incoming trunk groups with UCD groups. The trunk groups must be added first using **trk-grp add**.

1. Enter **term-trk-grps change** and press **RETURN**.
2. When the screen appears, enter **x** in the Uniform Call Distribution [UCD] field and press **RETURN**. The screen is the same as for the trunk groups terminating to the ACD groups, except references to ACD are replaced by UCD. For a detailed description, refer to "Procedure: Terminating Trunk Groups to ACD Groups".

Procedure: Assigning EUCD Recorded Announcements

[System 85 R2V2 and DIMENSION System FP8 3.8]

1. Enter **ucd-announcements add** and press **RETURN**.

```
AT&T Mgr IV 2.2          System 85 R2V2          <target>
fm admin ucd-announcements add          Page 1 of 1

          Select one of the following:
              _ Delay Announcement
              _ City of Origin Announcement
              _ Queue of Origin Announcement
```

2. Specify the type of announcement to be administered by entering **x** next to one of the options. Each type of announcement has its own screen. All announcement screens include the Auxiliary Equip. Loc. field. When populating the ELLs, select the correct values for the *Traditional* Module only. For more details, refer to the explanation provided for the *Traditional* Module in Chapter 2, "Hardware Administration."

If you choose Delay Announcement, the following screen is displayed:

```
AT&T Mgr IV 2.2  SR:          System 85 R2V2          <target>
fm admin ucd-announcements add          Page 1 of 1

          Select one of the following:
              x Delay Announcement
              _ City of Origin Announcement
              _ Queue of Origin Announcement

UCD Group No.   First Wait Time   Auxiliary Equip. Loc.   Second Wait Time
-----
                                     -----

          Second Announcement
          Auxiliary Equipment Location: __/__/__/_
```

- Enter the UCD/DDC Group Number (**1-30**) with which you want to associate an announcement.
- In the First Wait Time field, enter the number of 2 second intervals (**1-15**) after which the first delay announcement should be heard.
- Enter the Auxiliary Equip. Loc. for the first announcement. Because each first announcement machine has its own announcement, you can assign each group listed an appropriate first delay announcement.
- In the Second Wait Time field, enter the number of 2 second intervals for the second delay announcement

- In the Second Announcement Auxiliary Equipment Location field, enter the ELL of the machine for the second delay announcement. Since there is only a single second delay announcement, all groups using a second announcement share the same machine.
- You do not have to assign a second announcement to *all* groups. You *cannot*, however, assign a second announcement to a group without assigning a first announcement.

If you choose City of Origin Announcement, the following screen is displayed:

```

AT&T Mgr IV 2.2  SR:          System 85 R2V2          <target>
fm admin ucd-announcements add                               Page 1 of 1
sp
                                Select one of the following:
                                _ Delay Announcement
                                x City of Origin Announcement
                                _ Queue of Origin Announcement

Trunk Group Number:  __ City-of-Origin Announcement
                                Auxiliary Equip. Loc.:  __/__/__/_

```

- A city of origin announcement is heard by agents when a call has been redirected from a distant node via a specified trunk group. Enter the Trunk Group Number (**18-999**) and the ELL of its associated announcement.

If you choose Queue of Origin Announcement, the following screen is displayed:

```

AT&T Mgr IV 2.2  SR:          System 85 R2V2          <target>
fm admin ucd-announcements add                               Page 1 of 1

                                Select one of the following:
                                _ Delay Announcement
                                _ City of Origin Announcement
                                x Queue of Origin Announcement

UCD Group Number:  ____ Queue-of-Origin Announcement
                                Auxiliary Equip. Loc.  __/__/__/_

```

- A queue of origin announcement is heard by agents when a call is redirected from another local UCD group. Enter the UCD group number (**1-30**) and the ELL of its associated announcement.

3. Press **EXECUTE** to enter the data.

AUTOMATIC CALL DISTRIBUTION (ACD/UCD) ADMINISTRATION

[Generic 2, System 85 R2V3, R2V4]

Administering ACD Groups and Group Members

Automatic Call Distribution (ACD) features permit incoming trunk calls, local voice terminal calls, and attendant extended calls to terminate directly to the voice terminal in a pre-arranged group which has been idle the longest. A group of agents assigned to answer incoming calls are referred to as an ACD group or split. Each terminal in an ACD split can receive calls as a split member or as an individual system terminal.

The ACD splits are administered via the **acd-grp** transaction. This transaction is supported by Generic 2 and System 85 R2V3-R2V4. To assign members to ACD groups, use the **acd-members** transaction. Refer to "ACD Group Members" later in this chapter.

You can run the **acd-grp** command from the database-admin, admin, and product-admin areas. The verbs supported are: **add**, **display**, **change**, and **remove**.

To add an ACD group to your system, use the **acd-grp add** command. To measure ACD groups, assign an Outflow Level and Contact Interface Board and Circuit via the **acd-grp add** command. In Generic 2.2, you may use the **acd-grp add** transaction to define any ACD group as measured by enabling CMS (Call Management System) Measurement. For more details, refer to "Individual Split Assignment" later in this chapter.

If Call Vectoring feature is enabled [Generic 2, System 85 R2V4], the screens may appear different, and additional procedures may be needed. See "Call Vectoring" later in this chapter.

To display ACD splits, enter the **acd-grp display** command.

To change the characteristics of an ACD split, use the **acd-grp change** command.

To remove an ACD split from the database and the switch, use the **acd-grp remove** command.

ISDN Gateway

ISDN Gateway is a type of application which allows you to simultaneously deliver a call and display the caller's extension number (number only) or the caller's name and extension number (name and number) on the terminal screen. You can enable the ISDN Gateway feature via the **acd-grp add** transaction by selecting either the ISDN Gateway (number only) or ISDN Gateway (name and number). The appropriate split type will receive this call and place it over the ISDN PRI facilities assigned to the ISDN Gateway application. The call will include:

- Automatic Number Identification (ANI) which is the caller's billing number (a caller's extension number only or caller's name and extension number).
- Extension number of the agent who answered the call.

The ISDN Gateway software resides on a 3B2 computer performing the necessary protocol conversion and passing the information from the switch to the host.

Individual Split Assignment

[Generic 2.2]

The Individual Split Assignment feature allows ACD splits to be marked as measured or unmeasured. An agent is considered measured if this agent is a member of a measured split.

A split can contain any number of agents within an overall system maximum; system maximum being 2048, the maximum number of agents in a single split is 1024, and the maximum number of agents allowed to be measured by CMS at one time is 1023.

To mark a split as measured or unmeasured, enable or disable CMS Measurement via the **acd-grp add** transaction (**y** or **n** in the CMS Measurement field). Note that you can administer CMS Measurement only if the Call Management System feature has been activated via the **sys-cos change** transaction (**y** in the Call Management System Enabled field). For more details, refer to Chapter 3, "Network Feature Administration".

Call Work Codes (CWC)

[Generic 2.2]

The Call Work Codes (CWC) feature provides an agent with a method of recording the occurrence of a customer defined event which happens during an ACD inbound call or while in After Call Work (ACW) mode following the call. The recorded event is not stored in the switch but is sent to an adjunct CMS which provides the event/digit string recording function.

The CWC feature is available on DCP (Digital Communications Protocol) terminals in Generic 2.2 only. Only one CWC button may be allowed per set. A CWC button can only be administered if the Call Work Codes feature was enabled during the system initialization.

Using the DCP terminal, an ACD agent can enter the work code (a string of up to 16 digits) by operating the CWC feature button and using the dial pad. The CWC feature is provided in addition to Stroke Count (SC) as an AT&T controlled optional feature.

A Forced Entry option is provided in a measured split for both Stroke Count and Call Work Codes feature buttons. When activated, this option serves as a reminder to attempt a Stroke Count or Call Work Codes before pressing the Manual-In button that makes a member available for a next call.

Stroke Count

[Generic 2.2]

The Stroke Count (SC) feature buttons are used to assist the Call Management System (CMS) to monitor ACD activity. These buttons are used in conjunction with CMS to tabulate events of current interest. Whenever such an event occurs, an agent presses an SC button which sends a message to CMS that provides the event recording function. CMS increments a counter for the agent who pressed the button and for the entire split of which the agent is a member.

Status lamp indications are provided for existing Stroke Count.

Prerequisites

To administer ACD using Manager IV, do the following:

1. Enter the **sys-cos change** command to define ACD features. See "System Class of Service" in Chapter 3 for more information.
 - Enter **y** in the Abandoned Call Search Enabled field if the search function should be enabled.
 - Enter **y** in the Call Management System Active field if your system also has a Call Management System.
 - Enter the number of the attendant console that will be the ACD supervising console.
 - Enter **y** in the Warning Tone field if you want to alert the agent when the call is being observed by the supervisor. Press **EXECUTE** to end the transaction.
2. Assign a class of service which has the ACD Members enabled. For a detailed description, refer to *DEFINITY® Manager IV Terminal Change Management Operations*.
3. Enter the **extension add** command to assign a Supervisor extension. This extension must have been associated with the class of service previously added.
4. Enter the **associated-extension add** command to assign a Queue Directory Number and Priority Extension Number.
5. Enter the **trk-grp add** command to assign a Queuing Trunk Group (Trunk Type 6) and Contact Interface Trunk group (Trunk Type 65).
 - ACD status lamps provide the attendant with information about specific lines and inform them when the number of calls waiting in the queue exceeds a specified threshold. You can use Manager IV to add, remove, or change lamp assignments.

To monitor the status of the ACD queue, check to ensure that there is a Contact Interface trunk group in the switch. If not, use the **trk-grp add** command to assign a Contact Interface trunk group (Type 65) and lamp circuits. If you need more than 30 trunks, enter the **trk add** command after **trk-grp add**. When adding Contact Interface trunks, enter **3** as the Board Type.

Up to 15 lamps can each be assigned to a queue as warning indicators of too many calls waiting in the queue.

ACD/UCD/EUCD Groups

Manager IV administers ACD splits and EUC/UCD groups via the **acd-grp** and **ucd-grp** transactions. The **acd-grp** transaction is supported by Generic 2 and System 85 R2V3-R2V4. The **ucd-grp** transaction is used to administer the EUCD groups [System 85 R2V2 and DIMENSION 3.8] and UCD groups [DIMENSION 1.16].

Procedure: Adding ACD/UCD/EUCD Groups

Use this procedure to add ACD splits [Generic 2 and System 85 R2V3-R2V4] and Uniform/Enhanced Uniform Call Distribution groups [System 85 R2V2, DIMENSION 3.8 and 1.16]. Both **acd-grp add** and **ucd-grp add** transactions can be accessed from the database-admin, admin, and product-admin areas in both FM and TCM hierarchies.

1. [Generic 2, System 85 R2V3-R2V4] To add ACD groups, enter the **acd-grp add** command. Press **RETURN**. The following screen appears.


```

AT&T Mgr IV 2.2    SR:          DEFINITY G2.2          <target>
fm admin acd-grp add                               Page 1 of 1

                ACD - SPLIT CHARACTERISTICS

                ACD Split No.: __

                SPLIT CHARACTERISTICS          SPLIT SUPERVISOR AND CHARACTERISTICS

Queuing Trunk Group: __                Multiple Call Handling? n
                Hunt Type: 0 (CIRCULAR)        Auto Available? n
                Split Type: 0 (REGULAR)        Supervisor Extension No.: ____
                Machine Number: 0              Queue Directory No.: ____
Outflow/Queue Level:                    Priority Extension No.: ____
                Inflow Level:                  Forced Entry? n
                ICI Message Number: 0          LAMP CONTROL CIRCUIT

                CMS Measurement? y              Board Index: _
                                                Circuit Index: _

```

- 2. The Split Size field does not appear on the screen for Generic 2.2. This field applies to Generic 2.1 and System 85 R2V3-R2V4 where ACD groups must be defined with a fixed size.

In Generic 2.2, you do not need to specify the split size; split sizes are dynamic, just as large as the number of agents assigned to the split. A split may contain any number of agents; the maximum number of agents allowed per split is 1024, and per system is 2048. The maximum number of CMS measured ACD agents allowed per system is 1023.

If Call Vectoring is enabled, the following fields do not appear on the screen: Inflow Level, ICI Message Number, Queue Directory No., and Priority Extension No.

- 3. [System 85 R2V2, DIMENSION 3.8 and 1.16] To add UCD/EUCD groups, enter the **ucd-grp add** command. The screen appears as follows:

UCD GROUP CHARACTERISTICS

EUCD Group No.: ___

GROUP CHARACTERISTICS

GROUP SUPERVISOR AND CHARACTERISTICS

Group Size: _____

Queuing Trunk Group: _____

Hunt Type: 0 (CIRCULAR) Supervisor Extension No.: _____

Split Type: 0 (REGULAR) Queue Directory No.: _____

Machine Number: 0 Priority Extension No.: _____

Outflow/Queue Level: ___

Inflow Level: 0

ICI Message Number: 0

LAMP CONTROL CIRCUIT

Board Index: _

Circuit Index: _

Notes:

- The Data Attribute field appears only for DIMENSION 3.8.
- The Split Type, Machine Number, Queue Directory No. and Priority Extension No. are dynamic fields.

The ACD and UCD/EUCD screens are similar. Therefore, explanation provided below applies both to the **acd-grp add** and **ucd-grp add** transaction.

4. Enter the ACD Split Number or EUCD Group Number. This field is required. Valid entries are **1-60** for Generic 2 and System 85 R2V4, **1-30** for System 85 R2V2-R2V3 and DIMENSION FP8. Press **RETURN**.
5. Enter the Split Size or Group Size value. This field is required. The Split Size field applies to Generic 2.1 and System 85 R2V3-R2V4 only. Press **RETURN**.
 - [Generic 2.1 and System 85 R2V3-R2V4] Valid entries are multiples of **16**, up to **1024**.
 - [System 85 R2V2 and DIMENSION FP8] Valid entries are multiples of **16**, up to **512**.
6. Enter the Queuing Trunk Group number. This field is required. Press **RETURN**. The Queuing Trunk Group must have already been assigned using the **trk-grp add** transaction.
 - [Generic 2 and System 85 R2V3-R2V4] Valid entries are **18-999**.
 - [System 85 R2V2 and DIMENSION 3.8] Valid entries are **18-255**.
 - [DIMENSION 1.16] Valid entries are **18-99**.
7. Enter the Hunt Type field. Default is **0**. Press **RETURN**.
 - [Generic 2 and System 85 R2V3-R2V4] Valid entries are **0-3**.
 - [System 85 R2V2 and DIMENSION 3.8] Valid entries are **0-1**. This field does not apply to DIMENSION 1.16.

Within a split, select a hunting type as follows:

- **0** - Circular (default).
- **1** - Direct.
- **2** - Most idle agent hunt. The agent will stay in the same relative position in queue after an outgoing call. This hunting type is not supported by System 85 R2V2 and DIMENSION 3.8.
- **3** - Most idle agent hunt. The agent will move to the bottom of the queue after making an outgoing call. This hunting type is not supported by System 85 R2V2 and DIMENSION 3.8.

8. Enter the Split Type. Default is **0**. This field is optional. Press **RETURN**.

- [Generic 2 and System 85 R2V4] Valid entries are **0-4**.
- [System 85 R2V2-R2V3 and DIMENSION 3.8] Valid entries are **0-2**.

Select a split type, as follows:

- **0** - Regular (Default).
- **1** - Message Center (MCS).
- **2** - AUDIX.
- **3** - ISDN Gateway (number only). This feature is only supported for Generic 2 and System 85 R2V4.
- **4** - ISDN Gateway (name and number). This feature is only supported for Generic 2 and System 85 R2V4.

9. Enter the Machine Number.

- [Generic 2, System 85 R2V3-R2V4] Valid entries are **0-8**.
- [System 85 R2V2, DIMENSION] Valid entries are **1-7**.

This field is required. The entry in the Split Type field determines valid values for the Machine Number field as shown in the table below:

SPLIT TYPE		MACHINE NUMBER			
Name	Encode	G2	R2V3-R2V4	R2V2	DIMENSION 3.8
Regular	0	0	0	0	0
Message Center	1	1 - 7	1 - 7	1 - 7	1 - 3
Audix	2	1 - 8	1 - 4	1	1 - 4
ISDN Gateway	3	1 - 7	1 - 7	n/a	n/a
ISDN Gateway	4	1 - 7	1 - 7	n/a	n/a

For all switch releases, if the Split Type field has been populated with **0**, the cursor will skip over the Machine Number field. The Machine Number field defaults to **0**.

10. In the Outflow/Queue Level field, enter the number of calls above which calls must be forwarded to another ACD group. For all switch releases, valid entries are **1-99**. This field is optional. Press **RETURN**.

- If an Outflow/Queue Level has not been assigned, the Board Index and Circuit Index fields cannot be assigned.

- If a level is assigned, enter the Board Index and Circuit Index of the Contact Interface associated with this ACD group (Type = 3).
11. In the Inflow Level field, enter the threshold level of incoming calls. For all switch releases, valid entries are **0-98**. Default is **0**. This field is optional. When the number of calls breaks this threshold, status lamps will light.
[Generic 2, System 85 R2V4] This field does not appear if Call Vectoring is present. Press **RETURN**.
 12. Enter the ICI Message Number to be associated with this group. The message is a 4 character alphanumeric identification number that displays on the attendant console to indicate call origin. The message itself is administered in the TCM transaction **console-messages**. This field is optional. Default is **0**.
 - [Generic 2 and System 85 R2V3-R2V4] Valid entries are **0** for no message, or **4-63** for the ICI message number.
 - [System 85 R2V2 and DIMENSION FP8] Valid entries are **0** for no message, or **1-30** for the ICI message number.
 [Generic 2 and System 85 R2V4] The ICI Message Number field does not appear if Call Vectoring is present. Press **RETURN**.
 13. Enter **y** or **n** in the CMS Measurement field. Default is **y**. This field applies to Generic 2.2 only and does not appear on the screen for earlier switch releases. You can administer CMS Measurement only if the Call Management System feature has been enabled via the **sys-cos change** transaction (**y** in the Call Management System Enabled field). If the Call Management System feature has not been activated, the system will automatically change this field to **n**; **y** will not be accepted. For a detailed information on administering ACD groups with the Call Management System feature enabled, refer to "Administering ACD When You Have Call Management (CMS)" later in this chapter.
 14. Enter **y** if Multiple Call Handling is assigned to this split. Valid entries are **y** or **n**. Default is **n**. This field is optional. This feature allows an agent to place a call on hold and remain available to receive other ACD calls. This field does not apply to System 85 R2V2-R2V3 and DIMENSION FP8. Press **RETURN**.
 15. Type **y** if the Auto Available feature should be assigned to this split. Otherwise, enter **n**. Default is **n**. This feature puts split members automatically into the available state or, if Call Management is present, logs the split members into the Call Management System. This field does not apply to System 85 R2V2-R2V3 and DIMENSION FP8. Press **RETURN**.

Note: Do not enable the Auto Available feature for AUDIX. AUDIX sets the agent availability through DCIU messages.
 16. Enter the Supervisor Extension No. This must be a primary extension and cannot be an LDN. The extension must be assigned via the TCM **extension** transaction before it can be assigned to the ACD group in this transaction. For all switch releases, valid entry is any valid extension number (**000-99999**) with a class of service which has ACD parameters activated. This field is required. Press **RETURN**.
 17. Enter the Queue Directory No. This is the associated extension number that is the LDN of the ACD group. It must be assigned using the TCM transaction **associated-extension** before it can be assigned here. This field is required. For all switch releases, valid entry is any valid associated extension number (**000-99999**). This field does not apply to DIMENSION FP8.
[Generic 2 or System 85 R2V4] This is not used if Call Vectoring is present. Press **RETURN**.
 18. Enter the Priority Extension No. This is a number that can be dialed by callers to whom you want to give a higher priority in the queue. It also must be assigned using TCM's **associated-extension add**. This field is optional. For all switch releases, valid entry is any valid associated extension

number (**000-99999**). This field does not apply to DIMENSION FP8.

[Generic 2 and System 85 R2V4] This is not used if Call Vectoring is present. Press

RETURN.

19. [Generic 2.2 only] In the Forced Entry field, enter **y** to enable the forced entry. Otherwise, enter **n**. This field applies to Generic 2.2 only and does not appear on the screen for earlier switch releases. Default is **n**.
 - The Forced Entry and Auto Available features may not be enabled to the same split simultaneously.
 - The Forced Entry and Multiple Call Handling features may not be enabled to the same split simultaneously.
20. Enter the Board Index number. This field is optional. Press **RETURN**.
 - [Generic 2, System 85 R2V2-R2V3 and DIMENSION 3.8] Valid entries are **0-7**.
 - [DIMENSION 1.16] Valid entries are **0-1**.
21. Enter the Circuit Index number. For all switch releases, valid entries are **0-7**. This field is optional. Press **RETURN**.
22. Press **EXECUTE** to enter the data.

*
*

Procedure: Displaying ACD/UCD/EUCD Groups

The **acd-grp display** or **ucd-grp display** transaction allows you to view the characteristics of the specified ACD/UCD/EUCD group.

1. Enter the **acd-grp display** or **ucd-grp display** command. The input **acd-grp display** or **ucd-grp display** screen appears.

```

AT&T Mgr IV 2.2  SR:                DEFINITY G2.2                <target>
fm admin acd-grp display                Page 1 of 1

ACD Split No.: ___

```

Note: For **ucd-grp display** transaction, the EUCD Group No. field appears in place of the ACD Split No. field.

2. Enter the ACD Split Number (**1-60**) or UCD/EUCD Group Number (**1-30**). This number must be defined in the database. Press **RETURN**. The output will display all characteristics associated with a given group.

Procedure: Changing ACD/UCD/EUCD Groups

The **acd-grp change** or **ucd-grp change** transaction allows you to change the characteristics of the specified ACD split or UCD/EUCD group. The Split No., Split Type, Machine Number, and Supervisor Extension fields cannot be modified. These fields are display only.

1. Enter the **acd-grp change** or **ucd-grp change** command. The input **acd-grp change** or **ucd-grp change** screen appears. The screen is identical to the input **acd-grp display** or **ucd-grp add** screen. Refer to "Procedure: Displaying ACD/UCD/EUCD Groups".
2. Enter the ACD Split No. or EUCD Group No. This number must be defined in the database. This field is required. Press **RETURN**. The output **acd-grp change** or **ucd-grp change** screen appears. The screen is identical to the **acd-grp add** or **ucd-grp add** screen. For a detailed field description, refer to "Procedure: Adding ACD/UCD/EUCD Groups".
3. Populate the fields with valid entries. Press **EXECUTE**.

Procedure: Removing ACD/UCD/EUCD Groups

The **acd-grp remove** or **ucd-grp remove** transaction allows you to remove the specified ACD split or UCD/EUCD group. The transaction completes successfully if you execute the following prerequisite procedures:

- [Generic 2, System 85 R2V4] Remove any VDN assignment to the vector via the **call-vectoring move/remove** transaction.
 - [Generic 2, System 85 R2V4] If the ACD or UCD/EUCD group number has been associated with a vector, enter the **vector-features change/remove** command to remove this association.
 - If the ACD or UCD/EUCD group has been assigned to a call coverage group, use the **call-coverage change/remove** transaction to remove this association.
 - If trunk groups have been terminated to an ACD or UCD/EUCD, use the **term-trk-grps change** command to remove the ACD or UCD/EUCD termination.
 - Remove any assignment of members to the split.
1. Enter the **acd-grp remove** or **ucd-grp remove** command. The input **acd-grp remove** or **ucd-grp remove** screen appears. The screen is identical to the input **acd-grp display** or **ucd-grp add** screen. Refer to "Procedure: Displaying ACD/UCD/EUCD Groups".
 2. Enter the ACD Split No or UCD Group No. This number must be defined in the database.
 3. Press **EXECUTE**.

Administering ACD Group Members

Use the **acd-members**, **acd-grp**, and the **acd-allocation display** commands in the following procedures to administer facilities for ACD group members.

Procedure: Adding ACD/UCD Group Members

1. Enter **acd-members add** or **ucd-members add**.
2. Enter **x** in either the Single Member or Multiple Members field. If you choose multiple members, the following screen is displayed:

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin acd-members add/ucd-members add          Page 1 of 1

                THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Select Add Option:                ACD Split No.: __
    Single Member
    x Multiple Members

    Member      Member      Member      Member      Member
    No.  Extn   No.  Extn   No.  Extn   No.  Extn.   No.  Extn

    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
  
```

Note: For the **ucd-members add** transaction, the UCD Group No. field appears in place of the ACD Split No. field.

3. If you have used the **display** verb to display existing group members, you can press **(ESC)** to populate this screen with the information.
4. Enter the ACD Split No./UCD Group No. Valid entries are **1-60** for Generic 2 and System 85 R2V3-R2V4 and **1-30** for System 85 R2V2 and DIMENSION. This field is required. Press **(RETURN)**.
5. Enter the Member Number. Valid entries are **1-1023** for Generic 2 and System 85 R2V3-R2V4 and **1-511** for System 85 R2V2 and DIMENSION. Press **(RETURN)**.
6. Enter the Member Extension number. Valid entries are **000 - 99999**. Press **(RETURN)**.
 - If you have chosen to add a single member, you will be prompted to add information for only one member.
 - Member numbers must be greater than zero. The **acd-grp add** or **ucd-grp add** transaction adds Member Number 0 to the ACD/UCD group.
7. Press **(EXECUTE)** to enter the data.

Procedure: Displaying ACD Group Members

1. Enter **acd-members display** and press **RETURN**.
2. Choose the display option:
 - Enter **x** in the By Member Extension No. field to display a group member by extension number.

```
AT&T Mgr IV 2.2 SR:          DEFINITY G2.2          <target>
fm admin acd-members display          Page 1 of 1

          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Select Display Option:
  _ By ACD Group No.          Member Extension No.: ____
  x By Member Extension No.
```

— Enter the extension of the member you want to see (**00000-99999**). The display will show the ACD group number and the member number associated with that extension.

- Enter **x** in the By ACD Group No. field to display all members of a specified group.

```
AT&T Mgr IV 2.2 SR:          DEFINITY G2.2          <target>
fm admin acd-members display          Page 1 of 1

          THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT

Select Display Option:
  x By ACD Group No.          ACD Split No.: ____
  By Member Extension No.    Member Number(s)
```

— Enter the number of the group (**1-60**) for which you want to display members, then the member number(s) in a group of 40 or less as **1-16** or **41-80** or **981-1020** up to **1023**. In System 85, the display also shows the first available member in the group and the number of members available. In Generic 2.2, the display shows the highest member in the split.

3. Press **EXECUTE**.

Procedure: Displaying Split Member Allocation Information in Generic 2.2

The **acd-allocation display** transaction allows you to view split member allocation information in Generic 2.2. This includes the following information:

- Whether the split is measured or not
- The number of members assigned to the split
- The number of members that can be assigned to the split
- The highest member number assigned in this split
- The total number of members assigned to all splits

The **acd-allocation display** transaction is supported by Generic 2.2 only in the admin and product-admin areas under FM and TCM hierarchies.

1. Enter the **acd-allocation display** command. Press **RETURN**. The following screen is displayed.

```

AT&T Mgr IV 2.2      SR:          DEFINITY G2.2          <target>
fm admin/product-admin acd-allocation display          Page 1 of 1
                    YOU ARE DIRECTLY ACCESSING THE PRODUCT

                    Split Number:  __

```

2. Enter the Split Number. Valid entries are **0-60**. This field is required. Press **EXECUTE**.
3. For the specified split number, the following information will be displayed:

```

AT&T Mgr IV 2.0      SR:          DEFINITY G2.2          <target>
fm admin/product-admin acd-allocation display          Page 1 of 1
                YOU ARE DIRECTLY ACCESSING THE PRODUCT

                SPLIT MEMBER ALLOCATION

                Split Number:  __

                CMS Measured?  _

                Number of Members Assigned to This Split:  ____

Number of Members That Can Be Added to This Split:  ____

                Highest Member Number Assigned in This Split:  ____

                Total Number of Members Assigned to All Splits:  ____
    
```

4. All fields are display only and cannot be changed:
 - Split Number - contains the number of the split (**0-60**) you specified via the input screen.
 - CMS Measured - **y** (measured by CMS), **n** (unmeasured by CMS)
 - Number of Members That Can Be Added to This Split - **0-1024, 0-1023** (if measured)
 - Highest Member Number Assigned in This Split - **0-1024, 0-1023** (if measured)
 - Total Number of members Assigned to All Splits - **0-2048**

Administering ACD Recorded Announcements

ACD is available with a single delay recorded announcement to be used for incoming trunk calls to inform callers of a delay. (Incoming calls to a specific terminal in the ACD group do not receive this announcement.) Each ACD group can be provided with the announcement. If Call Forwarding is active for the ACD group, the call is forwarded before the announcement.

Second or repeated announcements can also be provided. Between repeated announcements or after a single announcement, the caller can hear either silence or music, depending on the options available with your feature package. As soon as a terminal becomes idle, whether the announcement is being heard or not, the waiting call is automatically directed to that terminal, and the caller hears ringback tone.

In System 85 R2V2, all EUCD groups share the same recorded announcement. In Generic 2, and System 85 R2V3, R2V4 each group can have its own announcement and a second announcement (identical for each group) can also be added. In order to provide the Intercept Treatment—Recorded Announcement feature, a second recorded announcement machine must be used. A single recorded announcement machine cannot be shared for both Recorded Delay Announcement and Intercept Treatment—Recorded Announcement features.

Procedure: Assigning Announcement Information

1. Enter **acd-announcement add** and press **RETURN**.

```

AT&T Mgr IV 2.2  SR:      DEFINITY G2.2          <target>
fm admin acd-announcements add                    Page 1 of 1

                Select one of the following:
                  x Delay Announcement
                  City of Origin Announcement
                  Queue of Origin Announcement
  
```

If Call Vectoring is present, the screen is different, since you can also associate Vector Directory Numbers (VDNs) with announcements. See "Call Vectoring" for details.

2. Specify the type of announcement to be administered by entering **x** next to one of the options. Each type of announcement has its own screen. All announcement screens include the Auxiliary Equip. Loc. field. When populating the ELLs, select the correct values for the *Traditional*, *Universal* or *XE* Module. For more details, refer to the explanation provided for the *Traditional*, *Universal* and *XE* Modules in Chapter 2, "Hardware Administration".

If you choose Delay Announcement, the following screen is displayed:

```

AT&T Mgr IV 2.2  SR:      DEFINITY G2.2          <target>
fm admin acd-announcements add                    Page 1 of 1

                Select one of the following:
                  x Delay Announcement
                  City of Origin Announcement
                  Queue of Origin Announcement

ACD Split No.   First Wait Time   Auxiliary Equip. Loc.   Second Wait Time
-----
                Second Announcement
Auxiliary Equipment Location: __/__/__/__
  
```

- Enter the ACD Split No. with which you want to associate an announcement. Valid entries are **1-60**. This field is required. Press **RETURN**.
- In the First Wait Time field, enter the number of 2 second intervals (**0-15**) after which the first delay announcement should be heard.
- Enter ELLs for the Auxiliary Equip. Loc. This field is required.
- In the Second Wait Time field, enter the number of 2 second intervals (**0-15**) for the second delay announcement. This field is required. Press **RETURN**.
- In the Second Announcement Auxiliary Equipment Location field, enter the ELL of the machine for the second delay announcement. Since there is only *one* second delay announcement, all groups using a second announcement share the same machine.

- You do not have to assign a second announcement to *all* groups. You *cannot*, however, assign a second announcement to a group without assigning a first announcement.

If you choose City of Origin Announcement, the following screen is displayed:

```

AT&T Mgr IV 2.2  SR:      DEFINITY G2.2          <target>
fm admin acd-announcement add                    Page 1 of 1

                Select one of the following:
                    Delay Announcement
                x City of Origin Announcement
                    Queue of Origin Announcement

Trunk Group Number: ____ City-of-Origin Announcement
                    Auxiliary Equip. Loc.: __/__/__/_/
    
```

- Enter the Trunk Group Number (**18-999**) and the ELL of its associated announcement. All fields are required.

If you choose Queue of Origin Announcement, the following screen is displayed:

```

                Select one of the following:
                    Delay Announcement
                    City of Origin Announcement
                x Queue of Origin Announcement

ACD Split Number: ____ Queue-of-Origin Announcement
                    Auxiliary Equip. Loc.: __/__/__/_/
    
```

- A Queue of Origin Announcement is heard by agents when a call is redirected from another local ACD split. Enter the ACD Split Number (**1-60**) and the ELL of its associated announcement.

3. Press **EXECUTE** to enter the data.

Procedure: Administering ACD Member Status Lamps

The **acd-status-lamps add** transaction administers lamps that display Automatic Call Distribution (ACD) member status information.

Equipment locations must be added in pairs. Paired locations are represented on the 106B display unit. This pairing allows the switch to light all lamps when the test button on the 106B is pressed; there is one test button per unit. Paired equipment locations must be consecutive circuits on an sn224 circuit pack.

1. Enter the command **acd-status-lamps add** to administer member status lamps. In Generic 2.2, the following screen is displayed:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin acd-status-lamps add		Page 1 of 1
THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT		
Display Unit		Paired
Equipment Location: __/__/___/___		Equipment Location: __/__/___/___
Column No.	Extension No.	Column No.
—	_____	—
—	_____	—
—	_____	—
—	_____	—
—	_____	—
—	_____	—
—	_____	—
—	_____	—
—	_____	—
—	_____	—

In Generic 2.1 and System 85 R2V2-R2V4, this screen is as follows:

AT&T Mgr IV 2.2	DEFINITY G2.1	<target>
fm admin acd-status-lamps add		Page 1 of 1
THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT		
Display Unit		
Paired		
Equipment Location: __/__/___/___		
Column No.	Member No.	ACD Grp
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____

The following explanation applies to Generic 2 and System 85.

- 2. Enter the Equipment Location. When populating the ELLs, select the correct values for the *Traditional*, *Universal* or *XE* Module. For more details, refer to the explanation provided for the *Traditional*, *Universal* and *XE* Modules in Chapter 2, "Hardware Administration".

3. Depending on the switch release, enter the data as follows:
 - [Generic 2.2] Enter the ACD agent Extension No. Valid entries are **000-99999**. This field is required.
 - [Generic 2.1, System 85 R2V2-R2V4] Enter the Member Number and the ACD Group number of the member to be associated with each of the 20 status lamps on the display unit. These fields are required.
4. Press **EXECUTE** to enter the data.

Terminating Trunk Groups to ACD Groups

An ACD group can receive calls from various trunk types: DID, non-DID, private switched, network, and dial repeating or automatic tie trunks. An ACD group can also receive calls from other system terminals or attendants.

Incoming calls to the group LDN are directed to a group in one of two ways: calls coming in on an automatic-in trunk are routed to the ACD group on which the trunk group is terminated; calls coming in on a dial-repeating (such as a DID) trunk are routed to the trunk dialed which can terminate to an ACD group.

With the ACD feature, incoming CO (Central Office), FX (Foreign Exchange), 800 Service, and automatic tie trunks can terminate in an ACD group queue rather than at an attendant or centralized attendant console. Any non-DID trunk group(s) can have only one pre-assigned destination: an ACD group, an attendant console, or a release link trunk to a centralized attendant console.

Terminating Trunk Group Commands

The **term-trk-grps** transaction is used to terminate trunk groups to ACD/EUCD/UCD, VDN, CAS, and Special Services. This transaction can be accessed from the database-admin, admin, and product-admin areas. The verbs supported are: **display** and **change**.

To view trunk group terminations as they were defined in the database, use the **term-trk-grps display** command.

To terminate trunk groups to ACD/EUCD/UCD, VDN, CAS, and Special Services terminating trunk groups, use the **term-trk-grps change** command.

Procedure: Displaying Trunk Groups Terminating to ACD Groups

The **term-trk-grps display** transaction allows you to view the trunk groups terminated to an ACD/EUCD/UCD.

1. Enter the **term-trk-grps display** command. Press **RETURN**. The following screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin term-trk-grps display  Page 1 of 1

Enter one of the following

Trunk Group Number: ____
ACD Split: ____

```

2. You are allowed to display a trunk group terminated to an ACD either by Trunk Group Number or by ACD Split number. One of these fields is required.
 - To display terminating groups by Trunk Group Number, enter the Trunk Group Number. Valid entries are **18-999** for Generic 2 and System 85 R2V4, **18-255** for R2V2-R2V3 and DIMENSION 3.8, and **18-99** for DIMENSION 1.16 only. The cursor will skip over the ACD Split field. Press **EXECUTE**. The following screen appears:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin term-trk-grps display  Page 1 of 1

Trunk Group Number: 242

Termination:

X Automatic Call Distribution [ACD]
_ Special Services Attendant
_ Centralized Attendant Service

CMS/MIS: _

ACD Split: 1
ACD Priority: 1

```

- In the Automatic Call Distribution [ACD] field, the entry **x** indicates that the specified trunk group is terminated to an ACD split.
- For trunk groups terminating to ACD, the ACD Split and ACD Priority fields are always displayed.

- To display terminating trunk groups by ACD Split number, press **RETURN** when the cursor is in the Trunk Group Number field. The cursor will be placed in the ACD Split field. Enter the split number. Valid entries are **1-60** for Generic 2 and System 85 R2V4, **1-30** for R2V3, and **1-28** for R2V2 and DIMENSION FP8. Press **EXECUTE**. The following screen is displayed:

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin term-trk-grps display                Page 1 of 1

      Trunk Group Number: ____
              ACD Split: 1

Trunk Grp  Priority  Trunk Grp  Priority  Trunk Grp  Priority
-----  -
242        1          ____      -          ____      -
____       -          ____      -          ____      -
____       -          ____      -          ____      -
____       -          ____      -          ____      -
____       -          ____      -          ____      -
____       -          ____      -          ____      -
____       -          ____      -          ____      -
____       -          ____      -          ____      -

```

Procedure: How to Terminate Trunk Groups to ACD Groups

Use this procedure to define trunk groups as ACD terminating trunk groups. The trunk groups must have already been added using **trk-grp add**.

1. Enter **term-trk-grps change** and press **RETURN**. The input **term-trk-grps change** screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin term-trk-grps change                Page 1 of 1

      Trunk Group Number: ____

```


2. Enter the Trunk Group Number. Valid entries are **18-999** for Generic 2 and System 85 R2V4, **18-255** for R2V2-R2V3 and DIMENSION 3.8, and **18-99** for DIMENSION 1.16 only. Press **EXECUTE**. The output **term-trk-grps change** screen is displayed.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin term-trk-grps change                Page 1 of 1

Trunk Group Number: 242

Termination:

X Automatic Call Distribution [ACD]
_ Special Services Attendant
_ Centralized Attendant Service

CMS/MIS: _

ACD Split: 1
ACD Priority: 1

```

You are allowed to change entries in the Termination, CMS/MIS, ACD Split, and ACD Priority fields.

3. Select the ACD termination by entering **x** in the Automatic Call Distribution [ACD] field. The ACD Split and ACD Priority fields will appear only for an ACD termination. Press **RETURN**.
4. [Generic 2 or System 85 R2V3-R2V4 only] If you have a Call Management System and you want the trunk to be measured by CMS, enter the CMS or MIS Type number of the trunk. Enter **1** for outgoing, **2** for incoming, or **3** for two-way. You are allowed to skip this field by pressing **RETURN**.
 - With trunk types 16, 19, 20, 21, 24, 25, 26, 35, 38, 39, (50 and 66 in Generic 2 and System 85 R2V4), the CMS/MIS field is always displayed for the trunk groups within the range of **18-999** for Generic 2 and System 85 R2V4, **18-255** for R2V2-R2V3 and DIMENSION 3.8, and **18-99** for DIMENSION 1.16 only. The CMS/MIS field will be displayed for trunk types other than these. Therefore, you will be able to specify measurements both for terminating and non-terminating trunks.

Note: Trunk Type 50 is only allowed when Speaker Verification is enabled via the **sys-cos change** transaction.
5. Enter the ACD Split number. Valid entries are **1-60** for Generic 2 and System 85 R2V4, **1-30** for R2V3, and **1-28** for R2V2 and DIMENSION FP8. Press **RETURN**.
6. Enter the Priority Level if each is to be given priority; leave the field empty if no priority is to be given.

Note: If you are using Call Management System (CMS) in conjunction with ACD, make sure you assign the groups sequentially. CMS measures group activities (such as speed of answering or average holding time) for a sequence of ACD groups. Remember to tell the CMS Administrator whenever you make changes that affect CMS. See "Administering ACD Groups and Group Members" (with CMS) earlier in this section for more information.

7. Press **EXECUTE** to enter the data.

Administering ACD When You Have Call Management (CMS)

If you also have a Call Management System (CMS), you may prefer to use that system to manage and track certain aspects of the (ACD) feature. If you use Manager IV to administer your Generic 2 and System 85 as a whole, and Call Management to administer your ACD data, you must keep track of changes made to the switch by both Manager IV and Call Management.

The following procedures are provided to help avoid problems that may result from using two different systems to administer ACD. They recommend which system to use for specific ACD administration, assuming that Call Management is the preferred system to administer those data items. If you have a Call Management system, refer to these procedures when you need to administer ACD.

For details about using each command, refer to the ACD procedures earlier in this section.

Most of the ACD commands appear under both the TCM and FM hierarchies for user convenience. When a command is specified in the procedures, the command line indicates TCM or FM, depending on the hierarchy for the specified command.

Call Management Administration of Switch Translation Data

The following table describes the data items that can be administered both by Call Management and Manager IV. The table lists the Manager IV transaction used to administer the data and whether this data is stored in the Manager IV database as well as in the product.

Table 8-1. Call Management Administration of ACD Data

Description of Data Items	Manager IV Transaction	Manager IV Database?
ACD inflow level	acd-group	y
ACD outflow level	acd-group	y
Delay 1st announce	acd-announcements	y
Delay 2nd announce	acd-announcements	y
ACD member extn	acd-members	n
ACD split to which trunk group is terminated	term-trk-grps	y

The table implies that Call Management can administer only a subset of ACD features. The rest of the translations must be made via Manager IV. You can also see that the data administrable by Call Management is not self-contained, and depends on certain data items that are only administrable by Manager IV. Conversely, some of the data items that can only be administered by Manager IV are dependent on data that can be administered only by Call Management.

Procedure: Busying out Call Management with Manager IV

Administration of ACD data by Manager IV should always be coordinated with the Call Management Administrator, as Call Management is the end user of this data. Before Manager IV can administer certain ACD data, Call Management must be "busied out" using the Manager IV command **cms busyout**. While Call Management is busied out, it cannot administer any switch translation data. Certain statistic gathering and monitoring activities by Call Management are also suspended. If these functions are stopped for more than a short period of time, there is a large impact on Call Management statistics and reports. When Manager IV has finished administering this data, it must "release" Call Management, using the command **cms release**.

Note: It is imperative that you coordinate any busy out of Call Management with the Call Management Administrator.

Call Management must be busied out before these Manager IV commands can be executed:

- **acd-grp**
- **acd-members**
- **cms-extension**
- **term-trk-grps**
- **trk-grp, trk** (only if trunk group is measured by Call Management).

In Generic 2.2, CMS needs only to be busied out for ACD members, ACD groups or terminating trunk groups when changing the status from measured to unmeasured or unmeasured to measured.

Call Management must be released via the **cms release** transaction only if a **cms busyout** was previously performed.

Procedure: How to Busy out Call Management

1. Contact the Call Management Administrator to arrange a mutually agreed time to busy out Call Management.
2. Run the command **cms busyout**.
3. Perform the necessary ACD administration through Manager IV.
4. Run the command **cms release** as soon as the ACD data has been administered.
5. Inform the Call Management Administrator that this process is complete.

Displaying the Switch's ACD Data

Manager IV can use the product-admin area to display any ACD data from the switch at any time, with no impact on Call Management. Data can be displayed from the Manager IV database at any time, using the database-admin area. However, remember that database displays show only what is in the Manager IV database, and do not guarantee that the data items that are administerable by Call Management are correct. For these data items, you should use only product-admin displays from Manager IV.

Downloading Manager IV Transactions to the Switch

Although you would normally schedule ACD transactions in Service Requests that download to the switch overnight, this is not recommended when you are administering ACD data that is interdependent with Call Management. For the transactions contained in the procedures in the following sections, schedule the Service Request to download only a few minutes from the current time, or run transactions immediately. You might also create the Service Request during off-hours when Call Management is not active, and then schedule it during the same off-hour period. This will prevent Service Request failures caused by Call Management changing some related data item. It will also prevent Manager IV from inadvertently undoing a change that Call Management has already made.

Saving Data in a Model

Some of the procedures in the following sections require saving data from a product-admin display transaction in a model, and then reading the data from the model into an admin change screen. This enables information from the switch to be read into admin or database-admin screens, reducing the chances of data entry errors that might put the switch and database out of sync. For information on modeling, see *Getting Started with DEFINITY® Manager IV*.

Administering ACD Groups

ACD splits must be added or removed via Manager IV. In addition, changes to data items, except for inflow and outflow, can only be made through Manager IV. The **acd-grp** command is used to add, change, display, or remove an ACD split and to define its characteristics. The prerequisites and commands used in each transaction are shown below.

Procedure: Adding an ACD Group

1. Busy out Call Management using **cms busyout**.
2. Add the ACD group using **acd-grp add**. You can use the **acd-grp add** transaction to mark a split as measured or unmeasured by entering **y** or **n** in the CMS Measurement field [Generic 2.2 only]. In pre-Generic 2.2 switches, agents are defined as measured not splits. For a detailed screen description, refer to "Procedure: Adding ACD/UCD/EUCD Groups" earlier in this chapter.
3. Release Call Management using **cms release**.
4. Inform the Call Management Administrator when the ACD split has been successfully added to the switch.

Procedure: Removing an ACD Group

1. Contact the Call Management Administrator to determine when the ACD split will no longer be in use.
2. In the product-admin area, run **acd-members display** to determine if there are extensions assigned as members of the indicated ACD split. If there are, contact the Call Management Administrator.
 - If the Call Management Administrator wants these extensions removed as ACD members, and agrees that this can be done via Manager IV, run **acd-members remove** to remove them.

[Generic 2.2] If the split is measured, the **acd-members remove** transaction will move the members to Split 0 which is measured by default. Use the **cms-extension** transaction to remove these members from Split 0 if measurement is no longer required.

3. In the product-admin area, run **term-trk-grps display** to determine if there are trunk groups terminating on the ACD split. If there are, contact the Call Management Administrator.
 - If Call Management does not want the termination of the trunk group(s) removed, the ACD split cannot be removed.
 - If Call Management agrees that the termination can be removed, run **term-trk-grps remove**. The trunk groups will no longer be terminated on the ACD split in both the Manager IV data base and the switch.
4. Busy out Call Management using **cms busyout** in the admin area.
5. Remove the ACD group using **acd-grp remove** in the admin area.

[Generic 2.2] If the split is measured, the **acd-grp remove** transaction will move the supervisor's extension to Split 0 which is measured by default. Use the **cms-extension** transaction to remove the member from Split 0.

6. Release Call Management using **cms release** in the admin area.

Procedure: Changing an ACD Group

1. Run **acd-grp display**. Save the output in a model.
2. Busy out Call Management using **cms busyout**. In Generic 2.2, run **cms busyout** only if you are changing measurement status.
3. Run **acd-grp change**. Read the data from the model into the change screen. Do not change the inflow or outflow level unless instructed to do so by the Call Management Administrator. Any of the other fields on the screen can be changed.
4. Release Call Management using **cms release**.

Administering ACD Announcements

The **acd-announcements** command is used to add, change, display, or remove ACD recorded announcement data. The only data items of this transaction that can be administered by Call Management are the delay times for the first and second announcements. The recorded announcement unit can only be associated with an equipment location via Manager IV. You do not need to busy out Call Management before running this transaction.

Adding an ACD Announcement Unit

Add the announcement using **acd-announcements add** and contact the Manager IV Administrator when ACD announcement data has been successfully added to the switch.

Removing an ACD Announcement Unit

Contact the Call Management Administrator to verify that the recorded announcement is not in use for the indicated ACD split, and then remove the announcement using **acd-announcements remove**.

Changing ACD Announcement Data

In the product-admin area, run **acd-announcements display**, saving the output in a model. In the admin area, run **acd-announcement change**. Read the data from the model into the change screen. Do not change the first or second announcement delay time unless instructed to do so by the Call Management Administrator. Any of the other fields can be changed.

Administering ACD Members

The **acd-members** command is used to add, display, or remove ACD agents from an ACD split. This transaction is product-only, and the Manager IV database does not store data that indicates whether an extension is an ACD agent. This data can also be administered by the ACD split supervisor. Run this transaction only if instructed to do so by the Call Management Administrator since this is a task typically performed by Call Management.

Procedure: Adding/Changing/Removing ACD Agents

1. Busy out Call Management using **fm admin cms busyout**.
2. Administer the members of the ACD group using the appropriate transaction:
fm admin acd-members add/display/remove
3. Release Call Management using **fm admin cms release**.

If You Have Call Management (CMS)

If you have the Call Management System feature, you can use it to measure and report on ACD splits. As an alternative, you may want to add ACD split members so their work load can be measured by CMS, even though the split itself is not measured.

Procedure: Adding a Measured Extension

1. Inform the CMS administrator that you will be adding a measured extension to CMS. The administrator must know that you are going to busy out CMS, since this will cause an interruption in CMS data collection.
2. Busy out CMS using the command **cms busyout**.
3. Enter the command **cms extension add**.

```
AT&T Mgr IV 2.2  SR:      DEFINITY G2.2          <target>
fm admin cms-extension add                          Page 1 of 1
```

```
THIS INFORMATION IS RETAINED ONLY IN THE PRODUCT
PLEASE BUSYOUT CMS BEFORE ADDING AN EXTN
```

```
CMS Extension No:
```

4. Enter the extension to be measured by CMS (**000000-99999**).

5. Press **EXECUTE** to run the transaction.
6. Release CMS using the command **cms release**.

Note: It is recommended that the **cms busyout** and **cms release** transactions be scheduled in Service Requests.

Administering Terminating Trunk Groups with ACD

The **term-trk-grps change** command is used to terminate a trunk group to an ACD split, as well as to define whether the trunk group has priority termination, and whether it is measured by Call Management. The only data item in this transaction that can be administered by Call Management is the ACD split number to which the trunk group terminates. The ACD priority and Call Management measurement indication can only be administered via Manager IV.

Procedure: Adding a Trunk Group Termination

1. Run **fm product-admin term-trk-grps display** to check if this trunk group is already terminated to an ACD split. If it is, contact the Call Management Administrator to resolve the discrepancy.
2. Busy out Call Management using **fm admin cms busyout**.

[Generic 2.2] Run the **cms busyout** transaction only if the trunk is terminating to an ACD split measured by CMS.
3. Assign the terminating trunk group to the ACD split using **fm admin term-trk-grps change**.
4. Release Call Management using **fm admin cms release**.
5. Contact the Call Management Administrator when the trunk group has been successfully terminated to the ACD split at the switch.

Procedure: Removing a Trunk Group Termination from an ACD Split

1. Contact the Call Management Administrator to verify that the trunk group should no longer be terminated on an ACD split.
2. Display the existing switch data using **fm product-admin term-trk-grps display**.
3. Busy out Call Management using **fm admin cms busyout**.
4. Remove the terminating trunk groups using **fm admin term-trk-grps change**.
5. Release Call Management using **fm admin cms release**.

Procedure(s), Trunk Group Termination Attributes, changing

Procedure: Changing Trunk Group Termination Attributes

Use this procedure to change the ACD split to which the trunk group is terminated, the ACD priority, or the Call Management measurement flag.

1. To be sure the information you entered matches the switch information, run **fm product-admin term-trk-grps display** for the specified trunk group. Save the output in a model.
2. Busy out Call Management using **fm admin cms busyout**. In Generic 2.2, run **cms busyout** only if ACD is measured by CMS.
3. To change a data item, run **fm admin term-trk-grps change**. Read in the data from the model, then change the specific data item.

4. Release Call Management using **fm admin cms release**.

Recovering from Service Request Errors

These procedures rely on your contact with the Call Management Administrator to keep the Manager IV database in sync with the switch for the data items that are administerable via Call Management. If Manager IV's ACD data does become out of sync with the switch, Service Request transactions may fail to download to the switch. This section explains what to do if this occurs.

Removing Trunk Groups

If Manager IV attempts to remove a trunk group that Call Management has terminated to an ACD split, the Service Request will fail to download to the switch. Because removing trunk groups is not a common task, this error condition is unlikely. In the event it occurs, take the following steps to recover from this error.

- To see to which ACD split the trunk terminates, run **fm product-admin term-trk-grps display** and enter the trunk group number.
- Contact the Call Management Administrator to resolve the discrepancy.
- If the Administrator agrees that the trunk group no longer needs to terminate to the split, run **fm product-admin term-trk-grps change** to remove the termination.
- Re-run the Service Request to remove the trunk group using **fm admin service-request run**. It should download successfully.

CALL VECTORING [GENERIC 2, SYSTEM 85 R2V4]

The Call Vectoring feature is an enhanced and flexible way of processing incoming calls to the Generic 2, or System 85 R2V4 switches. It allows you to define the processing of incoming calls to ACD splits in a way that provides additional flexibility over existing methods. Call Vectoring can change ACD call treatments by making the determination of a call treatment on a per call, rather than a per split, basis, and redirection can occur based on the time the call is in the queue as well as on the number of calls that are in the queue. Call Vectoring increases the feedback given to a caller while waiting, and improves the handling time of each call.

In Generic 2.2, Call Vectoring allows you to distribute ACD calls to a subset of ACD agents based on agents' skills and skills required to handle a call. For more details, refer to "Expert Agent Selection" later in this chapter.

Vectors, a set of predefined call processing steps, are the basis of the Call Vectoring feature. A vector will define the call processing sequences to be taken for incoming calls. Each vector can have up to 15 steps including delays, announcements, and split queuing.

You can assign steps to a vector and features to each step using the **vector-features** command. There are 9 available step types, 10 for Generic 2.2, explained in the procedure that follows.

In Generic 2.1 and System 85 R2V4, you can define up to 128 vectors, which can be assigned to one or more incoming trunk groups or directory numbers. In Generic 2.2, the range of administrable vector numbers is **1-511**.

In order to administer and use the Call Vectoring feature, transactions are required in the Terminal Change Management (TCM) application as well as in FM. TCM Call Vectoring transactions are explained in *DEFINITY® Manager IV Terminal Change Management Operations*. They include:

- Adding a Vector Directory Number (VDN) via **vdn add**. A VDN is a "soft" extension number that is used for dial access to vectors. The **vdn** command is also available to FM users.
- Changing an available abbreviated dial list to be used by Call Vectoring to store call destinations. This is done with the command **tcn admin vector-abbr-list change**.
- Assigning a VDN as the last point in a call-coverage path via the **call-coverage path** command.

To administer Call Vectoring in FM, perform the transactions listed below:

- Assign features to a vector using the **vector-features add** command.
- Assign a Vector Number to a VDN using the **call-vectoring add** command.
- Assign trunk groups to VDNs using the **term-trk-grps** command.
- Associate ACD Announcements with VDNs via the **acd-announcements** command.

Note: There are 84 assignable announcements, 255 in Generic 2.2. These announcements are used for vector features and acd-announcements. Vector features must use non-continuous announcements only. ACD announcements must be continuous. Use the **trk-grp add** transaction (Type **90**) to assign the continuous or non-continuous recorded announcements. For a continuous assignment, populate the Continuous Announcement field with **y**. To define a non-continuous announcement, enter **n** in the Continuous Announcement field. For a screen description, refer to "Procedure: How to Add Trunks and Trunk Groups" in Chapter 4.

If the Call Vectoring feature is not present when Manager IV is initialized, it cannot be administered via Manager IV. The feature cannot be activated through Manager IV. If Call Vectoring is installed in a switch after Manager IV is initialized, Manager IV must be reinitialized before it can be administered.

CALL MANAGEMENT SYSTEM (CMS) ADMINISTRATION

If you have a Call Management System, you may prefer to use that vehicle to administer certain Call Vectoring data. You must be sure to keep track of changes made to the switch with either Manager IV or Call Management. Refer to "Administering Call Vectoring When You Have Call Management (CMS)" later in this chapter.

Expert Agent Selection

[Generic 2.2]

The Expert Agent Selection (EAS) feature introduces additional qualifications or restrictions on the distribution of calls to Automatic Call Distribution (ACD) agents within a split. This feature is available on Generic 2.2 only and can only be enabled at the system initialization. When activated, Expert Agent Selection allows ACD calls to be distributed to a subset of ACD agents that are members of larger ACD splits. The distribution of calls is based on agents' skills and skills required to handle a call.

A skill is a two or three digit number that represents the service or call handling ability required for servicing a call. Agent Skills is the call handling skill active for a logged in agent in a skill tens group. A skill number is derived from the split number (hundreds and tens digit) and a last (units) digit which is either the default for the split (a **0** digit) or a non-zero digit.

A skill number with a zero last (units digit) is assigned as a default for all agents logged into a split. A call with a default skill of **0** active will be distributed to any available agent in the split. A skill number other than the default (**0**) skill for a skill tens group has a last (units) digit range of **1** to **9**. For example, for split 1, the tens digit is a 1 with no hundreds digit while for split 60, the hundreds digit is 6 and the tens digit is 0. The skill number range in split 1 is **10-19**, while for split 60, it is **600-609**.

An Expert Agent is simply a number from one through nine that can be associated with an ACD agent, an ACD call, a Vector Directory Number (VDN), and a **vector-features** command. From login, agents dial a special Expert Agent Dial Access Code (DAC) to define to the switch their skill level. An incoming ACD call is distributed to an ACD agent based on matching any one of a set of skill requirements of a call to one or more skill abilities of the agent. Both ACD calls and ACD agents may have one or more skills active at any one time.

The Expert Agent Selection feature is optional and can only be activated if Call Vectoring is also enabled. Conversely, Call Vectoring cannot be deactivated if Expert Agent Selection is active.

The Expert Agent Selection feature is implemented by associating the skill level with an ACD agent, an ACD call, and a VDN using the following transactions:

- **vector-features add** to assign skills to ACD calls (VDNs)
- **dial-access-codes add/change** to define feature Dial Access Code to map to ACD agent skills
- **agent-skills change** to assign skill preferences or skill numbers to VDNs

When executing a transaction used in implementation of Expert Agent Selection consider the following:

- When Call Vectoring is enabled, before executing the **term-trk-grps** transaction, the Call Management System (CMS) must be busied out if measurement status is changing, measured to unmeasured or unmeasured to measured.
- When a VDN is assigned to a vector number, CMS must be busied out before executing a **call-vectoring** transaction if measurement status is changing.

Vector Features

The actual steps of the vector are assigned using the **vector-features** command. There are 9 step types, 10 step types in Generic 2.2, that can be assigned to a vector, and up to 15 steps can be used in each vector.

This section discusses the step types and their parameters. It then explains the actual steps involved in administering vector features and describes the programming for a sample vector.

Vector Features Step Types

Each of the 9, 10 in Generic 2.2, available step types has its own parameters. The step type and other parameters are assigned by number. The step types are numbered from 1 to 9 (1 to 10 in Generic 2.2); each step and its options are described below.

(1) Queue to Main Split. This step type queues the call to any of the 60 ACD splits. Queuing is available at the four different priority levels listed below:

- (0) Low
- (1) Medium
- (2) High
- (3) Top.

These levels are specified on the vector-features screen by number under the category **Priority**. Once queued, calls are eligible to be answered by ACD agents.

(2) Check Backup Split. Calls are not connected or queued to a backup split unless the threshold conditions have been met. Specify the condition by number (**0, 2, 5, 7**) under the **Condition** heading. The conditions are:

- **0** = Number of available agents > threshold
- **2** = Number of staffed agents > threshold
- **5** = Number of calls queued < threshold
- **7** = Oldest call waiting < threshold.

Once the condition has been entered, the threshold must be specified under the **threshold** category. Threshold refers to the number of calls that can be queued here. The wait time for thresholds can also be set in 2-second increments up to 998 seconds.

(3) Route to Step Type. This step type routes callers to local or external destinations including:

- Local extensions
- Attendant
- CAS Attendant
- Vector Directory Number
- AAR/ARS Calls
- DCS Calls.

Route to destinations are stored in the vector abbreviated dial list that is created via the TCM **vector-abbr-dial-list** command.

(4) Announcement Step Type. There are 84 assignable announcements, 255 in Generic 2.2. Unlike standard ACD, they can be used flexibly. When the caller is connected to the announcement, the system resumes supervision of the call.

(5) Delay Step Type. This step type delays caller progression through a vector. The three types of delay treatment are as follows:

- (0) Silence
- (1) Ringback
- (2) Music.

Specify the delay type by entering the number under the Condition head.

(6) Go-to-step Type. This step type transfers control within a vector to a specified step or transfers control unconditionally. There are ten condition types as listed below:

- (-) Unconditional
- (0) Number of available agents > threshold
- (1) Number of available agents < threshold
- (2) Number of staffed agents > threshold
- (3) Number of staffed agents < threshold
- (4) Number of calls queued > threshold
- (5) Number of calls queued < threshold
- (6) Oldest call waiting < threshold
- (7) Oldest call waiting > threshold
- (8) Day-Time of Day start
- (9) Day-Time of Day end.

(7) Forced Disconnect Step Type. This step type disconnects a caller and stops all vector processing. Answer supervision is returned with this step type, except when ISDN trunks are used. Answer supervision is returned because the call must be "answered" before it is disconnected.

(8) Forced Busy. This step type returns a busy tone to a caller and stops all vector processing. The caller is then removed from the queue and backup split scanning is stopped.

(9) Stop Step Type. This step type stops all vector processing. The call stays queued and backup split continues.

(10) Goto Vector. [Generic 2.2 only] This step type allows vector processing to continue using another vector in the same manner that the Goto Step type (6) allows processing to continue from a different step. This is another method of chaining vectors to create longer vectors in addition to the Route to VDN step type. All conditions that apply to Goto Step apply to Goto Vector.

Procedure: Assigning Vector Features

Follow the procedure below to administer vector features.

1. Enter the command **vector-feature add**. The following screen is displayed.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>						
fm admin vector-features add		Page 1 of 1						
Vector Number: ____								
Step No.	Step Type	Destination	Priority	Condition	Threshold	Skill Type	Start Time	End Time
-----	-----	-----	-----	-----	-----	-----	-----	-----

Notes:

- [Generic 2.2] The Skill Type field appears only if the Expert Agent Selection feature is activated. Otherwise, the ACD No. field is displayed.
- [Generic 2.1 and System 85 R2V4] The ACD No field is displayed in place of Skill Type.

2. Fill in the Step No. from 1 to 15. You can enter up to 15 steps. Begin with 1.
3. Enter the number of the Step Type to be assigned to each step:
 - [Generic 2.1 and System 85 R2V4] Valid entries are **1-9**.
 - [Generic 2.2 only] Valid entries are **1-10**.

See "Vector Feature Step Types" for a list of step types.

4. Enter the appropriate information in the rest of the fields. Fields are dynamic and will be underlined depending on the step type you select. These are valid parameters for the following fields:

Destination. This field is required based on the Step Type.

- [Generic 2.1 and System 85 R2V4] Enter the number of the main or back-up ACD split (**1 - 60**) for Step Type 1 or 2. Enter the Vector Abbreviated Dial List entry number (**1 - 95**) for Step Type 3. Enter the recorded announcement number (**16-99**) for Step Type 4 or 7. Enter the step number (**1-15**) for Step Type 6.
- [Generic 2.2 only] Enter the number of the main or back-up ACD split (**1 - 60**) for Step Type 1 and 2 when the Expert Agent Selection (EAS) feature is not active.
 For Step Type 1 and 2, if EAS is active, enter Skill Preference (**1-3**) or Skill Number (**10-609**).
 For Step Type 3, enter Abbreviated Dial Group List **1-95, 101-195, 201-295, 301-395, 401-495** (abbreviated dial list/member number).
 For Step Type 4, enter announcement number **16-99** or **1-255** [Generic 2.2].
 For Step Type 6, enter Goto Step number **1-15**.
 For Step Type 7, enter forced disconnect after recorded announcement number **16-99** or **1-255** [Generic 2.2].
 [Generic 2.2] For Step Type 10, enter vector number **1-511**.

Priority. This field is required based on Step Type.

- Enter the appropriate priority level: (**0**) low, (**1**) medium, (**2**) high, (**3**) top, for Step Type 1, 2, 6, and 10 (Generic 2.2 only).

Condition. This field is required based on Step Type.

- [Generic 2 and System 85 R2V4] Enter the number that corresponds to the condition you want to set:
 - (-) Unconditional
 - (0) Number of available agents > threshold
 - (1) Number of available agents < threshold
 - (2) Number of staffed agents > threshold
 - (3) Number of staffed agents < threshold
 - (4) Number of calls queued > threshold
 - (5) Number of calls queued < threshold
 - (6) Oldest call waiting > threshold
 - (7) Oldest call waiting < threshold
 - (8) Time of day after start time
 - (9) Time of day after end time.

For Step Types 6 (for all switch releases) and 10 (Generic 2.2 only), if you enter **8** or **9**, on the screen, it will appear like **8/9**. This means that start time corresponds to Condition 8, and end time corresponds to Condition 9.

For Step Type 5, Condition 0=silence, 1=ring back, and 2=music.

- For Step Type 2, condition range is **0, 2, 5, or 7**.

Threshold. This field is required based on Step Type.

ACD No. This field always appears in Generic 2.1 and System 85 R2V4. In Generic 2.2, ACD No. appears only when Expert Agent Selection is not activated.

- Enter the number of the ACD split (**1-60**) for Step Type 6.

Skill Number [Generic 2.2 only] Enter VDN skill preference (**1-3**) or skill number (**10-609**) for Step Type 6, or 10 with Condition = 0-7 when the Expert Agent Selection feature is activated.

Start time Enter day to be started, for Step Type 6, Condition 8. You can enter a number between **0** and **7**; (**0**) corresponds to every day, (**1**) to Monday, etc. Next, enter the hour to start. You can enter a number between **0** and **23**; (**0**) corresponds to 12:00 am. Enter the minute to be started. You can enter a number between **0** and **59**.

End Time Enter day to be ended, for Step Type 6, Condition 8. You can enter a number between **0** and **7**; (**0**) corresponds to every day, (**1**) to Monday, etc. Next, enter the hour to finish between **0** and **23**; (**0**) corresponds to 12:00 am. Enter the minute to be finished between **0** and **59**.

5. Enter the rest of the required information for this vector.

Below is a typical vectoring scenario to provide you with a detailed example of adding vector features.

Sample Scenario: Sending Calls to Night Service

[Generic 2.1 and System 85 R2V4]

This example shows you how to develop vector features to send calls to night service. In this example, calls received between Monday at 7:30 am and Friday at 4:00 pm are to be queued and answered. Calls between Friday at 4:00 pm and Monday at 7:30 am are routed to the night service extension.

The vector steps for this scenario are:

1. Step Type 6: If the day and time is between Friday 4:00 pm and Monday 7:30 am, the call should go to Step 5, which will route them to night service.
2. Step Type 1: At all other times, the call should queue to main split, with low priority (priority 0).
3. Step Type 5: Calls should receive a 2-second delay, with ringback.
4. Step Type 9: Stop processing.
5. Step Type 3: Calls should route to night service, specified as Destination 50. Calls sent to this Step have already met the time criteria specified in Step 1.
6. Step Type 9: Stop processing.

On the screen, you would enter the information for this scenario as follows:

Step No.	Step Type	Destination	Priority	Condition	Threshold	ACD No	Start Time	End Time
1	6	5		8/9			5/4/00	1/7/30
2	1	1	0					
3	5			2	2			
4	9							
5	3	50						
6	9							

Procedure: Defining DACs for Agent Skills

The **dial-access-codes** transaction is used to administer Dial Access Codes (DACs) associated with a terminal feature or attendant console feature.

In Generic 2.2, Expert Agent Skills Selection can only be administered if the Dial Access Code (DAC) is set for the agents' skills. The **dial-access-codes** transaction allows you to assign DACs that are used by agents to define to the switch their skill level. This activates the distribution of ACD calls based on agents' skills and skills required to handle calls. For more details, refer to "Expert Agent Selection" earlier in this chapter.

1. Enter the **dial-access-codes change** transaction. The following screen appears:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
tcm admin dial-access-codes change		Page 1 of 1
ACD Agent Skills:		_____
ACD(UCD) Member Aid:		_____
ACD(UCD) Member Delete:		_____
Agent Login:		_____
Agent Logout:		_____
Agent Override:		_____
Agent Override Tone:		_____
Announcement Verify:		_____
ARL Timed Reminder Change:		_____

- In the ACD Agent Skills field, enter the Dial Access Code (*, #, 0-9). Press **RETURN**.
- Populate the rest of the fields as appropriate. Press **RETURN**.

Procedure: Displaying Dial Access Codes

Use the **dial-access-codes display** transaction to view DACs associated with terminal features or attendant console features. In Generic 2.2, this transaction also displays DACs mapping to ACD agents' skills.

- Enter the **dial-access-codes display** transaction. The **display** screen is the same as described for the **dial-access-codes change** transaction. For more details, refer to "Procedure: Defining DACs for Agent Skills"

Assigning VDN Skill Preferences

The **agent-skills** transaction allows you to administer a prioritized list of skill preferences (*Primary, Secondary, Tertiary Skill*) for a Vector Directory Number (VDN). The VDN Skill Preferences are required or preferred for the handling of the calls directed to the VDN.

Commands

The **agent-skills** transaction can be accessed from the admin, or product-admin area under the FM or TCM application. This transaction is supported only on Generic 2.2. The verbs supported are: **change** and **display**.

Procedure: Assigning Skill Preferences or Skill Numbers to VDNs

The **agent-skills change** transaction is used to assign skill preferences or skill numbers to Vector Directory Numbers.

- Enter the **agent-skills change** transaction and press **RETURN**. The following screen appears.


```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin agent-skills change          Page 1 of 2

          YOU ARE DIRECTLY ACCESSING THE PRODUCT

          Vector Directory Number (VDN): 50000

          Primary Skill Number: ____

          Secondary Skill Number: ____

          Tertiary Skill Number: ____

```

2. Enter the Vector Directory Number to be associated with a skill preference or skill number. Valid entries are **000-99999**. This field is required. Press **RETURN**.
- Note:** Primary Skill Number, Secondary Skill Number and Tertiary Skill Number are dynamic fields; they appear after you enter the Vector Directory Number.
3. For Primary, Secondary, and Tertiary Skill Number field, valid entries are **10-609**. Populate these fields as appropriate. Press **EXECUTE**.

Procedure: Displaying VDN Skill Preferences

The **agent-skills display** transaction allows you to view skill preferences or skill numbers assigned to the specified Vector Directory Numbers.

1. Enter the **agent-skills display** transaction. The input **display** screen appears.
2. Enter the Vector Directory Number whose skill preferences you wish to display. Press **RETURN**. The Primary Skill Number, Secondary Skill Number and Tertiary Skill Number fields will be brought up. The **display** screen is the same as described for the **agent-skills change** transaction. For a detailed field description, refer to "Procedure: Assigning VDN Skill Preferences or Skill Numbers to VDNs".

Assigning Vectors to VDNs

After assigning features to a vector, the next step is associate these vectors with VDNs. The vector-VDN associations are administered via the **call-vectoring** transaction. This transaction applies to Generic 2 and System 85 R2V4 only. You can run the **call-vectoring** command from the database-admin, admin, and product-admin areas.

To associate a vector with VDN(s), use the **call-vectoring add** transaction.

To display vectors that have been already assigned to VDNs, enter the **call-vectoring display** command.

To change vector-VDN association(s), use the **call-vectoring change** transaction.

To change the Vector associated with a VDN to a different Vector number, enter the **call-vectoring move** command.

To remove vector-VDN association(s), enter the **call-vectoring remove** command.

Procedure: Associating Vectors with VDNs

The **call-vectoring add** transaction allows you to assign a vector number to either a single or multiple VDNs. Prior to administering vector-VDN associations, be sure to define vector features by entering the **vector-features add** command.

To associate a vector number to a VDN, follow the steps below:

1. Enter the **call-vectoring add** command; the following screen is displayed:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin call-vectoring add		Page 1 of 1
Vector Number: ____	Select Option:	
	_ Single VDN	
	x Multiple VDNs	

2. Enter the Vector Number.
 - [Generic 2.1 and System R2V4] Valid range is **1-128**
 - [Generic 2.2] Valid range is **1-511**.
 - If the vector number has already been assigned, you cannot associate this vector with VDN(s).
3. Mark an **x** next to the single VDN or multiple VDN field depending on whether you are associating the vector number with one or more VDNs.

Depending on whether you select single, or multiple, one or several lines of the following categories are displayed as shown below:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>		
fm admin call-vectoring add		Page 1 of 1		
Vector	CMS	Console	Return Call	Display
Directory No.	Measured	Message	Indicator	Override
-----	-----	-----	-----	-----
_____	-	_/_/_/	-	-

4. Enter the Vector Directory No. being associated with the vector. Valid entries are **000-99999**. Press **RETURN**.
 - If the Vector Directory Number is not defined in the database, you will not be able to associate a vector with this VDN number. Use the **vdn add** transaction to assign the VDN number (FM and TCM application).
5. In the CMS Measured field, enter **y** or **n**.
6. Enter the Console Message to be displayed with this vector number. Valid entries are "-", **0-9, A-Z**. These characters will be displayed on the console or on the integrated display. You can use this

field to identify the group or department to whom the call is being made. Press **RETURN**.

7. Enter the Return Call Indicator. Enter **1** if the vector has an ACD split with a message center service; **2** if the vector has AUDIX; if the vector has both AUDIX and message center, enter **-**; if the vector has no machine assigned, enter **0**.
8. Enter the Display Override field. Valid entries are **y**, or **n**. Press **RETURN**.

Procedure: Displaying Vector-VDN Associations

The **call-vectoring display** transaction allows you to view vectors that have been already assigned to VDNs.

1. Enter the **call-vectoring display** command. Press **RETURN**. The following screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin call-vectoring display                Page 1 of 1

                                Select Option:
                                _ Single VDN
                                x Multiple VDNs

Vector Number: 1

VDN Number: ____

```

2. Enter the Vector Number.
 - [Generic 2.1 and System 85 R2V4] Valid entries are **1-128**.
 - [Generic 2.2] Valid entries are **1-511**.
 Press **RETURN**.
3. Depending on whether you are associating the vector number with one or more VDNs, enter **x** next to the Single VDN or Multiple VDNs. Press **RETURN**.
 - If you select the Single VDN, the VDN Number field appears on the screen.
 - If you select Multiple VDNs, the VDN Range field appears on the screen.
4. Enter the VDN Number or VDN Range. Valid entries are **000-99999**. This field is required. Press **RETURN**. The output **call-vectoring display** screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>		
fm admin call-vectoring display		Page 1 of 1		
Vector Number: 1				
Vector Directory No.	CMS Measured	Console Message	Return Call Indicator	Display Override
-----	-----	-----	-----	-----
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-
_____	-	_/_/_/_/_	-	-

Procedure: Changing Vector-VDN Associations

The **call-vectoring change** transaction allows you to change vector-VDN associations. You are allowed to change single or multiple vector-VDN associations.

1. Enter the **call-vectoring change** command. Press **RETURN**. The **call-vectoring change** screen appears. To populate the fields, refer to "Procedure: Associating Vectors with VDNs" as the **change** screens are the same as for the **call-vectoring add** transaction.

You are allowed to change values in the following fields: CMS Measured, Console Message, Return Call Indicator, and Display Override. Vector Number and Vector Directory No. fields are display only and cannot be change. To change the Vector Number for a particular VDN, use the **call-vectoring move** transaction.

Procedure: Changing the Vector Number for a Particular VDN

The **call-vectoring move** transaction allows you to change the Vector Number for a particular VDN.

1. Enter the **call-vectoring move** transaction. The following screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin call-vectoring move    Page 1 of 1

      Select Option:
      x Single VDN
      _ Multiple VDNs

      VDN Number: _____
      Vector Number: _____
    
```

2. VDN Number (VDN Range) and Vector Number are dynamic fields. These fields appear when you select a single or multiple VDNs by entering **x** in the Single VDN or Multiple VDNs fields. VDN Range appears in place of the VDN Number field when you select multiple VDNs.
3. Enter the VDN Number or VDN Range. Valid entries are **000-99999**. This field is required. Press **RETURN**.
4. Enter the Vector Number at which the VDN number or VDN range are terminating. Valid entries are **1-511**. This field is required. Press **EXECUTE**.
5. All of the information relevant to the specified VDN or range of VDNS will be displayed. Enter the Destination Vector Number at which the VDNs are going to be moved to and press **EXECUTE**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin call-vectoring move    Page 1 of 1

      Destination Vector Number: 1

      Vector          CMS          Console          Return Call          Display
      Directory No.  Measured  Message          Indicator            Override
      -----
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
      _____    -         -/_/_/_/         -                    -
    
```

Procedure: Removing Vector-VDN Associations

The **call-vectoring remove** transaction allows you to remove vector-VDN association(s). You are allowed to remove single or multiple vector-VDN associations.

1. Enter the **call-vectoring remove** command. Press **RETURN**. The **call-vectoring remove** screen appears.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin call-vectoring remove                Page 1 of 1

                                Select Option:
                                _ Single VDN
                                x Multiple VDNs

Vector Number: ____

Vector Directory Number:

____
____
____
____
____
____
____
____
____

```

2. Depending on whether you are removing single, or multiple vector-VDN associations, enter **x** next to the Single VDN or Multiple VDNs. Press **RETURN**.
3. The Vector Directory Number field appears on the screen. Depending on whether you select single, or multiple, one or several lines are displayed for the Vector Directory Number field. Enter one or multiple VDN number(s). Valid entries are **000-99999**. Press **RETURN**.
 - If a trunk group has been terminated on the VDN, you cannot remove this vector-VDN association. First, enter the **term-trk-grp change** command to remove this termination.

Administering ACD Announcements

If Call Vectoring is present, the **acd-announcement** transaction has been modified to allow you to associate VDNs, as well as ACD splits or trunk groups with particular announcements. These announcements identify the source of a caller to the ACD agent by identifying the Vector Directory number (VDN field), the originating ACD split or department from which the call originates (Queue of Origin), or city (city of origin) where the call originates.

If you use the command

1. Enter the **acd-announcements add** transaction. The following screen will appear.

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin acd-announcements add                          Page 1 of 1

                Select one of the following:
                    x VDN of Origin Announcement
                    City of Origin Announcement
                    Queue of Origin Announcement

```

2. Select the type of announcement to be assigned, and follow the appropriate procedure below.

Procedure: Assigning VDN of Origin Announcements

With Call Vectoring, you can associate a recorded announcement with a Vector Directory Number.

1. Select VDN of Origin and the following screen will be displayed.

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin acd-announcements add                          Page 1 of 1

                Select one of the following:
                    x VDN of Origin Announcement
                    City of Origin Announcement
                    Queue of Origin Announcement

                Vector Directory Number: ____
                Recorded Announcement Number: ____

```

2. Enter the Vector Directory Number to be assigned to the announcement. You can enter a number between **000** and **99999**. This field is required. Press **RETURN**.
3. Enter the Recorded Announcement Number that is to be associated with the VDN. This field is dynamic; it appears after you enter the Vector Directory Number. The Recorded Announcement Number field is required. Valid entries are **16-99** or **1-255** [Generic 2.2]. Press **RETURN**.

Procedure: Assigning City of Origin Announcements

With Call Vectoring, the City of Origin announcement can still be assigned to a trunk group, as well as a Vector Directory Number. In this way, calls to that directory number would be given the assigned City of Origin announcement, while calls from trunk groups using the same vector could use the specific City of Origin announcement assigned to that trunk group.

1. Select "City of Origin Announcement".

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin acd-announcements add                               Page 1 of 1

                Select one of the following:
                    VDN of Origin Announcement
                    x City of Origin Announcement
                    Queue of Origin Announcement

Trunk Group Number:___  City-of-Origin Announcement Number: ___
    
```

2. Enter the Trunk Group Number (**18-999**) to which the announcement is to be assigned. This field is required. Press **RETURN**.
3. Enter the City-of-Origin Announcement Number. Valid entries are **1-255** for Generic 2.2 and **16-99** for Generic 2.1 and System 85 R2V2-R2V4. This field is required. Press **EXECUTE**.

Procedure: Assigning Queue of Origin Announcement

With Call Vectoring, the Queue-of-Origin Announcement will continue to be associated with an ACD split number and will only apply when a call is queued to that split.

1. Select Queue of Origin Announcement; the following screen is displayed.

```

AT&T Mgr IV 2.2  SR:          DEFINITY G2.2          <target>
fm admin acd-announcements add                               Page 1 of 1

                Select one of the following:
                    VDN of Origin Announcement
                    City of Origin Announcement
                    x Queue of Origin Announcement

ACD Split Number:___  Queue-of-Origin Announcement Number: ___
    
```

2. Enter the ACD Split Number (**1-60**) for this announcement. This field is required. Press **RETURN**.
3. Enter the Queue-of-Origin Announcement number. Valid entries are **1-255** for Generic 2.2 and **16-99** for Generic 2.1 and System 85 R2V2-R2V4. This field is required. Press **EXECUTE**.

How to Terminate Trunk Groups to VDNs

With Call Vectoring, trunk groups are no longer associated with ACD split numbers. The terminating trunk group transaction is modified if Call Vectoring is present to show whether a trunk group terminates at Centralized Attendant Service (CAS), Special Services Attendant, or a VDN. It is in this important transaction that trunk groups are associated with VDNs.

Procedure: Displaying Trunk Groups Terminating to VDNs

The **term-trk-grps display** transaction allows you to display the trunk groups terminated to VDN(s) either by Trunk Group Number or by VDN number. Valid entries for the VDN number are **000-99999**.

1. Enter the **term-trk-grps display** command. Press **RETURN**. The screens are similar to the trunk groups terminating to ACD groups. Except, wherever the ACD is referenced, VDN is used instead. Also, instead of the ACD Split field, the VDN field displays. For a detailed description, refer to "Procedure: Displaying Trunk Groups Terminating to ACD Groups".

Procedure: Terminating Trunk Groups to VDNs

Use the **term-trk-grp change** transaction to define trunk groups as VDN terminating trunk groups. The trunk groups must have already been added using **trk-grp add**.

1. Enter **term-trk-grps change** and press **RETURN**. When the screen appears, enter **x** in the Vector Directory Number [VDN] field and press **RETURN**. The screen is similar to the trunk groups terminating to ACD groups. Except, references to ACD are replaced by VDN. You are allowed to change entries in the Termination, CMS/MIS, and VDN fields. For a detailed description, refer to "Procedure: Terminating Trunk Groups to ACD Groups".

Administering ACD Groups

The **acd-grp** transaction changes when Call Vectoring is present because queue directory numbers and priority extensions are no longer used. However, queue warning lamps can still be provided. The appropriate lamp lights when the number of calls in the split's queue is greater than or equal to the assigned threshold. However, when Call Vectoring is enabled, the warning threshold designated here can be a different value from the vector step parameter that is actually used to send calls to another destination.

When Call Vectoring is present on a Generic 2, or R2V4 switch, the following screen is displayed when you enter the command **acd-grp add**.

```

AT&T Mgr IV 2.2   SR:                DEFINITY G2.2                <target>
fm admin acd-grp add                                     Page 1 of 1

                ACD - SPLIT CHARACTERISTICS

        ACD Split No.: __

        SPLIT CHARACTERISTICS                SPLIT SUPERVISOR AND CHARACTERISTICS

                Multiple Call Handling? n
Queuing Trunk Group: ____                Auto Available? n
                Hunt Type: 0 (CIRCULAR)    Supervisor Extension No.: _____
                Split Type: 0 (REGULAR)
                Machine Number: 0
Outflow/Queue Level: __                Forced Entry? n
                Inflow Level: 0_

                LAMP CONTROL CIRCUIT

                CMS Measurement? y                Board Index: _
                Circuit Index: _
    
```

The CMS Measurement and Forced Entry fields apply to Generic 2.2 only and do not appear on the screen for earlier switch releases.

The Split Size field does not appear on the screen for Generic 2.2. This field applies to Generic 2.1 and System 85 R2V3-R2V4 where ACD groups must be defined with a fixed size.

In Generic 2.2, you do not need to specify the split size; split sizes are dynamic, just as large as the number of agents assigned to the split. A split may contain any number of agents; the maximum number of agents allowed per split is 1024, and per system is 2048. The maximum number of CMS measured ACD agents allowed per system is 1023.

On this screen, you can set parameters, such as thresholds, as you did in "Adding ACD/UCD/EUCD Groups".

Administering Call Vectoring When You Have Call Management (CMS)

If you also have a Call Management System (CMS), you may prefer to use it to manage and track certain aspects of the Call Vectoring feature. If you use Manager IV to administer your Generic 2 and System 85 as a whole, and Call Management to administer your Call Vectoring data, it is important that you keep track of changes made to the switch by both Manager IV and Call Management.

The following procedures are provided to help avoid problems that may result from using two different systems to administer Call Vectoring. These procedures recommend the vehicle you should use for specific administration; however, if Call Management can administer a specific data item, it is the preferred system. If you have a Call Management System, refer to these procedures when you need to administer Call Vectoring data.

For details about using each command, refer to the "Call Vectoring" procedures earlier in this section.

Most of the Call Vectoring commands appear under both the TCM and FM hierarchies for user convenience. When a command is specified in the procedures, the command line indicates TCM or FM, depending on the usual hierarchy for the specified command.

CMS Administration of Switch Translation Data

The following table describes the data items that can be administered by both Call Management and Manager IV. The table lists the Manager IV transaction used to administer the data and indicates whether this data is stored in the Manager IV database as well as in the product.

Table 8-2. Call Management Administration of Call Vectoring Data

Description of Data Items	Manager IV Transaction	Manager IV Database?
Terminate VDN to a vector.	call-vectoring	y
Terminate trunk group to a VDN.	term-trk-grps	y
Define vector steps	vector-features	y
ACD member extn.	acd-members	n

The table implies that Call Management can administer only a subset of Call Vectoring features. Call Management cannot add or remove VDNs or trunk groups; it can only change their assignment to vectors. Other administration must be done via Manager IV. You can also see that the data administrable by Call Management is not self-contained, and depends on certain data items that are only administrable by Manager IV. Conversely, some of the data items that can only be administered by Manager IV are dependent on data that can be administered only by Call Management.

Procedure: Busying out Call Management with Manager IV

Administration of any Call Vectoring data by Manager IV should always be coordinated with the Call Management Administrator, as Call Management is the end user of this data. Before Manager IV can administer certain Call Vectoring data, Call Management must be "busied out" via the Manager IV command **cms busyout**. While Call Management is busied out, it cannot administer any switch translation data. Certain statistic gathering that is done by Call Management is also suspended during the busy out period. When Manager IV has completed administering this data, it must "release" Call Management, using the command **cms release**.

When Call Management is busied out, all data collection and monitoring activities are stopped until it is released again. If these activities are stopped for more than a short period of time, there is obviously a large impact on Call Management statistics and reports.

Note: It is imperative that you coordinate any busy out of Call Management with the Call Management Administrator.

Call Management must be busied out before the following Manager IV commands can be executed:

- **acd-grp**
- **acd-members**
- **cms-extension**
- **term-trk-grps**
- **call-vectoring**
- **trk-grp, trk** (only if trunk group is measured by Call Management).

In Generic 2.2, CMS needs only to be busied out for ACD members, ACD groups or terminating trunk groups when changing the status from measured to unmeasured or unmeasured to measured.

Call Management must be released via the **cms release** transaction only if a **cms busyout** was previously performed.

Procedure: How to Busy out Call Management

1. Contact the Call Management Administrator to arrange a mutually agreed upon time to busy out Call Management.
2. Run the command **cms busyout**.
3. Perform the necessary Call Vectoring administration through Manager IV.
4. Run the command **cms release** as soon as the Call Vectoring data has been administered.
5. Inform the Call Management Administrator when this process is complete.

Displaying Call Vectoring Data

Manager IV can use the product-admin area to display any Call Vectoring data from the switch at any time, with no impact on Call Management. Data can be displayed from the Manager IV database at any time, through the database-admin area. However, remember that database displays show only what is in the Manager IV database, and do not guarantee that the data items that are administerable by Call Management are correct. For these data items, you should use only product-admin displays from Manager IV.

Downloading Manager IV Transactions to the Switch

Although you would normally schedule transactions using Service Requests that download to the switch overnight, this is not recommended when you are administering Call Vectoring data that is interdependent with Call Management. For the transactions contained in the procedures in the following sections, schedule the Service Request to download only a few minutes from the current time, or run transactions in the immediate mode. You might also create the Service Request during off-hours when Call Management is not active, and then schedule the Service Request during the same off-hour period. This will prevent Service Request failures caused by Call Management changing some related data item. It will also prevent Manager IV from inadvertently undoing a change to a data item that Call Management has already made.

Saving Data in a Model

Some of the procedures in the following sections require saving data from a product-admin display transaction in a model, and then reading the data from the model into an admin change screen. This enables information from the switch to be read into admin or database-admin screens, reducing the chances of data entry errors that can make the two databases incompatible. For information about modeling, see *Getting Started with DEFINITY® Manager IV*.

Administering Vector Directory Numbers

Vector Directory Numbers (VDN) can only be added or removed through Manager IV. The **vdn** command is used to add, change, remove, or display a vector directory number and to associate a name with it. The **vdn display** command also displays the associated vector, if one exists.

Procedure: Adding or Removing VDNs

In adding or removing VDNs, always work closely with the Administrator of your Call Management system. After using **fm admin vdn add** successfully, tell the Administrator. Before removing a VDN:

1. Contact the Call Management Administrator to verify that the VDN will no longer be in use.
2. Run **fm product-admin vdn display** to determine if the VDN is associated with a vector. If it is, contact the Call Management Administrator to resolve the discrepancy.
3. If the Call Management Administrator agrees that the VDN can be removed, run **fm admin vdn remove**.

Changing the name for the VDN has no impact on Call Management; use the command **fm admin vdn change**.

Administering Vector Steps

The **vector-features** command is used to add, change, remove, and display all of the program steps (up to 15) for a given vector. Data items pertaining to vectors usually are administered via Call Management. Before you use Manager IV to administer vectors, contact the Call Management Administrator to verify that the vector should be administered via Manager IV.

Procedure: Adding a Vector

1. Run **fm product-admin vector-features display** to determine whether this vector has been previously added by Call Management.
2. If it has, save the output in a model. To bring the Manager IV database in sync with the switch, run **fm database-admin vector-features add**. Read the data from the model and execute the command to bring the Manager IV database in sync with the switch.
3. [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
4. If the vector has not been added by Call Management, run **fm admin vector-features add**.
5. [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.

Procedure: Vectors and VDNs for Generic 2.2

In Generic 2.2,

1. Busy out CMS only if VDN is changing from measured to unmeasured or from unmeasured to measured.
2. CMS need not be busied out when adding a vector. Busy out CMS only when assigning a VDN as measured to the vector.

Procedure: Removing a Vector

1. Run **fm product-admin vector-features display** to determine if the vector is currently defined in the switch.
2. If the vector was not defined in the switch but it is defined in the Manager IV database, run **fm database-admin vector-features remove** to remove it from the database.
3. If the vector exists in both the switch and the Manager IV database do the following:
 - [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
 - Run **fm product-admin call-vectoring display** to determine whether any VDNs are assigned to the vector. If there are, follow the procedures in the following section for "Removing VDNs from a Vector".
 - Remove the vector using **fm admin vector-features remove**.
 - [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.

Procedure: Changing Vector Steps

1. To get a copy of the vector as it appears in the switch, run **fm product-admin vector-features display** and save the output in a model.
2. Run **fm admin vector-features change** and read the data from the model into the change screen.
3. Busy out Call Management using **fm admin cms busyout**. In Generic 2.2, run **cms busyout** only if you are changing measurement status.
4. Add new vector steps, or remove or change existing vector steps; execute the transaction.
5. Release Call Management using **fm admin cms release**.

Administering VDNs to Vectors

The **call-vectoring** command is used to:

- Terminate VDN(s) to a vector
- Determine if a VDN's activity is to be measured
- Administer the return call indicator
- Assign a console message for the VDN.

Before **call-vectoring** can be run, the vector must first be defined via **vector-features add** (described above) and the VDN must be defined via **vdn add**. The termination of VDNs to a vector is the only data item in this transaction that can be administered by Call Management. The console message, return call indicator, and the measured flag can be administered via Manager IV only.

If a VDN termination is to be changed from one vector to another, contact the Call Management

Administrator. However, if the termination *must* be changed under DSM, the VDN must be removed from the existing vector and then added to the new vector. Follow the above procedures "Removing VDNs from a Vector and then "Adding VDNs to a Vector".

Procedure: Adding VDNs to a Vector

1. Run **fm product-admin call-vectoring display** to determine whether any VDN is terminated at the vector.
2. If there is a VDN terminating to the vector:
 - Save the output to a model.
 - Contact the Call Management Administrator to determine whether the VDN to be administered should also be terminated to the vector, or if some discrepancy needs to be corrected.
3. [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
4. If there were no VDNs assigned to the vector in the switch and the Manager IV database, run **fm admin call-vectoring add**.
5. If the vector was already assigned a VDN in the switch, but not in the Manager IV database do the following:
 - Correct the Manager IV database so it is in sync with the switch. To do this, run **fm database-admin call-vectoring add** and read in the data from the model; then execute the transaction.
 - Run **fm admin call-vectoring change** to add additional VDNs to the vector and to define any of the Call Vectoring characteristics.
6. [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.

Procedure: Removing VDNs from a Vector

1. Run **fm product-admin call-vectoring display** to make sure that the vector has associated VDNs.
2. If the vector does not have VDNs associated with it in the switch, but it does in the Manager IV database, run **fm database-admin call-vectoring remove** to bring the Manager IV database in sync with the switch.
3. If the switch and the Manager IV database are in sync, do the following:
 - [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
 - Run **fm admin call-vectoring remove**.
 - [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.

Procedure: Changing Vector-VDN Characteristics

The **call-vectoring** command is used to change the VDN return call indicator, console message and the Manager IV flag. To implement this command:

1. Run **fm product-admin vdn display** to determine the vector to which the VDN was re-assigned by Call Management.
2. Run **fm product-admin call-vectoring display** and save the output in a model.
3. If the VDN to be administered is not terminated with the indicated vector in the Manager IV database, do the following:

- Run **fm database-admin call-vectoring remove** and remove the VDN from the vector in the Manager IV database.
 - Run **fm database-admin call-vectoring add** and read in the data from the model, then execute the transaction.
4. If the VDN to be administered terminates at the expected vector in both the switch and the Manager IV database, do the following:
 - Busy out Call Management using **fm admin cms busyout**. In Generic 2.2, run **cms busyout** only if you are changing measurement status.
 - Run **fm admin call-vectoring change**, using the data from the model as input, and then change the data items as required.
 - Release Call Management using **fm admin cms release**.

Terminating Trunk Groups to VDNs

The **term-trk-grps** command is used for three types of tasks: terminating a trunk group to a VDN, removing the termination, and determining if the trunk group is measured by Call Management. The Call Management measurement indicator can only be administered through Manager IV, but the first two tasks can be performed through Call Management or Manager IV.

Procedure: Adding Trunk Group Termination to a VDN

1. Run **fm product-admin term-trk-grps display** for the VDN, to determine whether any trunk groups are already terminated to the VDN. If there are, save the output in a model.
2. [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
3. Run **fm admin term-trk-grps change**; enter **X** in the VDN field.
4. If trunk groups were already terminated to the VDN, read in the data from the model. The terminating trunk group(s), along with the Call Management measurement indicator, can then be defined for the VDN.
5. [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.

Procedure: Removing Trunk Group Termination from a VDN

1. If only a single trunk group termination is to be removed, run **fm product-admin term-trk-grps display** and indicate the trunk group option.
2. If the trunk group termination is defined in the switch, do the following:
 - [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
 - Remove the terminating trunk group using **fm admin term-trk-grps change**.
 - [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.
3. If it is not defined in the switch, run **fm database-admin term-trk-grps change**.
4. To remove the termination for all trunk groups terminating to a particular VDN:
 - Run **fm product-admin term-trk-grps display**; enter **x** in the VDN field. To obtain a list of the trunk groups in the vector, do the following:
 - Busy out Call Management using **fm admin cms busyout**.

- For each trunk group terminated to the VDN, run **fm admin term-trk-grps change**.
- Release Call Management using **fm admin cms release**.

Procedure: Changing Terminating Trunk Group Attributes

Use this procedure to change the VDN where the trunk group is terminated or to change the Call Management measurement flag.

1. To be sure the information you enter matches the switch information, run **fm product-admin term-trk-grps display** for the specific trunk group. Save the output in a model.
2. Busy out Call Management using **fm admin cms busyout**. In Generic 2.2, run **cms busyout** only if you are changing measurement status.
3. To change a specific data item, run **fm admin term-trk-grps change**. Read in the data from the model, then change the data item.
4. Release Call Management using **fm admin cms release**.

Administering Trunks with Call Management

When you administer trunks that are in trunk groups measured by Call Management, you must busy out Call Management first. Call Management does not administer any trunk attribute data; therefore, no special procedures are needed to add trunks or change trunk attributes except busying out Call Management. The procedure to remove a measured trunk is explained below.

The **trk-grp** or **trk** command is used to administer trunks. The **term-trk-grps** command is used to indicate that a given trunk group is to be measured by Call Management.

removing"

Procedure: Removing Trunks Measured by Call Management

1. [Generic 2.1, System 85 R2V2-R2V4] Busy out Call Management using **fm admin cms busyout**.
2. To remove a single trunk, run **fm admin trk remove**.
3. If the entire trunk group needs to be removed, run **fm admin term-trk-grps change** so the trunk group is no longer measured by Call Management. Then use **trk remove** to remove the trunks from the group, and then **fm admin trk-grp remove** to remove the trunk group.
4. If a **trk-grp remove** transaction fails to download to the switch because some vector has a recorded announcement step, follow the procedure for "Changing Vector Steps" to remove all of the recorded-announcement vector steps. Then run **fm admin service-request run** to re-run the Service Request to remove the trunk.
5. [Generic 2.1, System 85 R2V2-R2V4] Release Call Management using **fm admin cms release**.

Administering ACD Members

The **acd-members** command is used to add, display, or remove ACD agents from an ACD split. This transaction is product-only, and the Manager IV database does not store data that indicates whether an extension is an ACD agent. This data can also be administered by the ACD split supervisor.

Run this transaction only if instructed to do so by the Call Management Administrator.

Procedure: Adding/Changing/Removing ACD Agents

1. Busy out Call Management using **fm admin cms busyout**.
2. Administer the members of the ACD group using the appropriate transaction: **fm admin acd-members add/display/remove**
3. Release Call Management using **fm admin cms release**.

Defining a Vector Abbreviated Dial List

The **tcm admin vector-abbr-list** command is used to define an existing abbreviated dial group list for use by Call Vectoring.

[Generic 2.1 and System 85 R2V4] You can **change**, **remove**, or **display** the abbreviated dial list using this command.

In Generic 2.2, only two verbs are supported: **change** and **display**.

Refer to *DEFINITY® Manager IV Terminal Change Management Operations* for procedures on administering abbreviated dial lists. This data cannot be administered by Call Management; however, the vector abbreviated dial list must be defined before Call Management can use the abbreviated dial list items in route-to-steps of a vector.

Procedure: Defining Vector Abbreviated Dial Lists in Generic 2.2

In Generic 2.2, the **vector-abbr-list change** transaction allows you to assign up to 5 group lists for use by Call Vectoring.

1. Enter the **vector-abbr-list change** transaction. The following screen appears:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
tcm admin vector-abbr-list change          Page 1 of 1
          YOU ARE DIRECTLY ACCESSING THE PRODUCT

List 0 Group Number: ____
List 1 Group Number: ____
List 2 Group Number: ____
List 3 Group Number: ____
List 4 Group Number: ____
```

2. For any of the fields listed on the screen, select one of these valid ranges: **1-95**, **101-195**, **201-295**, **301-395** or **401-495**. Populate the fields as appropriate. Press **(EXECUTE)**.

Displaying Vector Abbreviated Dial Lists in Generic 2.2

Use the **vector-abbr-list display** transaction to display abbreviated dialing group lists assigned to Call Vectoring.

1. Enter the **vector-abbr-list display** transaction. The **display** screen appears. The screen is the same as described for the **vector-abbr-list change** transaction. For field description, refer to "Procedure: Defining Vector Abbreviated Dial Lists in Generic 2.2"

Recovering from Service Request Errors

The Call Management/Call Vectoring procedures explained in this section rely on your contact with the Call Management Administrator to keep the Manager IV database synchronized with the switch for data items which can be administered through Call Management. If Manager IV's Call Vectoring data does differ with the switch's, Service Request transactions may fail to download to the switch. This section explains what to do if this occurs.

Extensions Assigned to Call Coverage Groups Using VDNs

A VDN can be assigned as the last point in a Call Coverage path. If an extension is assigned to a Call Coverage Group that has a VDN as its last point, the AP or AUDIX number of the extension must be the same as the AP or AUDIX number of the VDN. The AP or AUDIX is not directly associated with the VDN; the VDN's AP or AUDIX number is the number assigned to the ACD split defined in one of the steps in the vector to which the VDN is terminated.

As the following example illustrates, the association of AP or AUDIX with VDN involves several levels of redirection. The extension is linked to a Call Coverage Group, which is in turn linked to a VDN. The VDN is linked to a vector, which is linked to an ACD group that has an AP or AUDIX number.

AP/AUDIX NUMBER ASSOCIATIONS

extn = 10000	ccg = 20	VDN = 20000	vector = 100	ACD = 13
ccg = 20	point 3 is	terminates on	step 2 is	AP = 1
AP = 1	VDN=20000	vector = 100	queue-to-main	
			ACD = 13	

Because the AP or AUDIX for the Call Coverage Group is derived from vector steps, which are administrable by Call Management, there is the possibility that the AP or AUDIX for the Call Coverage Group can be changed by Call Management. While this is unlikely to occur, the following procedures are offered to resolve Service Request failures resulting from failed **extension** transactions.

Procedure: Displaying AP or AUDIX Extension Numbers

1. Run **fm admin station-attributes display**. Pick the extension option on Page 1, and enter the Call Coverage Group number on Page 2. You only need to display one extension, since all extensions in the group must have the same AP or AUDIX number.
2. Run **fm admin extension display** for the extension number obtained from station attributes. Note the extension's AP and AUDIX number.
3. Run **fm admin call-coverage-path display** to find the VDN in the path.
4. Run **fm product-admin vdn display** to find the vector for the VDN.
5. Run **fm product-admin vector-features display** to find the ACD split accessed in the vector steps.
6. Run **fm admin acd-grp display** to find the AP or AUDIX number of the ACD group.

Vector Abbreviated Dial List

If the **change** (Generic 2 and System 85 R2V4) or **remove** (Generic 2.1 and System 85 R2V4 only) transaction fails to download to the switch because a vector is still using the vector abbreviated dial list, run these two procedures:

- Follow the procedure for "Changing Vector Steps" to remove all of the route-to steps from all vectors accessing the vector abbreviated dial list.
- Run **fm admin service-request run** to re-run the Service Request to change or remove the vector abbreviated dial list.

Removing Trunk Groups

If a Manager IV user attempts to remove a trunk group that the Call Management administrator has terminated to a VDN, the Service Request will fail upon download to the switch. Because removing trunk groups is not a common task, this error condition is unlikely. However, in the event it does occur, take the following steps:

- Run **fm product-admin term-trk-grps display** and input the trunk group number.
- Contact the Call Management administrator to resolve the discrepancy.
- If the administrator agrees that the trunk group no longer needs to terminate to the vdn, run **fm product-admin term-trk-grps change** to remove the termination.
- Re-run the Service Request to remove the trunk group using **fm admin service-request run**. It should download successfully.

10. MISCELLANEOUS APPLICATIONS

CENTRALIZED ATTENDANT SERVICE (CAS)

Centralized Attendant Service (CAS) is a type of network that is sometimes referred to as a network feature. CAS permits networks served by multiple switches to concentrate attendant positions at a single location. If traffic peaks at your switching systems at different times of the day, perhaps due to time zone differences, you may require fewer centralized attendants than the total number otherwise required at branch locations. CAS can make it easier to train and supervise attendants. FM allows attendants at your main CAS location to handle calls from as many as 40 branches. You can display CAS information at your work station for either a main or branch location. Based on this data or information from traffic studies, you can expand or reduce the size of your CAS.

You can add a new branch location and add information about it to the main location, as well as change or remove information about the CAS feature. CAS is not used with a Main/Satellite configuration.

How CAS Works

Incoming Listed Directory Number (LDN) calls requiring attendant help are routed over telecommunications channels known as Release Link Trunks (RLTs). RLTs connect calls from the unattended branch location(s) to the centralized or main attendant location, serving as short holding-time connections. When RLTs are busy, CAS holds calls in queues until an RLT is free.

The main switch operates independently of the branch switching systems. The calls coming over the RLTs are placed in the attendant queue along with the main switch's traffic, on a first-come, first-served basis. Attendant-seeking traffic is directed to an available CAS attendant. Call identification tones tell attendants the type of call they are about to answer. For example, a particular tone signals that an LDN call is arriving; another tone indicates a call from a branch. The CAS attendant completes the call over the same RLT on which it arrived. After the attendant releases the call, the RLT is released and returns to an idle state.

Switching Systems, Equipment, and RLTs

Within the CAS complex, which consists of a main location switching system (and the location of the CAS attendants) and the branch location switching systems, you can use a variety of network switches while working with Manager IV:

- DIMENSION System FP8
- Generic 2 and System 85
- System 75.

The switches can provide Automatic Call Distribution (ACD) and do not need the ACD machine required by earlier DIMENSION releases. ACD allows the calls to go directly to an idle attendant terminal. In this overview, ACD refers to the ability to distribute calls automatically; for an explanation of the ACD feature, see the overview on Automatic Call Distribution.

The RLTs at the main location are one-way incoming trunk circuits and at the branch location, one-way outgoing circuits. RLTs are Trunk Types 57 at the branch end and 66 at the main end. The attendant queue is served by Trunk Type 6. In addition to RLTs for linking the locations themselves, RLTs must also be provided to connect the locations to the call distributor.

Branch and Main Locations

With Manager IV, CAS networks have two distinct points of view for administration, focusing either at a branch node or at a main node. The branch node is translated to forward attendant-seeking calls over RLTs connected to the CAS main node where a central group of attendants can serve as many as 110 incoming RLTs. There can be 40 attendant consoles in this central group.

CAS also permits the placement of local attendants at branch locations for Generic 2, System 85, DIMENSION, and System 75 switches that accept RLTs. Local attendant positions provide services that attendants at the main location cannot provide, such as:

- Alternate Facility Restriction Levels (FRLs)
- Attendant Control of Trunk Group Access
- Attendant Handling of Outgoing Calls and Transfers
- Busy Verification of Lines
- Preselected Call Routing
- Conference—Attendant Six Party
- Serial Calls
- Trunk Verification by Attendant.

Centrally located attendants can call branch attendants by dialing an assigned access code. CAS handles all other calls requiring attendant help.

When CAS is not active, a branch location can use alternate modes if it is desirable or necessary to handle the attendant-seeking traffic locally at the branch location. This would be the case if RLTs between the branch and main location went out of service or were busied-out. There are two alternate modes:

- Call Answer from Any Voice Terminal (CAAVT) mode, in which any incoming LDN call activates an audio alarm and any local voice terminal user can answer the call by dialing the CAAVT answer code.
- Backup Voice Terminal Mode, in which attendant-seeking calls are directed to backup voice terminals, one such terminal being required for each RLT.

The decision to allocate and designate specific backup extensions is performed through the FM command **cas add**.

Procedures for "Adding A Branch Location" and "Adding RLTs to a CAS" follow this overview.

Additional Features

Queuing overflow allows you to limit the number of calls that you accept at the main location; an indicator lamp on an optional lamp panel signals that this preset limit has been reached. Overflow calls can then be directed to another location where they can be answered. This has important network-wide implications, for if you need to maintain telephone service that is constantly available, you can configure your facilities in such a way to ensure that every incoming call to the central switchboard will always be answered by an attendant.

Generic 2 and System 85 R2V4 support Centralized Messaging, which allows users to share message center or AUDIX service on several nodes in a DCS network. See "DCS Centralized Messaging" in Chapter 5 for more information.

Interactions with TCM

In order to set up the central attendant console, you must use the Terminal Change Management (TCM) application. Check *DEFINITY® Manager IV Terminal Change Management Operations* for specific information.

Adding a Branch Location

Use this procedure to add a new branch location to your existing Centralized Attendant Service (CAS). You will most likely use this procedure when a new switch is added to your network or when you want to extend CAS coverage to an existing switch. The CAS feature enables one or more attendants situated at one main location to cover telephone traffic at up to 40 branch locations.

CAS is made possible through the use of Release Link Trunks (RLTs) and queues. Calls wait in queue until an RLT is free. Then an attendant takes hold of (or "seizes") the trunk and redirects the call back out over the RLT.

You may find it helpful to use Scrapbook to create prototype files of branch location features. You can then recall the prototype files to create new branches without reentering the data.

To add a branch location, you use the command **cas add** to:

- Define the new branch as part of the CAS feature at the branch location.
- Add information about the new branch at the main location.

CAUTION: Be sure that you specify the right target when you are performing this procedure. CAS will not function if you enter information about a branch location in the switch at the main location or enter information about the main location in the switch at the branch location.

Procedure: Defining the New Branch

This procedure is performed *after* the switch at the branch location is installed and in service. To define the new branch as part of the CAS feature:

1. Enable the trunk-to-trunk transfer feature on the switch at the branch location. This is done through the **sys-cos** transaction. See "Changing System Class of Service" in Chapter 3 for more information.
2. Add RLTs (Trunk Type 57) and a queue trunk (Trunk Type 6) at the branch location. If you want to have status lamps, you must also add a Contact Interface trunk group (Trunk Type 65). See "How to Add Trunks and Trunk Groups" in Chapter 4 for information on adding the required trunk groups.
3. Enter **cas add** and press **RETURN** to add the branch location.

```

AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin cas add

Select CAS Node Type: _ branch
                     _ main

```

4. Enter **x** in the branch field to select the branch node type. Press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin cas add                Page 1 of 2

Select CAS Node Type:x_branch   Add Signaling and Queue information?_
                        __main                Add RLT information?__
    
```

5. Enter **y** after both questions and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin cas add

Select CAS Node Type: x branch   Add Signaling and Queue Information? y
                        __ main                Add RLT Information? y

Signaling to CAS Attendant       Outgoing Queue group number: 22

Timed Reminder in Seconds: n     Queue Overflow Warning? n

Tone Signal on LDN Calls? y      No. Calls to light
                                   Overflow Lamp: __

RLT Equipment Location:  Backup Extension:  Signaling to CAS ACD?

  __/_/_/_/_/___                _____                n
  __/_/_/_/_/___                _____                n
  __/_/_/_/_/___                _____                n
  __/_/_/_/_/___                _____                n
    
```

6. The Outgoing Queue Group Number field is required. Enter the trunk group number of the queue trunk (Type 6) group associated with this branch.
7. In the Timed Reminder in Seconds field, enter the number of seconds (**0-31**) after which the attendant will be reminded of calls that have not terminated properly. Enter **n** if timed reminder is not in use.
8. In the Queue Overflow Warning field, enter **y** if the queue overflow lamps are in use.
9. Enter **y** in the Tone Signal on LDN Calls if you want the attendant to receive a special tone signal for LDN calls.
10. In the No. Calls to light Overflow Lamp field, enter the number of calls (**1-99**) that must be waiting in the queue before the CAS queue overflow lamp will light.
11. Enter the ELL of up to two RLTs associated with this branch location. ELLs for additional RLTs can be entered on Pages 2 and 3, if needed.
12. For each RLT, enter the number of the Backup Extension that will receive all calls directed to the RLT if the RLT is out of service or if CAS is in backup mode. The same extension number can be used for more than one RLT.
13. Enter **y** in the Signaling to CAS ACD field if you want special signaling sent to the CAS ACD to continue ringing.

14. Press **RETURN** to go on to Pages 2 and 3 if you need to enter additional RLTs. Otherwise, press **EXECUTE** to enter the data.

Procedure: Adding Branch Information at the Main Location

To add information about the new branch at the main location, follow the steps below.

1. Add RLTs (Trunk Type 66) and the queue trunk (Trunk Type 6) at the main location. If you want queue status lamps, add the Contact Interface trunk group (Trunk Type 65) if it is not already present. See "How to Add Trunks and Trunk Groups" in Chapter 4 for information about adding the required trunk groups.
2. Enter **cas display** to display current CAS information at the main location.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas display          Page 1 of 1

Select CAS Node Type: _ branch
                        _ main

```

3. Enter **x** in the main node type field and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas display          Page 1 of 1

Select CAS Node Type: ___ branch          Branch No.? ___
                        _x_ main          Lamp Assignments? ___

```

4. Enter the branch number in the Branch No.? field, and enter **y** in the Lamp Assignments field.
5. Press **EXECUTE** to display the data.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas display

Select CAS Node Type:  ___ branch          Branch No.? 3__
                      _x_ main          Lamp Assignments? y__

Branch No.:              Incoming RLT Group:          Branch Type:
                        ___                ESS non-ESS
                        ___                ___ _x_

RLT Equipment Location:  Lamp CTL Board:          Lamp CTL Circuit:
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
    
```

6. Enter **all** in the Branch No. field to determine the next available branch number.
7. Press **EXECUTE** to display the data.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas display

Select CAS Node Type:  ___ branch          Branch No.: all
                      _x_ main

Branch No.:              Incoming RLT Group:          Branch Type:
                        ___                ESS non-ESS
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
                        ___                ___
    
```

- If this page is full, press **NEXT PG** until all data is displayed. Choose an available number, but remember that a main location can serve no more than 40 branch locations.

8. To add CAS information at the main location, enter **cas add** and press **RETURN**.

System response:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

                ___ branch
                ___ main

```

9. Enter **x** in the main field to select the CAS Node Type, and press **RETURN**.

System response:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

Select CAS Node Type: ___ branch          Add Branch No.?___
                    _x_ main          Add Lamp Assignments?___

```

10. Enter **y** in the Add Branch No. field and press **RETURN**.

System response:

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

Select CAS Node Type: ___ branch          Add Branch No.?y_
                    _x_ main          Add Lamp Assignments?___

Branch No.:          Incoming RLT Group:          Branch Type:
                    ___          ESS non-ESS
                    ___          -          -

```

11. Enter the branch number you chose earlier.
12. If you want to add lamp assignments, enter **y** in the Add Lamp Assignments field and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

Select CAS Node Type:  ___ branch          Add Branch No.?y_
                      _x_ main          Add Lamp Assignments?y_

Branch No.:           Incoming RLT Group:   Branch Type:
1_                   _66                   ESS non-ESS
                                      x      _

RLT Equipment Location:  Lamp CTL Board:   Lamp CTL Circuit:
___/___/___/___      ___                   ___
    
```

- Enter hardware locations of RLTs and lamps. Values in the Branch No. and Incoming RLT Group fields are automatically filled in based on previous entries.
- If you want to assign more equipment locations, press **NEXT PG** to get a new form. Enter the additional equipment locations.

13. Press **EXECUTE** to enter data.

Adding RLTs to CAS

Use these procedures to add more Release Link Trunks (RLTs) to your Centralized Attendant Service (CAS) when performance or traffic studies indicate that current engineering is not adequate. The RLTs are Type 57 for branch locations or 66 for main locations. The sequence of tasks listed below assumes that all branches are already configured. To add a branch, see "Adding a Branch Location" in this chapter.

You may find it helpful to use Clipboard with this procedure to carry data from CAS display screens to **cas add** screens. You may want to use Scrapbook with the following procedure if your re-engineering involves several switches.

To add RLTs to CAS, perform the following steps:

- Add new RLTs to the network using **trk-grp add**. See "How to Add Trunks and Trunk Groups" if you need information on adding the RLT groups.
 - If your re-engineering requires only the addition of new trunks to existing RLT trunk groups, use **trk add**.
- Assign RLTs at the branch location using **cas add**.
- Assign RLTs at the main location using **cas add**.

CAUTION: Be sure to specify the right target when you are performing this procedure. CAS will not function if you enter information about a branch location in the switch at the main location or enter information about the main location in the switch at the branch location.

Procedure: Assigning RLTs at the Branch Location

1. Enter **cas display** and press **RETURN** to view current RLT information at the branch.

```

AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin cas display

Select CAS Node Type:  ___ branch
                      ___ main

```

2. Select branch as the CAS node type and press **RETURN**.

```

AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin cas display

Select CAS Node Type:x_branch  Select RLT Information: _none
                      ___main                                _1 RLT
                                                                _all RLTs

```

3. Enter **x** in the all RLTs field and press **EXECUTE**.

```

AT&T Mgr IV 2.2      DEFINITY G2.2      <target>
fm admin cas display

Select CAS Node Type:x_branch  Select RLT Information:  ___none
                      ___main                                ___1 RLT
                                                                x_all RLTs

Signaling to CAS Attendant
Timed Reminder in Seconds:___  Outgoing Queue Group Number:___
Tone Signal on LDN Calls?___  Queue Overflow Warning?:___
                               No. Calls to Light
                               Overflow Lamp:___

RLT Equipment Location:      Backup Extension:      Signaling to CAS ACD?:
___/___/___/___/___         ___             ___
___/___/___/___/___         ___             ___

```

4. Press **RETURN** to display up to 14 more RLTs.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin cas display

RLT Equipment Location:      Backup Extension:      Signaling to CAS ACD?
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  ___/___/___/___           _____           _____
  
```

- Your newly added trunks appear, so be prepared to add backup extension or signaling information at a later step.

5. Enter **cas add** and press **RETURN** to enter new RLT information at the branch.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin cas add

Select CAS Node Type: ___ branch
                      ___ main
  
```

6. Select branch as the CAS node type and press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin cas add

Select CAS Node Type:x_branch
                      __main
  
```

7. Press **RETURN**.

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm admin cas add

Select CAS Node Type:x_branch  Add Signaling and Queue information?__
                      __ main      Add RLT Information?__
  
```

8. Enter **y** in the Add Signaling and Queue information; add RLT information fields; press **RETURN**.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin cas add		
Select CAS Node Type:	x_branch	Add Signaling and Queue information?y_
	__ main	Add RLT Information?y_
Signaling to CAS Attendant		Outgoing Queue Group Number:__
Timed Reminder in seconds:__		Queue Overflow Warning?__
Tone Signal on LDN Calls?__		No. Calls to Light Overflow Lamp:__
RLT Equipment Location:	Backup Extension:	Signaling to CAS ACD?
__/_/__/__/_/___	_____	_____
__/_/__/__/_/___	_____	_____

9. Make entries as appropriate. See "Adding A Branch Location" in this chapter for more information.
 - If you use Clipboard to recall a prototype file, these fields will automatically be entered.
 - You can enter two equipment locations on Page 1 of the transaction screen. To add more, press **RETURN**. The two entries appear on the top of the second page.
10. Press **EXECUTE**.

Procedure: Assigning RLTs at the Main Location

1. Enter **cas display** and press **RETURN** to view current RLT information at the main location.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin cas display		
Select CAS Node Type:	__ branch	
	__ main	

2. Select main as the CAS node type and press **RETURN**.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin cas display		
Select CAS Node Type:	__ branch	Branch No.? __
	x_ main	Lamp Assignments? __

3. Enter the number of the branch to which the RLT connects and enter the branch number (**1-40**) or **all** in the Branch No. field, and press **RETURN**.
4. If you enter a specific branch number, enter **y** in the Lamp Assignments? field and press **EXECUTE**.

5. Enter **cas add** and press **RETURN** to enter new RLT information at the main location.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

Select CAS Node Type:  __ branch
                      __ main
    
```

6. Select main as the CAS node type and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

Select CAS Node Type:  __ branch          Add Branch No.? __
                      x_ main           Add Lamp Assignments? __
    
```

7. Enter **y** in the Add Branch No.? field and press **RETURN**.
8. If you want a console indicator for the RLT, enter **y** in the Add Lamp Assignments? field and press **RETURN**.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin cas add

Select CAS Node Type:  __ branch          Add Branch No.? y_
                      x_ main           Add Lamp Assignments? y_

Branch No.:           Incoming RLT Group:   Branch Type:
                    _____           ESS   non-ESS
                    _____           _____

RLT Equipment Location   Lamp CTL Board:   Lamp CTL Circuit:
  __/__/__/__/__         _____         _____
  __/__/__/__/__         _____         _____
  __/__/__/__/__         _____         _____
    
```

9. Enter the branch number; then enter the trunk group number of the RLT assigned using **term-trk-grp** in the Incoming RLT Group field.
10. Enter the branch type as ESS or non-ESS.
11. Enter hardware locations (Equipment Line Locations or ELLs) in the RLT Equipment Location, Lamp CTL board, and Lamp CTL Circuit fields.
12. Press **EXECUTE**.

TENANT SERVICES

While the Tenant Services feature descriptions in this section will refer to System 85 R2V4, Generic 2.1 and Generic 2.2, the screens and instructions are specifically designed for Generic 2.2 users. The Tenant Services feature allows a large Generic 2.2, 2.1 or System 85 R2V4 switch to appear to users of the switches as many small, independent switches. This capability allows the switch to be shared among a wide assortment of user groups, known as tenants. There are two sets of logical partitions in a switch with Tenant Services: extension partitions and attendant partitions. Other resources, like trunk groups, can be assigned to one or more extension partitions, and can thus be completely or partially partitioned, or not partitioned at all. The number of trunk groups has been increased in Generic 2.2, 2.1 and R2V4 from 256 to 999 partially to support this feature and to allow users full use of their partitioned switch.

If the Tenant Services feature is not present when Manager IV is initialized, it cannot be administered via Manager IV. The feature cannot be activated through Manager IV. If it is installed in a switch after Manager IV is initialized, Manager IV must be reinitialized before it can be administered.

To administer the Generic 2.2, 2.1 or System 85 R2V4 feature, Tenant Services, using FM, you must complete the following transactions:

- Assign trunk groups to extension partitions using the **extn-part-trk** command.
- Create ARS Call categories using the **ars-call-categories** transaction; then assign the call category to extension partitions (with the TCM command **tenant**) or attendant partitions (with the FM command **arscc-attd-partition**).
- Associate authorization codes with extension partitions using the **auth-code** transaction.

In addition, there are TCM tasks that must be performed before you can use Tenant Services. TCM tasks are explained in "Tenant Services" in *DEFINITY® Manager IV Terminal Change Management Operations*. TCM transactions include:

- Assigning extension partitions to a tenant using the **tenant** transaction. This command also associates an ARS call category with the extension partition.
- Assigning extensions to extension partitions using the **extension** transaction.

Procedure: Assigning Trunks to Extension Partitions

Trunk groups can be assigned to extension partitions. A trunk group can be available to all partitions, one partition, or some set of partitions. This blocks extensions and attendants from accessing trunk facilities that are not allowed in that partition. It also allows outgoing trunk facilities to be shared (when needed) among partitions.

The Trunk-Group Extension Partition Report shows all extension partitions assigned to a particular trunk group. The Extension Partition-Trunk Group report shows all trunk groups associated with a particular extension partition. See "Facilities Management Reports," Chapter 12, for more information.

The command **extn-part-trk** assigns trunk groups to extension partitions. You can add extension partitions to trunk groups (**extn-part-trk add**), remove (**extn-part-trk remove**), change (**extn-part-trk change**) and display (**extn-part-trk display**).

Attendants are automatically assigned access to outgoing trunk groups at the time their associated extension partitions are given access.

Follow these steps to associate trunk groups with extension partitions.

1. Enter the command **extn-part-trk add**; the following screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin extn-part-trk add

      Trunk Group No.: ____      (D)edicated/(S)hared: S
      Incoming Attendant Partition: ____

      Extension                Partition
      Partition                Partition
      ____                    ____
      ____                    ____
      ____                    ____
      ____                    ____
    
```

2. Enter the number of the trunk group to be assigned. A number between **18** and **999** is valid.
3. Specify whether the trunk group is Dedicated or Shared by entering **D** or **S**.
 - If a trunk group is associated with a single partition, it is considered "dedicated."
 - If a trunk group is associated with more than one partition, it is considered "shared." Shared is the default selection.
4. Enter the number of the incoming attendant partition. A number between **0** and **40** is valid.

The incoming attendant partition is used for intercept on an incoming trunk group. The attendant partition does not have to be associated with the extension partition.
5. Enter the extension partitions to be associated with this trunk group. A number between **0** and **999** is valid.
 - A one-way *incoming* trunk type can be associated with only 1 partition.
 - A one-way *outgoing* trunk type cannot have an attendant partition assigned to it.

Procedure: Assigning ARS Call Categories [Generic 2.2, Generic 2.1, System 85 R2V4]

Tenant Services allows for up to 64 calling categories that enable the switch administrator to create a mapping between the routing designators used in the **hnpa**, **fnpa**, and **ars-6-digit** transactions and routing patterns as specified in the **ars-pattern** transaction. Each extension and attendant partition is assigned to a default call category when the system is initialized. The defaults can be changed. Each of the 64 call categories can have more than one partition assigned to it, but each partition can only be assigned to one call category.

Each unique routing designator and/or call category pair maps to one of 64 ARS patterns. Therefore, an ARS call can receive treatment by a different pattern depending on the partition's assigned call category. Once an ARS call enters the assigned pattern, the ARS call-processing software checks successive trunk groups in the pattern to determine whether the call is allowed to use the trunk group.

You can **add**, **change**, **display**, and **remove** ARS call categories.

Follow these steps to assign call categories.

1. Enter the command **ars-call-categories add**; the following screen is displayed.

```

AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm admin ars-call-categories add

          ARS Call Category ____

          RD:Routing Designator          PN:Pattern Number

RD  PN   RD  PN   RD  PN   RD  PN   RD  PN   RD  PN   RD  PN
--  --   --  --   --  --   --  --   --  --   --  --   --  --
--  --   --  --   --  --   --  --   --  --   --  --   --  --
--  --   --  --   --  --   --  --   --  --   --  --   --  --
--  --   --  --   --  --   --  --   --  --   --  --   --  --
--  --   --  --   --  --   --  --   --  --   --  --   --  --

```

2. Enter the ARS Call Category number to be assigned. A number between **0** and **63** is valid.
3. Enter the Routing Designator. A number between **1** and **64** is valid.
4. Enter the Pattern Number that is paired with the Routing Designator. A number between **2** and **64** is valid. Pattern 1 is reserved for intercept treatment.

Assigning ARS Call Categories to Partitions

The TCM **tenant** command associates an ARS call category with an extension partition. See *DEFINITY® Manager IV Terminal Change Management Operations* for details.

Default call categories are associated with attendant partitions when the switch is initialized. The command **arscc-attd-partition** can be used to change or display these associations.

Associating Authorization Codes with Extension Partitions

The authorization code transaction has been modified to allow authorization codes to be associated with extension partitions. Because the number of digits used in authorization codes is assigned on a system-wide basis, the authorization codes for each partition must use the same number of digits.

Users in different extension partitions are not allowed to share an authorization code, and the same authorization code cannot be used in more than one partition.

When a caller in a specific partition dials an authorization code, the system checks whether the code's associated partition matches the partition of the voice terminal used to place the call. If they do not match, the call is not allowed.

A report listing all of the authorization codes assigned to a specific extension partition can be obtained with the command **extension-auth-codes report**. The report can be requested for all, or a range of extensions.

DEDICATED SWITCH CONNECTION (DSC)

A Dedicated Switch Connection (DSC) directly connects 2 ports so that a user on one port is automatically connected to the other when that user's terminal handset is picked up. The DSC connection can be administered from the database-admin, admin and product-admin areas under the FM and TCM applications through the **dsc** transaction. The **dsc** object supports the verbs **add**, **change**, **display** and **remove**.

Prerequisites

Prior to assigning the DSC to two ports, you have to assign and configure these ports based on the type of line or trunk selected.

Following is a list of procedures which must be used as prerequisites to the **dsc add** transaction:

- Set up the *Traditional*, *Universal* or *XE* Module.
- Select the line or trunk ports.
- Configure the line or trunk ports and the terminals associated with them. Generic 2 supports analog and digital terminals; three set types of BRI Terminals (7505,7506 and 7507), and the TDM, PDM and DTDM Data Modules.
- Assign the DSC connection to the selected line or trunk ports.

Line and Trunk Ports

In Generic 2, the DSC connection can be assigned to the line or trunk ports in *Traditional*, *Universal* and *XE* Modules. For the *Traditional* Module, you have to select the appropriate "sn" pack types. With the *Universal* or *XE* Module, select the matching "tn" pack types.

You are allowed to select the line or trunk ports as listed in the table below:

System 85 R2V3-R2V4 Pack Type	DEFINITY Generic 2 Universal Pack Type	Description
sn228	tn746	Analog Line
sn229	tn742	Analog Line, Data Port, Contact Intf.Pt
sn230	tn747	CO Trunk
sn231	tn763	Auxiliary Trunk
sn232	tn753	DID Trunk
sn233	tn760	Tie Trunk
sn270l	tn754l	Digital Line
ann11	tn767	DS1 Trunks, Lines, DMI
ann35	tn767	ISDN/PRI
none	tn556	ISDN/BRI

Configure Line Ports

The DSC connection allows for analog and digital line ports. If you select an analog line, you need to assign an analog terminal. DS1 line is considered an analog line.

For a digital line, you are allowed to select a digital terminal, the BRI terminal (in Voice and/or Data mode only), or a Data Module (in data mode only), depending on the pack type selected.

To assign a terminal:

- Specify an extension to be associated with the terminal
- Identify the appropriate set-type
- Specify the Equipment Location
- Repeat the above described procedure for another Equipment Location.

These tasks can be performed by the system through the **extension add** transaction. Populate the required fields and prerequisites, if required, as described in "Adding Extensions and Analog Terminals" in *DEFINITY® Manager IV Terminal Change Management Operations*.

Assign Analog Terminals

To assign an analog terminal,

- Open a number group through the **number-groups add** transaction.
- Enter the **extension add** command and populate the Extension, Analog, Set Type and Port Type fields with the valid entries. For more details, refer to *DEFINITY® Manager IV Terminal Change Management Operations*, "Administering Terminals." If the system identifies the pack types "sn228," "sn229" (for *Traditional* Modules), or "tn742," "tn746" (for *Universal* and *XE* Modules), the **extension add** transaction will be performed successfully. Otherwise, use the **carrier** or **pack add, carrier-parameters add** transactions to assign the valid pack types and re-enter the **extension add** command.
- If the **extension add** transaction is successfully completed, enter the **dsc add** command to activate the DSC transaction as described in "Assign DSC Connection" later in this chapter.

For a DS1 line, the procedure is as follows:

- Enter the **carrier display** command to identify the Equipment Location for the pack type "tn767" (for Application Type 2).
- Activate the **ds1-isdn add** transaction to define the ISDN characteristics.
- Enter the **extension add** command to assign the terminal as described above.

Assign Digital Terminals

To interface a digital line, use sn2701 for *Traditional* Modules and tn754l for *Universal* or *XE* Modules. Assign the digital terminal 7403D or 7405D, as described below:

- Open a number group through the **number-groups add** transaction.
- Assign the extension number and extension related features through the **extension add** transaction.
- Use the **terminal-add** transaction to assign the terminal type and attributes, Equipment Location, etc.

- If the system identifies the pack types "sn2701" (for *Traditional* Modules), or "tn7541" (for *Universal* and *XE* Modules), the **extension add** transaction will be performed successfully. Otherwise, use the **carrier** or **pack add, carrier-parameters add** transactions as the prerequisites to the **extension add** command.
- Repeat the above described procedure for another Equipment Location.
- See "Assign DSC Connection" for performing the **dsc add** transaction.

Assign BRI Terminals

A DSC connection can be assigned to a BRI terminal in Voice/Data mode. The BRI terminal is supported by the *Universal* and *XE* Modules only. Valid set types are 7505, 7506 and 7507. Valid BRI terminal options are **5**, **6**, and **10**.

BRI voice only terminals may not be assigned to a DSC (terminal 7505, option 1). The terminal related transactions must be performed from the admin area in the TCM application.

- If the extension to be added is not part of any existing number group, open a number group for each extension using the **number-groups add** command.
- Add the extension to be associated with the BRI terminal by entering the **extension add** command.
- Add the BRI terminal using the **terminal add** command.
- If the system fails to identify the pack type "tn556," use the **carrier** or **pack add** (if the carrier exists) and **carrier-parameters** transactions as the prerequisites to the **extension add** transaction.
- Assign the DSC as described in "Assign DSC Connection" later in this chapter.

Assign Data Module

To assign Data Modules, complete the following tasks:

- Add number groups through the **number-groups add** transaction.
- Add the extension through the **extension add** command.
- Enter the **data-module add** command to assign the TDM, PDM, or DTDM Data Modules.
- Assign the Equipment Location with the pack type "sn2701" or "tn7541" using the **carrier** or **pack add** transaction (if the carrier exists). Configure the ports by entering the **carrier-parameters** command from the product-admin area under the FM hierarchy. For more details, refer to Chapter 2, "Hardware Administration."
- Repeat the procedure for a second Equipment Location.
- See "Assign DSC Connection" for performing the **dsc add** transaction.

Configure Trunk Ports

The trunk related transactions cannot be activated automatically. You need to configure the trunk ports through a sequence of transactions under the FM application:

- Identify the Equipment Location for the pack type to interface to the selected trunk by using reports.
- Assign two Equipment Locations with the pack types "sn230", "sn231", "sn232", "sn233", "ann11", or "ann35" for *Traditional* Modules, or "tn747", "tn763", "tn753", "tn760", or "tn767" for *Universal* or *XE* Modules using the **carrier** or **pack add** transaction (if the carrier exists). For more details, refer to "Hardware Administration" in Chapter 2.

- If DS1 trunks have been selected (pack types "ann11," "ann35," "tn767," "isdn," or "ds1"), use the **ds1-isdn add** transaction to select the signaling option and assign the DS1 characteristics. In the **ds1-isdn** transaction, three Application Types are allowed for DS1, DMI or ISDN trunks:
 - **0** for DS1
 - **1** for DMI
 - **5** for ISDN/PRI.

For more details, refer to "Assigning DS1-ISDN Circuit Pack Parameters" in Chapter 2.

- Otherwise, enter the **trk-grp** command to assign the trunks for the specified Equipment Locations. A detailed description is provided in "How to Add Trunks and Trunk Groups" in Chapter 4.
- See "Assign DSC Connection" for performing the **dsc add** transaction.

Assign DSC Connection

Procedure: Add Dedicated Switch Connection

1. Enter the **dsc add** command. Press **RETURN**. The **dsc add** input screen is displayed.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dsc add		Page 1 of 1
DSC Number: _____	DSC Active? _	
(value will be supplied)		
Equip.Loc.: __/__/__/__		
Equip.Loc.: __/__/__/__		

2. The cursor is positioned in the DSC Active field. You are not required to populate the DSC Number field. The system keeps track of the DSC numbers, starting with 1 and incrementing this number with each DSC added. Altogether, 10000 dedicated connections are allowed. The rest of the fields are required.
3. Enter the DSC Active. Valid entries are **y** or **n**. Press **RETURN**.
 - This field is required. Type in a valid entry. Press **RETURN**.
 - This field specifies active or inactive state of the DSC connection. A "y" entry designates that a connection is active, while "n" means a connection is not active.
4. Two Equipment Locations must be assigned with the trunks or lines since DSC connects two ports. Enter the first Equipment Location.
5. Enter the second Equipment Location. The "End of Form" message is displayed. Press **EXECUTE**.
6. If you assign the DSC connection in the product-admin area, the input **dsc add** screen shows the I-Channel field: in admin mode, the I-Channel field is populated by the system. Therefore, this field does not appear on the screen.

While in product-admin mode, you are required to set the I-Channel flag when the DSC connection is assigned to a digital line associated with the pack type "tn7541". The valid values are **1** for voice, **2** for data.

This field is required when you select either voice or data mode only. Since the BRI terminal is supported in combination mode only (data/voice, display/voice, etc.), you are not allowed to populate the I-Channel field with the BRI terminals assigned.

Procedure: Display Dedicated Switch Connection

To perform a **dsc display** transaction, select **display** at the "verb" prompt. The **dsc display** input screen is invoked:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dsc display		Page 1 of 1
DSC Number: ____		
Equip.Loc.: __/__/__/__		

The input display screen provides you with an option to display a DSC connection either by the DSC Number or by the Equipment Location. One of the fields is required. Once the entered value is accepted, the **dsc display** output screen appears.

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dsc display		Page 1 of 1
DSC Number: ____		
Equip.Loc.: __/__/__/__	I-Channel: _	
Type: _____		
Equip.Loc.: __/__/__/__	I-Channel: _	
Type: _____		

The **dsc display** output screen displays the parameters for the specified DSC connection. All the above shown fields are populated by the system. The Type field shows the type of the DSC connection as it was defined through the **dsc add** transaction.

The I-Channel is displayed in the product-admin mode only.

Procedure: Change Dedicated Switch Connection

To perform a **dsc change** transaction, select **change** at the "verb" prompt. The **dsc change** input screen is invoked:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dsc change		Page 1 of 1
DSC Number: __		
(Value will be supplied) DSC Active? __		
Equip.Loc.: _/_/_/_/_		
Equip.Loc.: _/_/_/_/_		

The cursor is positioned in the DSC Active field. The system automatically skips the rest of the fields. The DSC Active field is the only field required. You are permitted to change this field only. The format of the screen is the same as for the **dsc add** input screen in admin mode. In product-admin mode, the I-Channel fields appear on the screen.

Enter the valid value in the DSC Active field. Press **RETURN** followed by **EXECUTE**.

Procedure: Remove Dedicated Switch Connection

To perform a **dsc remove** transaction, select **remove** at the "verb" prompt. The **dsc remove** input screen is invoked:

AT&T Mgr IV 2.2	DEFINITY G2.2	<target>
fm admin dsc remove		Page 1 of 1
DSC Number: __		
Equip.Loc.: _/_/_/_/_		

The input remove screen provides you with an option to remove a DSC connection either by the DSC Number or by the Equipment Location. One of the fields is required.

PROCESSOR COMMUNICATIONS CIRCUIT

The Processor Communications Circuit (PCC) provides RS-232-C connectivity between Generic 2 and System 85 R2V4 switches and the Call Detail Recording feature. The only peripheral currently supported is the Call Detail Recording Unit (CDRU). Administration of this link is handled by Manager IV. You can add, remove, display, and change the parameters of the Processor Communications Circuit.

To administer the PCC, you must have a TN 474 PCC board in the 501 Common Control carrier of the Generic 2 and System 85 switches. This board was designed to provide RS-232-C connectivity between Generic 2 or System 85 R2V4 and the CDRU. To use the CDRU to store Call Detail Records (CDRs), you must specify the format of the CDR using **cdr add**. See "Call Detail Record (CDR) Format" in Chapter 8.

Procedure: Assigning the PCC Link

Follow these steps to set up RS-232-C connectivity between the Generic 2 or System 85 and the Call Detail Recording feature. Remember to use **carrier add** or **pack add** to translate the TN 474 board.

1. Enter the command **pcc add**. The following screen is displayed.

```

AT&T Mgr IV                DEFINITY G2.2                <target>
fm admin pcc add                Page 1 of 1

Application Type  Equip. Loc:___/___  Parity      Stop Bits
x CDR            Baud Rate:_____  _ No Parity  _ 1
                _ Odd              _ 1 1/2
                Communication      _ Even       _ 2
                x 1 way

                                Data Type Between
                                501 to PCC          PCC to Peripheral
                                _ 4 Hex Nibbles      _ 2 Hex Nibbles
                                _ 2 ASCII Chars      _ 1 ASCII Char

                                Message Format        Protocol
                                _ Length in Mess.     _ BTC
                                x STX/ETX Delim.      _ 18 Word
                                _ Fixed Length        _ Unformatted

                                Failure Threshold: _
                                Character Length:  _

                                FIF0 THRESHOLDS
                                OUTGOING             INCOMING
                                LOW  HIGH            LOW  HIGH
                                -    -              -    -
                                -    -              -    -  LESS THAN 1K
                                -    -              -    -  LESS THAN 2K
                                -    -              -    -  LESS THAN 3K
                                -    -              -    -  LESS THAN 4K
                                -    -              -    -  LESS THAN 5K
                                -    -              -    -  LESS THAN 6K
                                -    -              -    -  LESS THAN 7K
                                -    -              -    -  LESS THAN 8K

```

Because the PCC transaction only supports connectivity between the CDRU and the switch, some of the appropriate values are automatically selected by the administration software.

2. Enter the slot and circuit ID for the Equipment Location of the PCC board. When you enter an Equipment Location, the system uses these values to validate the data entered. If the data entered is not correct for the hardware type, a short help message describing the correct values is displayed.
3. Enter the baud rate.

The correct choices are: **300, 600, 1200, 2400, 4800, 9600, 19200**.

4. Select the First In First Out (FIFO) Thresholds.
 - A FIFO threshold is an administration level at which the flow control flag will be set (high threshold) or turned off if concurrently on (low threshold). Lower must be less than higher.
5. Select the parity.
 - The valid choices are: **no, odd, even.**
6. Select the number of stop bits.
 - The valid choices are: **1, 1 1/2, 2.**
7. Select the data type between the 501 processor and the PCC.
8. Select the data type between the PCC and the Peripheral.
9. Select the failure threshold.
10. Enter the character length as a number from **5** to **8**.
 - 8-bit character length must be assigned for BTC protocol.
11. Press **EXECUTE** to end the transaction.

11. TROUBLESHOOTING

This chapter tells you how to deal with FM problems. If the measures described here do not solve the problem, contact AT&T for technical assistance.

TROUBLESHOOTING FM

Manager IV provides several features for running a trouble-free FM operation:

- Performing daily tape runs to back up switch downloads
- Providing Short, Extended and Command Help messages associated with a task
- Generating Error messages when a transaction fails
- Creating results files reflecting the outcome of downloads.

Manager IV allows you to back up switch translations by executing the **tape run** command. You can also schedule a daily backup to occur automatically via the **daily-tape-run schedule** command.

For all tasks, the Short, Extended or Command Help messages are available.

Manager IV informs you of errors that occurred during the execution of immediate or scheduled transactions. The results from immediate downloads are displayed on the screen. The results from scheduled downloads are sent to a file (results file) that you can access.

Follow up on error messages, since a failed or partially failed transaction may mean that the Manager IV database now has different information than the switch .

It is very important to follow up on the outcome of the Service Requests (SRs). A failed or partially failed transaction can cause a discrepancy between the Manager IV database and the switch. This problem must be resolved as soon as possible. To keep track of scheduled activities, use the **scheduled-entry list** command. To keep track of the outcome of the scheduled transactions, use the **service-request report**, **service-request display** and **results display** commands. The **service-request display** command displays a status of individual transactions within a given SR. The **service-request report** command provides a summary report of all Service Requests.

To obtain a summary of all failed transactions within a given SR, use the **service-request error-report** command. The error report includes the information derived from the Manager IV database and the associated results file such as the transaction number, target, object, verb, identifier, and the switch errors. If the same SR has been used multiple times, the error report will provide switch errors for the last time the SR was scheduled to run.

To view the status of the failed transactions, use the **results display** command. This command allows you to access the results file which displays the results of the SR download. For failed transactions, error messages are provided to lead you to the cause of the transaction failure. For detailed information on the error report and results file, refer to *Getting Started with DEFINITY® Manager IV*.

Incorrect Information

Some errors occur when you enter inaccurate information. For example, suppose you have been told that all hardware for a new trunk will be installed by next Monday, and you create a Service Request (SR) to add the new trunk to Trunk Group 28 on Tuesday. On Wednesday, you add Trunk Group 28 to Automatic Route Selection (ARS) Pattern 5. You verify that the Dial Access Code (DAC) is correctly assigned and that the appropriate circuit pack has been added. You enter this information and continue to make entries into fields on your screen, and thus add Trunk Group 28 to ARS Pattern 5. What you do not know, however, is that the hardware promised for Monday was never installed.

Errors based on incorrect information are usually detected when dependent transactions fail, or through user complaints. In the example given, calls would be routed to a nonexistent trunk, which would result in a persistent reorder tone. You may also receive an immediate error message.

To avoid these errors, double-check any information that the system is unable to verify for you.

Communications Problems

A communications problem is a failure in data communications between Manager IV and the switch. Data communications software can detect and correct most errors, and can recover from many others through repeated attempts or "retries." Persistent problems should be reported to the System Administrator.

Database/Switch Errors

Database/switch errors occur because of a discrepancy between the information contained in the Manager IV database and the information contained in the switch translations. Such discrepancies require some type of adjustment so that both are consistent.

To understand this type of error, it is helpful to understand how FM commands work, both in the immediate and scheduled Service Request modes.

Following an FM Command

There are four areas in FM, each accessing either the Manager IV database, the switch translations, or both. The database-admin area affects only the Manager IV database. The product-admin area affects only the switch translations. Commands in the admin area generally affect both the Manager IV database and the switch translations, though some commands in this area update information that is stored only in the database or only in the switch translations.

For the most part, commands in the report-admin area only access the Manager IV database, though some switch translation reports are available.

This discussion focuses on commands performed in the admin area. Commands in the admin area work in two distinct stages: first, the command changes information stored in the Manager IV database, and second, the command changes information stored in the switch itself.

The change in the database is immediate. The change in the switch can occur either directly after the change in the database (if the request is to be processed immediately) or at a later scheduled time (if the command is entered as an SR). For example, when you add a new trunk group, you use the command **trk-grp add**. In this case, first, the Manager IV database is changed to record that the trunk group has been added, and then the Manager IV database downloads this command to the switch—communicating your command in the way that the switch can understand it.

In general, Manager IV regards **admin** commands as SRs so these commands proceed in the same two stages, whether executed immediately or at a future time, they update the Manager IV database, then they download to the switch. Remember that when you make an immediate request, Manager IV automatically schedules it for you—immediately—and automatically gives it an SR number that begins with an asterisk (*). You see the number only if the command fails to execute, at which time that number appears on your screen. You can then treat the failed immediate request in the same way as you would a failed SR.

An FM Command at the Switch

When a command is downloaded to the switch, it may be broken down into smaller parts that the switch can process. For example, if you look more closely at the FM command mentioned previously, **trk-grp add**, you find that at the switch level the command first adds the trunk group and its associated parameters and then adds each trunk one at a time. *Getting Started with DEFINITY® Manager IV* explains the numbering scheme used for transactions and steps within the transactions.

In immediate mode, error messages will display at your terminal. For scheduled Service Requests, you can use the **service-request report**, **service-request display** and **results display** commands to check the outcome of transactions in the Service Request. This will show you exactly which transactions (or steps within transactions) failed, succeeded, or are still pending download.

The **service-request error-report** command will provide you with a summary of all failed transactions in an SR.

The **results display** command will show you the results of each attempted download, including the messages for any errors which may have occurred.

If you see an error message that tells you a transaction failed, remember that it does not necessarily mean the *entire* transaction failed. Part of the transaction may have executed before the failure occurred, and this may mean that the Manager IV database and the switch are now unsynchronized. To check the exact status of the switch and the Manager IV database, you should use product or database displays, as explained below.

Using Manager IV Display Commands to Check the Database

If a transaction or SR fails, FM display commands can help you to determine if the information in the Manager IV database is consistent with the information at the switch and vice versa.

If you suspect there may be a conflict between the Manager IV database and the switch, use the **display** verb in database-admin and product-admin areas to check individual objects. Displays performed from the database-admin area reflect information in the Manager IV database; displays performed from the product-admin area show information from the switch.

If you want to transfer information from the switch database to the Manager IV database, you can save the display screen to a model using the Scrapbook feature. Then you can run a command from the admin or database-admin area, recall the model to the screen, and execute the command. You can also recall a displayed screen using the Clipboard feature.

Depending on the object, displays performed from the admin area show you information from the database or the switch. Displays in the admin area of FM usually show information from the Manager IV database. There are some objects, however, that control information not stored in the Manager IV database (for example, **acd-members**). For these objects, the display you see in the admin area reflects the status of the switch rather than of the Manager IV database. Other objects (such as **pack** or **carrier**) do not access the switch translations; for these, the display you see in the admin area reflects the Manager IV database and not the switch.

It's important to remember that disagreements between the Manager IV database and the switch do not automatically generate an error message, because there is no data check between the Manager IV database and the switch. You will only see an error message when the synchronization error causes a problem with admin or use of equipment or a feature. An example is given below.

An Example: Adding a Trunk Group

In the FM application, the use of incorrect error recovery procedures is the most common cause of this type of error.

Let's go back to the command referred to earlier. You add trunk groups using one Manager IV command, **trk-grp add**. When you execute the transaction, Manager IV uses the database files to check the entered data (for example, to see if the trunk group already exists). If a problem is found, an error message is returned describing the erroneous data, and if the problem is serious enough, no changes are made to the database or sent to the switch. For example, if you tried to add Trunk Group 85, but this trunk group was already assigned, no database changes would be made.

Suppose the command executes without error and successfully updates the trunk information in the Manager IV database. The transaction is then broken into multiple product-admin transactions to be downloaded from the Manager IV database to the switch. Transactions within an SR are downloaded in the order that they were performed (except when an SR updates several targets, in which case all transactions for each target are grouped together to minimize connect time).

If an error occurs during the download, the current transaction is aborted if the error is not recoverable, or retried if the error is recoverable (such as a connection line drop). If the error is not recoverable, Manager IV checks the "Continue on error?" flag to find out whether it should download any remaining transactions in the SR. Although Manager IV is capable of detecting many transaction interdependencies, you should have set the Continue on error? flag to "n" if there is any interdependency between the transactions.

In this particular situation, it is possible that the second phase of the command (the download to the switch) begins, but does not complete. Thus, Manager IV informs you that your command **trk-grp add** failed to execute successfully. At the level of the switch, however, this may not quite be the case. It is possible that the first part of the command *did* download successfully.

When you run **trk-grp display** from the database-admin area, it shows the changed information whether or not it has been downloaded. A product-admin display will not show the information until it actually has been downloaded. Therefore, product-admin display may indicate that the trunk group was added, but not all of its features were assigned.

If the error occurred because of a recoverable error, one way to correct the error is to reschedule the SR. The SR will begin to rerun at the transaction that failed. If the error occurred because of discrepancy between the Manager IV database and the switch, you could correct the error by running the **trk-grp** command from the product-admin area to make the switch data correspond to that in the database.

How to Detect Errors

A database/switch error can be detected in several ways. You can identify conflicts by comparing displays from the Manager IV database (database-admin) and from the switch (product-admin) to check individual objects.

You may run the **service-request error-report** command to view all failed switch downloads in an SR.

You can also check your results file using **results display**, or display the outcome of an SR using **service-request display** to see if any SRs have succeeded at the Manager IV database but failed at the switch.

Error Correction Strategies

The following chapter provides a quick review of suggested strategies to recover from SR-related errors.

Remember that you can use the strategies suggested for SRs to correct immediate transactions that have failed. In an immediate transaction, the error message gives a Manager IV-generated SR number that starts with an asterisk ("*"). Once this number is known, all the methods below can be used by substituting this Manager IV SR number in place of the user-supplied SR number.

Note: If you forget to jot down the Manager IV-generated SR number, you can display the number again using **service-request display**, or **service-request report**.

1. Use **service-request report** to determine the status of all successful, scheduled, and unscheduled SRs. This command will list SRs that:
 - have downloaded completely successfully
 - have downloaded with failed transactions
 - and are pending download
2. If an SR has failed, use **results display** to see the results of a scheduled SR's attempt to download.
3. Look for errors that relate to connection problems.

Note: If, when attempting to download a transaction, the system cannot initially connect to the product, it tries two more consecutive times to connect. If the third attempt is not successful, the system automatically reschedules the transaction to download ten minutes later. At the rescheduled time, the system attempts up to three more tries to connect to the product. If the system still cannot connect to the product, the entire process of rescheduling and attempting to connect is repeated one more time.

If an error is due to a connection problem, you can do either of the following:

- Reschedule the SR.
 - Delete the results file using **results remove** to prevent the next results from appending to the old results. You cannot recall results once they are deleted.
 - Use **service-request change** to reschedule the SR. When the transaction downloads, only the pending queue entries with the status "p" (pending) or "f" (failed) are executed.
 - Rerun the failed transactions immediately.
 - Delete the results file using **results remove** to prevent the next results from appending to the old results. You cannot recall results once they are deleted.
 - Use **service-request run**. This command processes an SR immediately and displays the results on your screen. Transactions that have previously executed successfully are passed over and only the failed and pending transactions are attempted again.
4. Run **service-request error-report** to view all failed transactions within a given SR. For each failed transaction, this command provides the following data: the transaction number, target, object, verb, identifier, and switch errors.

5. Use commands in the product-admin area to add transactions that were applied to the database, but not to the switch. The **pending-queue cleanup** command *must* be used after the product-admin commands have executed to remove the failed transactions and any pending transactions from the pending queue. The **pending-queue cleanup** command removes the pending flags associated with the database records. *Be sure that the switch and database are synchronized before you run this command*; it does not restore the Manager IV database to its original state as the command **service-request remove** does.

Displays in the database-admin and product-admin areas should be used to verify that the data in the database and the switch are synchronized.

After fixing a problem and rerunning or rescheduling failed SRs, use **service-request report** to check that the SRs have completed successfully.

Avoiding Database/Switch Errors

Database/switch errors can be difficult to correct. Here are several suggestions on how to avoid them.

1. Follow up on the outcome of each of your transactions. Keep track of all SRs. Correct any SRs or immediate mode transactions that fail as soon as possible.
2. Be careful how you schedule SRs. Do not schedule SRs any further in advance than necessary. The Manager IV database is always updated immediately, and the database and switch will always be unsynchronized until the SR completes successfully at the switch. Keep SRs small, so that if one transaction fails, you do not have many dependent transactions that also fail.
3. Keep track of changes to your system that depend on other changes, and schedule your transactions accordingly. Check with the Manager IV System Administrator and the administrators of other applications, especially TCM, for scheduled changes.
4. If you are experiencing a large number of database/switch errors, you may wish to ask your System Administrator to perform an audit. Audits that compare the contents of the Manager IV database with switch translations are available for the most frequently accessed switch data. See *DEFINITY® Manager IV System Administration* for more information on audits.

12. FACILITIES MANAGEMENT REPORTS

Reports are an important tool for your administration of the Facilities Management (FM) application. They are designed to give you detailed information about your network. Reports can be used before you begin a task to obtain specific details needed for that task; they can also be used to verify that any changes have been made.

Reports give you added flexibility. By producing paper copies, you can review a report more leisurely, add notes, and consult with others. You can also display reports on the screen. This chapter includes an overview of available reports, procedural information for producing reports, and a directory that gives detailed information about all FM reports.

AVAILABLE REPORTS

Reports are available for the following task groups: Administering Network Features, Administering Transmission Facilities, Defining Network Routing [Generic 2.1, System 85 and DIMENSION], Controlling Network Use, and Testing and Maintaining Transmission Facilities. All of these reports are listed in the "General Reports" section of this chapter.

The World Class Routing (WCR) reports that allow you to retrieve data for WCR networks are described in the "World Class Routing Reports" section later in this chapter. The WCR reports support all WCR features currently available on a Generic 2.2.

Display transactions in the administration area are also a type of report. You may produce paper copies of these displays by using **PRINT** or **ESC P**. For some features, such as Centralized Attendant Service (CAS) and FM System Class of Service (SYS-COS), no separate report capability exists since the screen displays are sufficiently detailed to meet most needs. Where both screen print and report capabilities exist, determine which method of gathering data suits your needs at the time.

In addition to the advantage of paper copies, most reports cover a wider range of data than displays. If you were looking for information on all trunk groups that terminate at a Uniform Call Distribution (UCD) Group, for example, as opposed to information on just one specific trunk group, you would save time by requesting a report.

You can also produce customized reports to meet the particular circumstances of your company by using the Manager IV query language. For more information, consult your Manager IV System Administrator or *DEFINITY® Manager IV Query and Report Languages*. A note of caution: request reports individually. Do *not* run multiple report requests simultaneously because the process of creating a report places heavy demands on the system. Therefore, it is best to schedule reports separately for output during times when the system is least busy.

HOW TO GENERATE FM REPORTS

Manager IV gives you great flexibility in producing your reports by providing you with three options for their production. You can do any of the following:

- View the report on-line
- Send the report to the printer to get a paper copy
- Schedule the report to be produced at a later time and then sent to the printer.

Viewing the report on-line provides you with immediate feedback on the condition of your system. Producing a paper copy allows you to review the report over time and to compare the information with other reports. You can schedule these reports to be produced during non-busy hours to avoid consuming the processing time that is needed for other transactions. Scheduling reports is also useful to check the completion of scheduled system changes. Remember, however, that when you schedule reports, you should do so individually. As noted earlier, multiple requests place heavy demands on the system.

The data used for your report is taken from the database because retrieving data from the database is much faster than retrieving data from the switch. Remember that pending Service Requests (SRs) will influence what the database reflects. If you suspect that the database may reflect the future status of the switch, you may want to compare the data from the database with data from the product. You can obtain this information through a product administration area display. Reports are always on a per-switch basis.

The rest of this chapter contains a general procedure for producing reports and a sample procedure that is specific to the FM application.

General Procedure: Producing Reports

The procedure for producing reports is the same for all reports. The most important point to remember is that reports are accessed from the report administration area, not from the administration area in which you do most of your work in FM.

1. Enter the command path for the report you want.

Only the object changes for different reports. The verb is always **report**.

2. Enter selection options on the screen that appears.

You will usually want all of the relevant data for a given report; but at times, you may want to request only a subset. The values you enter determine what data is collected from the database. Request each report individually and schedule them one at a time for production after hours.

3. Choose whether to view the report on-line or to produce a paper copy.

- If you want to display the report on your screen, type **y** after the Display Report to Screen field, and press **RETURN**.
- If you do not want to display the report on your screen, just press **RETURN**.

4. Choose whether to produce the report immediately or to schedule it for a later time.

- If you want to produce the report immediately, then press **ESC e**.
- If you do not want to produce the report immediately, then press **ESC s**, enter the scheduling information, and press **ESC e**.

The time you specify determines when the data is collected. It is processed and printed following collection.

5. View the report.

Reports are identified by a title page, in the following format:

```
DEFINITY Manager IV 2.2
[name of report]

[customer/company name]
[switch id]
[date/time]
```

Sample Procedure: Producing the Trunk Group Summary Report

This procedure illustrates how to schedule the Trunk Group Summary Report to be produced at a later time and sent to a printer.

1. You have already entered FM, connected to a target, and must now enter the rest of your command path. Using the type-ahead feature, enter **report-admin trk-grp-summary report** and press **RETURN**.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm report-admin trk-grp-summary report

Enter Trunk Group No.(s): _____
```

2. Enter your selection options. You may, for example, want a report on a specific trunk group, on up to five individual groups, on a range, or on all trunk groups. Press **RETURN**.
3. Press **ESC e** to produce the report immediately. The title page for the **trk-grp-summary report** will be displayed.
4. Press **ESC s** to schedule the report.

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm report-admin trk-grp-summary report

Scheduling Information

Schedule Date: _____
Schedule Time: _____
Task Number: _____
Output Destination: _____
```

5. Enter the schedule date, schedule time and task number.

6. Enter the output destination. You can send the report to a file or a printer.
 - If you specify **f** for file, the screen will display the Results File Name field containing the same number or name that you entered for the task number.
 - If you enter **p** for printer, the screen will prompt you for the name of the printer. Enter the name of the line printer you choose to print the report.
7. Press **ESC** **e** to enter the data. You will receive a message informing you that your report has been scheduled.

REPORT DIRECTORY

Each FM report is included in this directory. The reports are arranged alphabetically by report name. Each entry includes the following:

PATH: The command path you use to produce the report.

PURPOSE: A summary of the contents of the report. Read this chapter to get an idea of how and why you might use the report.

SELECTION

OPTIONS: The values you can enter on the input screen. For all reports you can enter a list, a range, or all items. A single item is an option for some reports, but in most cases, you can view a single item more efficiently by using a display transaction in the administration area. Lists are two or more items, separated either by commas and/or by spaces. A range is an inclusive list; you enter two items separated by a hyphen. To gather all data for a report, enter **all**.

Example: If you want to produce an FNPA Report, you can enter one FNPA (**303**), a list of FNPAs (**303, 212, 616**), a range of FNPAs (**212-303**), or all FNPAs (you enter **all**).

SORT

ORDER: A description of how the report data is organized; most reports have information organized in ascending numerical order.

Example: The FRL—Trunk Group Report is organized by FRL in ascending order with trunk groups for each FRL also listed in ascending order.

SAMPLE

OUTPUT: A partial report is shown below to give you an idea of the format of each report. Reports can contain up to 40 lines per page. In cases where sample outputs vary according to switches and switch releases, several sample outputs are depicted.

Code		Code		Code		Code	
NPA-NNX	Rest	NPA-NNX	Rest	NPA-NNX	Rest	NPA-NNX	Rest
	Level		Level		Level		Level
xxx-xxx	x	xxx-xxx	x	xxx-xxx	x	xxx-xxx	x
xxx-xxx	x	xxx-xxx	x	xxx-xxx	x	xxx-xxx	x

GENERAL REPORTS

AAR-NON-PORTABILITY REPORT

[Generic 2.1, System 85 R2V3-R2V4]

PATH: fm report-admin aar-non-portability report

PURPOSE: This report identifies the Automatic Alternate Routing (AAR) pattern assigned to a particular location code (RNX). This report is available for Generic 2.1 and System 85 R2V3-R2V4 targets.

**SELECTION
OPTIONS:**

- A list of location codes
- A range of location codes
- All location codes.

SORT

ORDER: Output is organized by location code in ascending numerical order.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm report-admin aar-non-portability report      Page 1 of 1

Location Code(s): _____
```

**SAMPLE
OUTPUT:**

```
                                AAR-NON-PORTABILITY REPORT

Location   Call   Pattern   Location   Call   Pattern
  Code     Category   No.       Code     Category   No.
  ----     -
236        0         11        420        0         2
422        0         3         434        0         6
436        0         7

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```

AAR PATTERN REPORT

[Generic 2.1, System 85 R2V2-R2V4, DIMENSION FP8]

PATH: fm report admin aar-pattern report

PURPOSE: This report provides Automatic Alternate Routing (AAR) pattern information.

SELECTION

- OPTIONS:**
- A list of AAR patterns
 - A range of AAR patterns
 - All AAR patterns.

SORT

ORDER: Output is organized in ascending order by AAR pattern number.

SAMPLE

OUTPUT: Following is an output screen as it appears in Generic 2.1, System 85 R2V3 and R2V4, and DIMENSION FP8 Issue 3.8:

```

                                AAR PATTERN REPORT
                                === =====
                                AAR Pattern No.: ____

                                Trunk  IXC/          Wait  Number  Number
                                Group  ISDN          Warn  Network  Dial  Digits  Digits
                                Pref.  No.   ID   FRL   Tone   Info   Tone  Deleted  Inserted
                                ----  --   --   ---   ----   ----   ----  -
                                1   25   4   4    n    on-netw  n    0       455
                                1   25   4   4    n    on-netw  n    0       455
  
```

```

                                AAR Pattern No.: ____

                                -Group One-      -Group Two-      -Group Three-  -Group Four-
                                Pause No. Outpl  Pause No. Outpl  Pause No. Outpl  Pause Outpl
                                Pref. Len.  Dig Type  Len.  Dig Type  Len.  Dig Type  Len.  Type
                                ----  ---  ---  ----  ---  ----  ---  ---  ---  ---
                                1    2    1  r    2    1  r    2    1  r    2    t
  
```

[System 85 R2V3, R2V4, Generic 2.1 and DIMENSION 3.8] IXC column is IXC/ISDN ID; Subnet Data and No.Dig in Group Four do not apply.

For R2V2 and DIMENSION 1.16, the following screen displays:

```

AAR Pattern No.: ____

      Trunk
Pref. Group      Warn Network  Wait  Number
      No.   FRL  Tone?  Info   Dial  Digits  Digits
----- --  ---  ----  ----  ----  -
1     25    0    y   off-Iddd  y    0    20157644
1     25    0    y   off-DDD   n    3
1     25    1    n   on-netw   n    2
1     25    1    n   on-netw   n    2
  
```

```

AAR Pattern No.: ____

      -Group One-      -Group Two-      -Group Three-      -Group Four-
Pref. Pause No. Outpl  Pause No. Outpl  Pause No. Outpl  Pause No. Outpl
      Len.  Dig Type  Len.  Dig Type  Len.  Dig Type  Len.  Digs Type
----- --  ---  ----  ----  -
1     2     2   r    2     2   t    3     3   r    4     4   r
  
```

AAR -- RNX REPORT

[System 85 R2V2, DIMENSION FP8]

PATH: fm report-admin aar-rnx report

PURPOSE: This report identifies the Automatic Alternate Routing (AAR) pattern assigned to a particular location code (RNX). This report is **not** available for System 85 R2V3, R2V4 or Generic 2 targets.

SELECTION

- OPTIONS:**
- A single location code
 - A list of location codes
 - A range or location codes
 - All location codes.

SORT

ORDER: Output is organized by location code in ascending numerical order.

**SAMPLE
OUTPUT:**

Loc. Code	Patt. No.	Loc. Code	Patt. No.
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX

ACD GROUP REPORT

[Generic 2, System 85 R2V3, R2V4]

PATH: fm report admin acd-grp report

PURPOSE: This report allows you to compare the attributes of one or more of the assigned Automatic Call Distribution (ACD) groups. All field values are presented in the same format as you have entered them.

- SELECTION OPTIONS:**
- A list of ACD groups
 - A range of ACD groups
 - All ACD groups.

SORT ORDER: Output is arranged by ACD Group in ascending numerical order.

SAMPLE OUTPUT:

ACD Grp	Group Size	Queuing Trunk Grp	ICI Supv. Msg	Extn	QDN Priority Extn	Inflow Level	Outflow Level	Hunt Patr	
xx	xxxxx	xxx	xx	xxxxxx	xxxxxx	xxxxxx	xx	xx	xxxxx
xx	xxxxx	xxx	xx	xxxxxx	xxxxxx	xxxxxx	xx	xx	xxxxx

ARS 6-DIGIT REPORT

[Generic 2.1, System 85 R2V2-R2V4]

PATH: fm report admin ars-6-dig report

PURPOSE: Use this report to identify the Automatic Route Selection (ARS) patterns that have been assigned to a particular office code within a Numbering Plan Area (NPA), that is an area code (6-digit routing). These patterns must have been entered via the **ars-6-dig add** command; default patterns do not appear in the report.

SELECTION

OPTIONS: You enter a single NPA and:

- A list of office codes
- A range of office codes
- All office codes.

SORT

ORDER: For a given NPA, the output is organized by office codes in ascending numerical order.

**SAMPLE
OUTPUT:**

Area Code: XXX					
Office Code	Pattern No.	Office Code	Pattern No.	Office Code	Pattern No.
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX

ARS-INTERNATIONAL-ROUTING REPORT

[Generic 2, System 85 R2V4]

PATH: fm report-admin ars-international-routing report

PURPOSE: This report will list valid International Calling Numbers associated with Routing Designators as they have been defined in the database and the switch.

**SELECTION
OPTIONS:**

- International Dial Access Codes (IDACs):
 - You may enter a specific IDAC, a list of IDACs, a range of IDACs, or "all" for all IDACs. Valid entries for the selection items are **010-019**. IDAC must always start with **01**.
- or Routing Designators:
 - You may enter a specific Routing Designator, a list of Routing Designators, a range of Routing Designators, or "all" for all Routing Designators.

SORT

ORDER: Output is arranged by the IDAC number in ascending numerical order if selection has been done by IDAC(s). With Routing Designators selected, output is organized by the Routing Designator number in ascending order.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm report-admin ars-international-routing report

                                INTERNATIONAL ROUTING REPORT

Select one of the following

                                IDAC(s): _____

                                Routing Designators: _____

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```

**SAMPLE
OUTPUTS:**

Output is arranged by IDAC.

INTERNATIONAL ROUTING REPORT	
International Call Code	Routing Designator
-----	-----
012345678901234567	64
0124589127	29
0124790	14
012489345	27
012589257	4
013570	36
01368945	42
0138124	29
01472567	36
0149167	19

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Output is arranged by Routing Designator.

INTERNATIONAL ROUTING REPORT	
Routing Designator	International Call Code
-----	-----
4	012589257
14	0124790
19	0149167
27	012489345
29	0124589127
29	0138124
36	013570
36	01472567
42	01368945
64	012345678901234567

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ARS PATTERN REPORT

[Generic 2.1, System 85 R2V2-R2V4, DIMENSION]

PATH: fm report admin ars-pattern report

PURPOSE: This report lists all preference data for a given Automatic Route Selection (ARS) pattern.

SELECTION

OPTIONS: Enter a single ARS Plan number and:

- A single ARS pattern number
- A list of ARS pattern numbers
- A range of ARS pattern numbers
- All ARS pattern numbers.

SORT

ORDER: Output is organized by ARS pattern number in ascending order.

SAMPLE

OUTPUTS: [Generic 2.1 and System 85 R2V3, R2V4]

```

                                ARS PATTERN REPORT
                                === =====
                                ARS Plan No.: 1

ARS      Trunk      Warn      Distant      Send      Toll
Pattern  Group      Tone?     Home  NPA      1 for      Table
No.      Pref.  No.      FRL      FRL      Home  NPA      Toll      No.
--      ----  --      ---      ----      ----  ---      ----      --
  2       1    299     0       n       303     2       2
  3       1    435     0       n       303     2       3
    
```

```

                                ARS Plan No.: 1

ARS      Wait      Grp 1      Grp 2
Patt.    Digits  Dial  Digits  Pause  No.      Pause
No.      Pref.  Deleted  Tone  Inserted  Len.  Digs  Type  Len.  Type
--      ----  -
  2       1       0     n       2       1     t     -
  3       1       3     n       2       1     t     -
    
```

(Continued)

[System 85 R2V2]

ARS Pattern No.: XX														
ARS Pattern No.: XXX														
Pref.	Trunk Group			Distant			Send 1		Toll Table		Digits		Subnet	
	No.	IXC	FRL	Min.	Home	Warn	for	Toll	No.	Inserted	Data?			
1	18	2	2	212			2	2		1234				
X	X	X	X	XXX	X		X	X		XXXX			X	
X	X	X	X	XXX	X		X	X		XXXX			X	
X	X	X	X	XXX	X		X	X		XXXX			X	
<div style="display: flex; justify-content: space-around;"> -Group One- -Group Two- -Group Three- -Group Four- </div>														
No. Wait														
Dig Dial Pause No. Outpl Pause No. Outpl Pause No. Outpl Pause No. Outpl Pause Outpl														
Pref.	Del	Tone	Len.	Dig	Type	Len	Dig	Type	Len	Dig	Type	Len	Type	
X	X	X	XX	XX	X	XX	XX	X	XX	XX	X	XX	X	
X	X	X	XX	XX	X	XX	XX	X	XX	XX	X	XX	X	

[System 85 R2V4 and Generic 2.1] Subnet Data does not apply; IXC column is headed "IX/ISDN ID."

ARS TOLL REPORT

[Generic 2.1, System 85 R2V3-R2V4]

PATH: fm report admin ars-toll report

PURPOSE: This report identifies the toll indication (toll or non-toll) for all office codes in a given toll table.

- SELECTION OPTIONS:**
- A list of toll table numbers
 - A range of toll table numbers
 - All toll table numbers.

SORT ORDER: Output is organized by toll table number in ascending order. Office codes for a given toll table are arranged in ascending order.

SAMPLE OUTPUT:

Toll Table No. XX							
Office Code	Toll	Office Code	Toll	Office Code	Toll	Office Code	Toll
XXX	X	XXX	X	XXX	X	XXX	X
XXX	X	XXX	X	XXX	X	XXX	X
XXX	X	XXX	X	XXX	X	XXX	X
XXX	X	XXX	X	XXX	X	XXX	X

AUTHORIZATION CODE-FRL REPORT

[Generic 2.1, System 85 R2V3-R2V4]

PATH: fm report admin auth-frl report

PURPOSE: This report shows you authorization codes that are assigned to a user or available for assignment or both. Authorization codes that have not yet been assigned to a user should display the word "available" in the "Assigned To" column.

SELECTION

- OPTIONS:**
- One code
 - A list of codes
 - All codes.

SORT

ORDER: Output is organized in ascending order.

**SAMPLE
OUTPUT:**

Auth Code	FRL	Net Access	Assigned To
xxxxxxx	x	x	xx
xxxxxxx	x	x	xx

AUTOVON REPORT

PATH: fm report admin autovon report

PURPOSE: Provides Autovon information and Autovon destination.

SELECTION

- OPTIONS:**
- A single destination
 - A list of destinations
 - A range of destinations
 - All destinations.

SORT

ORDER: Output is organized by destination trunk group number in ascending order.

**SAMPLE
OUTPUT:**

Destination: XX		Autovon NNX: XXX		Digits: X X X X X X X X X X	
Trunk Group No.	Prec. Level	Trunk Group No.	Prec. Level	Trunk Group No.	Prec. Level
xxx	xx	xxx	xx	xxx	xx
xxx	xx	xxx	xx	xxx	xx
xxx	xx	xxx	xx	xxx	xx
xxx	xx	xxx	xx	xxx	xx
xxx	xx	xxx	xx	xxx	xx

BEARER CAPABILITY CLASS OF SERVICE REPORT

[Generic 2]

PATH: fm report admin bearer-capability-cos report

PURPOSE: This report provides a group of information that is common to a class of facility and routing preference numbers; that is, bearer capability, channel type, and data rates.

**SELECTION
OPTIONS:**

- A single Bearer Capability Class of Service (BCCOS) Number
- A list of BCCOS Numbers
- A range of BCCOS Numbers
- All BCCOS Numbers.

SORT

ORDER: Output is organized in ascending order by BCCOS Number.

**SAMPLE
OUTPUT:**

```
BEARER CAPABILITY CLASS OF SERVICE REPORT

Bearer Capability Class of Service: __

BEARER CAPABILITY CLASS ACTIONS   DATA RATES FACILITY ATTRIBUTES

      Voice: 2                      64000 bps? y Transport Mode: c
      Mode 1: 2                      56000 bps? y   Channel Type: r
      Mode 2: 1                      19200 bps? y   Async/Sync: a
      Mode 3: 2                      9600 bps? y    Duplex: f
      Mode 0: 2                      4800 bps? y    Clock: e
Voice Grade Data: 2                 2400 bps? y
Unknown Digital: 2                 1200 bps? y
Unknown Analog: 2                  300 bps? y
      Mode 3/2: 2                    low bps? y
      X.25: 2

DEFAULT ATTRIBUTES
Default Bearer Capability Class: 1   Default Transport Mode: c
      Default Data Rate (bps): 1     Default Channel Type: c
```

CIRCUIT INVENTORY REPORT

PATH: fm report-admin circuit-inventory report

PURPOSE: This report will provide summaries for assigned, available and reserved circuits for each pack type for selected Locale, Module, or Cabinet.

SELECTION

OPTIONS:

- For each of the following selections, you may enter a specific Locale, "ALL" for all Locales, or leave this field blank by pressing **RETURN** to get a report for NULL Locales:
 - You may enter a specific Module, or "all" for all Modules.
 - You may enter a specific Cabinet, or "all" for all Cabinets.

SORT

ORDER:

Output is arranged by the pack type in ascending numerical order.

SAMPLE

INPUT:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm report-admin circuit-inventory report      Page 1 of 1

          CIRCUIT INVENTORY REPORT

          Enter Locale(s): ____
          Enter Module(s): ____
          Enter Cabinet(s): ____
          Enter Carrier(s): ALL
          Enter Slot(s): ALL
```

**SAMPLE
OUTPUT:**

CIRCUIT INVENTORY REPORT				
INVENTORY RANGE				
Locale(s)	Module(s)	Cabinet(s)	Carrier(s)	Slot(s)
-----	-----	-----	-----	-----
02	ALL	ALL	ALL	ALL
CIRCUIT SUMMARY BY PACK TYPE				
	<-----Totals----->			
Pack	Assigned	Available	Reserved	
Type	Circuits	Circuits	Circuits	
----	-----	-----	-----	
sn229	400	176	0	
sn230	384	128	0	
sn233	96	48	4	
sn2701	496	80	16	
Page 1				

CIRCUIT STATUS REPORT

[Generic 2, System 85]

PATH: fm report-admin circuit-status report

PURPOSE: This report will provide inventory on customer selected hardware. For each selected Equipment Location, the report will print Locale, Module, Cabinet, Carrier, Slot, pack type occupying this slot, and the state of each circuit. The report will also identify free Slots and spare packs. Circuit states are:

- a - available
- r - reserved
- w - working (assigned).

**SELECTION
OPTIONS:**

- For each of the following selections, you may enter a specific Locale, "ALL" for all Locales, or leave this field blank by pressing **RETURN** to get a report for NULL Locales:
 - You may enter a specific Module, or "all" for all Modules.
 - You may enter a specific Cabinet, or "all" for all Cabinets.
 - You may enter a specific Carrier, or "all" for all Carriers.

SORT

ORDER: Output is sorted by Locale, Module, Cabinet, Carrier, and Slot in ascending order.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2          DEFINITY G2.1          <target>
fm report-admin circuit-status report

          CIRCUIT STATUS REPORT

          Enter Locale(s): ____
          Enter Module(s): ____
          Enter Cabinet(s): ____
          Enter Carrier(s): ____
          Enter Slot(s): ALL

Page 1 of 1
```

**SAMPLE
OUTPUT:**

CIRCUIT STATUS REPORT																													
						<-----Circuit----->																							
						Pack																							
Loc	Mod	Cab	Car	Slot	Type	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3
01	00	2	0	00	sn2701	w	w	a	w																				
01	00	2	0	01	sn270t	a	w	w	r																				
01	00	2	0	02	+ free																								
01	00	2	0	03	sn2701	r	w	w	w																				
01	00	2	0	05	*sn2701	a	a	a	a																				
01	00	2	0	06	sn230	w	w	a	w																				
01	00	2	0	07	sn228	a	w	w	w	a	r	a																	
01	00	2	0	08	*sn229	a	a	a	a	a	a	a																	
Page 1						+ free slot			* spare pack																				

CODE RESTRICTION LEVEL PRIMARY REPORT

PATH: fm report admin primary-code-rst-level report

PURPOSE: This report lists the primary code restriction level for a given area code, office code, or area code/office code (NPA-NNX) combination. There are actually three reports: an area code, an office code, and an area/office code report.

SELECTION

OPTIONS: For each field, you can request:

- A list of codes, range, or all area codes
- A list, range, or all office codes
- A list, range, or all area/office codes.

SORT

ORDER: The area code section is sorted by area code, the office code section by office code, and the area/office code section by area code.

SAMPLE OUTPUTS:

Area Code Section							
NPA	Code Rest Level	NPA	Code Rest Level	NPA	Code Rest Level	NPA	Code Rest Level
xxx	x	xxx	x	xxx	x	xxx	x
xxx	x	xxx	x	xxx	x	xxx	x

Office Code Section							
Office Code	Code Rest Level	Office Code	Code Rest Level	Office Code	Code Rest Level	Office Code	Code Rest Level
xxx	x	xxx	x	xxx	x	xxx	x
xxx	x	xxx	x	xxx	x	xxx	x

Area/Office Code Section							
NPA-NNX	Code Rest Level	NPA-NNX	Code Rest Level	NPA-NNX	Code Rest Level	NPA-NNX	Code Rest Level
xxx-xxx	x	xxx-xxx	x	xxx-xxx	x	xxx-xxx	x
xxx-xxx	x	xxx-xxx	x	xxx-xxx	x	xxx-xxx	x

CODE RESTRICTION LEVEL SECONDARY REPORT

PATH: fm report admin secondary-code-rst-level report

PURPOSE: This report identifies code restriction levels for all Numbering Plan Area (NPA)/NNXs (office codes) for a given trunk group.

SELECTION

OPTIONS:

- A single secondary trunk group number
- A range of secondary trunk group numbers
- All secondary trunk group numbers (the default).

SORT

ORDER:

Output is arranged by trunk group and then by NPA-NNX for a given trunk group, both in ascending numerical order.

SAMPLE

OUTPUT:

Code		Code		Code		Code	
NPA-NNX	Rest	NPA-NNX	Rest	NPA-NNX	Rest	NPA-NNX	Rest
Level		Level		Level		Level	
xxx-xxx	x	xxx-xxx	x	xxx-xxx	x	xxx-xxx	x
xxx-xxx	x	xxx-xxx	x	xxx-xxx	x	xxx-xxx	x

CONVERSION REPORT

PATH: fm report admin conversion report

PURPOSE: This report lists public network numbers that have been added to the conversion table and the associated private network location code.

SELECTION

OPTIONS: By typing **x** next to the appropriate field on the input screen, you can select a report of:

- All converted numbers
- All 10-digit numbers
- All 9-digit numbers
- All 8-digit numbers
- All 7-digit numbers.

If you select the All Converted Numbers field, you cannot select any other parameter. You can, however, select any other combinations of other fields, as long as the first field is not selected.

SORT

ORDER: Output is organized by 10-digit converted numbers, 9-digit converted numbers, 8-digit numbers, and 7-digit numbers, depending on your selection criteria. Within each grouping, the numbers (area/office codes) are listed in ascending order.

SAMPLE OUTPUTS:

Converted 10-digit numbers			
Area/Office Code	Location Code	Area/Office Code	Location Code
XXX-XXX-XXXX	XXX	XXX-XXX-XXXX	XXX
XXX-XXX-XXXX	XXX	XXX-XXX-XXXX	XXX
XXX-XXX-XXXX	XXX	XXX-XXX-XXXX	XXX
XXX-XXX-XXXX	XXX	XXX-XXX-XXXX	XXX

Converted 9-digit numbers			
Area/Office Code	Location Code	Area/Office Code	Location Code
XXX-XXX-XXX	XXX	XXX-XXX-XXX	XXX
XXX-XXX-XXX	XXX	XXX-XXX-XXX	XXX
XXX-XXX-XXX	XXX	XXX-XXX-XXX	XXX

(Continued)

Converted 8-digit numbers

Area/Office Code	Location Code	Area/Office Code	Location Code
XXX-XXX-XX	XXX	XXX-XXX-XX	XXX
XXX-XXX-XX	XXX	XXX-XXX-XX	XXX
XXX-XXX-XX	XXX	XXX-XXX-XX	XXX
XXX-XXX-XX	XXX	XXX-XXX-XX	XXX
XXX-XXX-XX	XXX	XXX-XXX-XX	XXX
XXX-XXX-XX	XXX	XXX-XXX-XX	XXX

Converted 7-digit numbers

Area/Office Code	Location Code	Area/Office Code	Location Code
XXX-XXX-X	XXX	XXX-XXX-X	XXX
XXX-XXX-X	XXX	XXX-XXX-X	XXX
XXX-XXX-X	XXX	XXX-XXX-X	XXX
XXX-XXX-X	XXX	XXX-XXX-X	XXX
XXX-XXX-X	XXX	XXX-XXX-X	XXX
XXX-XXX-X	XXX	XXX-XXX-X	XXX

DAC—TRUNK GROUP REPORT

PATH: fm report admin dac-trk-grp report

PURPOSE: This report lists the trunk group number for a given Dial Access Code (DAC).

SELECTION

OPTIONS:

- A * or # for every DAC marked with an asterisk or pound sign
- A range of DACs
- A list of DACs
- All DACs.

SORT

ORDER:

Output is arranged in ascending numerical order by first, then second and third digits.

SAMPLE

OUTPUT:

Dial Access Code	Trunk Group No.	Dial Access Code	Trunk Group No.	Dial Access Code	Trunk Group No.
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX

DATABASE MODULE TYPE REPORT

PATH: fm report admin db-module-type report

PURPOSE: This report identifies the Module Type (*Universal*, *XE* or *Traditional*) associated with the specified Module number as it resides in the Manager IV database. If the specified number has not been assigned to the *Universal*, *XE* or *Traditional* Module, the *Unassigned* type appears in the MODULE column.

**SELECTION
OPTIONS:**

- All Modules.

SORT

ORDER: Output is organized in ascending order by Module number.

**SAMPLE
OUTPUT:**

DATABASE MODULE TYPE REPORT			
MODULE	TYPE	MODULE	TYPE
0	Universal	16	Unassigned
1	Traditional	17	Unassigned
2	Universal	18	Unassigned
3	Traditional	17	Unassigned
4	XE	19	Unassigned
5	Unassigned	20	Unassigned
6	Universal	21	Unassigned
7	XE	22	Unassigned
8	Universal	23	Unassigned
9	Traditional	24	Unassigned
10	Universal	25	Unassigned
11	Traditional	26	Unassigned
12	Unassigned	27	Unassigned
13	Traditional	28	Unassigned
14	Universal	29	Unassigned
15	Traditional	30	Unassigned

DCIU CHANNEL ASSIGNMENT REPORT

PATH: fm report admin dciu-channel-assignment report.

PURPOSE: This report displays channel assignments for Data Communications Interface Units (DCIU) links. Included are the Component A link and channel and Component B.

**SELECTION
OPTIONS:**

- A single link
- A list of links
- A range of links
- All links.

SORT

ORDER: Output is arranged in ascending order by link, then by channel.

**SAMPLE
OUTPUT:**

Link: 0							
Component A Channel	Component B Link	Component B Channel	Component A Prior.	Component A Channel	Component B Link	Component B Channel	Component A Prior.
-----	-----	-----	-----	-----	-----	-----	-----
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X

DCIU NAME REPORT

PATH: fm report admin dciu-name report

PURPOSE: Use this report to list the names for all the Data Communications Interface Unit (DCIU) links on a switch. These names were entered in the dciu-link change transaction.

SELECTION

OPTION: All DCIU link numbers for a switch.

SORT

ORDER: Output is organized by link number in ascending order.

SAMPLE

OUTPUT:

DCIU Link No.	Name
X	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

DCIU ROUTE CODES REPORT

PATH: fm report admin dciu-route-codes report

PURPOSE: Use this report to identify the link and channel for each route of a Data Communications Interface Unit (DCIU) alternate routing plan. This report is essential for DCIU administration within a Distributed Communications System (DCS) network.

- SELECTION OPTIONS:**
- A list of destination route codes
 - A range of destination route codes
 - All destination route codes.

SORT ORDER: Output is organized by destination route code in ascending order.

SAMPLE OUTPUT:

Destination Route Code	Route 1 Link Channel		Route 2 Link Channel		Route 3 Link Channel	
XXX	X	XX	X	XX	X	XX
XXX	X	XX	X	XX	X	XX

D-CHANNEL ASSIGNMENT REPORT

[Generic 2 only]

PATH: fm report admin d-channel-assignment report

PURPOSE: This report lists the assigned B-Channels (trunks) and the corresponding trunk group number for a given D-Channel Group Number.

SELECTION

- OPTIONS:**
- A single D-Channel Group Number
 - A list of D-Channel Group Numbers
 - A range of D-Channel Group Numbers
 - All D-Channel Group Numbers.

SORT

ORDER: Output is organized in ascending order by D-Channel Group Number.

SAMPLE

OUTPUT:

D-CHANNEL ASSIGNMENT REPORT					
D-Channel Group Number					
(B-Channel) Equip. Loc.	Trunk Group No.	(B-Channel) Equip. Loc.	Trunk Group No.	(B-Channel) Equip. Loc.	Trunk Group No.
00/0/d/00/00	123	00/0/d/00/01	456	00/0/e/00/02	789
00/0/e/00/03	987	00/0/1/00/00	654	00/0/1/00/01	321
00/0/d/00/00	12	00/0/d/00/01	13	00/0/c/00/00	14
00/0/c/00/01	15	00/0/2/00/00	16	00/0/2/00/01	17
00/0/2/00/02	18	00/0/2/00/03	19	00/0/c/00/03	20
00/0/c/00/04	21	00/0/d/00/12	22	00/0/d/00/13	98

D-CHANNEL GROUP REPORT

[Generic 2 only]

PATH: fm report admin d-channel-group report

PURPOSE: This report lists for all given D-Channel Group Numbers their corresponding Primary and Backup D-Channels.

SELECTION

OPTIONS:

- A single D-Channel Group Number
- A list of D-Channel Group Numbers
- A range of D-Channel Group Numbers
- All D-Channel Group Numbers.

SORT

ORDER:

Output is organized in ascending order by D-Channel Group Number.

SAMPLE

OUTPUT:

D-CHANNEL GROUP REPORT		
D-Channel Group Number	Primary D-Channel Equipment Location	Secondary D-channel Equipment Location
1	00/0/d/00/00	00/0/d/00/01
2	00/0/e/00/02	00/0/e/00/03
3	00/0/l/00/00	
4	00/0/d/00/00	00/0/d/00/01

EXTENSION PARTITION/AUTHORIZATION CODE REPORT

[Generic 2.2 and System 85 R2V4]

PATH: fm report admin extension-auth-codes report

PURPOSE: This report lists all authorization codes associated with a specified extension partition. The report is only available if Tenant Services is present.

**SELECTION
OPTIONS:**

- Extension Partition number
- Display report to screen or printer.

**SAMPLE
OUTPUT:**

Auth Code Extension Partition Report	
Extension Partition: 0	
Auth Code	Auth Code
2000000	2000002

Note:

The following message will appear for Generic 2.2 if Manager IV support for Tenant Services is not activated:

TENANT SERVICES SUPPORT FOR THIS TARGET NOT ACTIVATED, USE ESC C TO CANCEL.

EXTENSION PARTITION TRUNK GROUP REPORT

[Generic 2.2 and System 85 R2V4]

PATH: fm report admin extension-trk-grp report

PURPOSE: This report lists all trunk groups associated with a specified extension partition. The report is only available if Tenant Services is present.

SELECTION

- OPTIONS:**
- Extension Partition number
 - Display report to screen or printer.

**SAMPLE
OUTPUT:**

Extension Partition Trunk Group Report		
=====	=====	=====
Extension Partition: 0		
Trunk Group	Trunk Group	Trunk Group
-----	-----	-----
25	30	

Note:

The following message will appear for Generic 2.2 if Manager IV support for Tenant Services is not activated:

TENANT SERVICES SUPPORT FOR THIS TARGET NOT ACTIVATED, USE ESC C TO CANCEL.

FNPA REPORT

[Generic 2.1 and System 85 R2V2-R2V4]

PATH: fm report admin fnpa report

PURPOSE: This report identifies the ARS patterns assigned to a Foreign Numbering Plan Area (FNPA), that is, a non-local area code. The report includes patterns assigned to any of the time-of-day plans and to 6-digit routing.

SELECTION

- OPTIONS:**
- A list of FNPAs
 - A range of FNPAs
 - All FNPAs.

SORT

ORDER: Output is arranged by FNPA in ascending numerical order.

SAMPLE OUTPUT:

Foreign NPA	Plan1	Plan2	Plan3	6-digit route patterns
XXX	XX	XX	XX	XX XX XX XX XX XX XX XX XX
XXX	XX	XX	XX	XX XX XX XX XX XX XX XX XX

FREE SLOT INVENTORY

[Generic 2 and System 85 R2V2-R2V4]

PATH: fm report-admin free-slot-inventory report

PURPOSE: This report identifies Equipment Locations that currently do not contain an associated circuit pack (that is, free slots). For each free slot identified, the report displays the associated Locale, Module, Cabinet, Carrier, and Slot number.

**SELECTION
OPTIONS:**

- For each of the following selections, you may enter a specific Locale, "ALL" for all Locales, or leave this field blank by pressing **RETURN** to get a report for NULL Locales:
 - You may enter a specific Module, or "all" for all Modules. For a specific Module selected, you may enter a specific Cabinet, or "all" for all Cabinets.

**SORT
ORDER:** Output is sorted by Locale, Module, Cabinet, Carrier, and Slot in ascending order.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm report-admin free-slot-inventory report

      FREE SLOT INVENTORY REPORT

      Enter Locale(s): ____
      Enter Module(s): ____
      Enter Cabinet(s): ____
      Enter Carrier(s): ALL
      Enter Slot(s): ALL

Page 1 of 1
```

**SAMPLE
OUTPUT:**

FREE SLOT INVENTORY REPORT				
INVENTORY RANGE				
Locale(s)	Module(s)	Cabinet(s)	Carrier(s)	Slot(s)
-----	-----	-----	-----	-----
ALL	ALL	ALL	ALL	ALL
FREE SLOTS				
Locale	Module	Cabinet	Carrier	Slot
-----	-----	-----	-----	-----
02	01	1	2	03
02	01	3	1	18
02	02	2	3	02
04	10	0	0	07
04	10	1	2	20
15	22	0	c	11
Page 1 of 1				

FRL-AUTHORIZATION CODE REPORT

PATH: fm report admin frl-auth report

PURPOSE: This report presents authorization codes with selected Facility Restriction Levels (FRLs).

SELECTION

OPTIONS:

- One FRL or a list or range of FRLs or all.
- Authorization codes assigned to a user, available for assignment, or both. Authorization codes not yet assigned display the word "available" in the Assigned To column.

SAMPLE

OUTPUT:

FRL: X					
Auth Code	Net Access	Assigned To	Auth Code	Net Access	Assigned To
xxxxxxx	x	xxxxxxxxxxxxxxxxxxxx	xxxxxxx	x	xxxxxxxxxxxxxxxxxxxx
xxxxxxx	x	xxxxxxxxxxxxxxxxxxxx	xxxxxxx	x	xxxxxxxxxxxxxxxxxxxx

FRL TRUNK GROUP REPORT

PATH: fm report admin frl-trk report

PURPOSE: This report identifies all trunk groups by number that have a particular Facility Restriction Level (FRL).

SELECTION

- OPTIONS:**
- One FRL
 - A range of FRLs
 - A list of FRLs
 - All FRLs.

SORT

ORDER: Output is in ascending numerical order by FRL and by trunk group.

**SAMPLE
OUTPUT:**

FRL: X			
Trunk Group No.	Trunk Group No.	Trunk Group No.	Trunk Group No.
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX

HNPA REPORT

[Generic 2.1 and System 85 R2V2-R2V4]

PATH: fm report admin hnpa report

PURPOSE: This report lists the Automatic Route Selection (ARS) pattern numbers assigned to an office code in the home (that is, local) area code (NPA).

**SELECTION
OPTIONS:**

- A list of office codes
- A range of office codes
- All office codes.

**SORT
ORDER:** Output is arranged by office code in ascending numerical order.

**SAMPLE
OUTPUT:**

Off Code	Patt No.	Off Code	Patt No.	Off Code	Patt No.	Off Code	Patt No.
XXX	XX	XXX	XX	XXX	XX	XXX	XX
XXX	XX	XXX	XX	XXX	XX	XXX	XX
XXX	XX	XXX	XX	XXX	XX	XXX	XX
XXX	XX	XXX	XX	XXX	XX	XXX	XX

MISCELLANEOUS TRUNK RESTRICTION GROUP REPORT

PATH: fm report admin misc-trk-rst-grp report

PURPOSE: This report lists all trunk groups assigned to Miscellaneous Trunk Restriction Group (MTRG). The trunk group Dial Access Code (DAC) is also supplied.

**SELECTION
OPTIONS:**

- A single MTRG
- A range of MTRGs
- A list of MTRGs
- All MTRGs (default).

SORT

ORDER: Output is arranged by MTRG and then by trunk group, both in numerical order.

**SAMPLE
OUTPUT:**

MTRG: 1			
Trunk Group No.:		XXX	Dial Access Code: XXX
		XXX	XXX
		XXX	XXX
		XXX	XXX
MTRG: 2			
Trunk Group No.:		XXX	Dial Access Code: XXX
		XXX	XXX

MODEM-EXTENSION REPORT

[DIMENSION FP8 3.8]

PATH: fm report admin modem-extension report

PURPOSE: This report identifies extension numbers that are associated with modem terminals.

**SELECTION
OPTIONS:**

- A list, range, or all extension numbers.
- A list, range, or all terminals.

SORT

ORDER: Output is sorted in ascending order by extension number.

**SAMPLE
OUTPUT:**

Extension No.	Terminal	Extension No.	Terminal
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX
XXXX	XXXX	XXXX	XXXX

MODEM PAIR REPORT

[DIMENSION FP8 3.8]

PATH: fm report admin modem-pair report

PURPOSE: This report identifies modem equipment locations that are connected by specific trunk groups.

SELECTION

- OPTIONS:**
- Single, list, range, or all analog trunk group numbers.
 - Single, list, range, or all digital trunk group numbers.
 - All digital and analog trunk group numbers.

SORT

ORDER: Output is sorted in ascending order according to trunk group number, with digital preceding analog.

SAMPLE

OUTPUT:

Trunk Group No.: ____ (digital / Analog)		
Equip. Loc.	Equip. Loc.	Trunk Group No.
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX
XX/X/X/XX/X	XX/X/X/XX/X	XXX

MODEM POOL REPORT

PATH: fm report admin modem-pool report

PURPOSE: This report identifies the trunk group numbers, Dial Access Codes (DACs), trunk types, and equipment locations for the trunk group and modem pool pair.

**SELECTION
OPTIONS:**

- A single trunk group number
- A list of trunk group numbers
- A range of trunk group numbers
- All trunk group numbers.

SORT

ORDER: Output is sorted in ascending order by trunk group.

**SAMPLE
OUTPUT:**

```

                                MODEM POOL REPORT
                                =====
                                Trunk Group No.: 110
                                Dial Access Code: #22
                                Trunk Type: 102
                                Bearer Capability COS:

                                Equip.  Loc.          Modem Pair
                                -----
                                0003151          010c0000
                                010c0003          0003162
                                0003153          0003163

```

Notes: The Bearer Capability COS field applies only to Generic 2. In System 85 R2V2-R2V4, this field does not appear.

This report is not supported for DIMENSION FP8.

PBX MODULE TYPE REPORT

PATH: fm report admin pbx-module-type report

PURPOSE: This report identifies the switch Module Type (*Universal*, *XE* or *Traditional*) associated with the specified Module number. If the specified number has not been assigned to the *Universal*, *XE* or *Traditional* Module, the *Unassigned* type appears in the MODULE column.

SELECTION

OPTIONS:

- All Modules.

SORT

ORDER: Output is organized in ascending order by Module number.

SAMPLE

OUTPUT:

PBX MODULE TYPE REPORT			
MODULE	TYPE	MODULE	TYPE
0	Universal	16	Unassigned
1	Traditional	17	Unassigned
2	Universal	18	Unassigned
3	Traditional	17	Unassigned
4	XE	19	Unassigned
5	Unassigned	20	Unassigned
6	Universal	21	Unassigned
7	Traditional	22	Unassigned
8	Universal	23	Unassigned
9	Traditional	24	Unassigned
10	Universal	25	Unassigned
11	Traditional	26	Unassigned
12	Unassigned	27	Unassigned
13	Traditional	28	Unassigned
14	Universal	29	Unassigned
15	Traditional	30	Unassigned

RESTRICTION REPORT

PATH: fm report admin restriction report

PURPOSE: This report lists restricted numbers for a switch.

**SELECTION
OPTIONS:**

- All restricted numbers
- One or more of the following groups:
 - 10-digit numbers
 - 9-digit numbers
 - 8-digit numbers
 - 7-digit numbers.

SORT

ORDER: The output can have up to four parts: restricted 10-digit, 9-digit, 8-digit, and 7-digit numbers. The numbers within each group are listed in ascending order.

**SAMPLE
OUTPUT:**

```
Restricted 10-digit numbers

XXX-XXX-XXXX      XXX-XXX-XXXX      XXX-XXX-XXXX
XXX-XXX-XXXX      XXX-XXX-XXXX      XXX-XXX-XXXX
XXX-XXX-XXXX      XXX-XXX-XXXX      XXX-XXX-XXXX
XXX-XXX-XXXX      XXX-XXX-XXXX      XXX-XXX-XXXX
```

```
Restricted 9-digit numbers

XXX-XXX-XXX      XXX-XXX-XXX      XXX-XXX-XXX
XXX-XXX-XXX      XXX-XXX-XXX      XXX-XXX-XXX
XXX-XXX-XXX      XXX-XXX-XXX      XXX-XXX-XXX
XXX-XXX-XXX      XXX-XXX-XXX      XXX-XXX-XXX
XXX-XXX-XXX      XXX-XXX-XXX      XXX-XXX-XXX
```

(Continued)

Restricted 8-digit numbers

XXX-XXX-XX	XXX-XXX-XX	XXX-XXX-XX
XXX-XXX-XX	XXX-XXX-XX	XXX-XXX-XX
XXX-XXX-XX	XXX-XXX-XX	XXX-XXX-XX
XXX-XXX-XX	XXX-XXX-XX	XXX-XXX-XX

Restricted 7-digit numbers

XXX-XXX-X	XXX-XXX-X	XXX-XXX-X
XXX-XXX-X	XXX-XXX-X	XXX-XXX-X
XXX-XXX-X	XXX-XXX-X	XXX-XXX-X
XXX-XXX-X	XXX-XXX-X	XXX-XXX-X

SPARE PACK INVENTORY REPORT

[Generic 2, System 85 R2V2-R2V4]

PATH: fm report-admin spare-pack-inventory report

PURPOSE: This report will list spare packs and their associated Locale and Equipment Locations (Module, Cabinet, Carrier, Slot numbers). Application Type will be provided for DS1-ISDN packs only.

SELECTION

- OPTIONS:**
- For each of the following selections, you may enter a specific Locale, "ALL" for all Locales, or leave this field blank by pressing **RETURN** to get a report for NULL Locales:
 - You may enter a specific Module, or "all" for all Modules.
 - You may enter a specific Cabinet, or "all" for all Cabinets.

SORT

ORDER: Output is arranged in ascending order by pack type, then by locale, and then by Equipment Location.

SAMPLE

INPUT:

```
AT&T Mgr IV 2.2          DEFINITY G2.2          <target>
fm report-admin spare-pack-inventory report

          SPARE PACK INVENTORY REPORT

          Enter Locale(s) : _____
          Enter Module(s) : _____
          Enter Cabinet(s) : _____
          Enter Carrier(s) :  ALL
          Enter Slot(s)   :  ALL

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```

**SAMPLE
OUTPUTS:**

SPARE PACK INVENTORY REPORT						
INVENTORY RANGE						
Locale(s)	Module(s)	Cabinet(s)	Carrier(s)	Slot(s)		
-----	-----	-----	-----	-----	-----	-----
ALL	ALL	ALL	ALL	ALL	ALL	ALL
SPARE PACKS						
Pack Type	Locale	Module	Cabinet	Carrier	Slot	Appl.Type
-----	-----	-----	-----	-----	-----	-----
ann11	02	02	0	2	05	1
ds1	02	02	0	2	00	1
ds1	02	02	0	2	01	1
ds1	02	02	0	2	06	1
ds1	02	02	0	2	07	1
ds1	15	27	0	c	20	5
sn2701	02	01	1	2	03	
sn2701	02	01	3	1	18	
sn2701	04	10	0	0	07	
sn2701	04	10	1	2	20	

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SPARE PACK INVENTORY REPORT						
Pack Type	Locale	Module	Cabinet	Carrier	Slot	Appl.Type
-----	-----	-----	-----	-----	-----	-----
tn754	13	22	0	c	11	
tn767	13	22	0	e	15	2
tn754	13	22	0	e	19	
tn754	13	24	0	d	14	
tn767	15	27	0	c	19	5

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(Continued)

How to Identify Spare Packs

This report lists spare regular and "special" packs (including DS1/ISDN pack types, see table below).

Regular Packs

A regular pack is classified as spare if all circuits are available (not assigned or reserved) in the slot that the pack physically occupies. Each regular pack included in the report is "truly" spare.

For example, the sn2701 pack (Locale 2, Module 1, Cabinet 3, Carrier 1, Slot 18) is reported as spare since all circuits are available in physical slot 18.

Special Packs

With a particular application, "special" packs span over multiple slots (virtual). For a "special" pack to be classified as spare, all circuits must be available both in the slot that the pack physically occupies and in all associated virtual slots. The reported "special" pack is "truly" spare if, both physical and all associated virtual packs are listed on the report.

In some subsequent release, checking on the physical/virtual associations will be done through software; the report will list only "truly" spare packs. Until we automate this process, you need to verify if a reported "special" pack is "truly" spare by consulting the table "Physical/Virtual Slot Associations for Special Packs." This table provides a list of "special" packs, Application Types that may apply and the physical/virtual slot associations for each Application Type of a particular pack.

For any "special" pack shown on the report, you need to check which physical/virtual slot associations exist for the specified Application Type and then verify if all these associations are listed as spare on the report. The procedure is as follows:

- Determine the type of the reported pack; see if the pack is included in the table. If the pack is not listed, then it is a regular "truly" spare pack.
- If the pack is in the table, check which physical/virtual associations exist for this particular Application Type as specified on the report.
- Verify that all these associations are listed as spare on the report.
- If any association is missing, then the "special" pack is not spare. Otherwise, this pack is "truly" spare.

Following are examples of how to double-check the spare packs listed on the report:

- The tn767 pack (Application Type 5) in slot 19 and the DS1 virtual pack in slot 20 are reported as spare. For the tn767 pack (Application Type 5), the table provides the following information: both the physical pack in slot **n** (which is 19 on this report) and the associated virtual DS1 pack in slot **n+1** (which is 20 on this report) must be spare. Therefore, the tn767 pack is "truly" spare.
- For the ann11 pack (Application Type 1), the table provides the following information: the ann11 physical pack in slot **5** and the associated DS1 virtual packs in slots 0, 1, 2, 6, and 7 must be spare. The report lists the ann11 pack (Application Type 1) in slot 5 and the DS1 virtual packs only for slots 0, 1, 6, and 7. For Slot 2 (Locale 2, Module 2, Cabinet 0, Carrier 2, and Slot 2), the DS1 virtual pack is not reported. Therefore, the ann11 pack is not "truly" spare.

(Continued)

PHYSICAL/VIRTUAL SLOT ASSOCIATIONS FOR SPECIAL PACKS		
Pack Type	Application Type	Slots Used
tn767	0 1 2 5	n , n+1 n , n+1 virtuals = "ds1" n n , n+1 virtuals = "ds1"
tn762	NULL	n - MFAT
ann35	5	0, 1, 2, 5 , 6, 7 13, 14, 15, 18 , 19, 20 virtuals = "ds1"
ann11	0, 1 2	0, 1, 2, 5 , 6, 7 13, 14, 15, 18 , 19, 20 virtuals = "ds1" 0 , 1, 2 5 , 6, 7 13 , 14, 15 18 , 19, 20 virtuals = "ds1"
ann15 ann16 any pack	- - 3	CONTROL PACK NOT STORED IN DATABASE CONTROL PACK NOT STORED IN DATABASE 0 , 1, 2 5 , 6, 7 13 , 14, 15 18 , 19, 20
ann17	NULL	n - MFAT

Note: Physical slot locations are marked in bold; "n" stands for a valid slot selection.

TERMINATING TRUNK GROUP REPORT

PATH: fm report admin term-trk-grps report

PURPOSE: This report lists the Centralized Attendant Service (CAS), Special Services Attendant (SSA), or Uniform Calling Distribution (UCD) group number as the termination point for a given trunk group number.

**SELECTION
OPTIONS:**

- A list of trunk group numbers
- A range of trunk group numbers
- All trunk group numbers.

SORT

ORDER: Output is in ascending order by trunk group number.

**SAMPLE
OUTPUT:**

Trunk Group No.	Termination	Trunk Group No.	Termination
xxx	xxxxxxx	xxx	xxxxxxx
xxx	xxxxxxx	xxx	xxxxxxx

TRUNK GROUP ASSIGNMENT REPORT

PATH: fm report admin trk-grp-assignment report

PURPOSE: This report lists the equipment locations for each trunk in a given trunk group.

**SELECTION
OPTIONS:**

- A single trunk group number
- A list of trunk group numbers
- A range of trunk group numbers
- All trunk group numbers.

SORT

ORDER: Output is arranged by equipment location in ascending numerical order.

**SAMPLE
OUTPUT:**

Trunk Group No.: XXX		
Equip. Loc.	Equip. Loc.	Equip Loc.
010e0001	010d0000	010c0000
0602062	0602060	0602061

TRUNK GROUP—DAC REPORT

PATH: fm report admin trk-grp-dac report

PURPOSE: This report identifies the Dial Access Code (DAC) for each trunk group. Use this report when you know trunk group numbers, but not their DACs.

SELECTION

- OPTIONS:**
- A list of trunk group numbers
 - A range of trunk group numbers
 - All trunk group numbers.

SORT

ORDER: Output is arranged by trunk group in ascending numerical order.

**SAMPLE
OUTPUT:**

Trunk Group	Dial Access Code	Trunk Group	Dial Access Code	Trunk Group	Dial Access Code
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX	XXX	XXX

TRUNK GROUP/EXTENSION PARTITION REPORT

[Generic 2.2, System 85 R2V4]

PATH: fm report admin trk-grp-extension report

PURPOSE: This report lists all extension partitions associated with a specified trunk group. The report is only available if Tenant Services is present.

SELECTION

- OPTIONS:**
- Trunk group number
 - Display report to screen or printer.

SAMPLE

OUTPUT:

```
Trunk Group Extension Partition Report
=====
Trunk Group No: 25

Extension      Extension      Extension
Partition      Partition      Partition
-----
0              1              6
10            12            22
```

Note:

The following message will appear for Generic 2.2 if Manager IV support for Tenant Services is not activated:

TENANT SERVICES SUPPORT FOR THIS TARGET NOT ACTIVATED, USE ESC C TO CANCEL.

TRUNK GROUP—FRL REPORT

PATH: fm report admin trk-frl report

PURPOSE: This report identifies the Facility Restriction Level (FRL) for a given trunk group.

SELECTION

- OPTIONS:**
- A list of trunk groups
 - A range of trunk groups
 - All trunk groups.

SORT

ORDER: Output is sorted by trunk group number in ascending order.

**SAMPLE
OUTPUT:**

Trunk Group No.	FRL	Trunk Group No.	FRL	Trunk Group No.	FRL	Trunk Group No.	FRL
001	7	009	1	027	1	030	3
041	2	049	1	057	3	060	3
061	1	069	2	120	1	130	4
161	1	172	2	183	1	201	4

TRUNK GROUP NAME REPORT

PATH: fm report admin trk-name report

PURPOSE: Use this report to identify the name associated with a particular trunk group. This is the name entered in the trk-grp add transaction.

**SELECTION
OPTIONS:**

- A list of trunk groups
- A range of trunk groups
- All trunk groups.

SORT

ORDER: Output is organized by trunk group number in ascending order.

**SAMPLE
OUTPUT:**

Trunk Group		Trunk Group	
No.	Name	No.	Name
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX
XXX	XXXXXXXXXXXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX

TRUNK GROUP QUEUE REPORT

PATH: fm report admin trk-grp-queue report

PURPOSE: This report identifies queuing information for a particular trunk group, including whether or not queuing is active, what the queue type is, and what the wait time and queue lengths are. The Dial Access Code (DAC) and trunk type are also listed for each trunk group.

**SELECTION
OPTIONS:**

- A list of trunk group numbers
- A range of trunk group numbers
- All trunk group numbers.

SORT

ORDER: Output is organized by trunk group number in ascending numerical order.

**SAMPLE
OUTPUT:**

Trunk Queue No.	Dial Acc. Code	Trunk Type	Wait Time (min)			Length			Queue Type	Ring Back Rst.	Active
			Non-Pr Off-HK	Pr Off-HK	Ring Back	Non-Pr	Pr				
XX	XXX	XX	XXX XX	XXX XX	XXXX	XXX XX	XX	XXXX	XXX	Y/N	
XX	XXX	XX	XXX XX	XXX XX	XXXX	XXX XX	XX	XXXX	XXX	Y/N	
XX	XXX	XX	XXX XX	XXX XX	XXXX	XXX XX	XX	XXXX	XXX	Y/N	

TRUNK GROUP SUMMARY REPORT

PATH: fm report admin trk-grp-summary report

PURPOSE: This report lists feature information for a given trunk group. All the fields on the trk-grp add transaction screen are included in the report. Use **trk-grp display** to get feature information for one trunk group, and use this report when you need the same information for more than one trunk group at a time in order to get an overall view of the kinds of trunk groups you have.

SELECTION

- OPTIONS:**
- A single trunk group
 - A list of trunk groups
 - A range of trunk groups
 - All trunk groups.

SORT

ORDER: Output is organized by trunk group in ascending numerical order.

SAMPLE

OUTPUTS:

TRUNK GROUP SUMMARY REPORT							
=====							
Trunk Group No.	Dial Acc. Code	SMDR	Data Rst.	Dial Acc. Rst.	Timed Recall Time	Lvl.	Name
-----	-----	-----	-----	-----	-----	-----	-----
321	3321	n					
322	3322	n					

Trunk Group No.	Trunk Type	BCCOS	Auto. Short	Ckt. Long	Assur Referral	FRL	Auth Code Rqd.	Route 1st	Advance 2nd	3rd	4th
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
321	17										
322	17										

UCD GROUP REPORT

[DIMENSION System FP8 1.16 and 3.8 and System 85 R2V2]

PATH: fm report admin ucd-grp report

PURPOSE: This report allows you to compare the attributes of one or more of the assigned Uniform Call Distribution (UCD) groups. All field values are presented in the same format as you have entered them.

For System 85 R2V3, use the ACD Group report.

- SELECTION OPTIONS:**
- A list of UCD groups
 - A range of UCD groups
 - All UCD groups.

SORT ORDER: Output is arranged by UCD Group in ascending numerical order.

SAMPLE OUTPUT: [for DIMENSION System FP8 1.16]

UCD Grp	AP No.	ICI Msg	Queuing Trunk Grp	Warning Level	Lamp Board	Ckt	Control Extn	Assoc Extn	Delay Announce
xx	xx	xx	xxx	xx	xx	x	xxxxx	xxxxxx	x
xx	xx	xx	xxx	xx	xx	x	xxxxx	xxxxxx	x

[for DIMENSION System FP8 3.8 and System 85 R2V2]

UCD Grp	Group Size	Queuing Trunk Grp	ICI Supv. Msg	QDN Extn	Priority Extn	Inflow Level	Outflow Level	Hunt Patr	
xx	xxxx	xxx	xx	xxxxxx	xxxxxx	xxxxxx	xx	xx	xxxx
xx	xxxx	xxx	xx	xxxxxx	xxxxxx	xxxxxx	xx	xx	xxxx

UCD LAMP REPORT

[DIMENSION System FP8 1.16]

PATH: fm report admin ucd-lamp report

PURPOSE: This report will show all lamps that you have assigned to a particular Uniform Call Distribution (UCD) group.

SELECTION OPTION: By a single UCD group number.

SORT ORDER: Output is arranged by trunk group number in ascending order.

SAMPLE OUTPUT:

UCD Lamp Report			
UCD Group No. nn			
Trunk Equip. Loc.	Trunk Group	Board Index	Circuit Index
___/___/___/___	___	___	___
___/___/___/___	___	___	___

UNASSIGNED CIRCUIT REPORT

PATH: fm report admin unassigned-ckt report

PURPOSE: This report lists available circuits. Use this report for inventory control and for determining specific available Equipment Line Locations (ELLS) when adding more trunks.

**SELECTION
OPTIONS:**

- Pack type:
 - A single pack type
 - A list or range of pack types
 - All pack types.
- Module, cabinet:
 - The module must be specified.
 - Single, a list, range, or all is valid for the cabinet.

SORT

ORDER: Output is arranged by pack type in ascending numerical order. Within a given pack type, the module, cabinet, carrier, slot, and circuits are arranged in ascending numerical order.

- Notes:**
- ELLs are marked as unavailable when circuits have been assigned.
 - There is expanded help for pack types.

**SAMPLE
INPUT
SCREEN:**

```
AT&T Mgr IV 2.2                DEFINITY G2.2
fm report-admin unassigned-ckt report

                                Enter Pack Type(s): all

                                Enter Module No.: 00

                                Enter Cabinet No.: 1
```

**SAMPLE
OUTPUT
SCREEN:**

UNASSIGNED EQUIPMENT REPORT				

Module	Cabinet	Carrier	Slot	Circuit
-----	-----	-----	-----	-----
00	1	1	00	0

VECTOR DIRECTORY NUMBER (VDN) REPORT

[System 85 R2V4 and Generic 2]

PATH: fm report vdn report

PURPOSE: This report displays the vector directory numbers (VDNs) associated with specified vector numbers. It also displays whether or not the VDN is measured for Call Management System and the return call indicator of each VDN. The report is available only if Call Vectoring is present.

- SELECTION OPTIONS:**
- Vector Number
 - Display report to screen or printer.

SORT ORDER: Displays VDNs in numerical order.

SAMPLE OUTPUT:

VECTOR DIRECTORY NUMBER REPORT		
=====		
VDN	MEASURED FLAG	RETURN CALL INDICATOR
----	-----	-----
20000	Y	1
20001	Y	0

WORLD CLASS ROUTING REPORTS

WORLD CLASS ROUTING DIAL PLAN REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-dial-plan report

PURPOSE: This report lists all, or a subset based on string type, of String Identifiers administered for a specified WCR network. The String Identifiers must have been entered via the **wcr-dial-plan-definition add/change** command.

SELECTION

OPTIONS: Enter the WCR Network Number (0-7) and:

- A single String Type
- A list of String Types
- **ALL** for all String Types.

Valid string encodes for String Type(s) are:

Table 11-1. Valid WCR String Encodes.

String ID	Description
acct	Account Code (Standard Network)
acctx	Account Code (Exception Network)
ixc	Inter-Exchange Carrier (Standard Network)
ixcx	Inter-Exchange Carrier (Exception Network)
toll	Toll Prefix (Standard Network)
tollx	Toll Prefix (Exception Network)
intl	International (Standard Network)
intlx	International (Exception Network)
oper	Operator Assistance (Standard Network)
operx	Operator Assistance (Exception Network)
addr	Address (Standard Network)
addrx	Address (Exception Network)

SORT

ORDER: If you select a single or **ALL** String Identifiers for the specified WCR network, the output will be arranged by String ID.

If you select a list of String Identifiers for the specified WCR network, the output will be arranged first, alphabetically by String ID Type, and then by String ID.

**SAMPLE
INPUT:**

```

AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm report-admin wcr-dial-plan report                Page 1 of 1

Enter WCR Network Number: 1

Enter String Type(s): ALL

```

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2.2 when sorting is done by String ID.

```

                WCR DIAL PLAN REPORT
                WCR Network: 1  "WCR Network Name                "

                <----- ACTION ----->                C R O F T
                Encode      Object      Attrib      o e p r o
                Rlv->0      Rlv->VNI    Rlv->FRL    n a e z n
                Rst->1      Rst->DMI    Rst->Net    t n r e e
                -----                -----                -----
String ID      String Length  String Type  Rlv->0      Rlv->VNI    Rlv->FRL    Rst->Net
-----
01             7    31    intl        0           25          7          n n 0 n y
1              1           toll        0           0           0          n n 0 n y
303            10          addr        0           75          0          n n 0 n y
374            7           addr        0           552         0          n n 0 n y
4              7           addr        0           1           0          n n 0 n n
538            7           addr        0           58          0          n n 0 n n
555            7           addr        0           18          5          n n 0 n n
555*000        7           addrx       0           1           0          n n 0 n n
811            7           addr        0           500         0          n n 0 n n
911            3           addr        0           999         0          n n 0 n n

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```

Following is the output screen when sorting is done first alphabetically by String ID Type, and then by String ID.

WCR DIAL PLAN REPORT							
WCR Network: 1 "WCR Network Name"							
String ID	String Length		String Type	<----- ACTION ----->			C R O F T o e p r o n a e z n t n r e e - - - - -
	Min	Max		Encode Rlv->0 Rst->1	Object Rlv->VNI Rst->DMI	Attrib Rlv->FRL Rst->Net	
303	10		addr	0	75	0	n n 0 n y
374	7		addr	0			
4	7		addr	0	1	0	n n 0 n n
538	7		addr	0	58	0	n n 0 n n
555	7		addr	0	18	5	n n 0 n n
811	7		addr	0	500	0	n n 0 n n
911	3		addr	0	999	0	n n 0 n n
555*000	7		addrx	0	1	0	n n 0 n n

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WORLD CLASS ROUTING DIGIT MODIFICATION REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-digit-modification report

PURPOSE: Use this report to list the attributes of Digit Modification Indices administered by the WCR networks as follows:

- Assigned (associated with at least one WCR pattern/preference combination) Digit Modification Indices ordered by the Digit Modification Index number, then pattern/preference number
- Assigned Digit Modification Indices ordered first by the pattern number, then Digit Modification Index number
- All unassigned (not associated with any WCR pattern/preference combination) Digit Modification Indices
- All Digit Modification Index numbers that have non-default values.

These attributes must have been entered via the **wcr-digit-modification change** transaction.

**SELECTION
OPTIONS:**

For each of the following selections, you may enter a single Digit Modification Index, a list of Digit Modification Indices, or "ALL" for all Digit Modification Indices, assigned and unassigned:

- You may enter "x" in the Assigned field and in the Digit Modification Index field to select only assigned Digit Modification Indices sorted by Digit Modification Index
- You may enter "x" in the Assigned field and in the Pattern Number field to select only assigned Digit Modification Indices sorted by pattern number
- You may enter "x" in the Unassigned field to select only unassigned Digit Modification Indices.

To list all Digit Modification Indices, assigned and unassigned, select the ALL Select Option by entering "x" in the ALL field. Then, other options will default to "ALL" and not allow selection criteria to be entered.

**SORT
ORDER:**

If you select the Assigned indices retrieved by Digit Modification Index, the output will contain all assigned indices first sorted by the Digit Modification Index number, then pattern number, and then preferences within a pattern for the specified list, range, or "ALL" Digit Modification Index numbers in ascending order.

If you select the Assigned indices retrieved by Pattern Number, the output will contain all assigned indices first sorted by the pattern number, then preferences within a pattern, and then Digit Modification Index number for the specified list, range, or "ALL" Digit Modification Index numbers in ascending order.

If you select the Unassigned indices, the output will contain only unassigned indices sorted by the Digit Modification Index number for the specified list, range, or "ALL" Digit Modification Index numbers in ascending order.

If you select the ALL Select Option, the output will contain all assigned and unassigned indices sorted by the Digit Modification Index number. Only indices with non-default values will be displayed in this report.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm report-admin wcr-digit-modification report                Page 1 of 1

      Select Option:

      x Assigned
      _ Unassigned
      _ ALL (non-default values only)

      Retrieve data by:

      x Digit Modification Index
      _ Pattern Number

      Enter Digit Modification Indices: _____
```

Note: Digit Modification Index and Pattern Number are dynamic fields; these fields appear only if you select the Assigned option.

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2.2 when retrieval is done by Digit Modification Index.

WCR DIGIT MODIFICATION REPORT						
ASSIGNED - BY DIGIT MODIFICATION INDEX NUMBER						
Digit Mod. Index	WCR Pattern Number	Trunk Pref. Group	Trunk Group No.	<-----Digits Inserted----->		Number Digits Deleted
4076	1	2	126	1234567890123456789012345678901		31
4077	23	1	103	*735122462		all
4079	2	1	119	810288		6
4079	14	2	119	810288		6
4080	1	3	101	*432659123		all

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Following is the output screen as it appears in Generic 2.2 when retrieval is done by Pattern Number.

WCR DIGIT MODIFICATION REPORT						
ASSIGNED - BY PATTERN NUMBER						
WCR Pattern Number	Trunk Pref. Group	Trunk Group No.	Digit Mod. Index	<-----Digits Inserted----->		Number Digits Deleted
2	2	126	2	12345678908546		6
3	1	119	4023	81025		all
3	3	121	4016	*123456		2
4	1	226	4023	1234567890123456789		all

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Following is the output screen when the Unassigned option is used as Selection Criteria.

WCR DIGIT MODIFICATION REPORT							
UNASSIGNED							
Digit	Digit	Digit	Digit	Digit	Digit	Digit	Digit
Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.	Mod.
Index	Index	Index	Index	Index	Index	Index	Index
-----	-----	-----	-----	-----	-----	-----	-----
1122	1123	1124	1125	1126	1128	1129	1130
1131	1132	1133	1134	1135	1136	1137	1138

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Following is the output screen with the ALL option as Selection Criteria.

WCR DIGIT MODIFICATION REPORT			
Digit			
Mod.	<-----Digits Inserted----->		Digits
Index			Deleted
-----	-----	-----	-----
0	1234		all
2	12345678908456		6
3	*987654321		all
7			15

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Digit Modification Indices that do not appear on this report will have default values in both Digits Inserted and Digits Deleted fields. The last line of the report should state:
 ALL other digit modification indices have the following set of default values:

Digit			
Mod.	<-----Digits Inserted----->		Digits
Index			Deleted
-----	-----	-----	-----
	NULL		0

Note: Digit Modification Indices that do not appear on this screen will have default values in all fields.

WORLD CLASS ROUTING DIGIT SENDING REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-digit-sending report

PURPOSE: Use this report to list the attributes of Digit Sending Indices administered by the WCR networks as follows:

- Assigned (associated with at least one WCR pattern/preference combination) Digit Sending Indices ordered by the Digit Sending Index number, then pattern/preference number
- Assigned Digit Sending Indices ordered first by the pattern number, then Digit Sending Index number
- All unassigned (not associated with any WCR pattern/preference combination) Digit Sending Indices
- All Digit Sending Index numbers that have non-default values.

**SELECTION
OPTIONS:**

For each of the following selections, you may enter a single Digit Sending index, a list of Digit Sending Indices, a range of Digit Sending Index numbers, or "ALL" for all Digit Sending Indices, assigned and unassigned:

- You may enter "x" in the Assigned field and in the Digit Sending Index field to select only assigned Digit Sending Indices sorted by the Digit Sending Index
- You may enter "x" in the Assigned field and in the Pattern Number field to select only assigned Digit Sending Indices sorted by the pattern number
- You may enter "x" in the Unassigned field to select only unassigned Digit Sending Indices.

To list all Digit Sending Indices, assigned and unassigned, select the ALL Select Option by entering "x" in the ALL field. Then, other options will default to "ALL" and not allow selection criteria to be entered.

**SORT
ORDER:**

If you select the Assigned indices retrieved by Digit Sending Index, the output will contain all assigned indices first sorted by the Digit Sending Index number, then pattern number, and then preferences within a pattern for the specified list, range, or "ALL" Digit Sending Index numbers in ascending order.

If you select the Assigned indices retrieved by Pattern Number, the output will contain all assigned indices first sorted by the pattern number, then preferences within a pattern, and then Digit Sending Index number for the specified list, range, or "ALL" Digit Sending Index numbers in ascending order.

If you select the Unassigned indices, the output will contain only unassigned indices sorted by the Digit Sending Index number for the specified list, range, or "ALL" Digit Sending Index numbers in ascending order.

If you select the ALL Select Option, the output will contain all assigned and unassigned indices sorted by the Digit Sending Index number in ascending order.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm report-admin wcr-digit-sending report                Page 1 of 1

      Select Option:

      x Assigned
      _ Unassigned
      _ ALL (non-default values only)

      Retrieve data by:

      x Digit Sending Index
      _ Pattern Number

      Enter Digit Sending Indices: _____
```

Note: Digit Sending Index and Pattern Number are dynamic fields; these fields appear only if you select the assigned indices by entering "x" in the Assigned field.

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2.2 when selection is done by assigned Digit Sending Indices.

WCR DIGIT SENDING REPORT									
ASSIGNED - BY DIGIT SENDING INDEX									
Digit Send Index	WCR Pattern Number	Pref.	Trunk Group No.	Send DAC Digit	Send CIC Digit	Send Toll Digit	Grp.1 No. Digit	Grp.2 No. Digit	Grp.3 No. Digit
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
22	1	1	119	#87	1234	247	31	31	31
25	1	3	107	*123	425	123	all		
25	25	1	107	*123	425	123	all		
88	3	2	305	*221	89	789	31	all	
123	3	4	824	#89	89	742	8	12	all
224	7	1	511	*88	101	321	all		
321	13	2	923	#31	632	111	31	31	

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Following is the output screen as it appears in Generic 2.2 when selection is done by assigned Digit Pattern Number.

WCR DIGIT SENDING REPORT									
ASSIGNED - BY PATTERN NUMBER									
WCR Pattern Number	Pref.	Trunk Group No.	Digit Send Index	Send DAC Digit	Send CIC Digit	Send Toll Digit	Grp.1 No. Digit	Grp.2 No. Digit	Grp.3 No. Digit
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	1	118	25	#87	1234	247	31	31	31
1	2	105	224	*123	425	123	all		
2	2	131	22	*221	89	789	31	all	
2	3	118	25	#87	1234	247	31	31	31
2	4	222	321	#89	89	742	8	12	all
2	1	102	88	*88	101	321	all		
100	3	335	123	#31	632	111	31	31	

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Following is the output screen as it appears in Generic 2.2 when selection is done by unassigned Digit Sending Indices.

WCR DIGIT SENDING REPORT							
UNASSIGNED							
Digit Send Index	Digit Send Index	Digit Send Index	Digit Send Index	Digit Send Index	Digit Send Index	Digit Send Index	Digit Send Index
-----	-----	-----	-----	-----	-----	-----	-----
3	7	11	28	36	44	51	83
99	102	103	107	108	109	110	111
112	113	114	222	289	290	291	292
363	365	366	367	502	503	504	504

Page 1

Following is the output screen as it appears in Generic 2.2 when ALL Digit Sending Indices are selected.

WCR DIGIT SENDING REPORT															
<-Send->		<---Digits--->			Group 1			Group 2			Group 3			Group 4	
D	D I T	D	C	T	Pause,			Pause,			Pause,			Pause,	
S	A X L	A	I	L	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode	Digit,Mode
I	C C P #	C	C	P	P	D	M	P	D	M	P	D	M	P	M
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1	2 2 4 n	#87	1234	123	4	all	t								
2	3 3 3 y	*123	425	789	2	31	t	2	all	t					
3	0 0 2 n				4	8	t	2	12	t	6	all	t		
4	1 1 1 y				2	31	t	2	all	t					
5	2 2 0 n	*221	89		2	31	t	2	all	t					

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Note: Digit Sending Indices that do not appear on this screen will have default values in all fields.

WORLD CLASS ROUTING ISDN FEATURE PARAMETERS REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-isdn-parameters report

PURPOSE: Use this report to list the attributes of ISDN Sending Indices administered by the WCR networks as follows:

- Assigned (associated with at least one WCR pattern/preference combination) ISDN Sending Indices ordered by the ISDN Sending Index number, then pattern/preference number
- Assigned ISDN Sending Indices ordered first by the pattern number, then ISDN Sending Index number
- All unassigned (not associated with any WCR pattern/preference combination) ISDN Sending Indices
- All ISDN Sending Index numbers that have non-default values.

SELECTION OPTIONS:

For each of the following selections, you may enter a single ISDN Sending Index, a list of ISDN Sending Indices, a range of ISDN Sending Index numbers, or "ALL" for all ISDN Sending Indices, assigned and unassigned:

- You may enter "x" in the Assigned field and in the ISDN Sending Index field to select only assigned ISDN Sending Indices sorted by the ISDN Sending Index
- You may enter "x" in the Assigned field and in the Pattern Number field to select only assigned ISDN Sending Indices sorted by the pattern number
- You may enter "x" in the Unassigned field to select only unassigned ISDN Sending Indices.

To list all ISDN Sending Indices, assigned and unassigned, select the ALL Select Option by entering "x" in the ALL field. Then, other options will default to "ALL" and not allow selection criteria to be entered.

SORT ORDER:

If you select the Assigned indices retrieved by ISDN Sending Index, the output will contain all assigned indices first sorted by the ISDN Sending Index number, then pattern number, and then preferences within a pattern for the specified list, range, or "ALL" ISDN Sending Index numbers in ascending order.

If you select the Assigned indices retrieved by Pattern Number, the output will contain all assigned indices first sorted by the pattern number, then preferences within a pattern, and then ISDN Sending Index number for the specified list, range, or "ALL" ISDN Sending Index numbers in ascending order.

If you select the Unassigned indices, the output will contain only unassigned indices sorted by the ISDN Sending Index number for the specified list, range, or "ALL" ISDN Sending Index numbers in ascending order.

If you select the ALL Select Option, the output will contain all assigned and unassigned indices sorted by the ISDN Sending Index number.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm report-admin wcr-isdn-parameters report                Page 1 of 1

        Select Option:

        x Assigned
        _ Unassigned
        _ ALL (non-default values only)

        Retrieve data by:

        x ISDN Sending Index
        _ Pattern Number

        Enter ISDN Sending Indices: _____
```

Note:

- ISDN Sending Index and Pattern Number are dynamic fields: these fields appear only if you select the assigned indices by entering "x" in the Assigned field. You are allowed to select sorting criteria only for assigned indices.
- Enter ISDN Sending Indices appears only if you select either assigned or unassigned indices by entering "x" in the Assigned or Unassigned field, respectively. If you select all indices by entering "x" in the ALL field, the Enter ISDN Sending Indices field does not appear on the screen. All other options default to "ALL"; selection criteria are not allowed.

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2 when selection is done by assigned ISDN sending indices sorted by ISDN sending index number in ascending order.

WCR ISDN FEATURE PARAMETERS REPORT ASSIGNED - BY ISDN SENDING INDEX							
ISDN Sending Index	WCR Pattern Number	Pref.	Trunk Group Number	Service Value	Type Address	Number Plan ID	IXC Option
-----	-----	-----	-----	-----	-----	-----	-----
123	17	1	107	511	3	9	1
1000	2	1	123	17	2	8	0
543	3	1	121	245	4	1	1
1000	3	2	225	17	3	9	1

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Following is the output screen as it appears in Generic 2 when selection is done by assigned ISDN sending indices sorted by pattern number in ascending order.

WCR ISDN FEATURE PARAMETERS REPORT ASSIGNED - BY PATTERN NUMBER							
WCR Pattern Number	Pref.	Trunk Group No.	ISDN Sending Index	Service Value	Type Address	Number Plan ID	IXC Option
-----	-----	-----	-----	-----	-----	-----	-----
2	1	123	1000	17	2	8	0
3	2	225	1000	17	2	8	0
3	3	121	1004	245	4	1	1
17	1	107	123	511	3	9	1

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Following is the output screen as it appears in Generic 2 when selection is done by unassigned ISDN sending indices.

WCR ISDN FEATURE PARAMETERS REPORT UNASSIGNED							
ISDN Sending Index	ISDN Sending Index	ISDN Sending Index	ISDN Sending Index	ISDN Sending Index	ISDN Sending Index	ISDN Sending Index	ISDN Sending Index
-----	-----	-----	-----	-----	-----	-----	-----
998	1000	1001	1002	1003	1004	1005	1006
1009	1010	1012	1013	1014	1015	1016	1018
1019	1020	1021	1023				

Page 1

Following is the output screen as it appears in Generic 2 when the ALL Select Option is chosen.

WCR ISDN FEATURE PARAMETERS REPORT				
ISDN Sending Index	Service Value	Type Address	Number Plan ID	IXC Option
-----	-----	-----	-----	-----
0	17	2	8	0
2	245	4	1	1
3	511	3	9	1

Page 1

Note: ISDN Sending Indices that do not appear on this screen will have default values in all fields.

WORLD CLASS ROUTING PATTERN REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-pattern report

PURPOSE: This report provides the following information for patterns administered within WCR networks:

- All preference data for a selected set of WCR patterns
- All pattern/preference combinations that utilize a specified trunk group.

**SELECTION
OPTIONS:**

- A single pattern number
- A range of pattern numbers
- A list of pattern numbers
- All patterns
- A single trunk group number.

SORT

ORDER: With selection of pattern number, output is organized in ascending order by the WCR Pattern Number and then Preference Number within a Pattern for all or a given administered Pattern or Patterns.

With selection of trunk group, output is arranged in ascending order by the WCR Pattern Number and then Preference Number within a Pattern for the input trunk group.

**SAMPLE
INPUT:**

```

AT&T Mgr IV 2.2                DEFINITY 2.2                <target>
fm report-admin wcr-pattern report                Page 1 of 1

Retrieve data by:

x Pattern Number
_ Trunk Group

Enter Pattern Number(s): _____

```

Note: Enter Pattern Number(s) is a dynamic field; it appears only if you enter "x" in the Pattern Number field. If you select to retrieve data by Trunk Group ("x" in the Trunk Group field), then the Enter Trunk Group Number field will be displayed instead.

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2.2 when selection is done by Pattern Number.

```

                                WCR PATTERN REPORT
                                BY PATTERN NUMBER

```

WCR Pattern Number	Trunk Pref. No.	Group No.	Min FRL	Warn Tone	Toll Free Index	Digit Modify Index	Digit Send Index	ISDN Send Index	Bearer Capability COS
----	--	---	-	-	----	----	---	----	---
1	1	999	7	2	63	4095	511	1023	255
1	2	290	0	0	none	0	0		4
1	3	267	7	2	none	0	0		4
2	1	320	7	2	63	4095	511	1023	255
2	2	399	7	2	63	4095	511	1023	255
4	1	999	0	0	none	0	0		4
4	2	199	7	2	63	4095	511	1023	255
4	3	299	7	2	all	4095	511	1023	255
4	4	999	0	0	none	0	0		4
5	1	290	7	2	63	4095	511	1023	255

Page 1

Following is the output screen as it appears in Generic 2.2 when selection is done by a Trunk Group Number.

WCR PATTERN REPORT BY TRUNK GROUP									
WCR Pattern Number	Trunk Pref. Group No.	Min FRL	Warn Tone	Toll Free Index	Digit Modify Index	Digit Send Index	ISDN Send Index	Bearer Capability COS	
----	--	---	-	-	----	----	---	----	---
	2	999	0	0	none	0	0	4	
2	1	999	7	2	63	4095	511 1023	255	
4	4	999	0	0	none	0	0	4	
5	1	999	7	2	63	4095	511 1023	255	

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WORLD CLASS ROUTING ROUTE TRANSLATION REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-route-translation report

PURPOSE: This report displays the mapping of all VNIs/Call Categories to Patterns within WCR networks.

**SELECTION
OPTIONS:**

Selection options may be based on Virtual Nodepoint Identifier (VNI), Call Category, or Pattern Number.

With the Call Category option selected, Enter Call Category(s) (**0-255**) in the following format:

- A single Call Category
- A list of Call Categories

With the Pattern Number or Virtual Nodepoint Identifier (VNI) option selected, Enter Pattern Number(s) (**1-1023**) or VNI(s) (**1-1023**) in the following format:

- A single Pattern Number or VNI
- A list of Pattern Numbers or VNIs
- A range of Pattern Numbers or VNIs
- ALL for all Pattern Numbers or VNIs.

**SORT
ORDER:**

Sorting is done based on the Retrieve option selected: Call Category, Pattern Number or Virtual Nodepoint Identifier (VNI).

With selection of Call Category(s), output is sorted by call category and then by VNI within the call category.

With selection of Pattern Number(s), output is sorted by pattern and then by call category within a pattern.

With selection of VNI(s), output is sorted by VNI and then by call category.

Only non-default data is displayed in this report.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm report-admin wcr-route-translation report                Page 1 of 1

      Select Retrieve Option:

      x Call Category
      _ Pattern Number
      _ Virtual Nodepoint Identifier (VNI)

      Enter Call Category(s): 123,126
```

Note: Enter Call Category(s), Enter Pattern Number(s) and Enter VNI(s) are dynamic fields. One of these fields appears only if you enter "x" in the corresponding Retrieve option field.

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2.2 when selection is done by Call Category. Output is arranged by call categories in ascending numerical order.

WCR ROUTE TRANSLATION REPORT BY CALL CATEGORY		
Call Category	VNI	WCR Pattern
-----	-----	-----
123	10	1
123	13	12
123	15	15
123	34	3
126	15	5
126	127	2

Page 1

Following is the output screen as it appears in Generic 2.2 when selection is done by Pattern Number. Output is arranged by pattern numbers in ascending numerical order.

WCR ROUTE TRANSLATION REPORT BY PATTERN NUMBER		
WCR Pattern	Call Category	VNI
-----	-----	-----
1	123	12
1	126	15
3	34	332
25	15	56
25	126	12
62	127	23

Page 1

Following is the output screen as it appears in Generic 2.2 when selection is done by VNI. Output is arranged by VNIs in ascending numerical order.

WCR ROUTE TRANSLATION REPORT BY VIRTUAL NODEPOINT IDENTIFIER		
VNI	Call Category	WCR Pattern
-----	-----	-----
10	123	1
10	126	7
13	123	12
15	126	3
34	123	5
127	126	2

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WORLD CLASS ROUTING TOLL FREE TABLES REPORT

[Generic 2.2 only]

PATH: fm report-admin wcr-toll-free-tables report

PURPOSE: This report lists all String IDs administered for a single or a set of Toll-Free Table Indices. The String IDs have been entered via the **wcr-toll-free-tables add** command.

SELECTION

OPTIONS: Enter the WCR Toll Free Table Index(es) (**1-63**):

- A single Toll Free Table Index
- A list of Toll Free Table Indices
- ALL for all Toll Free Tables (default).

SORT

ORDER: If you select a single Toll Free Table Index, the output will be sorted in ascending numerical order for all String IDs within the specified Toll Free table.

If you select a list or all Toll Free Table Indices, the output will be grouped and sorted first by Toll Free Table Index and then in ascending numerical order for all String IDs within each specified Toll Free table.

**SAMPLE
INPUT:**

```
AT&T Mgr IV 2.2                DEFINITY G2.2                <target>
fm report-admin wcr-toll-free-tables report                Page 1 of 1

Enter WCR Toll Free Table Index(es): 63
```

**SAMPLE
OUTPUT:**

Following is the output screen as it appears in Generic 2.2 when Toll Free Table Indices are used as selection criteria:

```
                Toll Free Table Number: 63
                Toll Free String IDs

201             257158             3451987             5551212             612
6694267         723                784                8189                9999999
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
```

The Toll Free String IDs are displayed in numerical order, arranged first by row and then by column.

APPENDIX A: FM COMMAND LIST

This table lists all available FM objects and verbs. An asterisk appears in the "Area" column if the object-verb is available in that area. Objects are shown in alphabetical order

Object and Verb(s)	Areas				
	admin	db-admin	prod-admin	report-admin	
aar-call-categories [Generic 2.1, System 85]	change display	*	*	*	*
aar-non-portability [System 85 R2V3, V4, and Generic 2.1]	add change display remove report	*	*	*	*
aar-pattern [Generic 2.1, System 85]	add change display remove insert report	*	*	*	*
aar-portability [System 85 R2V3, V4, and Generic 2.1]	add change display remove	*	*	*	*
aar-rmx [DIMENSION FP8 and System 85 R2V2]	add change display remove report	*	*	*	*
acd-allocation [Generic 2.2]	display	*	*	*	

(Continued)

Table A-1. Continued

Object and Verb(s)	Areas				
	admin	db-admin	prod-admin	report-admin	
acd-announcement [System 85 R2V3, V4, Generic 2]	add change display remove	*	*	*	
acd-grp [System 85 R2V3, V4, and Generic 2]	add change display remove report	*	*	*	*
acd-members [System 85 R2V3, V4, and Generic 2]	add display remove	*		*	
acd-status-lamps [System 85 R2V3, V4, and Generic 2]	add display remove	*		*	
allowed-codes	add display remove	*	*	*	
agent-skills [Generic 2.2]	change display	*		*	
alt-frl	change display	*	*	*	
altftrl-ctrl	change display	*		*	

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
ars-6-dig [Generic 2.1, System 85]	add change display report	*	*	*	*
ars-call-categories [System 85 R2V4 and Generic 2.1]	add change display remove	*	*	*	*
ars-international-routing [Generic 2.1, System 85 R2V4]	add change display remove report	*	*	*	*
ars-pattern [Generic 2.1, System 85]	add change display remove insert report	*	*	*	*
ars-schedule [Generic 2.1, System 85]	add change display remove	*	*	*	*
ars-toll [Generic 2.1, System 85]	add change display remove report	*	*	*	*
arscc-attd-partition [System 85 R2V4 and Generic 2.1]	change display	*	*	*	*
auth-algorithm	change display	*	*	*	*

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
auth-code	add change display remove	*	*	*	
auth-fri	report				*
autovon	add change display remove report	*	*	*	*
barrier-code	display	*		*	
bearer-capability-cos [Generic 2]	add change display remove report	*	*	*	*
call-vectoring [System 85 R2V4 and Generic 2]	add change display remove move	*	*	*	
carrier	add display remove	*	*		
carrier-parameters	add display remove			*	

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
cas	add change display remove	*	*	*	
cdr [System 85 R2V4 and Generic 2]	add change display remove	*	*	*	
circuit	change display	*	*		
circuit-inventory	report				*
circuit-status	report				*
clock	change display	*		*	
cms [System 85 R2V3, V4, Generic 2]	busyout display release	*		*	
cms-extension [System 85 R2V3, V4, and Generic 2]	add display remove	*		*	
code-rst-level [Generic 2, System 85]	add change display remove	*	*	*	

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
codeset-mapping [Generic 2]	add display list remove	*	*	*	
connection	create display end	*	*	*	*
conversion	report				*
d-channel [Generic 2]	add change display remove	*	*	*	
d-channel-assignment [Generic 2]	report				*
d-channel-group [Generic 2]	report				*
dac-trk-grp	report				*
daily-tape-run	schedule	*			
db-module-type [Generic 2]	report				*
dciu	download refresh	*		*	

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
dciu-channel	add change display list remove	*	*	*	
dciu-channel-assignment	report				*
dciu-link	busyout change display release	*	*	*	
dciu-name	report				*
dciu-route-codes [System 85 R2V3, R2V4, and Generic 2]	add change display remove report	*	*	*	*
dial-access-codes (TCM object)	change display	*		*	
dial-pulse-icom-record	change display	*		*	
ds1-isdn [System 85 R2V3, R2V4 Generic 2]	add change display remove	*	*	*	
dsc [System 85 R2V3, V4, and Generic 2]	add change display remove	*	*	*	

(Continued)

Table A-1. Continued

Object and Verb(s)	Areas			
	admin	db-admin	prod-admin	report-admin
extension-auth-codes report				*
extension-trk-grp report				*
external-adjunct [System 85 R2V3, V4, and Generic 2] (TCM object)	*		*	
	*		*	
extn-part-trk [System 85 R2V4, Generic 2]	*	*	*	
	*	*	*	
	*	*	*	
	*	*	*	
first-digit (TCM object)	*	*	*	
	*	*	*	
five-digit-dialing [DIMENSION FP8 3.8, System 85 R2V2] (TCM object)	*	*	*	
	*	*	*	
	*	*	*	
	*	*	*	
free-slot inventory report				*
fnpa [Generic 2.1, System 85]	*	*	*	
	*	*	*	
	*	*	*	*
freelist [Generic 2, System 85]	*	*	*	
	*	*	*	
fri-auth report				*

(Continued)

Table A-1. Continued

Object and Verb(s)	Areas			
	admin	db-admin	prod-admin	report-admin
fri-trk				*
hnpa [Generic 2.1, System 85]	*	*	*	
	*	*	*	
	*	*	*	*
	*	*	*	
intercept	*	*	*	
	*	*	*	
	*	*	*	
	*	*	*	
locale	*	*		
	*	*		
main-satellite	*	*	*	
	*	*	*	
misc-trk-rst-grp	*	*	*	
	*	*	*	
	*	*	*	*
	*	*	*	
modem-attribute [DIMENSION FP8 3.8]	*	*	*	
	*	*	*	
	*	*	*	
	*	*	*	

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
modem-extension [DIMENSION FP8 3.8]	add change display remove report	*	*	*	*
modem-pair [DIMENSION FP8 3.8]	add change display remove report	*	*	*	*
modem-pool	add change display remove report review test	*	*	*	*
modem-trk	add display remove	*	*	*	*
names-database (TCM object)	compact display	*		*	*

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
network-spec-facility [Generic 2]	add	*	*	*	
	change	*	*	*	
	display	*	*	*	
	remove	*	*	*	
pack	add	*	*		
	remove	*	*		
pbx-module-type [Generic 2]	report				*
pcc [System 85 R2V4, Generic 2]	add	*	*	*	
	change	*	*	*	
	display	*	*	*	
	remove	*	*	*	
pending queue	cleanup	*			
port	display	*	*	*	*
portability-routing [System 85 R2V3, V4, and Generic 2.1]	add	*	*	*	
	change	*	*	*	
	disable	*	*	*	
	display	*	*	*	
	enable	*	*	*	
	release	*	*	*	
	remove	*	*	*	
primary-code-rst-level	report				*

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
restriction [Generic 2.1, System 85]	add display remove report	*	*	*	*
results	display remove	*	*	*	*
scheduled-entry	display list remove	*	*	*	*
secondary-code-rst-level	report				*
service-request	append change cleanup create display end error-report remove report run unlock	*			
slot	display select	*	*		
sm-assignment [System 85 R2V3, R2V4, and Generic 2]	add change display remove	*		*	

(Continued)

Table A-1. Continued

Object and Verb(s)	Areas			
	admin	db-admin	prod-admin	report-admin
sm-history [Generic 2, System 85 R2V3-R2V4]	display	*	*	
sm-restriction [Generic 2, System 85 R2V3-R2V4]	add change display remove	*	*	*
spa-alarm	add change display remove	*	*	*
spare-pack-inventory	report			*
station-no-steering	add display remove		*	*
sys-cos	change display	*	*	*
sys-queue	change display	*	*	*

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
tandem-trk-trk	add change display remove	*	*	*	
tape	run	*		*	
term-trk-grps	change display report	*	*	*	*
test-circuit [DIMENSION FP8]	add change display remove	*	*	*	
toll-office-codes [Generic 2.1, System 85]	change display	*	*	*	
trk	add change display move release remove	*	*	*	
trk-frl	report				*
trk-grp	add change display release remove	*	*	*	

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
trk-grp-assignment	report				*
trk-grp-dac	report				*
trk-grp-extension	report				*
trk-grp-queue	add change display remove report	* * * *	* * * *	* * * *	*
trk-grp-summary	report				*
trk-name	report				*
ucd-announcement [System 85 R2V2, DIMENSION FP8 3.8]	add change display remove	* * * *	* * * *	* * * *	
ucd-grp [System 85 R2V2, DIMENSION]	add change display remove report	* * * *	* * * *	* * * *	*
ucd-lamp [System 85 R2V2, DIMENSION]	add display remove report	* * *	* * *	* * *	*

(Continued)

Table A-1. Continued

Object and Verb(s)		Areas			
		admin	db-admin	prod-admin	report-admin
ucd-members [System 85 R2V2 and DIMENSION]	add display remove	*		*	
ucd-status-lamps [System 85 R2V2 and DIMENSION]	add display remove	*		*	
unassigned-ckt	report				*
vdn [System 85 R2V4, Generic 2]	add change display remove report	*	*	*	*
vector-features [System 85 R2V4, Generic 2]	add change display remove	*	*	*	
wcr-call-category [Generic 2.2]	add change display remove report	*	*	*	*
wcr-dial-plan-definition [Generic 2.2]	add change display remove report	*	*	*	*
wcr-digit-modification [Generic 2.2]	change display report	*	*	*	*
wcr-digit-sending-translation [Generic 2.2]	change display report	*	*	*	*

(Continued)

Table A-1. Continued

Object and Verb(s)	Areas				
	admin	db-admin	prod-admin	report-admin	
wcr-isdn-feature-parameters [Generic 2.2]	change display report	*	*	*	*
wcr-network-information [Generic 2.2]	change display	*	*	*	
wcr-pattern [Generic 2.2]	add change display remove insert report	*	*	*	*
wcr-portability-routing [Generic 2.2]	change display report	*	*	*	*
wcr-route-translation [Generic 2.2]	change display report	*	*	*	*
wcr-schedule [Generic 2.2]	add change display	*	*	*	
wcr-toll-free-tables [Generic 2.2]	add change display report	*	*	*	*

APPENDIX B: SUPPORTING DOCUMENTATION

There are other documents available that are useful to the Manager IV FM user. Some of these belong to the family of Manager IV documents. Others are AT&T publications that are helpful in the administration of specific FM tasks.

If you want to order any of the AT&T documents, see the inside front cover of this manual for information. To order publications produced by other publishers, contact the appropriate supplier.

Manager IV Documents

Detailed information about specific aspects of Manager IV planning, installation, and day-to-day operation are included in the Manager IV manuals listed below.

Introduction to DEFINITY® Manager IV presents a general overview of Manager IV. The *Introduction* is designed to help customers become familiar with Manager IV and evaluate what it can do for them. It contains a description of Manager IV capabilities, a discussion of major benefits, an explanation of AT&T service and support, and a detailed description of each of the Manager IV applications.

DEFINITY® Manager IV Planning and Implementation provides information on planning and performing the implementation of Manager IV. The manual helps customers to determine their configuration needs and outlines the activities that must be completed by the customer and AT&T from the initial planning stages to Manager IV turnover.

DEFINITY® Manager IV Upgrades and Additions describes the types of upgrades supported by the DEFINITY Manager IV (Mgr IV) V4 release. It also provides step by step procedures which allow upgrades to be performed with little or no negative impact on the ongoing switch administration. For costing and planning purposes, completion times are provided for each step of each upgrade procedure.

Getting Started with DEFINITY® Manager IV provides the procedural and reference information necessary to use DEFINITY Manager IV (Mgr IV). The first part of this guide includes a general overview of Manager IV, a system description, Manager IV application overviews, and instructions on administering the Manager IV User Interface. The second part gives you detailed information about Service Requests.

DEFINITY® Manager IV Installation, Initialization, and Maintenance provides the installer with procedural and reference information needed to install and initialize Manager IV on its processor. The manual also describes and suggests solutions for possible problems that may arise during the execution of these procedures. Customers may need to refer to some of the initialization procedures if they need to re-configure Manager IV or if they install new equipment that changes the network configuration.

The maintenance portion of the manual provides the service technician or the qualified customer with the procedural and reference information needed for routine software maintenance. It also describes methods for determining the source of software problems and for performing the appropriate corrective actions.

DEFINITY® Manager IV Query and Report Languages explains the commands used in the Query and Report Languages and provides instructions for using them to supplement standard reports.

DEFINITY Manager IV Operations Guides

The *DEFINITY Manager IV Operations* guides provide detailed procedures for using each of Manager IV's other applications. These guides each contain the following information:

- How the application fits into Manager IV's overall structure
- How to access Manager IV and use the commands provided by the application
- Detailed procedures needed to perform the tasks related to the application
- A list of the application's commands.

Refer to these guides for information about specific applications.

DEFINITY® Manager IV System Administration provides the Manager IV System Administrator with the reference and procedural information needed to monitor Manager IV and the products it supports. It enables the System Administrator to analyze and improve the overall performance of the system configuration.

DEFINITY® Manager IV Terminal Change Management Operations provides the TCM user with the procedural and reference information needed to administer voice and data terminals and attendant consoles for the products supported by Manager IV.

System 75

If you use cut-through access to administer System 75 switches, this documentation will be useful to you.

DOCUMENT	ORDER NUMBER
Introduction to System 75	555-200-020
System 75 Planning Manual	555-200-601
System 75 Reference Manual Feature Description	555-200-201
System 75 Reference Manual System Description	555-200-200
System 75 Administration Manual System Management	555-200-500
System 75 Implementation Manual Release 1 Version 1	555-200-650
System 75 Implementation Manual Release 1 Version 2	555-200-651

System 85 and Generic 2

Use this documentation as reference for explaining System 85 and Generic 2 features or administration.

DOCUMENT	ORDER NUMBER
Introduction to System 85 and Generic 2	999-700-400IS
System 85 and Generic 2 Reliability and Maintenance	999-700-401IS
System 85 and Generic 2 Equipment Room Floor Plans and Specification Planning Manual	555-102-603
System 85 Applications Engineering Manual (R2V2 and R2V3)	555-102-601
System 85 and Generic 2 System Description- Reference Manual	555-102-201
System 85 and Generic 2 Features Reference Manual	555-102-301
System 85 Traffic Data Analysis Guide	555-102-502
SMT Administration Management - User's Guide (R2V1 and R2V2)	999-700-442IS
SMT Administration Management - User's Guide (R2V3)	555-102-501
System 85 and Generic 2 Installation Service Manual	555-102-104
System 85 Maintenance Service Manual (R2V1 and R2V2)	555-101-108
System 85 Maintenance Service Manual (R2V3)	555-102-108
Service Manual: DIMENSION/System 85 and Generic 2 Feature	555-101-107IS

Translations

Adjunct Products

This documentation explains administration and features of several adjunct products supported by Manager IV.

DOCUMENT	ORDER NUMBER
Reference Manual - Audio Information Exchange (AUDIX)	585-300-201
Audio Information Exchange (AUDIX) Administration Manual	999-700-503IS
Applications Processor 16 Planning, Configuration and Implementation Guide R2V2, R2V3	585-201-601, Issue 3
UNIX System V Administrator's Guide AT&T 3B5 Computer	305-123, Issue 1
UNIX System V User Reference Manual AT&T 3B5 Computer	305-125, Issue 1
UNIX System V Administrator Reference Manual AT&T 3B5 Computer	305-126, Issue 1
AT&T 3B5 Computer Installation Manual	305-181, Issue 1
Applications Processor 16 Administrator's Guide	999-700-543IS Issue 3
Applications Processor Administrator's Guide for the AP16 (R2V3)	585-201-501
ISN Reference Manual - Interface Description	555-300-202
ISN Reference Manual - System Description	555-300-200
ISN Reference Manual - Feature Descriptions	555-300-201
ISN System Management Manual	555-300-500
System 75, System 85, Generic 2, Dimension PBX Network/Data Reference Manual	555-025-201

APPENDIX C: GENERIC 2 AND SYSTEM 85 DIAL ACCESS ENCODES

These tables list the Dial Access Encodes—which are not to be confused with Dial Access Codes (DACs) assigned to each encode for System 85 R2V2 features.

Table C-1. Generic 2, System 85 R2V2-R2V4 and DIMENSION Dial Access Encodes

Feature	Encode				
	Dim	R2V2	R2V3	R2V4	G2
AAR Call [G2.1, System 85, DIMENSION]:	61	61	61*	61*	61*
ACD Overload - Agent Log In	98†	-	88	88	88
ACD Overload - Agent Log Out	99†	-	89	89	89
ACD/UCD Agent Override	109‡	77	77	77	77
ACD/UCD Agent Override (Tone)	110‡	78	78	78	78
ACD/UCD Announcement Verify	108‡	76	76	76	76
ACD/UCD Auto In Mode	102‡	70	70	70	70
ACD/UCD Auxiliary Work Mode	103‡	71	71	71	71
ACD/UCD Manual In Mode	104‡	71	72	72	72
ACD/UCD Member Add	106‡	74	74	74	74
ACD/UCD Member Delete	107‡	75	75	75	75
ACD/UCD Overload - Balance All	94‡	84	84	84	84
ACD/UCD Overload - Balance Cancel	96‡	87	87	87	87
ACD/UCD Overload - Balance Default	97‡	86	86	86	86
ACD/UCD Overload - Overflow	95‡	85	85	85	85
ACD/UCD Reload Lamp Out	111‡	79	79	79	79
ACD/UCD Staffed Mode	105‡	73	73	73	73
ARL Timed Reminder Change:	31	31	31	31	31
ARS Non-Toll [G2.1, System 85, DIMENSION]:	32	32	32*	32*	32*
ARS Toll [G2.1, System 85, DIMENSION]:	33	33	33*	33*	33*
Attendant Calls to Recorded Announcement-Activate:		80	80	80	80
Attendant Calls to Recorded Announcement-Cancel:		81	81	81	81
Attendant Dial Access Code:	8	8	8*	8*	8*
Auto Callback-Calling:	19	19	19*	19*	19*
Automatic Callback-Cancel/Outgoing Trk Queue:	9	9	9*	9*	9*

(Continued)

* Allowed to access burned-in code feature.

† Attendant Feature

‡ Issue 3.8 only

Table C-1. Continued

Feature	Encode				
	Dim	R2V2	R2V3	R2V4	G2
Automatic Circuit Assurance-Start:	62	62	62	62	62
Automatic Circuit Assurance-Stop:	63	63	63	63	63
AUTOVON Attendant Assistance:		83	83	83	83
AUTOVON Precedence Calling:		82	82	82	82
Barrier Code-Remote Access Change:	26†	26	26	26	26
Burned-In Button Code Cancel:		57	57*	57*	57*
Call Answer From Any Voice Terminal:	16	16	16*	16*	16*
Call Forward-Busy Don't Answer:	2	2	2*	2*	2*
Call Forward-Cancel:	3	3	3*	3*	3*
Call Forward-Follow Me:	1	1	1*	1*	1*
Call Pickup:	5	5	5*	5*	5*
Call Waiting-Answer Hold:	6	6	6*	6*	6*
Call Waiting-Originate/Priority Calling:	7	7	7*	7*	7*
CAS Attendant Remote Hold:	48	48	48	48	48
CAS Backup Terminal Control-Activate:	46	46	46	46	46
CAS Backup Activate Call Answer Any Terminal:	47	47	47	47	47
CAS Branch Lamp Test:	50	50	50	50	50
CAS Call to Attendant:	49	49	49	49	49
CAS Control-Activate:	45	45	45	45	45
CAS Main Lamp Test:	64	64	64	64	64
CDRR/SMDR Account Code:	36	36	36*	36*	36*
CDRR/SMDR-Start:	37	37	37	37	37
CDRR/SMDR-Stop:	38	38	38	38	38
Code Call Answerback:	18	18	18*	18*	18*
Control of Trunk Group Access-Activate:	20†	20	20	20	20
Control of Trunk Group Access-Cancel:	21†	21	21	21	21
Control Restriction-Group of Extensions:	28†	28	28	28	28
Control Restriction-Single Extension:	27†	27	27	27	27
Data Protection-Temporary:	13	13	13*	13*	13*
Demand Printing	10‡	10	10*	10*	10*
Dial Access to Selected Attendant:	30	30	30*	30*	30*
Full Night Service-Clear All Terminals:	22†	22	22	22	22
Full Night Service-Common Terminal Assign:	23†	23	23	23	23
Full Night Service-Common Terminal Override:	24†	24	24	24	24
Full Night Service-Terminal to Trunk Assign:	25†	25	25	25	25
Group List Access-Rotary Terminal:	95	95	95	95	95
Group List Access-Touch Tone Terminal:		91	91*	91*	91*

(Continued)

* Allowed to access burned-in code feature.

† Attendant Feature

‡ Issue 3.8 only

Table C-1. Continued

Feature	Encode				
	Dim	R2V2	R2V3	R2V4	G2
Interposition Calling:	29	29	29	29	29
Leave Word Calling-Activate:	66‡	66	66*	66*	66*
Leave Word Calling-Cancel:	67‡	67	67*	67*	67*
Maintenance Busy a Trunk:	42	42	42	42	42
Maintenance Unbusy A Trunk:	43	43	43	43	43
Malicious Call Trace-Activate	100‡	-	-	100	100
Malicious Call Trace-Deactivate	101‡	-	-	99	99
Message Retrieval-Lock:		68	68	68	68
Message Retrieval-Unlock:		69	69	69	69
Network ARS Plan Switch [G2.1,Sys85,DIM]:	60	60	60	60	60
No Auth Code Entered	-	-	-	104	104
Override:	11	11	11*	11*	11*
Paging Answerback:	17	17	17*	17*	17*
Personal List Access-Rotary Terminal:	96	96	96	96	96
Personal List Access-Touch Tone Terminal:		92	92*	92*	92*
Program List:		93	93*	93*	93*
Send All Calls-Cancel:	56‡	56	56*	56*	56*
Send All Calls-Activate:	55‡	55	55*	55*	55*
Speaker Verification Request	-	-	-	101	101
Speaker Verification Fail	-	-	-	102	102
System List-Rotary Terminal:	94	94	94	94	94
System List-Touch Tone Terminal:		90	90*	90*	90*
Terminal Test:	40	40	40	40	40
Transfer Calls To AUDIX	-	-	-	58	58
Trunk Test From Terminal:	44	44	44	44	44
UCD Lamp Test:	54	54			
UCD Terminal Busy:	51	51			
UCD Terminal Idle:	52	52			
Unadministered Auth Code Entered	-	-	-	103	103
Unattended Console Service-Activate	-	-	-	97	97
Unattended Console Service-Deactivate	-	-	-	98	98

* Allowed to access burned-in code feature.

† Attendant Feature

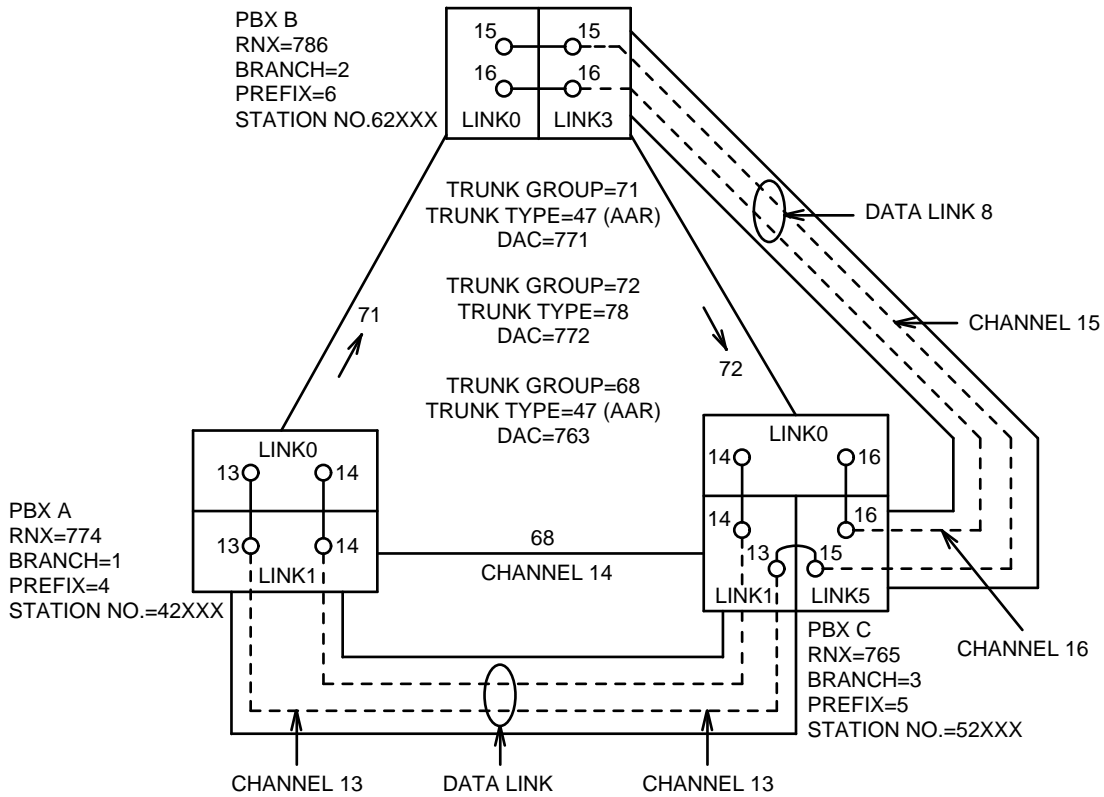
‡ Issue 3.8 only

Table C-2. Generic 2.2 Dial Access Encodes

Feature	Encode
	G2.2
WCR Network 1 Nontoll Route:	32
WCR Network 1 Toll Route:	33
WCR Network 2 Access:	61
WCR Network 3 Access:	108
WCR Network 4 Access:	109
WCR Network 5 Access:	110
WCR Network 6 Access:	111
WCR Network 7 Access:	112
WCR Time of Day Plan Change:	60

APPENDIX D: [SYSTEM 85 R2V2] DCIU/DCS ADMINISTRATION

The following is a model procedure for administering a typical three-node distributed communications system (DCS) arrangement with three System 85 R2V2 PBXs as nodes, as illustrated in Figure D-1.



CONVENTIONS

TRUNK GROUP



DATA LINK



ASSOCIATION BETWEEN A PSEUDO LINK 0 AND THE PHYSICAL DATA LINK 1, 3, 5



NOTE: LINK 0 IS A SOFTWARE PSEUDO LINK FOR DATA CONNECTION FROM THE PBX SWITCH PROCESSOR TO THE PHYSICAL DCIU LINK 1, LINK 3, AND LINK 5.

HOP CONNECTION BETWEEN CHANNELS



CHANNEL (DASHED LINES INDICATE SOFTWARE LINES)



Figure D-1. System 85 R2V2 DCS Administration Diagram

Notes:

1. Sixty four channels can be assigned at any single DCIU in any fashion among eight physical data links. These eight data links can be connected to a DCIU at another PBX or a line controller at an AP.

2. If a PBX uses data links to an AP, the channels required for use are listed in **dciu-channel add/change**.
3. The tie trunks that carry voice signals between PBXs must be a Trunk Type 47 if AAR is used or Trunk Type 78 if dial access code routing is used.
4. In administration with **dciu-link change**, nine data links per DCIU are specified. Links 1 through 8 are the actual physical hardware links and Link 0 is the software pseudo-link for data connection from the PBX switch processor to the physical DCIU link. The 64 channels are software channels and have no association with a hardware line.
5. In this example, the channel association used (Channel 15 connected to Channel 15, etc.) is totally arbitrary. The example could have been Channel 19 connected to Channel 16. The user administering a DCS must keep good records of DCIU channels that are administered and channels not used.
6. When administering trunks using **trk-grp add/change**, it is absolutely necessary that Tie Trunk Number 1 in an identical trunk group at PBX A is hardwired to Tie Trunk Number 1 in an identical trunk group at PBX B. This trunk numbering plan should be determined before going to each PBX to ensure that the trunk administration is correct.
7. Direct trunking is not required for station features to be transparent, but it is required for attendant features to be transparent.

The following is a listing and description of procedures and operations required to administer DCS at each PBX shown in Figure D-1.

PROCEDURE:

PBX A

1. Use **first-digit change** to administer first-digit dialing specifications. Administer the Digit 7 to expect 3 digits and to be a trunk access code. Administer the digits 4, 5, and 6 to expect 5 digits, to be an extension number, and to be a prefix digit (enter **1** in the Call Type field). Administer digit 8 to expect a single digit and to be a feature access code.
2. Administer AAR feature access code with **dial-access-codes change**. Use feature type 61 (AAR Call) with the single digit 8.
3. Go to **sys-cos change** and enter **4** in the Digits Forwarded field if the CO serving the PBX is non-ESS and **5** if it is an ESS.
4. Administer the prefix digit and branch number for the local PBX (A) using **sys-cos change**. Enter **1** in the Multi-Machine Node Type field and select the Local Node Number. If CAS is used, specify which PBX branch has the CAS attendants by selecting the CAS Main Node Number.
5. Use **sys-cos change** to enable the trunk-to-trunk transfer (enter **y** in the Trunk to Trunk Transfer field).
6. Administer tie trunk groups for calls from PBX A to PBX B and from PBX A to PBX C with **trk-grp add/change**. For PBX A to PBX B, enter **71** in the Trunk Group No. field; in the Dial Access Code field, type **771**. Select Trunk Type 47 in the Trunk Type field. For remaining fields, use screen provided defaults. For PBX A to PBX C, enter **68** in the Trunk Group No. field; in the Dial Access Code field, type **768**. Select Trunk Type 47 in the Trunk Type field. For remaining fields, use screen provided defaults.
7. Use **trk-grp add/change** to administer features desired for Trunk Groups 71 and 68. Enter **y** in the Touch Tone In and Touch Tone Out fields. There can be no timed recall (the Timed Recall Time field = **0**).

8. With **trk-grp add/change**, administer these fields for trunk groups 71 and 68 as follows:
 - Facility Restriction Level = **0**
 - ETS Network = **y**
 - Trunk Group Is Tandem? = **y**
 - AAR/ARS Access? = **y**
 - Auth. Code Required = **m**
 - Bridge On Allowed = **m**
 - Trunk Reservation Limit = **0**
 - AAR/ARS Dialing Prefix = **8**
 - Data Restricted = **n**.
9. Assign trunks to trunk groups 71 and 68 using **trk-grp add/change** or **trk add/change**; enter the module, cabinet, carrier, and slot numbers in the Equipment Location field (Page 7 of 8). Keep account of the order the trunks were administered so that the one-to-one hardwire correspondence between trunks will be maintained across PBXs.
10. For Trunk Groups 71 and 68, enter the pattern number in the AAR-Pattern field with **aar-pattern add/change**.
11. Using the TCM command **five-digit-dialing add**, administer routing for local calls and calls to PBX B and PBX C via these fields: Prefix Digit, Thousands Digit, Destination System Access, and Location Code/Dial Access Code. Populate the fields as follows: 6-2-2-7-8-6 for calls to PBX B; 6-0-2-7-8-6 for calls to PBX C; 4-0-1-000 for local calls (on PBX A); 6-0-2-7-8-6 for calls to the attendant at PBX B; and 5-0-2-7-6-5 for calls to the attendant at PBX C.
12. Busy out the DCIU using **dcIU-link busyout**. When the BUSY OUT button is depressed for the first time, error code 80 is displayed. To continue the busy-out, depress the BUSY OUT button a second time.
13. Use **dcIU-link change** to assign the data link to PBX C. Specify that data link 1 (could be 2 through 8) is assigned (1 in the DCIU Link No. field). In the DCIU Link Assign? field, enter **y**. Populate the Baud Rate field with a 9600. The baud rates must be the same on either end of the data link. Enter **DTE** in the Local Role field on a local switch, **DCE** on a remote switch. The only requirement is that opposite ends of the data link must have opposite values (0 or 1). Use default values in remaining fields.
14. The channels must be assigned next using **dcIU-channel add/change**. As shown in Figure D-1, data link 1 will use channels 13 and 14. The association will be made between the switch link (pseudo link) and the physical data link. Populate the Component A and Component B fields; values required in the Link, Channel, and Priority fields are 5-13-1-13-1 and 5-14-1-14-1. This connects switch link 5-channel 13 to data link 1-channel 13, and switch link 5-channel 14 to data link 1-channel 14.
15. Use **dcIU-channel add/change** to assign the local channel to the remote channel. In our example, associate local channel 14 with remote channel 14 and local channel 13 with remote channel 15 as follows:
 - Enter **y** in the Does Channel Use Switch Port field.
 - Enter **n** in the Maintenance field.
 - Under the Message Center Service title, populate the Component B fields: **1** in the Link field, **14** in the Channel field.
 - Under the AP Number title, populate the Component B fields: **1** in the Link field, **13** in the Channel field.

16. Use **dciu-channel change** to associate a channel and a trunk group to route data and voice to a certain PBX in the DCS. The fields Does Channel Use a Switch Port and Maintenance Channel? must be populated with **n**.

For calls to PBX C,

- In the Remote Port field, enter **14**.
- In the Trunk Group field, enter **68**.
- In the DCS field, enter **x**.

For calls to PBX B,

- In the Remote Port field, enter **13**.
- In the Trunk Group field, enter **71**.
- In the DCS field, enter **x**.

17. Use **dciu-channel add/change** to assign a DCS application (application 9) to channels 13 and 14.
18. Go to **sys-cos change** and enter **y** in the DCIU Enabled? field.
19. Go to **dciu-link release** to release busy-out on the DCIU. Since a major alarm is generated when busy-ing-out the DCIU, go to Test 1 and clear the alarm.

PBX B

1. Use **first-digit change** to administer first-digit dialing specifications. Administer the digit 7 to expect 3 digits and to be a trunk access code. Administer the digits 4, 5, and 6 to expect 5 digits, to be an extension number, and to be a prefix digit (enter **1** in the Call Type field). Administer digit 8 to expect a single digit and to be a feature access code.
2. Administer AAR feature access code with **dial-access-codes change**. Use feature type 61 with the single digit 8.
3. Go to **sys-cos change** and enter **4** in the Digits Forwarded field if the CO serving the PBX is non-ESS and **5** if it is an ESS.
4. Administer the prefix digit and branch number for the local PBX (B) using **sys-cos change**. Enter **1** in the Multi-Machine Node Type field and select the Local Node Number. If CAS is used, specify which PBX branch has the CAS attendants by selecting the CAS Main Node Number.
5. Use **sys-cos change** to enable the trunk-to-trunk transfer option (enter **y** in the Trunk to Trunk Transfer field).
6. Administer tie trunk groups for calls from PBX B to PBX A and PBX C with **trk-group add/change**. For PBX B to PBX A, enter **71** in the Trunk Group No. field; in the Dial Access Code field, type **771**. Select Trunk Type 47 in the Trunk Type field. For remaining fields, use screen provided defaults. For PBX B to PBX C, enter **72** in the Trunk Group No. field; in the Dial Access Code field, type **772**. Select Trunk Type **78** in the Trunk Type field. For remaining fields, use screen provided defaults.
7. Use **trk-grp add/change** to administer features desired for trunk groups 71 and 72. Enter **y** in the Touch Tone In and Touch Tone Out fields. There can be no timed recall (the Timed Recall Time field = **0**).
8. With **trk-grp add/change**, administer these fields for trunk groups 71 and 72 as follows:
 - Facility Restriction Level = **0**

- ETS Network = **y**
 - Trunk Group Is Tandem? = **y**
 - AAR/ARS Access? = **y**
 - Auth. Code Required = **m**
 - Bridge On Allowed = **m**
 - Trunk Reservation Limit = **0**
 - AAR/ARS Dialing Prefix = **8**
 - Data Restricted = **n**.
9. Administer main/satellite parameters for the station number steering (SNS) trunk group 72 for calls to PBX C. Using **main-satellite change**, put **n** in the Switch Server or Main/Satellite field. In **trk-grp add/change**, administer the following main satellite trunk features:
 - Main Satellite = **y**
 - Prefix Digits = **1**
 - Prefix Deferred = **n**
 - Transfer Action = **0**
 - Dialed Digits Sent = **5**.
 10. Assign trunks to trunk groups 71 and 72 using **trk-grp add/change** or **trk add/change**; enter the module, cabinet, carrier, and slot numbers in the Equipment Location field (Page 7 of 8). Keep account of the order that the trunks were administered so that the one-to-one hardwire correspondence between trunks will be maintained across PBXs.
 11. For Trunk Group 71, enter the pattern number in the AAR-Pattern field with **aar-pattern add/change**.
 12. Using the TCM command **five-digit-dialing add**, administer routing for local calls and calls to PBX A and PBX C via these fields: Prefix Digit, Thousands Digit, Destination System Access, and Location Code/Dial Access Code. Populate the fields as follows: 6-0-2-7-8-6 for calls to PBX A; 6-0-2-7-8-6 for calls to PBX C; 4-0-1-0-0-0 for local calls (on PBX A); and 5-0-2-7-6-5 for calls to the attendant at PBX A.
 13. Busy out the DCIU using **dciu-link busyout**. When the BUSY OUT button is depressed for the first time, error code 80 is displayed. To continue the busy-out, depress the BUSY OUT button a second time.
 14. Use **dciu-link change** to assign the data link to PBX C. Specify that data link 3 (could be 1, 2 or 4) is assigned (1 in the DCIU Link No. field). In the DCIU Link Assign? field, enter **y**. Populate the Baud Rate field with a 9600. The baud rates must be the same on either end of the data link. Enter **DTC** in the Local Role field on a local switch, **DCE** on a remote switch. The only requirement is that opposite ends of the data link must have opposite values (0 or 1). Use default values in remaining fields.
 15. The channels must be assigned next using **dciu-channel add/change**. As shown in Figure D-1, data link 3 will use channels 15 and 16. The association will be made between the switch link (pseudo link) and the physical data link. Populate the Component A and Component B fields; values required in the Link, Channel, and Priority fields are 5-15-3-15-1 and 5-16-3-16-1, respectively. This connects switch link 5-channel 15 to data link 3-channel 15, and switch link 5-channel 16 to data link 3-channel 16.

16. Use **dcIU-channel add/change** to assign the local channel to the remote channel. In our example, associate local channel 16 with remote channel 16 and local channel 15 with remote channel 15 as follows:
 - Enter **y** in the Does Channel Use Switch Port field.
 - Enter **n** in the Maintenance field.
 - Under the Message Center Service title, populate the Component B fields: **1** in the Link field, **16** in the Channel field.
 - Under the AP Number title, populate the Component B fields: **1** in the Link field, **15** in the Channel field.
17. Use **dcIU-channel change** to associate a channel and a trunk group to route data and voice to a certain PBX in the DCS. The fields Does Channel Use a Switch Port and Maintenance Channel? must be populated with **n**.

For calls to PBX C,

- In the Remote Port field, enter **16**.
- In the Trunk Group field, enter **72**.
- In the DCS field, enter **x**.

For calls to PBX A,

- In the Remote Port field, enter **15**.
- In the Trunk Group field, enter **71**.
- In the DCS field, enter **x**.

18. Use **dcIU-link change** to assign a DCS application (application 9) to channels 15 and 16.
19. Go to **sys-cos change** and enter **y** in the DCIU Enabled? field.
20. Go to **dcIU-link release** to release busy-out on the DCIU. When busying-out the DCIU, a major alarm is created. Go to Test 1 and clear out that alarm.

PBX C

1. Use **first-digit change** to administer first-digit dialing specifications. Administer the digit 7 to expect 3 digits and to be a trunk access code. Administer the digits 4, 5, and 6 to expect 5 digits, to be an extension number, and to be a prefix digit (enter **1** in the Call Type field). Administer digit 8 to expect a single digit and to be a feature access code.
2. Administer AAR feature access code with **dial-access-codes change**. Use feature type 61 with the single digit 8.
3. Go to **sys-cos change** and enter **4** in the Digits Forwarded field if the CO serving the PBX is non-ESS and **5** if it is an ESS.
4. Administer the prefix digit and branch number for the local PBX (C) using **sys-cos change**. Enter **1** in the Multi-Machine Node Type field and select the Local Node Number. If CAS is used, specify which PBX branch has the CAS attendants by selecting the CAS Main Node Number.
5. Use **sys-cos change** to enable the trunk-to-trunk transfer option (enter **y** in the Trunk to Trunk Transfer field).

6. Administer tie trunk groups for calls from PBX C to PBX A and PBX B with **trk-grp add/change**. For PBX C to PBX A, enter **68** in the Trunk Group No. field; in the Dial Access Code field, type **768**. Select Trunk Type 47 in the Trunk Type field. For remaining fields, use screen provided defaults. For PBX C to PBX B, enter **72** in the Trunk Group No. field; in the Dial Access Code field, type **772**. Select Trunk Type 47 in the Trunk Type field. For remaining fields, use screen provided defaults.
7. Use **trk-grp add/change** to administer features desired for trunk groups 72 and 68. Enter **y** in the Touch Tone In and Touch Tone Out fields.
8. With **trk-grp add/change**, administer these fields for trunk groups 71 and 68 as follows:
 - Facility Restriction Level = **0**
 - ETS Network = **y**
 - Trunk Group Is Tandem? = **y**
 - AAR/ARS Access? = **y**
 - Auth. Code Required = **m**
 - Bridge On Allowed = **m**
 - Trunk Reservation Limit = **0**
 - AAR/ARS Dialing Prefix = **8**
 - Data Restricted = **n**.
9. Administer main/satellite parameters for the station number steering (SNS) trunk group 72 for calls to PBX C. Using **main-satellite change**, put **n** in the Switch Server or Main/Satellite field. In **trk-grp add/change**, administer the following main satellite trunk features:
 - Main Satellite = **y**
 - Prefix Digits = **1**
 - Prefix Deferred = **n**
 - Transfer Action = **0**
 - Dialed Digits Sent = **5**.
10. Assign trunks to trunk groups 72 and 68 using **trk-grp add/change** or **trk add/change**; enter the module, cabinet, carrier, and slot numbers in the Equipment Location field (Page 7 of 8). Keep account of the order that the trunks were administered so that the one-to-one hardwire correspondence between trunks will be maintained across PBXs.
11. For Trunk Group 68, enter the pattern number in the AAR-Pattern field with **aar-pattern add/change**.
12. Using the TCM command **five-digit-dialing add**, administer routing for local calls and calls to PBX A and PBX B via these fields: Prefix Digit, Thousands Digit, Destination System Access, and Location Code/Dial Access Code. Populate the fields as follows: 6-0-2-7-8-6 for calls to PBX A; 6-2-2-7-8-6 for calls to PBX B; 4-0-1-0-0-0 for local calls (on PBX A); and 5-0-2-7-6-5 for calls to the attendant at PBX A.
13. Busy out the DCIU using **dcui-link busyout**. When the BUSY OUT button is depressed the first time, error code 80 is displayed. To continue the busy-out, depress the BUSY OUT button a second time.

14. Use **dcIU-link change** to assign one data link to PBX A (data link 1) and one data link to PBX B (data link 3). Specify that data link 1 is assigned (1 in the DCIU Link No. field) and also assign the same baud rate as was specified for link 1 at PBX A. The Local Role field must be opposite of what was specified at PBX A. Specify that data link 3 is assigned (1 in the DCIU Link No. field) and also assign the same baud rate as specified for link 3 in PBX B. The Local Role field must be opposite of what was specified at PBX B. Use default values in remaining fields.
15. The channels must be assigned next using **dcIU-channel add/change**. As shown in Figure D-1, data link 1 will use channels 13 and 14 and data link 3 will use channels 15 and 16. The association will be made between the switch link (pseudo link) and the physical data link. Populate the Component A and Component B fields; values required in the Link, Channel, and Priority fields are 5-14-1-14-1, 5-16-3-16-1, and 1-13-3-15-1. This connects switch link 5-channel 14 to data link 1-channel 14, switch link 5-channel 16 to data link 3-channel 16, and data link 1-channel 13 to data link 3-channel 15 (the data hop of this example).
16. Use **dcIU-channel add/change** to assign the local channel to the remote channel. In our example, associate local channel 14 with remote channel 14 and local channel 16 with remote channel 16 as follows:
 - Enter **y** in the Does Channel Use Switch Port field.
 - Enter **n** in the Maintenance field.
 - Under the Message Center Service title, populate the Component B fields: **1** in the Link field, **14** in the Channel field.
 - Under the AP Number title, populate the Component B fields: **1** in the Link field, **16** in the Channel field.
17. Use **dcIU-channel change** to associate a channel and a trunk group to route data and voice to a certain PBX in the DCS. The fields Does Channel Use a Switch Port and Maintenance Channel? must be populated with **n**.

For calls to PBX A,

- In the Remote Port field, enter **14**.
- In the Trunk Group field, enter **68**.
- In the DCS field, enter **x**.

For calls to PBX B,

- In the Remote Port field, enter **16**.
- In the Trunk Group field, enter **72**.
- In the DCS field, enter **x**.

18. Use **dcIU-link change** to assign a DCS application (application 9) to channels 14 and 16.
19. Go to **sys-cos change** and enter **y** in the DCIU Enabled? field.
20. Go to **dcIU-link release** to release busy-out on the DCIU. A major alarm is generated when busy-ing-out the DCIU, so use Test 1 to clear that alarm.

APPENDIX E: FM COMMAND AND PROC MAPPINGS

The following command-to-proc and proc-to-command mappings are provided to help interpret error messages and results files, and to provide a cross-reference for users who are familiar with using procs to administer System 85 and Generic 2.

It is important to note that there is not always a one-to-one relationship between Mgr IV commands and procs. Mgr IV simplifies switch administration by combining several procs into one transaction command. Sometimes, one proc may be represented by more than one Mgr IV command. Because of this, it is possible for a Mgr IV transaction to be partially downloaded to the switch before it fails. In other words, if a transaction translates into five procs, three of those may download successfully, and the other two may fail. The results file or error message sometimes provides details on which portion of a transaction successfully downloaded and which failed.

Users must determine the best way to correct the error so that the Mgr IV database and the switch translations remain synchronized. If users are working with service requests, there are several commands they can use to detect and correct these errors. See *Getting Started with DEFINITY® Manager IV* for more information.

The objects in the command-to-proc tables are presented in alphabetical order. For each object, proc, word and field numbers are provided which are arranged in ascending order by proc number, then by word number, and then by field number. Screen fields are listed for each object and each proc-word-field combination. The "Notes" column explains how Mgr IV field entries map to proc entries. In most cases Mgr IV maps mnemonic entries (such as "y" for "yes") to a corresponding digit (such as "0" or "1") in the proc.

The proc-to-command listing is in numerical order by proc number.

aar-call-categories

[Generic 2.1, System 85 R2V4]

Screen Field	Proc	Word	Field	Notes
Call Category	320	1	1	
AAR Conditional	320	1	2	

aar-non-portability

[Generic 2.1, System 85 R2V3, R2V4]

Screen Field	Proc	Word	Field	Notes
Location Code	321	4	1	
Node No.	321	4	2	
Call Category	321	4	3	
Pattern No.	321	4	4	

aar-pattern

[Generic 2.1, System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Pattern No.	321	1	1	1-180 DIM 1.16 1-255 R2V2, DIM 3.8 2-640 R2V3, R2V4, G2.1
Pref.	321	1	2	1-4 R2V2, DIM 1.16 1-16 DIM 3.8, R2V3, R2V4, G2.1
Trunk Group No.	321	1	3	
Min. FRL	321	1	4	
Warn Tone?	321	1	5	
DDD at Dest?	321	1	6	y maps to 1
Intl. Dest?	321	1	6	y maps to 2
Off-Network?	321	1	6	n maps to 0
No. of Digits Deleted	321	1	7	
Wait Dial Tone?	321	1	8	
OXXX Calls Allowed?	321	1	9	y maps to 1
IXC or IXC/SDN ID	321	1	10	Sys85 R2V3, V4, G2.1
Pause Len.	321	2	3 (Grp.1) 6 (Grp.2) 9 (Grp.3) 12 (Grp.4)	
No. of Digits	321	2	4 (Grp.1) 7 (Grp.2) 10 (Grp.3)	
Outp Type	321	2	5 (Grp.1) 8 (Grp.2) 11 (Grp.3) 13 (Grp.4)	t maps to 0 r maps to 1
Digits Inserted	321	3	3-14	
ISDN Trunk Type	321	5	3	Sys85 R2V4, Generic 2
(ISDN) Network Service	321	5	4	Sys85 R2V4, G2.1
Bearer Capability COS	321	5	5	0-2 G2.1
Voice, Mode0-Mode3	321	5	5-9	Sys85 R2V4 only

aar-portability

[Generic 2.1, System 85 R2V3, R2V4]

Screen Field	Proc	Word	Field	Notes
Location Code	321	4	1	
First Digit	321	4	5	
Node Number	321	4	2	
Call Category	321	4	3	
Pattern No.	321	4	4	

aar-rnx

[System 85 R2V2 and DIMENSION System FP8 only]

Screen Field	Proc	Word	Field	Notes
RNX (Location Code)	321	4	1	
Pattern Number	321	4	2	

acd-allocation

[Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Split Number	026	5	1	
CMS Measured?	026	5	2	
Number of Members Assigned to This Split	026	5	3	
Number of Members That Can Be Added to This Split	026	5	4	
Highest Member Number Assigned in This Split	026	5	5	
Total Number of Members Assigned to All Splits	026	5	6	

acd-announcements

[Generic 2, System 85 R2V3, R2V4]

Screen Field	Proc	Word	Field	Notes
VDN of Origin Announcement				Call Vectoring must be enabled
Vector Directory Number	033	1	1	
Recorded Announcement Number	033	1	3	
City of Origin Announcement Trunk Group Number	033	1	1	
City of Origin Announcement Number	033	1	3	
Queue of Origin Announcement ACD Split Number	033	1	1	
Queue of Origin Announcement Number	033	1	3	

acd-grp [System 85 R2V3-V4 and Generic 2]/ucd-grp [System 85 R2V2, DIMENSION]

Screen Field	Proc	Word	Field	Notes
ACD Split No.	026	1,2	1	
Split Size	026	1	2	Generic 2.1, System 85 R2V2-R2V4, DIMENSION
ICI Message Number	026	1	2	
Queuing Trunk Group	026	1	3	
Outflow/Queue Level	026	1	4	
Board Index	026	1	5	
Circuit Index	026	1	6	
Inflow Level	026	1	7	
Hunt Type	026	1	8	
Split Type	026	1	9	
Machine Number	026	1	10	
Supervisor Extension No.	026	2	2	
Queue Directory No.	026	2	3	
Priority Extension No.	026	2	4	
Multiple Call Handling	026	2	5	
Auto Available	026	2	6	
Forced Entry?	026	2	7	Generic 2.2 only
CMS Measurement	026	2	8	Generic 2.2 only

acd-members

Screen Field	Proc	Word	Field	Notes
ACD Split No.	026	3	1	
Member No.	026	3	2	
Member Extn	026	3	3	

acd-status-lamps

Screen Field	Proc	Word	Field	Notes
Display Unit Equip. Location	060	1	1-5	
Column No.	060	1	6	
ACD Grp	060	1	7	System 85 R2V2-R2V4, Generic 2.1
Extension No	060	1	7	Generic 2.2 only
Member No.	060	1	8	Generic 2.1, System 85 R2V2-R2V4

agent-skills

Screen Field	Proc	Word	Field	Notes
Vector Directory Number	031	2	1	
Primary Skill Number	031	2	2	
Secondary Skill Number	031	2	3	
Tertiary Skill Number	031	2	4	

allowed-codes [Generic 2, System 85 R2V2-R2V4, DIMENSION]

Screen Field	Proc	Word	Field	Notes
Trunk Group No.	302	1	1	
Code Rest Level	302	1	2	
NPA	302	1	3	
NXX (office code)	302	1	4	

alt-frl

Screen Field	Proc	Word	Field	Notes
Alternate to FRL				
0	286	1	5	
1	286	1	6	
2	286	1	7	
3	286	1	8	
4	286	1	9	
5	286	1	10	
6	286	1	11	
7	286	1	12	

altfrl-ctrl

Screen Field	Proc	Word	Field	Notes
Alternate FRL in Effect	286	1	4	y maps to 1 n maps to 0 Product-admin only

ars-6-digit

[Generic 2.1, System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Foreign NPA	311	3	1	
Office Code	311	3	2	
Pattern No.	311	3	3	

ars-call-categories

[Generic 2.1, System 85 R2V4]

Screen Field	Proc	Word	Field	Notes
Routing Designator	314	1	1	
Call Category	314	1	2	
Pattern Number	314	1	3	

ars-international-routing [Generic 2.1 and System 85 R2V4]

Screen Field	Proc	Word	Field	Notes
International Calling Code	312	3	1-16	
Routing Designator	312	3	17	

ars-pattern [System 85 R2V2-R2V4, Generic 2.1]

Screen 1:

Screen Field	Proc	Word	Field	Notes
Destination	305	1	1	DIMENSION only
Trunk Group	305	1	2	DIMENSION only
ARS Plan Number	309	1	1	
Pattern Number	309	1	2	
Pref	309	1	3	
Trunk Group No.	309	1	4	
Min. FRL	309	1	5	
Warn Tone?	309	1	6	
Distant Home NPA	309	1	7	
Send 1 for Toll	309	1	8	
Toll Table No.	309	1	9	
IXC/ID or ISDN IXC/ID	309	1	12	Sys85 R2V3-R2V4, G2.1
Wait Dial Tone	309	1	11	y maps to 1; n maps to 0

Screen 2:

Screen Field	Proc	Word	Field	Notes
No. of Digits Deleted	309	3	4	
Digits Inserted	309	3	11-14	

Screen 3:

Screen Field	Proc	Word	Field	Notes
Group One				
Pause Len.	309	3	4	
No. Dig	309	3	5	
Outpl Type	309	3	6	
Group Two				
Pause Len.	309	3	7	
No. Dig	309	3	8	
Outpl Type	309	3	9	
Group Three				
Pause Len.	309	3	10	
No. Dig	309	3	11	
Outpl Type	309	3	12	
Group Four				
Pause Len.	309	3	13	
Outpl Type	309	3	14	

Screen 4:

Screen Field	Proc	Word	Field	Notes
Bearer Capability COS	309	5	6	Generic 2.1 only
ISDN Trunk Type	309	5	4	Sys85 R2V4, G2.1
(ISDN) Network Service	309	5	5	Sys85 R2V4, Generic 2.1
Voice, Mode0-Mode3	309	5	5-9	Sys85 R2V4 only

ars-schedule

[Generic 2.1, System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Clocked Manual Override (Label)				
Day	287	1	1	
Time	287	1	2-3	
Plan	287	1	4	
Return to Automatic Control (Label)				
Day	287	1	5	
Time	287	1	6-7	
Day	316	1	1	
Time				
Hour	316	1	2	
Minute	316	1	3	
Plan	316	1	4	
Active?	316	1	5	

ars-toll

[Generic 2.1, System 85]

Screen Field	Proc	Word	Field	Notes
Toll Table No.	309	2	1	
Office Code	309	2	2	
Toll?	309	2	3	

arscc-attd-partition

[System 85 R2V4, Generic 2.1]

Screen Field	Proc	Word	Field	Notes
Call Category	320	3	1	Product-admin only
Attendant Partition	320	3	3	Product-admin only

auth-algorithm

[System 85 R2V2]

Screen Field	Proc	Word	Field	Notes
Number of Digits in Auth Code	281	1	1	
Number of Check Digits Used	281	1	2	
Digit Used or Not	281	1	3-6	
Result of Checksum	281	1	7	
Digit Used or Not	281	1	8-11	
Result of Checksum	281	1	12	
Digit Used or Not	281	1	13-16	
Result of Checksum	281	1	17	

auth-algorithm

[System 85 R2V3-R2V4, Generic 2.1]

Screen Field	Proc	Word	Field	Notes
Number of Digits in Auth Code	281	1	1	
Digits to Remove	281	1	2	
Digits to Remove	281	1	3	
Digits to Remove	281	1	4	

auth-code

Screen Field	Proc	Word	Field	Notes
Auth Code	282	1	1	
Facility Restriction Level (FRL)	282	1	2	
Network Access	282	1	3	

autovon [Generic 2, System 85 R2V2-R2V4, DIMENSION]

Screen Field	Proc	Word	Field	Notes
Destination	305	1	1	
Trunk Grp No.	305	1	2	
Precedence Level	305	1	3	check acceptance patterns 0-4, one to one mapping
Autovon NNX	305	2	2	
Thousandths Digit(s)	305	2	3	AUTD0-AUTD9; store thousands digit "X" in AUTDn, if present
First Digits(s)	305	2	4	System 85 R2V3, V4 if destination is local switch

call-vectoring

Screen Field	Proc	Word	Field	Notes
Vector Directory Number	031	1	1	
Vector Number	031	1	2	
CMS Measured	031	1	3	
Console Message	031	1	4-7	
Return Call Indicator	031	1	8	
Display Override	031	1	9	

cas

Screen Field	Proc	Word	Field	Notes
Branch No.	212	1	1	
Incoming RLT Trunk Group	212	1	2	
Branch Type	212	1	3	
Module	212	2	2	
Cabinet	212	2	3	
Carrier	212	2	4	
Slot	212	2	5	
Circuit	212	2	6	
Lamp CTL Board	212	2	7	
Lamp CTL Circuit	212	2	8	

carrier-parameters

[System 85 R2V2-R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
Carrier Location				
Module	250	1	1	
Cabinet	250	1	2	
Carrier	250	1	3	
Carrier Type	250	1	4	

cdr

[System 85 R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
CDR Record Length	288	1	1	
Opcodes Provided	288	1	2	
Format	288	1	3	
SMDR Message Length	288	1	4	
Data Item Encode	288	2	1	
Starting Cell Number	288	2	2	
Item Length	288	2	3	
Dialed Number (WCR Routed Number)	288	1	1	Generic 2.2 only
WCR Number Sent	288	2	1	Generic 2.2 only
WCR Pattern Used	288	2	1	Generic 2.2 only
WCR Preference Used	288	2	1	Generic 2.2 only

clock

Screen Field	Proc	Word	Field	Notes
Product Clock				
Date	284	1	3-5	
Day	284	1	4	
Time	284	1	1-2	

cms [System 85 R2V3, R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
	028	2	1	Busyout maps to 1; release to 0
	028	1	1	Generic 2.2 only

cms-extension [System 85 R2V3, R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
CMS Extension No.	026	3	3	Field 1 = 0; Generic 2.2
	028	1	2	Generic 2.1, System 85 R2V3-R2V4

codeset-mapping

Screen Field	Proc	Word	Field	Notes
Codeset Map Number	280	1	1	Valid values are 0-15
Incoming/Outgoing Message	280	1	2	"i" maps to 0, "o" maps to 1
Mapped From Codeset Number	280	1	3	0-7
Mapped From Information Element	280	1	4	null, 0-127
Mapped To Codeset Number	280	1	5	0-7
Mapped To Information Element	280	1	6	null, 0-127

code-rst-level

Screen Field	Proc	Word	Field	Notes
Trunk Group No.	301	1	1	
Primary/Secondary	301	1	2	p maps to 1 s maps to 2
Dial 1 for Toll	301	1	3	n maps to 0 t maps to 1 a maps to 2
Home NPA	301	1	4	
Is Central Office a Digit Absorbing Step/Step?				no proc mapping
Digits Entered and Appropriate Treatment	301	2	2-9	
Treatment	301	2	0-5	1-6 maps to 0-5

d-channel [Generic 2 only]

Screen Field	Proc	Word	Field	Notes
D-Channel Group Number	262	2	1	Valid values are 1-255
Primary D-Channel Equip. Loc.				
Module	262	2	2	Valid values are 0-30
Cabinet	262	2	3	0-7; 0 if Universal or XE
Carrier	262	2	4	0-3; c-e if Universal or XE
Slot	262	2	5	5,18; 1-19 if Universal 1-18 if XE
Secondary D-Channel Equip. Loc.				
Module	262	2	6	Valid values are 0-30
Cabinet	262	2	7	0-7; 0 if Universal or XE
Carrier	262	2	8	0-3; c-e if Universal or XE
Slot	262	2	9	5,18; 1-19 if Universal 1-18 if XE

dcIU-channel [DIMENSION]

Screen Field	Proc	Word	Field	Notes
DCIU Link No.	256	2	1	
DCIU Channel	256	2	2	
DCIU Link No.	256	2	3	
DCIU Channel	256	2	4	
Priority	256	2	5	h maps to 1; l maps to 0
Does Channel Use a Switch Port?	256	2	1	"y" maps to "5"
"A" Link				
"A" Channel	256	2	2	
"A" Channel	256	3	1	If "A" Link = "5"
"A" Channel	256	4	1	If "A" Link = "5" and despr = "x"
"A" Channel	256	5	1	If "A" Link = "5"
"B" Link	256	2	3	
"B" Channel	256	2	4	
Priority	256	2	5	"h" maps to "1", "l" maps to "0"
Remote Ports	256	3	2	if "A" Link = "5"
Trunk Group	256	4	2	If "A" Link = "5" and despr = "x"
Select Application (switch port application)	256	5	3	If "A" Link = "5"
Message Format	256	5	4	If "A" Link = "5" and AP = "x" "4" maps to "0", else to "1"
AUDIX Machine Number	256	5	5	If "A" Link = "5"

dcIU-channel [Generic 2]

Screen Field	Proc	Word	Field	Notes
Does Channel Use a Switch Port? "A" Link	257	1	1	"y" maps to "0"
"A" Channel	257	1	2	
"A" Channel	257	2	1	If "A" Link = "0"
"A" Channel	257	5	1	If "A" Link = "0"
"A" Channel	257	6	1	If "A" Link = "0" and Application = "12"
Does Channel Use a Switch Port? "B" Link	257	1	3	"y" maps to "0"
"B" Channel	257	2	1	If "B" Link = "0"
"B" Channel	257	5	1	If "B" Link = "0"
"B" Channel	257	3	1	If "B" Link = "0" and despr = "x" and Trunk Group is not NULL

dciu-channel [Generic 2] (Continued)

Screen Field	Proc	Word	Field	Notes
Remote Port	257	2	2	if "B" Link = "0"
Remote Port	257	2	4	if "A" Link = "0" and not a maintenance channel
Priority	257	1	5	"h" maps to "1", "l" maps to "0"
Alternate Routing	257	1	6	
Remote Port	257	2	2	if "A" Link = "0"
Destination	257	2	3	if "A" Link = "0"
Postage	257	2	4	if "A" Link = "0"
Trunk Group	257	3	4	if "A" or "B" Link = "0" and despr = "x"
Remote DCS Node	257	3	3	if "A" or "B" Link = "0" and despr = "x"
Select Application				
Application	257	5	2	if "A" Link = "0"
Application Number	257	5	3	if "A" Link = "0"
Number of Input Buffers	257	5	4	Generic 2.2
Number of Output Buffers	257	5	5	Generic 2.2
Buffer Words Allocated to Application	257	5	6	Generic 2.2
Network Adjunct Class	257	6	2	if Application = "12"
Network Adjunct Number	257	6	3	if Application = "12"

dcIU-link [DIMENSION]

Screen Field	Proc	Word	Field	Notes
DCIU Link Number	256	1	1	
DCIU Link Assign	256	1	2	"0" - not assigned, "1" - assigned
Baud Rate	256	1	3	0, 300, 600, 1200, 2400, 4800, 9600, 19200 map to 0-7
Logical Role	256	1	4	"0" = DTE, "1" = DCE
Busyout the Other DCIU	650	0	1	
To Release the Other DCIU	650	0	1	

dcIU-link [System 85 R2V3 only]

Screen Field	Proc	Word	Field	Notes
DCIU Link Group No.	256	1	1	
DCIU Link Assigned?	256	1	2	y maps to 1; n to 0
Baud rate	256	1	3	baud rate 0,300-19.2K maps to 0-7

dcIU-link [Generic 2]

Screen Field	Proc	Word	Field	Notes
To Busyout the Entire DCIU	650	0	1	
To Release the Entire DCIU	650	0	1	
DCIU Link Number	256	1	1	1-8
DCIU Link Assign	256	1	2	"0" - not assigned, "1" - assigned
Baud Rate	256	1	3	none, 300, 600, 1200, 2400, 4800, 9600, 19200 map to 0-7
Local DTE/DCE	256	1	4	"0" = DTE, "1" = DCE
Dial-Up	256	1	5	"0" = no, "1" = yes
Protocol	256	1	6	1
Destination Machine Type	256	1	7	1-8
Destination Machine Number	256	1	8	1-7 for AP's, 1-8 for AUDIX, 1-63 for the rest
DCIU Link Number	256	2	1	1-8
Retransmission Time	256	2	2	1 normal setting
Frames Exchanged	256	2	3	10 normal setting
Maximum Number of Retransmissions of Acknowledged Frames	256	2	4	2 normal setting
Maximum Number Frames Transmitted without Acknowledgement	256	2	5	7 normal setting
DCIU Link Number	256	3	1	1-8
Activity Timer	256	3	2	180 normal setting
Acknowledgement Timer	256	3	3	20 normal setting
Interrupt Timer	256	3	4	180 normal setting
Reset Timer	256	3	5	8 normal setting
Restart Timer	256	3	6	8 normal setting
Maximum Unacknowledged Packets	256	3	10	4 normal setting

dcui-route-codes [Generic 2]

Screen Field	Proc	Word	Field	Notes
Destination Routing Code	257	4	1	1-255
Routing Type	257	4	2	"F" or "E" maps to "0" or "1"
Terminating Switch				
Link 1	257	4	4	- , 0-1
Route 1	257	4	5	- , 0-64
Link 2	257	4	6	- , 0-8
Route 2	257	4	7	- , 0-64
Link 3	257	4	8	- , 0-8
Route 3	257	4	9	- , 0-64

dial-access codes

Screen Field	Proc	Word	Field	Notes
ACD Agents Skills	350	2	2-5	Generic 2.2 only

dial-pulse-icom-record

Screen Field	Proc	Word	Field	Notes
Record Type	254	1	1	d maps to 1 i maps to 2
No. of Records	254	1	2	
Maximum No. of Allowed Records	254	1	3	

dsc

[System 85 R2V3, R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
DSC On	360	1	1	
DSC Number	360	1	2	
ELL 1	360	1	3-7	
Ichan 1	360	1	8	
ELL 2	360	1	10-14	
Ichan 2	360	1	15	

ds1-isdn

[System 85 R2V3, R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
Equip Loc	260	1	1-4	
Framing Format D4/Fe	260	1	6	
Signaling Options	260	1	8	
Coding Scheme	260	1	9	
Slip Count Enabled?	260	1	10	y/n maps to 1/0
External Loop Test Enabled?	260	1	11	y/n maps to 1/0
Equipment Type	260	1	12	
Synchronization	260	1	13	
Application Type Trunk = 0 DMI = 1 Line = 2 Remote Carrier = 3 ISDN PRI = 5	260	1	14	
Bit Inversion	260	1	15	for ISDN only y/n maps to 1/0
Transmit Type	260	1	16	
Special Access	260	1	17	
Interface Type	262	1	6	for ISDN only; y/n/ maps to 1/0
Facility Test Code	262	1	7	for ISDN only
Terminal Endpoint ID	262	1	8	for ISDN only;
Level 2 PRI Timer T203	262	1	9	for ISDN only
Level 2 PRI Timer T200	262	1	10	for ISDN only;
Max No. of Retransmissions	262	1	11	for ISDN only;
Max No. of Outstanding Data	262	1	12	for ISDN only;

ds1-isdn

[Generic 2 only]

Screen Field	Proc	Word	Field	Notes
ISDN SIGNALING	260	1	7	
DS1 Loop Length	260	1	18	
E-Bit	260	1	19	
ISDN Interface Identifier	262	1	13	
Codeset Map Number	262	3	6	
Hyperactivity Management	262	3	7	

extn-part-trk

Screen Field	Proc	Word	Field	Notes
Trunk Group No.	270	5	1	Tenant Services must be active
External Partition	270	5	2	
Dedicated/Shared	270	5	4	
Attendant Partition	270	5	5	

external-adjunct

Screen Field	Proc	Word	Field	Notes
Local Adjunct Class	261	1	1	
Local Adjunct Number	261	1	2	
Local Adjunct Type	261	1	3	
Version Number	261	1	4	
N-Digit?	261	1	5	
Scrolling?	261	1	6	

first-digit

Screen Field	Proc	Word	Field	Notes
First Dialed Digit	350	1	1	
Number of Digits	350	1	2	
Call Type	350	1	3	

fnpa

[Generic 2.1, System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Foreign NPA	311	2	1	
Three Digit Translation Routing Patterns/Designators	311	2	3-5	
Allowed 6-digit Routing Patterns/Designators	311	2	3-12	10 6-digit Routing Patterns in R2V3, R2V4, Generic 2

hnpa

[Generic 2.1, System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Office Code	311	1	1	
Pattern No./Routing Designator	311	1	2	

intercept

Screen Field	Proc	Word	Field	Notes
Call Source	289	1	1	
Cause of Intercept	289	1	1	
Intercept Treatment	289	1	2	
Recorded Announcement No.	289	1	3	

main-satellite

Screen Field	Proc	Word	Field	Notes
Switch Serves as Main/Satellite	104	1	1	m maps to 2 s maps to 1
Remote Dial Transfer	104	1	2	
Extended Trunk Group	104	1	3	

misc-trk-rst-grp

Screen Field	Proc	Word	Field	Notes
Trunk Group No.	100	1	1	
Dial Access Code	102	1	1-4	
MTRG1	102	1	5	x maps to 1; else 0
MTRG2	102	1	6	x maps to 1; else 0
MTRG3	102	1	7	x maps to 1; else 0
MTRG4	102	1	8	x maps to 1; else 0
MTRG5	102	1	9	x maps to 1; else 0
MTRG6	102	1	10	x maps to 1; else 0
MTRG7	102	1	11	x maps to 1; else 0
MTRG8	102	1	12	x maps to 1; else 0

modem-attribute [DIMENSION System FP8 3.8]

Screen Field	Proc	Word	Field	Notes
Attribute	180	1	1	
Baud Rate	180	1	2	
Synch/Asynch	180	1	3	
Duplex Mode	180	1	4	

modem-extension [DIMENSION System FP8 3.8]

Screen Field	Proc	Word	Field	Notes
Extension No.	180	4	1	
Terminal	180	4	2	

modem-pair [DIMENSION System FP8 3.8]

Screen Field	Proc	Word	Field	Notes
Digital Equip. Location				
Module	180	3	1	
Cabinet	180	3	2	
Carrier	180	3	3	
Slot	180	3	4	
Circuit	180	3	5	
Analog Equip. Location				
Module	180	3	6	
Cabinet	180	3	7	
Carrier	180	3	8	
Slot	180	3	9	
Circuit	180	3	10	

modem-pool

Screen 1:

Screen Field	Proc	Word	Field	Notes
Trunk Name	012	2	2-11	
Trunk Group No.	100	1	1	
Dial Access Code	100	1	2-5	
Trunk Type	100	1	6	
Route Advance Data				For DIMENSION: proc 180,
Trunk Group 1	100	1	6	word 2; field 3-6.
Trunk Group 2	100	1	7	For System 85 R2V4: proc 100,
Trunk Group 3	100	1	8	word 4; field 2-5.
Trunk Group 4	100	1	9	
Dial Access Restriction	100	1	10	y/n maps to 1/0
Bearer Capability COS	100	2	2	Generic 2 only
Originate Mode Active	100	2	13	Field 3 for G2
Answer Mode Active	100	2	14	Field 4 for G2
Modem Type	100	2	15	Field 5 for G2
First Choice Modem Pool Active?	100	2	17	Field 6 for G2
Test Type	100	2	18	Field 7 for G2
SMDR Active	101	1	8	
SMDR Code Required	101	1	8	
SMDR Variable Timer	101	1	12	
Automatic Circuit Assurance Data				
Long Holding Time	120	1	3	
Short Holding Time	120	1	2	
Short Referral Level	120	1	4	
Attribute	180	2	2	DIMENSION only

Screen 2: [System 85, Generic 2 only]

Screen Field	Proc	Word	Field	Notes
Trunk Group No.	100	1	1	
Dial Access Code	100	1	2-5	
Trunk Type	100	1	6	
Dial Access Restriction	100	1	10	
SMDR Active	101	1	8	
SMDR Code Required	101	1	8	
SMDR Variable Timer	101	1	12	System 85; y/n to 1/0

Screen 3: [System 85, Generic 2 only]

Screen Field	Proc	Word	Field	Notes
Digital Trunk Equip. Loc.				
Module	180	1	3	
Cabinet	180	1	4	
Carrier	180	1	5	
Slot	180	1	6	
Circuit	180	1	7	
Analog Trunk Equip. Loc.				
Module	180	1	9	
Cabinet	180	1	10	
Carrier	180	1	11	
Slot	180	1	12	
Circuit	180	1	13	

Screen 4: (DIMENSION only)

Screen Field	Proc	Word	Field	Notes
Equipment Location				
Module	150	1	1	
Cabinet	150	1	2	
Carrier	150	1	3	
Slot	150	1	4	
Circuit	150	1	5	

modem-trk [System 85 and Generic 2]

Screen Field	Proc	Word	Field	Notes
Digital Trunk Group No.	180	1	1	
Analog Trunk Group No.	180	1	8	
PDM Equipment Location				
Module	180	1	3	
Cabinet	180	1	4	
Carrier	180	1	5	
Slot	180	1	6	
Circuit	180	1	7	
Modem Equipment Location				
Module	180	1	9	
Cabinet	180	1	10	
Carrier	180	1	11	
Slot	180	1	12	
Circuit	180	1	13	

modem-trk [DIMENSION only]

Screen Field	Proc	Word	Field	Notes
Equipment Location				
Module	150	1	1	
Cabinet	150	1	2	
Carrier	150	1	3	
Slot	150	1	4	
Circuit	150	1	5	
Trunk Group No.	150	1	6	

network-spec-facility [Generic 2 only]

Screen Field	Proc	Word	Field	Notes
ISDN Network Service Value	279	1	1	Valid values are 1-511
ISDN NETWORK DEFINITION				
Parameterized/Binary	279	1	2	p, b; "p" maps to "0", "b" to "1"
Feature/Service	279	1	3	f, s; "f" maps to "0", "s" to "1"
Facility Coding Value	279	1	4	0-31
PARAMETER DEFINITION				
Parameter Id	279	1	5-11	

pcc [Generic 2, System 85 R2V4]

Screen Field	Proc	Word	Field	Notes
Application Type	255	1	1	
Slot	255	1	2	
Circuit	255	1	3	
Baud Rate	255	1	4	
Parity	255	1	5	
Stop Bits	255	1	6	
Character Length	255	1	7	
Data Type 501 to PCC	255	1	8	
Data Type PCC to Peripheral	255	1	9	
Low Outgoing FIFO Threshold	255	1	10	
High Outgoing FIFO Threshold	255	1	11	
Low Incoming FIFO Threshold	255	1	12	
High Incoming FIFO Threshold	255	1	13	
Communication	255	2	2	
Message Format	255	2	3	
Message Length	255	2	4	
Protocol	255	2	5	
Failure Threshold	255	2	6	

portability-routing

[Generic 2.1, System 85 R2V3-R2V4]

Screen Field	Proc	Word	Field	Notes
First Digit	322	1	1	First Digit and Second combined as one field in database
Second	322	1	2	
Location Code	322	1	3	

restriction

[System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Area Code	313	1	1	
Office Code	313	1	2	
7-10 Digit	313	1	3-7	

sm-assignment

[System 85 R2V3-R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
Set No.	277	2	1	Display only

sm-history

[System 85 R2V3-R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
History Index	277	3	1	Display only

sm-restriction [System 85 R2V3-R2V4, Generic 2]

Screen Field	Proc	Word	Field	Notes
Set No.	277	1		Display only

spa-alarm

Screen Field	Proc	Word	Field	Notes
Alarm Type	263	1	1	
Unit Type	263	1	2	
Unit Number	263	1	3	

station-no-steering

Screen Field	Proc	Word	Field	Notes
Steering Code	354	2	1	
Steering Code Usage	354	2	2	
Dial Access Code	354	2	3-6	
Location Code	354	2	7	
UDP-Uniform Dial Plan	354	2	2	Generic 2.2 only

sys-cos

Screen Field	Proc	Word	Field	Notes
SYSTEM FEATURES				
Call Waiting Enabled	275	1	5	R2V2-R2V4 and G2
ECTS Enabled	275	1	6	DIMENSION FP8 only
Multi-Function Terminal Enabled	275	1	6	
Deluxe Voice Enabled	275	1	7	DIMENSION FP8 only
Loudspeaker Paging	275	1	7	y/n for R2V2; 0-2 for R2V3-R2V4 and G2
Digits Forwarded	275	1	9	0, 2-5 for R2V2-R2V3; 0, 3-5 for R2V4 and G2
Common Control Duplicated	275	1	10	
Music On Hold Enabled	275	1	11	
Tandem Tie Trunks Enabled	275	1	15	
DCIU Enabled	275	1	17	
Cache Memory Enabled	275	1	18	
Remote Access Shared With LDN	275	2	10	
Dial 1 for Toll	275	3	1	Generic 2.1, System 85 R2V2-R2V4
Home NPA	275	3	2	Generic 2.1, System 85 R2V2-R2V4
Local Prefix Digit	275	3	7	System 85 R2V2 only
Multi-Machine Node Type	275	3	7	
Local Node Number	275	3	8	1-40 for R2V2, 1-999 for R2V3-V4 and G2
CAS Main Node Number	275	3	9	
Call-Control FRL	275	3	10	Generic 2.1, System 85 R2V2-R2V4
Demand Print Password Required	275	3	11	
Info. For Terminal Dialed Calls	275	3	13	
Combined CC/TMS	275	3	15	Generic 2 only
Digits Chimed	275	4	1	
Trunk To Trunk Transfer	275	4	3	
Remote Access Blocking	275	4	2	Generic 2.2 only
Call in Vector Processing	275	4	12	Generic 2.2 only
ISDN Enabled	275	4	14	System 85 R2V4 and G2 only
Standard Network Enabled	276	1	1	Generic 2.1, System 85 R2V2-R2V4
WCR Networks 2-7	276	1	1	Generic 2.2 only
Multi-Premises Enabled	276	1	2	
DCS Enabled	276	1	3	
Data Service Enabled	276	1	4	DIMENSION FP8 only
All Services Enabled	276	1	5	DIMENSION FP8 only

sys-cos (Continued)

Screen Field	Proc	Word	Field	Notes
SYSTEM FEATURES				
Call Vectoring Enabled	276	1	5	
Tenant Services Enabled	276	1	6	
Lookahead Interflow	276	1	9	
Integrated Telemarketing Service	276	1	10	
Call Work Codes	276	1	12	Generic 2.2 only
Expert Agent Selection	276	1	11	Generic 2.2 only
WCR to Extension Enabled?	276	1	14	Generic 2.2 only
AUTOVON INTERFACE				
Switch Interface Number	275	4	10	
Autovon	276	1	4	
AUTOVON PRECEDENCE LEVEL				
All Incoming Calls	275	4	7	
Outgoing Terminal Calls	275	4	8	
Outgoing Attendant Calls	275	4	9	
CUSTOM INTERCOM MIX				
20/30 Member Mix	275	1	1	DIMENSION FP8 only
SPEED CALLING MIX				
20/30 Member Mix	275	1	2	DIMENSION FP8 only
AUTOMATIC CALL DISTRIBUTION (ACD/UCD)				
Supervisor Console Number	026	4	1	0-40 for R2V2 only; 1-40 for R2V4-R2V4 and G2
Warning Tone	026	4	2	
Call Management System Enabled	274	4	13	Field 5 for FP8
Abandoned-Call Search Enabled	275	4	11	Field 2 for FP8
Answer Supervision	275	4	12	Field 7 for FP8
ATTENDED SWITCH FEATURES				
Trunk to Trunk Calling	275	1	16	
Preselected Call Routing	275	2	1	
Call Answer Voice Terminal	275	2	2	
Gong Equipment Location				
Module	275	2	3	0-30
Cabinet	275	2	4	0-7
Carrier	275	2	5	0-3 for Trad. Module; c-e for Universal or XE
Slot	275	2	6	0-3, 5-8, 13-16, 18-21 for Trad., 1-20 for Univ. and 1-18 for XE
Circuit	275	2	7	0-7 for Trad., 0-23 for Univ. or XE

sys-cos (Continued)

Screen Field	Proc	Word	Field	Notes
Default Extension	275	2	8	N(number)*4 for R2V2 and FP8 only; N*5 for R2V3-R2V4 and G2
Release Loop Transfer	275	4	4	
Timed Recall Time	275	4	5	
Remote Access to Attendant	286	1	16	
CALL DETAIL RECORDING (CDR)				
CDR	275	1	12	y/n for R2V2 only; 0-2 for R2V3-R2V4 and G2.1
CDR Enabled	275	1	12	Generic 2.2 only
CDR Account Code No. Length	275	1	13	
Incoming Calls Recorded	275	1	14	
Default Timing Interval	275	3	12	
CDR BLOCKAGE	275	3	14	
CDR Prefix Digit	285	1	6	Generic 2.1, System 85 R2V2-R2V4
AAR/ARS Authorization Code Enabled	285	1	10	Generic 2.1, System 85 R2V2-R2V4
Authorization Code Enabled	285	1	10	Generic 2.2 only
CDR Message Length	285	1	11	1-2 for R2V2-R2V3, DIMENSION
Ineffective Attempts Recorded	286	1	15	
Remote Access Code	286	1	16	
WORLD CLASS ROUTING (WCR)				
Plan Manual Control Mode	286	1	14	Generic 2.2 only
Plan in Effect	286	1	13	Generic 2.2 only
Interdigit Timing Interval Length	286	1	3	Generic 2.2 only
Begin Route Selection ASAP	285	1	6	Generic 2.2 only
AUTOMATIC ROUTE SELECTION (ARS)				
ARS Plan in Effect	286	1	13	Generic 2.1, System 85 R2V2-R2V4
ARS Plan Manual Control Mode	286	1	14	Generic 2.1, System 85 R2V2-R2V4
AUTOMATIC ALTERNATE ROUTING (AAR)				
Digit Reserved for AAR Access	285	1	7	Generic 2.1, System 85 R2V2-R2V4
AAR Dial Tone Suppressed	285	1	12	Generic 2.1, System 85 R2V2-R2V4

sys-cos (Continued)

Screen Field	Proc	Word	Field	Notes
UNIFORM NETWORK NUMBERING PLAN				
Number of Location Code Digits	285	1	2	Generic 2.1, System 85 R2V2-R2V4
Number of Extension Digits	285	1	3	Generic 2.1, System 85 R2V2-R2V4
NETWORK ROUTING				
Symmetrical Routing Depth	285	1	5	Generic 2.1, Sys85 R2V2-R2V4, G2.2
Number Preference	285	1	5	Generic 2.1, System 85 R2V2-R2V4
TRUNK VERIFICATION BY TERMINAL				
Extension Number	285	1	8	N(number)*4 for R2V2 and DIMENSION; N(number)*5 for R2V3-R2V4 and G2
Remote Extension Number	285	1	9	N(number)*4 for R2V2 and DIMENSION; N(number)*5 for R2V3-R2V4 and G2
ABBREVIATED DIAL				
System List Size Range	275	3	5	System 85 R2V3-R2V4 and G2
Universal System List Access	275	3	6	
AUTOMATIC CIRCUIT ASSURANCE (ACA)				
ACA Enabled	285 286	1 1	4 1	
ACA Failure Referred To	286	1	2	y/n for R2V2-R2V3 and DIMENSION; 0-2 for R2V4 and G2
Console Number for ACA Referrals	286	1	3	
CALL COVERAGE				
Caller Response Interval	275	3	3	Field 11 for DIMENSION
No Answer Interval	275	3	4	Field 12 for DIMENSION
Recent Disconnect Interval	275	4	6	
ADMINISTERABLE ALARMS				
Even Port Peripherals Alarm	275 275 275	4 4 4	13 14 15	System 85 R2V2 only R2V3 only System 85 R2V4 and Generic 2
Trunk Software Alarm Disabled	275 275 275	4 4 4	14 15 16	System 85 R2V2 only R2V3 only System 85 R2V4 and Generic 2
Auxiliary Software Alarm Disabled	275 275 275	4 4 4	15 16 17	System 85 R2V2 only R2V3 only System 85 R2V4 and Generic 2

sys-cos (Continued)

Screen Field	Proc	Word	Field	Notes
AUTOMATIC IDENTIFICATION OF OUTWARD DIALING (AIOD) PARAMETERS				
AIOD Enabled	275	1	1	
Prefix Digits Sent to CO	275	1	2	
Delay to 2nd Dial Tone	275	1	3	
Auxiliary ANI Billing Number	275	1	4	

sys-queue

Screen Field	Proc	Word	Field	Notes
Queuing Active?	330	1	1	
No. of Active Queue Records	330	1	2	
Threshold FRL	330	1	3	
Raised FRL	330	1	4	
Queue Type	330	1	5	
Audio Trunk Group	330	1	6	Prod-admin and display only
Max. No. Queue Records All wed	330	1	7	R2V3-R2V4 and G2 Prod-admin and display only

tandem-trk-trk

Screen Field	Proc	Word	Field	Notes
Restricted Entries for Tandem Tie	110	1	2	
Restricted Entries for Trunk to Trunk	110	1	2	
Restricted Dial Code Entry No.	110 111	1 1	2 3	
Dial Access Code	110 111	1 1	3,4,5,6	
Trunk Group No.	111	1	2	

term-trk-grps

Screen Field	Proc	Word	Field	Notes
Trunk Group Number	115	1	1	
ACD Split	115	1	3	
ACD Priority	115	1	4	
CMS/MIS	115	1	5	

test-circuit [DIMENSION FP8]

Screen Field	Proc	Word	Field	Notes
Extension	000	1	1	
	285	3	1	
Equipment Location	000	1	2-6	
Line COS	000	1	7	

toll-office-codes

[Generic 2.1, System 85 R2V2-R2V4]

Screen Field	Proc	Word	Field	Notes
Toll?	301	4	1	
Office Code	301	4	2	

trk

trk-grp

Screen Field	Proc	Word	Field	Notes
Outgoing Trunk Display?	012	1	4	y/n to 1/0
Trunk Name	012	2	2-11	
Trunk Group No.	100	1	1	
Dial Access Code	100	1	2-5	Sys85 R2V4 and G2: field 2-5
Trunk Type	100	1	6	R2V4 and G2: field 6
Dial Access Restrict?	100	1	7	R2V4 and G2: field 7 y/n maps to 1/0
CO Line Pickup?	100	1	8	R2V4 and G2: field 8 y/n maps to 1/0
Access/Egress to Public Network	100	1	9	G2 only
Signaling Type	100	3	2	R2V4 and G2
ROUTE ADVANCE DATA				
Trunk Group 1	100	1	6	R2V4 and G2: Proc 100, word 4, fields 2-5
Trunk Group 2	100	1	7	
Trunk Group 3	100	1	8	
Trunk Group 4	100	1	9	
AUTOMATIC CIRCUIT ASSURANCE DATA				
Short Holding Time	120	1	2	
Long Holding Time	120	1	3	
Short Referral Level	120	1	4	
GENERAL TRUNK PARAMETERS				
Balance?	101	1	2	
Battery Reversal?	101	1	3	y=1, n=0
DID Additional Digit	101	1	3	Generic 2.1, System 85 R2V2-R2V4
DCS	101	1	5	
Touch Tone In?	101	1	6	
Touch Tone Out	101	1	7	
AIOD Billing Number	101	1	9	R2V4 and G2
Timed Recall Time	101	1	10	
Timed Recall Level	101	1	11	
DS1 Pad Group	101	1	13	
Tie Toll Restriction	101	1	14	
APLT Features Allowed	101	1	15	
Alternate Voice/Data (AVD)?	101	1	17	R2V3-R2V4 only; field 18 for G2 only
Disconnect Supervision	101	1	17	R2V3-V4 and G2: field 16
Redial Delay Timer	101	2	2	R2V3-R2V4, G2

trk

trk-grp (Continued)

Screen Field	Proc	Word	Field	Notes
STATION MESSAGE DETAIL RECORDING (SMDR)				
SMDR Active	101	1	8	y=1, n=0
SMDR Account Code Required?	101	1	8	If SMDR Active = 2, this will be "y"
SMDR Variable Timer	101	1	9	R2V3-V4 and G2: field 12
NETWORK TRUNK PARAMETERS				
Bearer Capability	100	2	2	Generic 2 only
Facility Restriction	103	1	2	
ETS Network?	103	1	3	
Trunk Group is Tandem?	103	1	4	
AAR/ARS Access?	103	1	5	Generic 2.1, System 85 R2V2-R2V4
WCR Access	103	1	5	Generic 2.2 only
Auth. Code Required?	103	1	6	
Bridge On Allowed	103	1	7	
Trunk Reservation Limit	103	1	8	
AAR/ARS Dialing Prefix?	103	1	9	Generic 2.1, System 85 R2V2-R2V4
Ignore Dialtone Detection	103	1	9	Generic 2.2 only
Symmetrical Route	103	1	4	Generic 2.2 only
Data Restricted	103	1	10	
Echo Suppressor	103	1	11	Generic 2.1, System 85 R2V3-R2V4
AAR Conditional Routing	103	1	12	Generic 2.1, System 85 R2V3-R2V4
Conditional Routing	103	1	12	Generic 2.2 only
Second TCM	103	1	13	Generic 2.1, System 84 R2V3-R2V4
Traveling Class Mark	103	1	3	Generic 2.2 only
Digit Collection	103	1	14	R2V4 and G2
Outgoing Overlapped Sending	103	1	14	Generic 2.2 only
Dial Tone Suppression	103	1	15	Generic 2.2 only
DATA TRUNK FEATURES				
Sending Options	100	3	8	R2V4 and G2
Glare	100	3	3	R2V4 and G2
Retry	100	3	4	R2V4 and G2
Outgoing MBO Seizure?	100	3	5	R2V4 and G2
Incoming PRM Seizure?	100	3	6	R2V4 and G2
Failure Threshold	100	3	7	R2V4 and G2

trk

trk-grp (Continued)

Screen Field	Proc	Word	Field	Notes
MAIN SATELLITE TRUNK FEATURES				
Main Satellite	104	2	2	
Dialed Digits Sent	104	2	3	
Prefix Deferred	104	2	4	
Transfer Action	104	2	5	
Prefix Digits	101	3	3	Generic 2.1, System 85
ISDN PREFIX DIGITS				
Trunk Group No.	101	3	1	Generic 2.2 only
Address Type	101	3	2	Generic 2.2 only
Prefix Digits	101	3	3-6	Generic 2.2 only
EIA PORT PERMISSIONS				
Keyboard Dialing	100	5	2	
Configuration	100	5	3	
Busyout	100	5	4	
EIA PORT OPTIONS				
Auto Adjust	100	5	5	
Permit Mismatch	100	5	6	
Dial Echo	100	5	7	
Answer Text	100	5	8	
Disconnect Sequence	100	5	9	
Connection Indication	100	5	10	
Parity	100	5	11	
EIA PORT DATA RATES				
19200 bps	100	5	12	
9600 bps	100	5	13	
4800 bps	100	5	14	
2400 bps	100	5	15	
1200 bps	100	5	16	
300 bps	100	5	17	
Low data Rate bps	100	5	18	

trk**trk-grp (Continued)**

Screen Field	Proc	Word	Field	Notes
DIGITAL TRUNK FEATURES				
Synch/Asynch?	100	2	11	R2V2-R2V4 only
Duplex Mode?	100	2	12	R2V2-R2V4 only
Test Type	100	2	18	Field 7 for G2
Host Access Clock	100	2	19	R2V2-R2V4 only
TRUNK ADMINISTRATION				
Equip. Loc.	150	1	1-5	DS1 trunks
	116	1	1-5	
Night Terminal	150	1	7	For DS1 trunks
	116	1	7	
Disable Signal	116	1	8	DS1 only
AIOD Number	116	1	9	
Interface Endpoint	116	1	10	R2V4 and G2
D-Channel Number	116	1	11	Generic 2 only
Paging Zone	150	1	9	
Remote Access Trunk Number	150	1	10	R2V2-R2V3
Recorded Announcement No.	150	1	10	R2V4; field 11 for R2V3
Continuous Announcement?	150	1	11	R2V4 only
Board Type	155	1	1-2	for Contact Interface
Board Index	155	1	2	for Contact Interface
MAPPING FOR PROC 100 WORD 7 AND TRK-GRP TRANSACTION				R2V4 only
Trunk Group No.	100	7	1	Valid entries 18-999
Equipment Location (ITG Links)				
Module	100	7	2	0-30
Cabinet	100	7	3	0-7
Carrier	100	7	4	0-3
Slot	100	7	5	5,18
ITG Records	100	7	6	1-9999

trk-grp-main-busy

Screen Field	Proc	Word	Field	Notes
Dial Access Code	106	1	1-4	
Trunk Group No.	106	1	5	
No. of Busied Trunks in Trunk Group	106	1	8	
No. of Trunks in Trunk Group	106	1	9	
No. of Busied Trunks in System	106	1	10	

trk-grp-queue

Screen Field	Proc	Word	Field	Notes
Trunk Group No.	330	2	1	
Queuing Active?	330	2	2	
Non-Priority Queue Length	330	2	3	
Priority Queue Length	330	2	4	
Non-Priority Off-Hook Queue Wait	330	2	5	
Priority Off-Hook Queue Wait	330	2	6	
Ringback Queue Wait	330	2	7	
Ringback Restriction?	330	2	8	
Route Advance Allowed?	330	2	9	
Incoming Trunk Group Queue Type	330	2	10	

ucd-announcements [System 85 R2V2, DIMENSION FP8 3.8]

Screen Field	Proc	Word	Field	Notes
Delay Announcement				
Group No.	027	1	1	
Announcement Aux.Equip.Loc.	027	1	2-6	
First Wait	027	1	7	
Second Annoc.Wait	027	1	8	
Second Announcement Aux.Eqp.Loc.	027	2	1-5	
City-of-Origin Ann.				
Trunk Group No.	027	3	1	
City-of-Origin Announcement				
Aux. Equip. Loc.	027	3	3-7	
Queue-of-Origin Ann.				
UCD Group No.	027	3	1	
Queue-of-Origin Announcement				
Aux. Equip. Loc.	027	3	3-7	

ucd-lamps [System 85 R2V2, DIMENSION FP8]

Screen Field	Proc	Word	Field	Notes
UCD Group No.	025	4	1	
Board Index	025	4	8	
Circuit Index	025	4	9	
Trunk Group Equipment				
Location	025	4	2	
Module	025	4	3	
Cabinet	025	4	4	
Carrier	025	4	5	
Slot	025	4	6	
Circuit				

vector-features [System 85 R2V4 and Generic 2]

Screen Field	Proc	Word	Field	Notes
Vector Number	030	3	1	
Step Number	030	3	1	
Step Type	030	3	2	
Destination	030	3	3	
Priority	030	3	4	For Type 1,2, or 6
Condition	030	3	5	For Type 2,5, or 6
Threshold	030	3	6	
Split Skill Number	030	3	7	Generic 2.2 only
ACD No.	030	3	8	
Start Time	030	3	8,9,10	
End Time	030	3	10-12	

wcr-call-category [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Plan	317	1	2	
CRC	317	1	3	
Call Category	317	1	1	
Call Category	317	2	2	
Virtual Nodepoint Identifiers	317	2	1	
WCR Pattern	317	2	3	

wcr-dial-plan-definition [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
WCR Network	314	1	14	
String ID	314	1	1-6	
String Length Min	314	1	9	
String Length Max	314	2	5	
String Type	314	1	8,10	
ACTION Encode	314	1	11	
ACTION Object	314	1	12	
ACTION Attrib	314	1	13	
Cont	314	2	1	
Rean	314	2	2	
Oper	314	2	3	
Frze	314	2	4	
Tone	314	2	6	

wcr-digit-modification [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Digit Modification Index	320	1	1	
Number Digits Deleted	320	1	2	
Digits Inserted	320	1	4-11	

wcr-digit-send [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Digit Sending Index	321	1,2	1	
Send DAC	321	1	2	
DAC Digits	321	1	3-6	
Send IXC	321	1	7	
CIC Digits	321	1	8-11	
Send Toll Prefix	321	1	12	
Toll Prefix Digits	321	1	13-15	
Send #	321	1	16	
GROUP ONE				
Pause Len.	321	2	2	
No. Dig	321	2	3	
Send Mode	321	2	4	
GROUP TWO				
Pause Len.	321	2	5	
No. Dig	321	2	6	
Send Mode	321	2	7	
GROUP THREE				
Pause Len.	321	2	8	
No. Dig	321	2	9	
Send Mode	321	2	10	
GROUP FOUR				
Pause Len.	321	2	11	
Send Mode	321	2	12	

wcr-isdn-parameters [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Sending Index	322	1	1	
Service Value	322	1	2	
Type Address	322	1	3	
Number Plan ID	322	1	4	
IXC Option	322	1	5	

wcr-network-information [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Network Number	312	1	1	
Suppress Dial Tone?	312	1	2	y -> 1, n -> 0
CDR Account Code	312	1	3	
Dial Toll Prefix?	312	1	4	y -> 1, n -> 0

wcr-portability-routing [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Node Number	354	4	1	
Virtual Nodepoint Identifiers	354	4	2	

wcr-pattern [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
WCR Pattern Number	318	1,2	1	
Pref.	318	1,2	2	
Trunk Group No.	318	1	3	
Min FRL	318	1	4	
Warn Tone	318	1	5	
Toll Free Index	318	1	6	
Digit Modify Index	318	1	7	
Digit Send Index	318	1	8	
ISDN Send Index	318	1	9	
Bearer Capability COS	318	2	3	

wcr-route-translation [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Virtual Nodepoint Identifiers	317	2	1	
Call Category	317	2	2	
WCR Pattern	317	2	3	

wcr-schedule [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
DAY	316	1	1	
Time	316	1	2,3	
Plan	316	1	4	
Active?	316	1	5	y -> 1, n -> 0
Clocked Manual Override DAY	287	1	1	
Clocked Manual Override Time	287	1	2,3	
Clocked Manual Override Plan	287	1	4	
Return to Automatic Control DAY	287	1	5	
Return to Automatic Control Time	287	1	6,7	

wcr-toll-free-tables [Generic 2.2 only]

Screen Field	Proc	Word	Field	Notes
Toll Free Table Number	319	1	19	
Toll Free String IDs	319	1	2-8	
Toll Status	319	1	10	

FM PROC-TO-COMMAND MAPPINGS

Proc	Word	Object	Notes
012	1, 2	trk-grp	
025, 026	1	ucd-grp	Sys85 R2V2, DIM
025	4	ucd-lamps	Sys85 R2V2, DIM
026	1,2	acd-grp	System 85 R2V3-R2V4, Generic 2
026	2,3	acd-members	
026	3	cms-extension	
026	4	sys-cos	
026	5	acd-allocation	Generic 2.2 only
027	1,2,3	ucd-announcements	Sys85 R2V2
027	1,2,3	acd-announcement	System 85 R2V3, V4
028	1	auth-algorithm	Sys85 R2V2
028	1	cms	Generic 2.2 only
028	2	cms	G2.1, Sys85 R2V3-R2V4, DIM
028	1	cms-extension	G2.1, Sys85 R2V3-R2V4, DIM
030	3	vector-features	System 85 R2V4, G2
031	1	call-vectoring	System 85 R2V4, G2
031	2	agent-skills	Generic 2.2 only
032	1	call vectoring	System 85 R2V4, G2
033	1	acd-announcement	
060	1,2	acd-status-lamps	
100	1,2	modem-pool	System 85 only
100	1, 2, 3, 4, 5	trk-grp	System 85 and Generic 2
100	7	trk-grp	R2V4 only
101	1,2	trk-grp	
101	3	trk-grp	Generic 2.2 only
102	1	misc-trk-rst-grp	
103	1	trk-grp	
104	1	main-satellite	
104	2	trk-grp	
105	1	trk-grp	DIMENSION only
106	1	trk-grp-main-busy	
110	1	tandem-trk-trk	
111	1	tandem-trk-trk	
115	1	term-trk-grps	
116	1	trk	DS1 trunks
116	1	trk-grp	DS1 trunks
120	1	modem-pool	
120	1	trk-grp	

Proc	Word	Object	Notes
150	1	modem-pool	DIMENSION
150	1	modem-trk	DIMENSION
150		trk	
150	1	trk-grp	
155	1	trk	
155	1,2	trk-grp	
180	1	modem-pool	System 85 and Generic 2
180	1	modem-trk	
180	1	modem-attribute	DIMENSION FP8 3.8
180	2	modem-pool	DIMENSION FP8
180	3	modem-pair	DIMENSION FP8 3.8
180	4	modem-extension	DIMENSION FP8 3.8
212	1,2	cas	
250	1	carrier-parameters	
253	1	external-adjunct	
254	1	dial-pulse-icom-record	
354	2	station-no-steering	
255	1-2	pcc	Generic 2, System 85 R2V4
256	1,2,3	dciu-link	Generic 2
256	2,3,4,5	dciu-channel	DIMENSION Only
256	3	dciu-port	DIMENSION Only
257	1,2,3,5,6	dciu-channel	Generic 2
257	4	dciu-route-codes	G2, DIMENSION
258	1,2	dciu	
260	1	ds1-isdn	Sys85 R2V3-R2V4 and Generic 2
261	1, 2	external-adjuncts	
262	1	ds1-isdn	Sys85 R2V3-R2V4 and Generic 2
262	2	d-channel	Generic 2 only
263	1	spa-alarm	Sys85 R2V3-R2V4
270	5	extn-part-trk	
275	1-4	sys-cos	
276	1	sys-cos	
277	1	sm-assignment	
277	2	sm-history	
277	3	sm-restriction	
279	1	network-spec-facility	
280	1	codeset-mapping	
281	1	auth-algorithm	
282	1	auth-code	
284	1	clock	
285	1	sys-cos	System 85 R2V2-R2V4 and Generic 2

Proc	Word	Object	Notes
286	1	sys-cos	
286	1	alt-frl	
286	1	altfrrl-ctrl	
287	1	ars-schedule	Generic 2.1, System 85
287	1	wcr-schedule	Generic 2.2 only
288	1,2	cdr	System 85 R2V4
289	1	intercept	
301	1, 2	code-rst-level	
301	3	allowed-codes	
301	4	toll-office-codes	Generic 2.1, System 85
302	1	allowed-codes	
305	1,2	autovon	
309	1-5	ars-pattern	Generic 2.1, System 85
309	2	ars-toll	Generic 2.1, System 85
311	1	hnpa	Generic 2.1, System 85
311	2	fnpa	Generic 2.1, System 85
311	3	ars-6-digit	Generic 2.1, System 85
312	1	wcr-network-information	Generic 2.2 only
312	3	ars-international	Generic 2.1, System 85 R2V4
313	1	restriction	System 85, DIMENSION
314	1	ars-call-categories	Generic 2.1, System 85
314	1,2	wcr-dial-plan-definition	Generic 2.2 only
316	1	ars-schedule	Generic 2.1, System 85
316	1	wcr-schedule	Generic 2.2 only
317	1,2	wcr-call-category	Generic 2.2 only
317	1,2,3	wcr-route-translation	Generic 2.2 only
318	1,2	wcr-pattern	Generic 2.2 only
319	1	wcr-toll-free-tables	Generic 2.2 only
320	1	aar-call-categories	Generic 2.1, System 85
320	1	wcr-digit-modification	Generic 2.2 only
321	1,2	wcr-digit-send	Generic 2.2 only
321	1,2,3,5	aar-pattern	Generic 2.1, System 85
321	4	aar-rnx	System 85 R2V2
321	4	aar-portability	Generic 2.1, System 85
322	1	portability-routing	System 85 R2V3, V4
322	1	wcr-isdn-parameters	Generic 2.2 only

Proc	Word	Object	Notes
330	1	sys-queue	
330	2	trk-grp-queue	
341	1	ars-call-categories	Generic 2.1, System 85
350	1	first-digit	
350	1,2	dial-access codes	
354	2	station-no-steering	
354	4	wcr-portability-routing	Generic 2.2
360	1	dsc	System 85 R2V3, R2V4
370	3	arscc-attt-partition	System 85 R2V4
650	0	dciu-link	Generic 2
651		pcc	System 85 R2V4

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