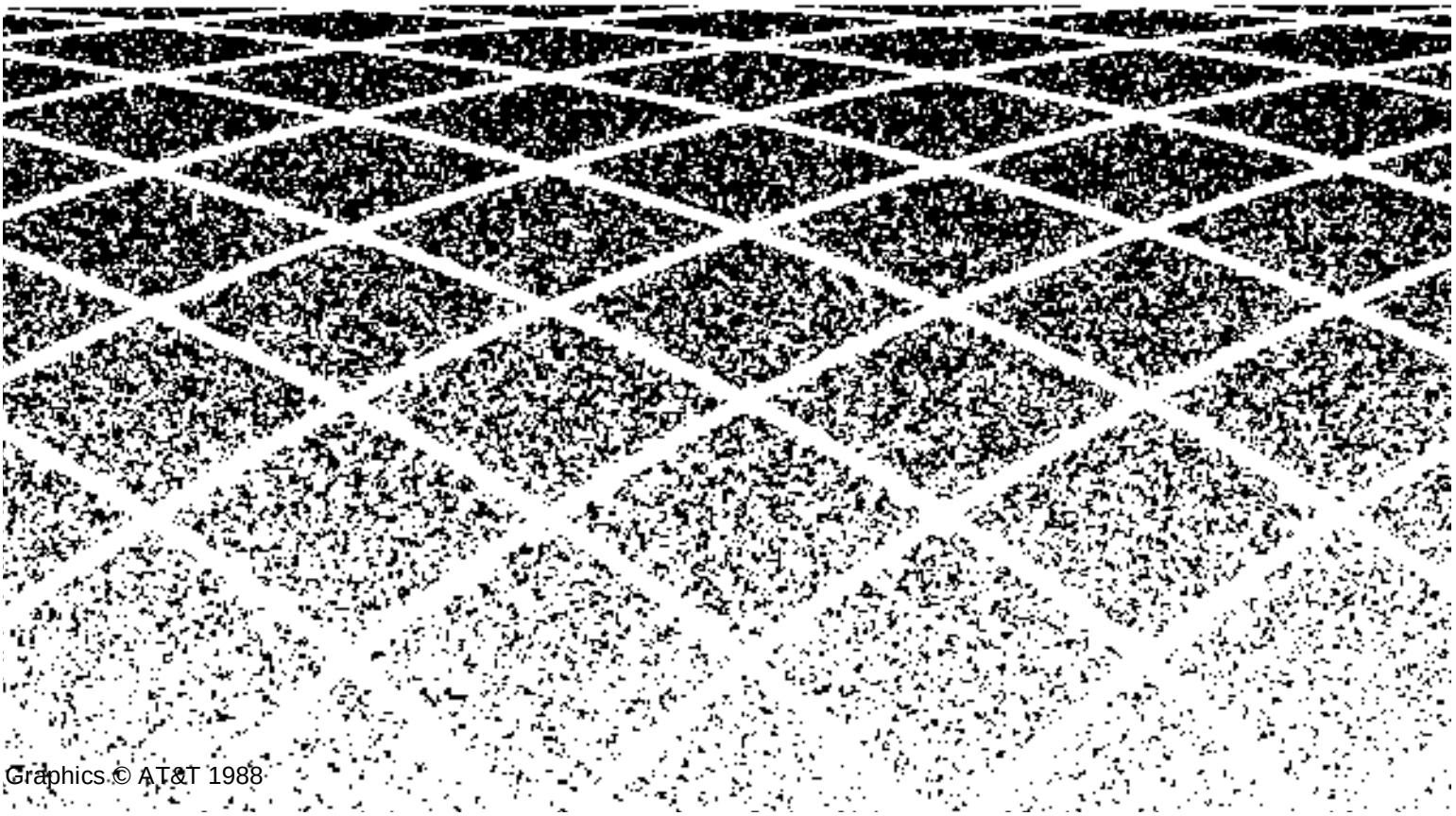
585-300-405
Issue 1
September, 1995

DEFINITY AUDIX
3.1 to 3.2
Change Description



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About This Document

This document describes the hardware and software changes that have occurred between DEFINITY AUDIX Release 3.1 (R3.1) and Release 3.2 (R3.2). These changes and enhancements are available on all new DEFINITY AUDIX Systems and all DEFINITY AUDIX upgrades.

Intended Audiences

The system administrators are one of the primary audiences for this document. Much of the material in this document directly affects the DEFINITY AUDIX system administrator and the subscribers they support.

The information in this document is also useful to AT&T marketing and provisioning personnel. AT&T remote and local services personnel, and other AT&T associates who must understand and support DEFINITY AUDIX voice mail and LAN-connected application systems will also find this document useful.

How This Document Is Organized

This document is organized as follows:

- Chapter 1 – New and Enhanced Features
- Appendix A – Changes, Improvements, Notes
- Glossary
- Index

How to Use This Document

This document supplements the documentation set received with a new DEFINITY AUDIX R3.2 System. It is most useful for summarizing differences between the current and previous software releases when a DEFINITY AUDIX System is upgraded to R3.2.

Trademarks and Service Marks

The following trademarked products are mentioned in this document:

- AUDIX® is a registered trademark of AT&T.
- DEFINITY® Communications System is a registered trademark of AT&T.

Related Resources

Title	Number	Issue
A Portable Guide to Voice Messaging	585-300-701	2 or later
AMIS Analog Networking	585-300-512	5 or later
AUDIX Administration and Data Acquisition Package	585-302-502	11 or later
DEFINITY AUDIX System Administration	585-300-507	4 or later
DEFINITY AUDIX System Documentation Guide	585-300-011	4 or later
DEFINITY AUDIX System Feature Descriptions	585-300-206	4 or later
DEFINITY AUDIX System Installation and Upgrade	585-300-118	5 or later
DEFINITY AUDIX System Installation Checklist	585-300-119	4 or later
DEFINITY AUDIX System Maintenance	585-300-110	4 or later
DEFINITY AUDIX System System Description	585-300-205	5 or later
DEFINITY AUDIX System R3.2 Screens Reference	585-300-212	1 or later
Multiple Personal Greetings Quick Reference	585-300-705	4 or later
Voice Messaging Outcalling Quick Reference	585-300-706	1 or later
Planning for the DEFINITY AUDIX System	585-300-601	5 or later
Switch Administration for the DEFINITY AUDIX System	585-300-509	5 or later
AUDIX Business Card Stickers	585-304-705	2 or later
Voice Messaging Quick Reference	585-300-702	3 or later
DEFINITY AUDIX System Subscriber Artwork Package	585-300-703	4 or later
Voice Messaging Wallet Card	585-300-704	2 or later
Intuity Message Manager User's Guide	585-310-725	1 or later

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New and Enhanced Features

1

This chapter describes new and enhanced features provided by the DEFINITY AUDIX System Release 3.2.

New Terminology

Prior to Release 3.2, DEFINITY AUDIX was divided into two configurations; Control Link (CL Mode) and Digital Port (DP Mode). With the introduction of Digital Networking in R3.2, it became necessary to change the way DEFINITY AUDIX and the various switches communicated with each other. Because of this addition, two new terms were added to the DEFINITY AUDIX vocabulary:

- Switch Integration (Control Link and Display Set)
- Port Board Emulation (Analog Port and Digital Port)

Switch Integration

The term Switch Integration relates to how the DEFINITY AUDIX System communicates with the switch in which it resides. There are two *Integration* types*:* Display Set (DS) and Control Link (CL).

In releases prior to R3.2, the term Digital Port (DP) was used to refer to a specific kind of voice port. This voice port carried information in a digital format rather than in an analog format. With R3.2, this term is changed to Display Set in this, and subsequent releases. Even though the name changed, the basic administration has not changed from previous releases.

To provide digital networking, the DEFINITY AUDIX system must emulate a digital station port circuit pack (either a TN754 or a TN2181 — see Table 1-1 on page 1-3) on the switch. Either DS or CL can be used with digital port emulation. The integration type CL is not new in this release. It still refers to the physical connection of the DEFINITY AUDIX System to the switch via a connecting cable. With DS, DEFINITY AUDIX software enables the DEFINITY AUDIX System to communicate with the switch. Through specific programming in the multi-function board (MFB), a digital circuit pack for voice ports can be *emulated.* This is referred to as Port Board Emulation.

Port Board Emulation

The new term Port Board Emulation applies to both Analog and Digital voice ports. The DEFINITY AUDIX System interacts with the switch by emulating a TN746, a TN754, or a TN2181 port board circuit pack. Analog Port Board Emulation is associated only with CL Integration, but Digital Port Board Emulation can be associated with either the DS or the CL Integration.

Native Mode

This is the ability of the switch to recognize the DEFINITY AUDIX System MFB as a TN566B or TN567 circuit pack. With native mode support, the switch reserves the necessary slots for the DEFINITY AUDIX assembly, and the switch is able to correctly identify the DEFINITY AUDIX board in alarms sent to the service organizations.

Without Native Mode support (non-native), the MFB slot is provisioned as a TN754, a TN2181 or a TN746B. The five slots required by DEFINITY AUDIX assembly are not reserved and when a MFB alarm is reported, the alarms are reported as occurring in a port board (such as TN754, TN2181, and TN746B). All AUDIX systems can use both digital networking and AMIS.

Digital Networking

DEFINITY AUDIX system's new digital networking allows local DEFINITY AUDIX subscribers to exchange voice messages with other DEFINITY AUDIX systems, INTUITY AUDIX systems, and AUDIX R1 systems (AUDIX systems). These systems can be located on the same site or spread out over several locations in the same or different cities and countries. Each DEFINITY AUDIX and AUDIX R1 system may connect with up to 100 other AUDIX systems. Each INTUITY AUDIX system may connect with up to 500 other AUDIX systems.

DEFINITY AUDIX digital networking supports a maximum of 100,000 local subscribers and administered and nonadministered remote subscribers. The total number of networked systems and local and remote subscribers depends on several factors, such as:

- The amount of available storage for remote subscriber data
- The number of networking ports
- The speed of data transport between systems

Maximum Number of Voice and Networking Ports

The DEFINITY AUDIX system provides a maximum of 16 voice ports with 2 digital networking ports depending on the type of switch and Multifunction Board (MFB). The following table summarizes the DEFINITY AUDIX voice port capacity by switch type, MFB type, and circuit pack emulation when a system has digital networking.

Table 1-1. Voice Port Limits with Digital Networking by Switch Type

Switch Type	Maximum Number of Ports with Digital Networking				Switch Circuit Pack Emulation
	TN566B MFB		TN567 MFB		
	Voice	Network	Voice	Network	
G3V4 and higher	10	2	16	2	TN2181 (16 Port DCP)
G3V2, G3V3	10	2	16	2	TN2181 (16 Port DCP)
System 75, G1, G3V1	8	2	8	2	TN754 (8 Port DCP)

A TN566B MFB will be replaced with a TN567 MFB if digital networking is turned on and more than 10 voice ports are needed. This allows growth potential to the maximum number of voice ports.

The DEFINITY AUDIX system works by emulating a switch station port circuit pack. In all switches except G3V4, the DEFINITY AUDIX system can emulate a TN754 (an 8-port digital station circuit pack). In G3V2, G3V3, and G3V4, the DEFINITY AUDIX system can emulate a TN2181, 16-port digital station circuit pack. The DEFINITY AUDIX system is identified as follows when emulating a TN2181:

- In G3V2 and G3V3, the switch identifies the DEFINITY AUDIX system as a TN2181 circuit pack (the DEFINITY AUDIX system is known as an alias on the switch).
- In G3V4, the switch identifies the DEFINITY AUDIX system as a DEFINITY AUDIX system (this is known as native mode).

The following table summarizes the maximum number of networking ports for the number of voice ports with the TN566B MFB.

Table 1-2. TN566B Maximum Number of Networking Ports with Voice Ports

Number of Voice Ports	Maximum Number of Networking Ports	Switches Supported	Switch Circuit Pack Emulation
up to 8	2	System 75, G1, G3V1, G3V2, G3V3	TN754
up to 10	2	G3V2, G3V3, G3V4	TN2181

The next table summarizes the maximum number of networking ports for the number of voice ports with the TN567 MFB.

Table 1-3. TN567 Maximum Number of Networking Ports with Voice Ports

Number of Voice Ports	Maximum Number of Networking Ports	Switches Supported	Switch Circuit Pack Emulation
up to 8	2	System 75, G1, G3V1, G3V2, G3V3	TN754
up to 16	2	G3V2, G3V3, G3V4	TN2181

Disk Sizing for Local and Remote Subscribers

The number of local and remote subscribers supported by the DEFINITY AUDIX system depends on the disk size. Remote subscribers include both digitally networked and AMIS analog subscribers. The number of hours of voice storage that needs to be purchased depends on the number of voiced names, messages, and greetings. A 6-hour disk is always upgraded to a 40-hour disk with R3.2. Either a 40-hour disk or a 100-hour disk is provided with new R3.2 installations. The following table describes the maximum number of local and remote subscribers by disk size.

Table 1-4. Maximum Local and Remote Subscribers by Disk Size

	15-Hour Disk	40-Hour Disk	100-HourDisk
Maximum Local Subscribers	1000 or 500	2000 or 1200	2000
Maximum Remote Subscribers	8000 or 12000	10,000 or 16,000	100,000

15-Hour Disk Combinations

For the 15-hour disk, two combinations are given. There can be either 1000 local and 8000 remote subscribers or 500 local and 12,000 remote subscribers or some other valid combination. Use the following equation to determine what can be supported on the 15-hour disk:

$$(LOCAL\_SUBS * 7.5) + REMOTE\_SUBS \leq 16{,}000$$

40-Hour Disk Combinations

For the 40-hour disk, two combinations are given. There can be either 2000 local and 10,000 remote subscribers or 1200 local and 16,000 remote subscribers or some other valid combination. Use the following equation to determine what can be supported on the 40-hour disk:

$$(LOCAL\_SUBS * 7.5) + REMOTE\_SUBS \leq 25{,}000$$

Limitations on the 100-Hour Disk Drive

Although the 100-hour disk drive will accommodate up to 100,000 local and remote subscribers, the automatic weekly names backup can handle a maximum of approximately 60,000 remote subscribers. If there are more than 60,000 remote subscribers, then only the local subscriber names will be backed up during the weekly names backup. However, a demand backup of the local and remote subscriber names remains possible up to a total of about 90,000 remote subscribers. No customer backup of the remote subscribers' voiced names is possible if there are more than 90,000 remote subscribers.

Digital Networking Configurations

DEFINITY AUDIX digital networking is an optional feature that provides users with the ability to exchange voice messages with users on other DEFINITY AUDIX systems, Intuity AUDIX systems, and AUDIX R1 systems. The remote system may be colocated with or geographically distant from the local DEFINITY AUDIX system. DEFINITY AUDIX digital networking uses the proprietary AUDIX digital protocol to exchange voice messages, subscriber profiles, and message status information with other AUDIX systems. Digital networking is much more secure than AMIS analog networking.

DEFINITY AUDIX digital networking provides both high-speed and low-speed connectivity. The type of data connection you use depends on the facilities at your site and how you plan to connect with remote sites. High-speed connectivity is preferred if you have high-speed facilities between locations or heavy traffic between sites or communities of interest.

High-Speed Connectivity

DEFINITY AUDIX digital networking provides two high-speed network connection types.

DCP Mode 1	An AT&T proprietary Digital Communications Protocol (DCP) connection using a data rate of 56 Kbps. DCP Mode 1 uses a DS1 facility on the switch or a dedicated facility on a T1 carrier.
DCP Mode 3	A DCP connection using a data rate of 64 Kbps. DCP Mode 3 uses a DS1 or ISDN facility on the switch or a dedicated facility on a T1 carrier.

See Chapter 3, *DCP Mode 1 — 56 Kbps* and Chapter 5, *DCP Mode 3 — 64 Kbps* for a complete description and network configuration examples.

Low-Speed Connectivity

DEFINITY AUDIX digital networking provides one low-speed network connection type. DCP Mode 2 is an asynchronous, low-speed (9600 or 19,200 bps) connection. See Chapter 4, *DCP Mode 2 — 9600 or 19,200 bps,* for a description of Mode 2 and network configuration examples.

DCP Mode 2 uses one of the following types of modem/data module arrangements:

- DCP port, 7400A data module (connects to a TN754 circuit pack), modem, and analog port as shown in the following figure.

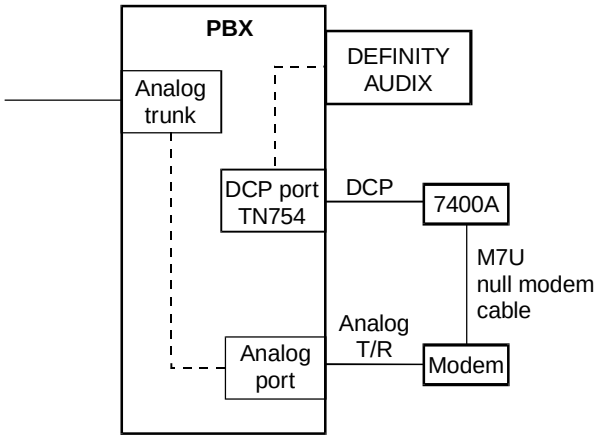


Figure 1-1. Mode 2 DCP Port with 7400A Data Module

- Electronic Industries Association (EIA) port (connects to a TN726 circuit pack), asynchronous data unit (ADU), modem, and analog port as shown in the following figure.

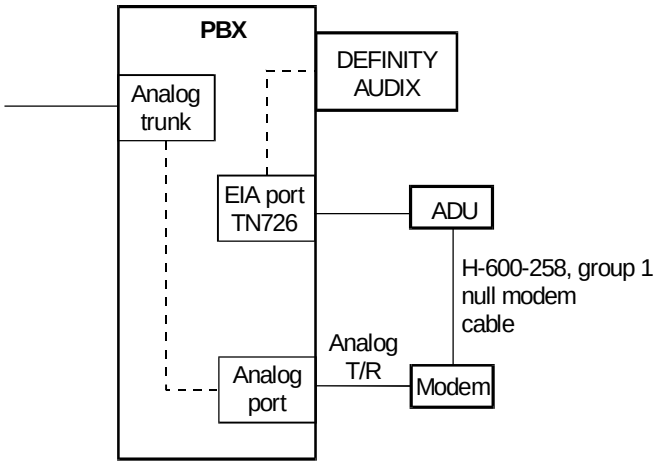


Figure 1-2. Mode 2 with EIA Port and ADU

Multistage Dialing

DCP Mode 2 modem/data module arrangements use multistage dialing. Multistage dialing permits a DEFINITY AUDIX digital networking port to place a call to another DEFINITY AUDIX system in three stages.

1. Call a DCP-to-modem conversion resource.
2. Initiate a second call off premises over analog facilities to a remote modem.
3. Establish the final connection to the remote digital networking port.

All systems that network at low speed with a DEFINITY AUDIX system must have multistage dialing capability. The DEFINITY AUDIX system, Intuity AUDIX system, and AUDIX R1V5 and later systems (TN539B network card required) have multistage dialing. (AUDIX R1V8 is recommended when networking a DEFINITY AUDIX system with a non-U.S. AUDIX R1 system.) Chapter 4, *DCP Mode 2 — 9600 or 19,200 bps*, describes multistage dialing in more detail.

Modem Compatibility

Modem compatibility may be a problem especially when networking with older AUDIX R1 systems that use modem pooling. (AUDIX R1V8 is recommended when networking a DEFINITY AUDIX system with a non-U.S. AUDIX R1 system.) See Chapter 4, *DCP Mode 2 — 9600 or 19,200 bps*, for more information on modem compatibility.

Mixed High-Speed and Low-Speed Connectivity

The DEFINITY AUDIX system can support all three types of networking connections. The connection types (DCP Mode 1, DCP Mode 2, and DCP Mode 3) are dynamic and can change on a call-by-call basis to different systems for each networking port. For example, you could have a low-speed connection between the DEFINITY AUDIX system and a geographically remote system and a high-speed connection to a system in the same building (a low-speed connection always needs additional hardware as described above in *Low-Speed Connectivity*). See Chapter 6, *Mixtures of High-Speed and Low-Speed Networks*, for a description and configuration examples.

Control Link and Display Set Integrations

To provide digital networking, the DEFINITY AUDIX system must emulate a digital station port circuit pack (TN754 or TN2181) on the switch. Either Control Link (CL) or Display Set (DS) switch integration can be used with the digital port emulation. With CL switch integration, the DEFINITY AUDIX system and the switch communicate over a data link. With DS switch integration, DEFINITY AUDIX software enables the DEFINITY AUDIX system to communicate with the switch in a manner similar to a digital telephone. There are a few feature differences between CL switch integration and DS switch integration, the most important of which is greater system security with CL switch integration. Feature differences are described in *DEFINITY AUDIX System — Feature Descriptions*, 585-300-206.

How the Digital Networking Ports Work

The DEFINITY AUDIX networking ports emulate the operation of a Digital Terminal Data Module (DTDM) which can be attached to a 7405D digital telephone. The networking ports appear to be DTDMs to the switch and use the second, previously unused, DCP I-channel. Therefore, digital networking does not contend for the same physical ports used for voice.

Digital Port Emulation

The DEFINITY AUDIX system interacts with the switch by emulating a TN754 or TN2181 digital station port circuit pack. The TN754 circuit pack provides 8 ports on the switch for digital telephones. The TN2181 circuit pack provides 16 ports on the switch for digital telephones. (The DEFINITY AUDIX system also can emulate an analog station port circuit pack, but digital port emulation must be used for digital networking.)

Voice Port Administration Overview

To administer a DEFINITY AUDIX voice port on the switch, you administer a digital station. If the switch software recognizes the DEFINITY AUDIX system as an AUDIX (native mode), you administer the station screen as one of the following:

- ADX8D (8 port; G3V4 or later)
- ADX16D (16 port; G3V4 or later)
- ADXDP (8 port; G3V1 Issue 16.2 or greater and G3V2 and G3V3)
- AUDIX (8 port; G3V1 prior to Issue 16.2 and G3i-Global Issue 1E40.03 or greater)

If the switch software only recognizes the DEFINITY AUDIX system as a TN754 or a TN2181, you administer the station screen as a 7405D station (alias).

Switch Administration for the DEFINITY AUDIX System, 585-300-509, describes this administration in detail.

Networking Port Administration Overview

To administer a networking port, you administer the data module screen for a voice port (page 4 of the 7405D station administration). To administer one networking port, you administer the data module screen for voice port one. To administer the second networking port, you administer the data module screen for voice port two. Chapter 9, *Initial Network Administration*, provides a procedure for administering networking ports. If you have two networking ports, place them in a switch hunt group and make certain that the group extenion is within a Direct Inward Dial (DID) range. If using DCP Mode 2, you may want to set up additional hunt groups — one for each pair of data module ports or each pair of ADU ports, and one for each pair of modem ports (refer to Chapter 4, *DCP Mode 2 — 9600 or 19200 bps*, for more information).

NOTE:
In areas where DID or Direct Inward/Outward Dial (DIOD) is not available, you may have to dedicate a trunk to this application with one or two members.

Features/Functionality Not Supported

DEFINITY AUDIX digital networking does not support the following:

- *Direct* RS-232 networking (DCP Mode 2 with a modem/data module arrangement provides indirect RS-232 support.)
- Text Services Interface
- Call Detail Recording
- Receiving a fax from an Intuity AUDIX system

Considerations for Intersystem Networks

The DEFINITY AUDIX system can network with other DEFINITY AUDIX systems, Intuity AUDIX systems, and AUDIX R1 systems. Voice messages are transmitted in a digital file format, similar to a data file transfer between two computer systems. There are considerations when networking with an Intuity AUDIX system or an AUDIX R1 system.

Intuity AUDIX System

Intuity AUDIX systems that have fax capability cannot send faxes over a network to a DEFINITY AUDIX system since the DEFINITY AUDIX system does not support fax messaging.

The Intuity AUDIX system and the DEFINITY AUDIX system both use the CELP voice messaging encoding algorithm, so the voice quality of messages sent between the two systems is not degraded.

AUDIX R1 System

The DEFINITY AUDIX system can accommodate messages encoded using the CELP voice messaging encoding algorithm or the sub-band algorithm used on the AUDIX R1 system. CELP voice messaging encoding is a higher quality than sub-band. Because AUDIX R1 uses only sub-band, outgoing messages transmitted from a DEFINITY AUDIX system to an AUDIX R1 system will be transcoded (converted) from CELP to sub-band format as the message is being sent to the remote system, so the voice quality of the message will be sub-band quality on the AUDIX R1 system.

Incoming messages from an AUDIX R1 system will be stored in the sub-band format in which they are received. A message received from an AUDIX R1 system will be lower voice quality than other messages received on a DEFINITY AUDIX system.

Traffic Measurements

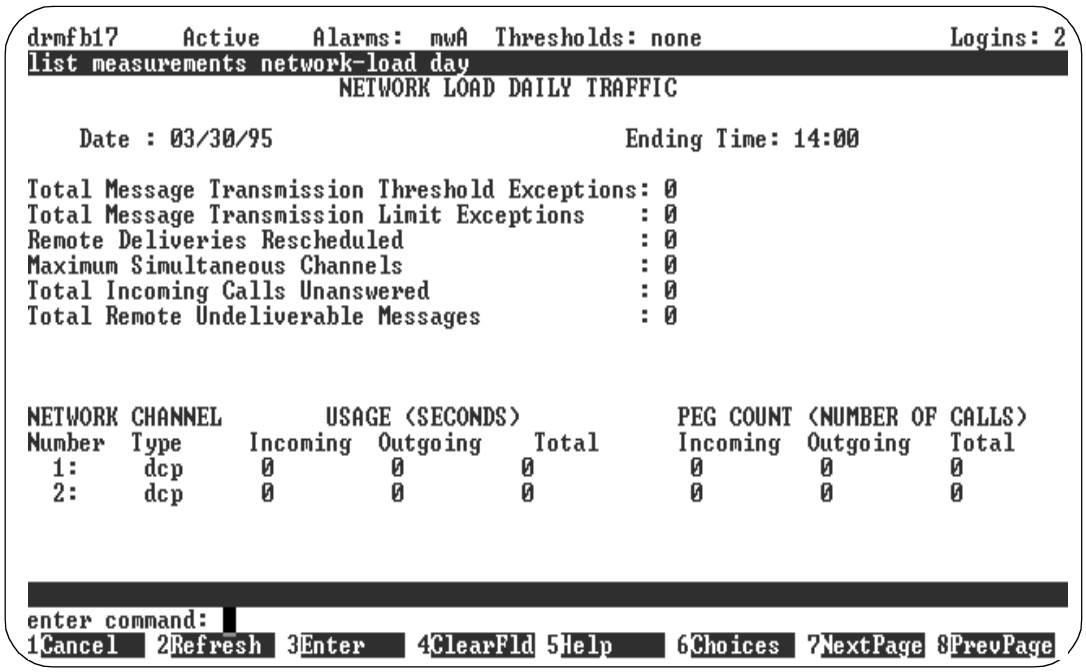
DEFINITY AUDIX R3.2 also offers a number of measurement screens that accompany Digital Networking. The administrator can measure the Network Traffic Loads for both Hourly and Daily networking. Examples of these screens follow.

NOTE:

The DEFINITY AUDIX System maintains traffic data for the current day and the last 7 days. In order to run reports for networking activities for data prior to these dates, you must have the Administration and Data Acquisition Package (ADAP) installed in your system. If you have ADAP, refer to the *AUDIX Administration and Data Acquisition Package* manual, 585-302-502, *Section 12* for the appropriate commands for traffic reporting.

Traffic Measurement Screen, Daily Network Load

The **Network Load Daily Traffic** screen is used to report the network port traffic loads for a particular day .



Daily Traffic Screen Options

Date: Unless otherwise specified, this is the current date.

Ending Time: Like the Date field, unless specified, this is the current time.

Total Message Transmission Threshold Exceptions: This field displays the number of times a digital networking message queue exceeded its limits. The queue will hold 150 messages before an exception is noted.

Total Message Transmission Limit Exception: This field is related to the Total Message Transmission Threshold Exceptions field. When the message transmission queue exceeds 250, this field increments by one. If this happens, digital networking will not accept or queue any new messages.

Remote Deliveries Rescheduled: This field displays the number of messages that have been rescheduled for transmission because of transmission difficulties or space limitations on the remote node.

Maximum Simultaneous Channels: This field displays the number of networking channels that were active at one time during the specified record collection period.

Total Incoming Calls Unanswered: This field displays the number of incoming calls that could not be answered.

Total Remote Undeliverable Messages: This field displays the total number of messages that were not deliverable to the remote machine (usually, because the messages were mis-addressed).

Network Channel Number: This field displays the network port for which information is being reported.

Network Channel Type: This field displays the channel type (DCP) for each port.

Usage: These fields display information on the number of seconds that calls remain active on a networking port for the collection period. *Incoming* reports the time calls were active on an incoming basis. *Outgoing* reports the time calls were active on an outgoing basis. (If you enabled *Network Turnaround* on the second page of selected *change machine* screens, this field also reflects time spent accepting data from selected networked machines during an outgoing call). Finally, *Total* indicates the overall time for both of the specified collection periods.

Peg Counts: This field displays the total number of calls that were transacted by DEFINITY AUDIX digital networking for the collection period. *Incoming* displays the total number of incoming call*s. Outgoing* displays the total number of outgoing calls. And, *Total* displays the total number of call on each network channel during the specified record collection period.

Traffic Measurement Screen, Hourly Network Load

This screen is used to display the network traffic loads for a particular hour.

NOTE:
The DEFINITY AUDIX System maintains traffic data for the current hour and the last 7 days in hourly increments. In order to run reports for networking activities for data prior to these times, you must have the Administration and Data Acquisition Package (ADAP) installed in your system. If you have ADAP, refer to the *AUDIX Administration and Data Acquisition Package* manual, 585-302-502, *Section 12* for the appropriate commands for traffic reporting.

The fields on this screen are virtually identical to those for the **Measurement Network Load Daily** screen except that this data is reported on an hourly basis rather than a daily one.

```
drmfb17     Active    Alarms:  mwA  Thresholds: none                    Logins: 2
list measurements network-load hour
                      NETWORK LOAD HOURLY TRAFFIC

    Date : 03/30/95    Hour: 13                      Ending Time: 13:21

Total Message Transmission Threshold Exceptions: 0
Total Message Transmission Limit Exceptions    : 0
Remote Deliveries Rescheduled                  : 0
Maximum Simultaneous Channels                  : 0
Total Incoming Calls Unanswered                : 0
Total Remote Undeliverable Messages            : 0


NETWORK CHANNEL        USAGE (SECONDS)            PEG COUNT (NUMBER OF CALLS)
Number  Type     Incoming  Outgoing    Total      Incoming  Outgoing   Total
  1:     dcp      0         0          0           0         0         0
  2:     dcp      0         0          0           0         0         0




enter command:
1Cancel  2Refresh  3Enter  4ClearFld  5Help  6Choices  7NextPage  8PrevPage
```

Extension Number Changes

DEFINITY AUDIX system release 3.2 provides a new and easy way to move a series of extension numbers from one block of numbers to another. Use the Change Extensions form to move the numbers instead of changing over each number individually. If you use it to move numbers on the local machine, it will also move all of the covering extensions in the given range of numbers.

For example, you can use this form to change the length of every extension number in your system from four digits to five. Or you can use it for a much smaller job: perhaps to move as little as one extension from one number to another.

(If you have to change extension number length, you must first do so at the machine level. Use the *change machine* command for this purpose.)

Automated Attendant

A routing table for the DEFINITY AUDIX Automated Attendant is new in R3.2. You can use this routing table to make an automated attendant respond in various ways depending on conditions you have set. Using this feature, an automated attendant can answer incoming calls and, depending on the date and/or time, route the call according to the appropriate Business or Holiday Schedule. If the call is received during normal business hours, the automated attendant could direct the caller to the appropriate department or individual through a series of stated options. If the call came in during nonbusiness hours or on a holiday, the automated attendant could inform the caller to leave a message or call back during normal business hours.

These options are available in both US-English and multilingual automated attendant environments.

NOTE:
Detailed information concerning automated attendant can be found in the *DEFINITY AUDIX System Administration* manual, 585-300-507, *Section 9*.

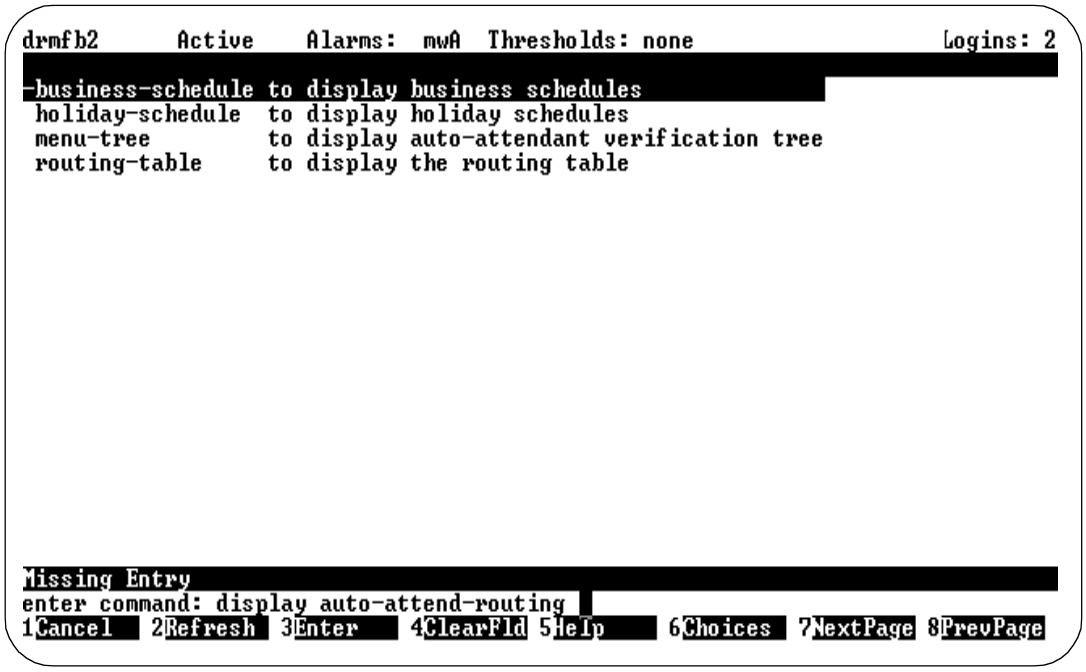
The Automated Attendant feature allows the following options:

- The Business Schedule enables the creation of up to four different schedules for business hours
- The Holiday schedule also has four different schedules that can be administered for different purposes. Each schedule can have as many as 26 possible entries.
- A Menu Tree is provided to check that all automated attendants have been administered properly. This option tests each automated attendant and lists any attendants that are not properly administered.
- The last option is a Routing Table that enables the administrator to redirect calls to different automated attendant/mailboxes. This routing is based on the calling periods that have been defined on the Business and Holiday Schedule screens.

The Automated Attendant Main Menu is displayed on the following page.

Automated Attendant Main Menu Screen

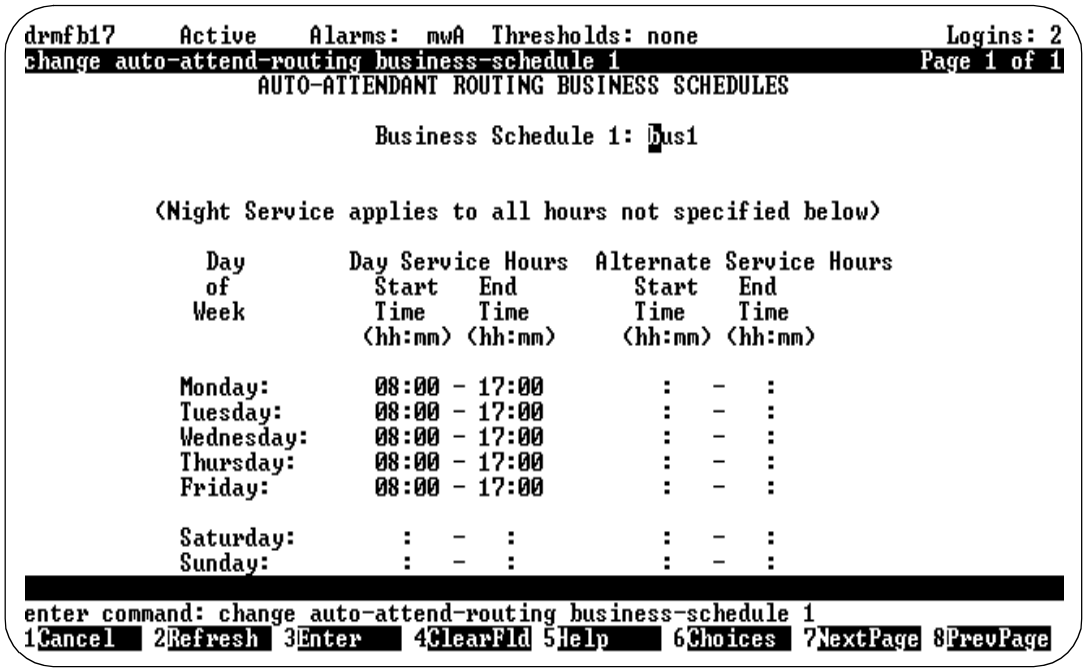
This is the Automated Attendant Main Menu. Access to the Business Schedule and the Holiday Schedule screens require the selection of a particular business or holiday schedule (1 thru 4 for each). This screen is not displayed.



Automated Attendant Business Schedule

Before this screen appears, there is an interim screen that lists the various Business Schedules (1 thru 4) that are available. There are four different schedules that can be established. For example, because of the multilingual options available, an incoming caller could have the option of choosing one of several languages. The caller would then be directed to choose one of the four schedules in their language. This option also applies to the Holiday Schedules. The screen below displays a Business Schedule named *bus1.*

The business schedule is divided into a 24 hour day, and a seven day week. A further division divides this period into Day Service Hours and Alternate Service Hours. Incoming calls can be routed to either Day or Alternate Service Hours depending on the time of day, or the day of the week the call is received.



Business Schedule Screen Options

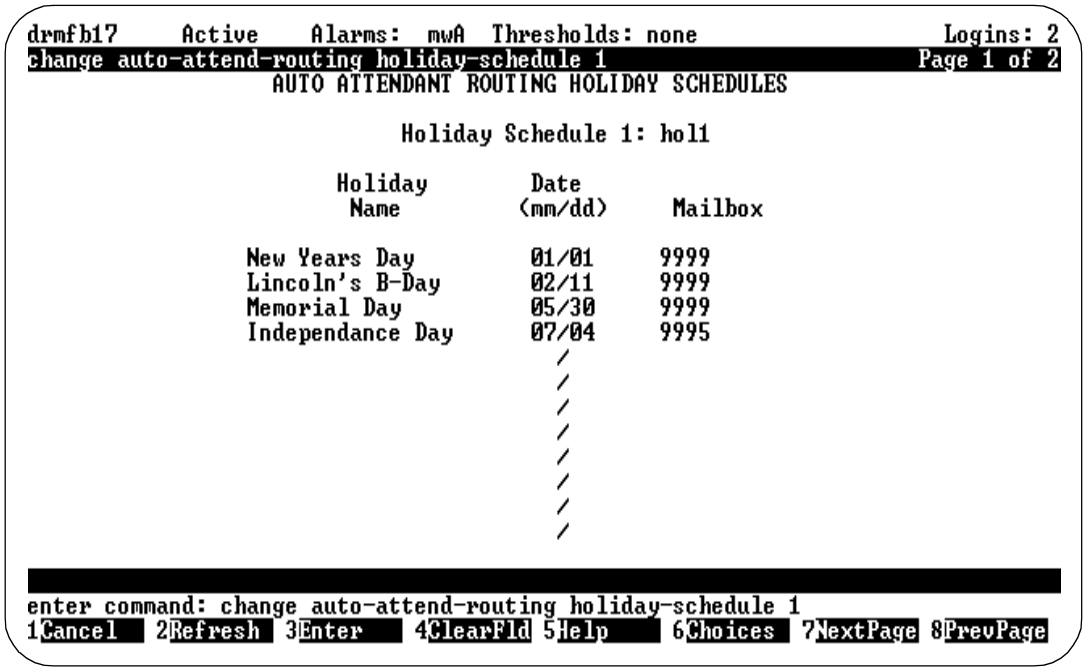
Business Schedule: This field contains the name of the individual business schedule. After the business schedules have been established, use the **list auto attendant schedules** command to view the current names of the business schedules.

Day Service Hours: This field usually contains the hours the company is normally open. The *Start* and *End Times* define the period that incoming calls will be routed to the Day Service Mailbox (as defined on the Routing Table screen for entries that use this business schedule.) The default hours are 8:00 am to 5:00 pm, and entered as 08:00 to 17:00.

Alternate Service Hours: This field contains the *Start* and *End Time* hours when incoming calls are routed to the Alternate Service Mailbox (as defined on the Routing Table.) These times are usually the hours when the company is closed. For example, these could be lunch hours - 11:30 am to 12:30 pm, or hours after 17:00 (5 pm).

Automated Attendant Holiday Schedule

The screen below displays a Holiday Schedule named *hol1*. These schedules override the entire day of the week the holiday falls on. The Automated Attendant feature enables the administrator to create up to four different schedules. Each schedule can contain up to 26 different holiday entries.



Holiday Schedule Screen Options

Holiday schedule: This field contains the name of the individual holiday schedule. After the holiday schedules have been established, use the **list auto attendant schedules** command to view the current names of the individual schedules.

Holiday name: This field is used to enter the name of the specific holiday. This is an optional field and any name chosen will work.

Date: This field is the month and the day of the specified holiday. The month is indicated by using 01 to 12 and the day is indicated by using the numeric equivalent to the day of the week (1 to 31).

NOTE:
02/29 is a valid entry.

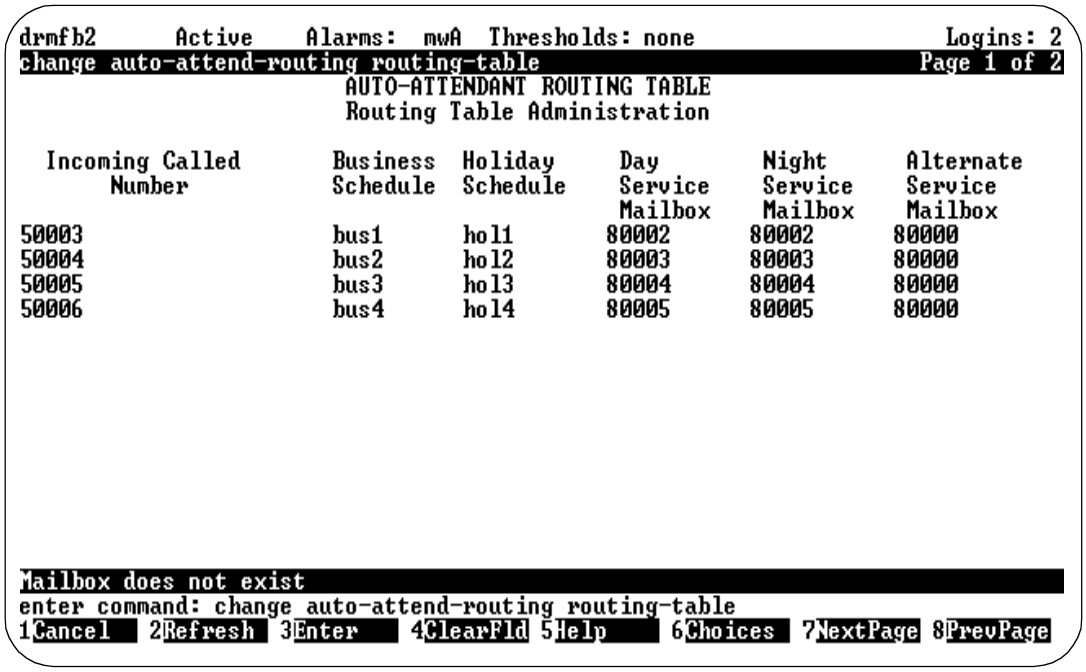
Mailbox: This field contains the mailbox (extension number) of the automated attendant to which an incoming call will be routed for this holiday schedule. Valid entries include any valid mailbox (extension number.)

Automated Attendant Routing Table

This screen enables the administrator to route incoming calls to different automated attendant mailboxes. The routing is based on one of the three calling periods (Day Service, Night Service, Alternate Service) that were established on the Business Schedule screen and/or the mailbox defined on the Holiday Schedule. The calling periods are basically defined as follows:

- Business Schedule — either Day Service or Night Service
- Holiday Schedule
- Alternate Service — usually associated with the Business Schedule

The routing function redirects incoming calls to a specific number. This routing is based on voice mailbox extensions that were specified in the previous schedules.



Routing Table Options

*Incoming Called Numbe*r: This is the incoming called extension number. There are two types: a single number from 2-10 digits and a range of extensions separated by a hyphen (ext. 1234 - 1345).

Business Schedule : This is the name or number of the business schedule that determines how an incoming call will be treated.

Holiday Schedule: This is the name or number of the holiday schedule that determines how an incoming call will be treated.

Mailboxes are those mailbox extensions used for the automated attendants.

- *Day Service Mailbox* is the number of the automated attendant mailboxused during the day hours as defined on the business schedule
- *Night Service Mailbox* is the number of the automated attendant mailboxused during the night hours. This is usually the time not specified on the business schedule.
- *Alternate Service Mailbox* is the number of the automated attendantmailbox used during alternate service hours.

Automated Attendant Routing Menu Tree

The *Auto-Attendant Menu-Tree* screen (illustrated next) enables the administrator to search all the automated attendant menus to verify that each mailbox exists and that the attendant menu (personal greeting) have been recorded. Once this program is initiated, the program keeps running until all mailboxes have been checked. As this program runs, the results are displayed on the screen.

```
drmfb17     Active    Alarms:  mwA  Thresholds: none                Logins: 2
display auto-attend-routing menu-tree                              Page 1 of 1
                        AUTO-ATTENDANT MENU TREE




              Start From Called Party ID in Routing Table? y

    Starting Point:             Report Type (full/errors): errors









enter command: display auto-attend-routing menu-tree
1Cancel  2Refresh  3Enter  4ClearFld 5Help  6Choices  7NextPage 8PrevPage
```

Menu Tree Options

Start from Called Party ID in Routing Table: This specifies whether the report should begin from the routing table or from a single automated attendant. Entering a “y” will begin the search from the I*ncoming Called Extension* in the Routing Table. Entering an “n” will begin the search from any number entered in the *Starting Point* field. If a starting point is not designated, all entries in the routing table, or all automated attendants will be processed.

Starting Point: This field can be used to test a specific attendant or incoming-called number, or if left blank, all attendant mailboxes will be tested.

Report Type: This field specifies whether a full report or just the errors will be generated. If an “f” is entered, a full report will be generated. If an “e” is entered, only the errors will be reported.

Security Enhancements

There are three new security enhancements for R3.2 They are:

- Changes to Call Transfer
- Administration Password Aging
- Basic Call Transfer Restrictions

Call Transfer Availability

Basic Call Transfer

Basic Call Transfer uses a switchhook-flash method to send the transfer command over voice ports. The DEFINITY AUDIX system goes off-hook, waits for a dial-tone, dials the transfer number, then waits again for the connection to complete. If the called number is busy, callers will hear nothing and must hang up (callers are not automatically returned to DEFINITY AUDIX).

Basic call transfer out of the DEFINITY AUDIX system is activated or deactivated on the System-Parameters Features screen. When this feature is disabled, the return call, Escape to Attendant, and Automated Attendant features also are disallowed because these features rely on call transfer capability. Call transfer is limited to numbers given permission to transfer on the *transfer-dialplan* screen. See Chapter 10, *Ongoing System Security* for more information.

WARNING:

Your system is more susceptible to toll fraud with Basic Call Transfer than it is with Enhanced Call Transfer. Refer to Chapter 10, Ongoing System Security, for more information on guarding your system against toll fraud.

Enhanced Call Transfer

NOTE:
Enhanced Call Transfer is available only on systems that use Control-Link integration.

With Enhanced Call Transfer, the DEFINITY AUDIX system collects all the relevant data and sends it to the switch using a transfer message. Since Enhanced Call Transfer allows transfer requests only to valid extensions on the switch, callers attempting to place unauthorized long-distance calls by transferring out of the DEFINITY AUDIX system will hear a message stating that the number they dialed is not a valid extension and their transfer request is denied.

Enhanced Call Transfer offers the following features:

- The transfer is quick.
- There are two Transfer Types that apply when the caller presses 0 to escape to the operator after being forwarded to the DEFINITY AUDIX system:
  - `enhanced_no_cover_0` treats the call as a *redirected* call. The call will not be subject to call coverage or call forwarding as defined for the specified destination extension.
  - `enhanced_cover_0` treats the call as a *direct* call providing call coverage and call forwarding as defined for the destination extension.
- If the call fails (i.e., the called extension is busy or an invalid number is entered), the DEFINITY AUDIX system reports the failure condition to the caller.
- A failed transfer is not abandoned. Instead:
  - All callers may request another transfer by pressing ⊛ T again.
  - Callers who have been redirected to the DEFINITY AUDIX system through Call Answer and cannot complete a transfer still can leave a message for the called party.
  - Callers who dialed the DEFINITY AUDIX system directly and cannot complete a transfer are returned to the previous DEFINITY AUDIX activity.
- A transfer attempt does *not* return to the DEFINITY AUDIX system under two conditions
  - A call reaches an unattended phone and no call-coverage is available (the phone rings indefinitely).
  - The system administrator specifies, on a system-wide basis, that calls transferred to the switch are to be treated as *redirected* calls (enhanced_no_cover_0 in the `Transfer Type` field). This applies when the caller presses 0 or *0 to escape to the operator after

being forwarded to the DEFINITY AUDIX system. If the call is redirected, the call will not be subject to call coverage or call forwarding as defined for the specified destination extension. Thus, if the destination is busy or forwarded (including Send-All-Calls), the transfer will fail and the switch will reconnect the caller to the DEFINITY AUDIX system. The system then prompts the caller for alternative actions. Call transfer is limited to numbers given permission to transfer on the *transfer-dialplan* screen. See Chapter 10, *Ongoing System Security* for more information.

NOTE:
Enhanced Call Transfer is an effective way to prohibit callers from transferring out of the DEFINITY AUDIX system and placing unauthorized long-distance phone calls (also known as toll fraud).

Basic Call Transfer

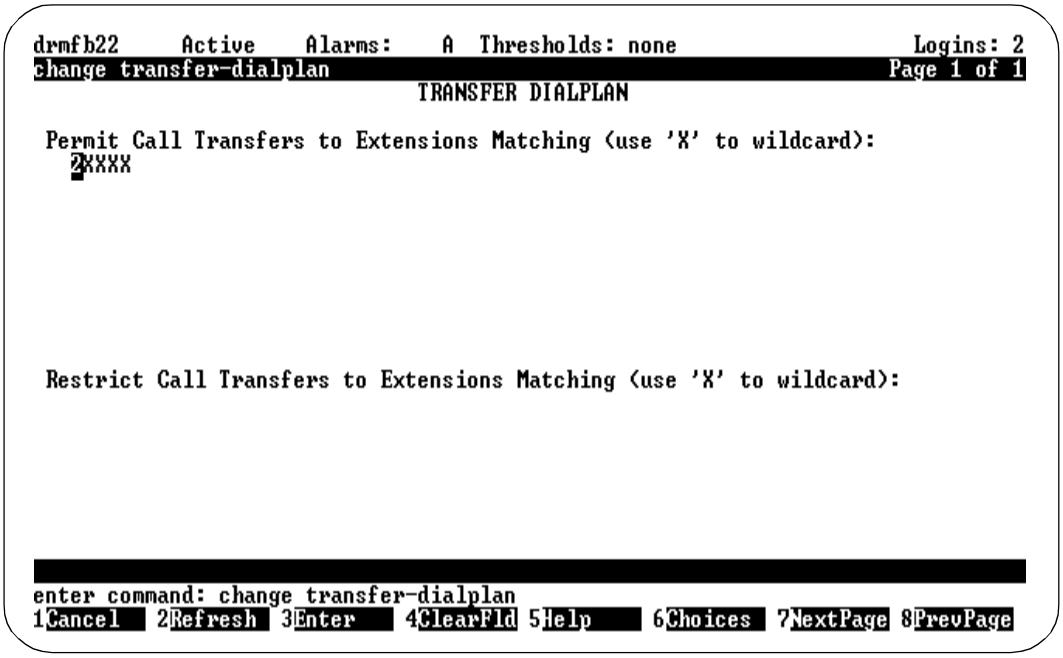
Call transfer has been made more secure. The system administrator can now specify numbers in the Switch Dialplan to which calls can and cannot be transferred. This is intended to make Basic Call Transfer and Enhanced Call Transfer more secure and reduce the potential for toll fraud. This enhancement also makes it possible for the system administrator to prohibit transfer to a limited number of specific extensions, or extension ranges.

The screen on the following page was created to administer the dialplan for this procedure. The screen is called *Transfer Dialplan* and **must** be filled out before call transfer will work. Refer to the *DEFINITY AUDIX System Screen Reference* manual, 585-300-212 for procedures in filling out the screen. Also, for further information on the Call Transfer Into and Out of AUDIX feature, refer to the *DEFINITY AUDIX Feature Description*, 585-300-206, manual for details.

NOTE:
Remember, if a Transfer Dialplan has not been administered, Call Transfer **WILL NOT** work.

Refer to the *DEFINITY AUDIX System Administration* manual, 585-300-507, *Section 3* for details covering the creation of a Transfer Dialplan.

This screen enables the administrator to allow and restrict call transfers to specific extensions.



If users are permitted to transfer out of the DEFINITY AUDIX voice mail system, security concerns require that the administrator be able to restrict transfer to a certain set of extensions.

Dialplan Transfer Options

Permit Extension: This field is used to define an extension template for extension numbers to which transfers out of the system **are** permitted. The extension template must be the same length as the valid mailbox extensions for the voice mail system. The extension template must begin with a digit and subsequent characters that are either digits or wildcards (X or x). If the extension length is 5 characters long, the number “80000” would be valid. However, an extension number like “74x” would not be valid. If wildcards were used, the extension number “74xxx” would be valid.

Restrict Extension: This field is used to define an extension template for extension numbers to which transfers out of the system **are not** permitted. The use of extension numbers and wildcards is the same here as for the *Permit Extension* field.

Administration Password Aging

Password aging was added to the administration login password to reduce the potential for unauthorized system access. Three new fields were added to define the limits associated with password aging. These fields are located under the heading **Administrator Login**. The fields are:

- Expiration Interval
- Minimum Age Before Changes
- Expiration Warning

Password Aging Screen

The Password Aging options appear on the System Parameters Features screen, page 1.

```
drmfb18     Active    Alarms:  mwA  Thresholds: none                    Logins: 2
display system-parameters features                                   Page 1 of 4
                          SYSTEM-PARAMETERS FEATURES

LOG-IN PARAMETERS
        Login Retries: 3              Consecutive Invalid Attempts: 18
 System Guest Password:                    Minimum Password Length: 0

PASSWORD AGING LIMITS (DAYS)   Subscriber   Administrator
                                Mailboxes       Login
           Expiration Interval:    0             0    (0 disables expiration)
     Minimum Age Before Changes:   0             0
            Expiration Warning:    0             0    (0 disables warnings)

INPUT TIME LIMITS (SECONDS)
       Normal: 60     Full Mailbox Timeout: 5     Wait (*W): 180
        Between Digits at Auto-attendent or Standalone Menu: 3   (3-12)

DISCONNECT OPTIONS
       Quick Silence Disconnect? n         Silence Limit? 30 (5-30 seconds)
          Tone Based Disconnect? n

enter command: display system-parameters features
1Cancel  2Refresh  3Enter  4ClearFld 5Help  6Choices  7NextPage 8PrevPage
```

Password Aging Options

Expiration Interval: This field displays the maximum number of days that the administrator's login is valid before it expires. If a "0" is entered, the login will not automatically expire.

Minimum Age Before Change: This field displays the number of days which must pass before the administrator can change the password again. If a "0" is entered, the administrator can change their password as often as they want.

Expiration Warning: This field displays the number of days before the system warns the administrator that their password is about to expire. If a "0" is entered, the system will not warn the administrator until the day the password expires.

Customer-Options Administration

Incremental Voice Storage

For R3.2 an enhancement has been added that enables the customer to buy voice storage in increments. Voice storage can now be purchased from AT&T in increments of 5-hour blocks. These hours are added by AT&T personnel. The number of hours purchased, and the number of hours used appear at the bottom of the System Parameters Customer Options screen, page 1.

On the screen below, the number of Voice Storage Hours Purchased is 15. The number of Total Hours on Disk is 40. This means that the customer still has 25 hours of voice storage available for purchace.

```
drmfb2      Active    Alarms:  mwA  Thresholds: none                  Logins: 2
display system-parameters customer-options                          Page 1 of 2
                        SYSTEM-PARAMETERS CUSTOMER-OPTIONS


                          Port Emulation Type: tn754

                     Switch Integration Type: display-set

                 Maximum Number of Voice Ports: 8

    Maximum Number of Digital Networking Ports: 2

                       AMIS Analog Networking? y

                                  Multilingual? y

              Maximum Number of IMAPI Sessions: 16

              Hours of Voice Storage Purchased: 15
                              Total Hours on Disk: 40


enter command: display system-parameters customer-options
1Cancel  2Refresh  3Enter  4ClearFld 5Help  6Choices  7NextPage 8PrevPage
```

Voice storage can be purchased in these 5-hour increments up to a total of 100 hours. Refer to the *New Hardware* section of this document for additional details on voice storage and the associated hardware requirements.

Networking Options

The administrator also uses the preceding screen to assign the Digital Networking Ports. The DEFINITY AUDIX System can have 1 or 2 Digital Networking Ports. As stated previously, the number depends upon the multi-function board in use, the switch integration type, and the port emulation type being used.

Only a few fields on the System Parameters Customer Options screen were impacted by R3.2, and those are described below.

Port Emulation Type: This field is used to determine which kind of *emulation* the DEFINITY AUDIX System will represent. Refer to Table 1-1 on page 1-3 to see this relationship.

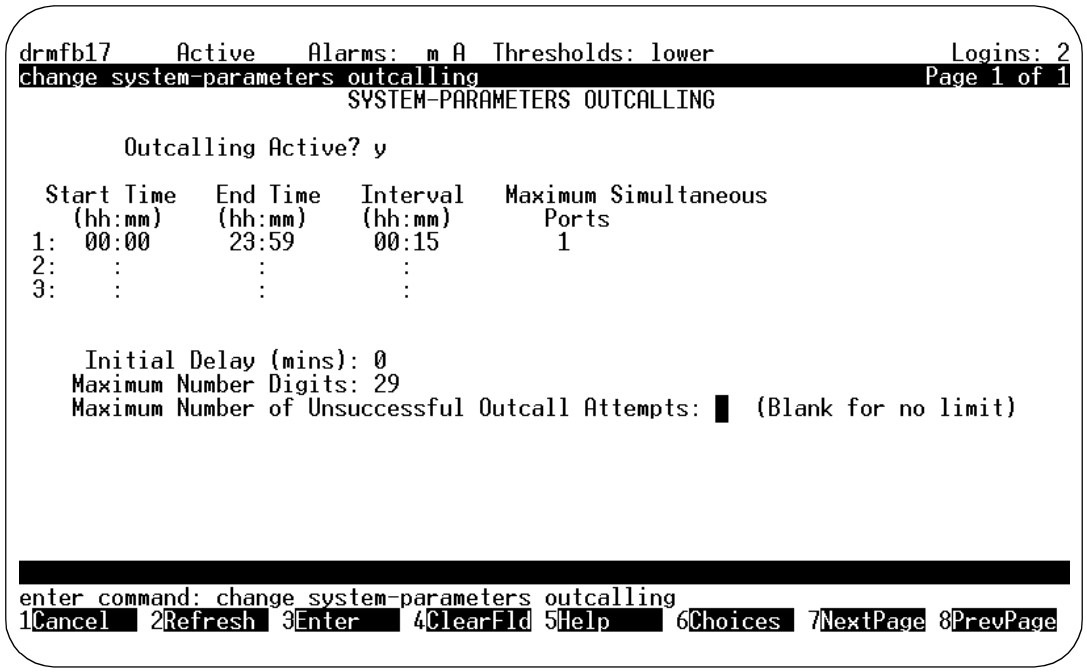
Switch Connection Type: This field contains **display-set** if communication with the switch is over the switch channel otherwise used by display sets. The field contains **control-link** if communication with the switch is over an external digital line.

Maximum Number of Voice Ports: This field displays the number of voice ports that are provisioned for the system. This field limits the number of voice ports available. When a TN754 is used, the number of voice ports can range from 2 to 8. If a TN2181 is emulated, the number can reach 16. Refer back to Table 1-3 on page 1-4 for additional clarification if necessary.

Maximum Number of Digital Networking Ports: This field displays the number of Digital Networking Ports enabled for this system. The number is either 1 or 2. Refer back to Table 1-2 on page 1-4 for a comparison of digital networking ports and voice ports when digital networking is provisioned.

Limited Outcall Attempts

The DEFINITY AUDIX system can be made to call a subscriber periodically to announce waiting messages. It is now possible to limit the number of outcalls that can be sent before the subscriber logs in and retrieves messages. By default, the number of outcalls is still unlimited. A new field appears on the change system-parameters outcalling screen, however, that makes limitation possible:



On the bottom line of the illustrated form is a field that asks for the maximum number of unsuccessful outcall attempts. The field can be left blank if you would rather not limit the number of outcalling attempts. If you put a number in the field, it indicates how many times the system is allowed to call between the time a message arrives for a subscriber and the time the subscriber retrieves all new messages.

The time may come when you must limit the number of outcall attempts after your customers have become accustomed to unlimited outcalling. Be sure to warn them before you limit outcalling. This way, your customers will not expect the outcalling feature to operate without limit as it has in the past.

New Hardware

The following table lists the amount of voice storage available with the DEFINITY AUDIX System for R3.2. The 426 Mb and the 1.05 Gb capabilities are new with R3.2.

	426 Mb	1.05 Gb
Hours of Voice Storage	40	100
Max Local Subscribers	1,000-2,000	2,000
Max Remote Subscribers	10,000-16,000	100,000

The new hardware that supports these numbers is listed below:

- 40 hours of voice storage requires a new 426 Mb disk
- 100 hours of voice storage requires a new 1.05 Gb disk
- A 600 Mb tape backup automatically comes with the 1.05 Gb disk

To change the capacity of your machine, have your AT&T representative determine your needs.

Changes, Improvements, Notes

A

This appendix contains changes, improvements, and notes that apply to the R3.2 Definity AUDIX system. These changes affect administrators, subscribers, and service personnel who maintain the system.

Changes That Affect Administrators

Previously, there was no indication that the auto-attendant buttons were not assigned. Now, when this occurs, a message is logged in the administration log.

The fourth page of the Display/Change System-Parameters Features form has changed. Now, you use this new page to remove non-administered remote subscribers.

Previously, alarms raised by weekly audits could be resolved only when the weekly audit passed. Now, the alarm is resolved whenever the audit passes — whether manually or automatically run — and is no longer forced to wait until the next weekly audit.

The Systems Parameters Features form has been enhanced to improve system security. If you turn transferring on, the form reminds you to fill out the change transfer dial plan form before transfers can occur.

The List Extensions form behavior has been modified. Previously, if you entered an extension with the length less than the administered extension length for that machine, the extension list began at an unusual extension. Now, the list starts with the extension you actually enter.

To conserve space, the capability was added to save either *all* subscriber names or *locals-only* subscriber names. These options are included as arguments to the **save weekly** command.

When you select **save all** at the **save weekly** command and there isn't enough space on the tape, a message appears that asks if you want to save *just* the local subscribers.

The Change Extensions form has been added. It allows you to change a block of extensions from one range to another.

The Address Ranges form has a new option, List Address-Ranges, that shows all overlapping address ranges.

The following fields were added to the System Parameters Features screen under the Password Aging Limits category:

- Expiration interval
- Minimum age before changes
- Expiration warnings

Previously, the extension fields on the following forms were seven digits. Now, there are 10 digits to accommodate digital networking.

- *Status Voice-group* gives the status of voice ports currently administered on the system.
- *Busyout Voice-group* takes administrative ports out of service.
- *Release Voice-group* returns busyout ports to service.
- *Change Voice-group* allows administration of voice ports.

The List Measurements Load form now displays both the hours of total file system space used by names and the percentage of remote names.

Previously, you could add only one machine type on the Machine form. Now a new machine type has been added for digital networking, *r1aud*.

Previously, you could only add DEFINITY-or-Intuity AUDIX machines on the *machine* form. Now a new machine type is available for digital networking: the release-1 AUDIX machine (entered as the *r1aud* type).

New fields were added to the List Measurements Remote Messages form under the Messages Queued category to describe the different types of messages for cued delivery. That is,

- Voice mail and
- Status

The Test Board form has new fields for the networking ports.

The maximum connection limit for IMAPI clients is now set at 100.

Changes That Affect Subscribers

Previously, when using Intuity Message Manager, you could not append a new message to an existing message. Now, using IMAPI, it is possible to do so.

Previously, when you tried to change your password before the minimum password age, you received a system error. Now, the system prompts: “you cannot change your password because it has not sufficiently aged.”

Previously, when you had two new messages and listened to the first one, deleted it, then hung up, the second message changed to *unopened* status. Now this has been remedied and the second message stays at *new* status until you listen to it.

Maintenance Changes

Nightly and weekly audit alarms are now considered in the same category.

The maximum number of event log entries has been changed from 30,000 to 10,000 due to resource reasons.

Screen Changes

The following screens changed in release 3.2 of DEFINTY AUDIX. See *DEFINITY AUDIX System R3.2 — Screens Reference* for more detailed information.

- List address-ranges
- Change auto-attend-routing business-schedule
- Change auto-attend-routing holiday-schedule
- Change auto-attend-routing routing-table
- Busyout network-port
- Busyout voice-group
- Change extensions
- Change system-parameters customer-options
- Change network-group
- Change system-parameters features
- List measurement load hour
- List measurement load day
- List auto-attend-schedules
- List extensions
- List measurements network-load day

- List measurements network-load hour
- Change system-parameters outcalling
- Change password
- Get remote updates
- Status network-group
- Save weekly
- Change transfer-dialplan
- Test machine
- Test network-port
- List measurements remote-messages day
- List measurements remote-messages hour
- Display auto-attend-routing menu-tree

Abbreviations

A

ABP
Alarm Board Processor

AC
Alternating Current

ACD
Automatic Call Distribution

ACM
Assistant Contract Manager

ADAP
Administration and Data Acquisition Package

ADC
Analog-to-Digital Converter

ADM
Administration Manager

ADU
Asynchronous Data Unit (ZA)

ADX
AUDIX State

AE
Account Executive

AFIO
Asynchronous File Input/Output

AIM
AUDIX Initialization Manager

AKSRV
AUDIX Kernel Server

ALB
Alarm Board (TN2169 or TN2170)

AMIS
Audio Messaging Interchange Specification

ANET
AUDIX Network

AOM
Alarm Origination Manager

API
Application Program Interface

ASC
Audio Session Control

ATTOMS
AT&T Order Management System

AUCC
AUDIX Upgrade Control Center

AUDIX
Audio Information Exchange

AWG
American Wire Gauge

B

BPS
Bits per second

BMPM
Board Mounted Power Module

BTU
British Thermal Unit

C

CALC
Call Answer Language Choice

CL
Control Link Integration

CLT
Control Link Trace Manager

CO
Central Office

COE
Centers of Excellence

COS
Class of Service

CPU
Central Processing Unit

D

DAC
Dial Access Code

DC
Direct Current

DCIU
Data Communications Interface Unit

DCP
Digital Communications Protocol

DCS
Distributed Communications System

DD
Disconnect Detect

DDD
Direct Distance Dialing

DID
Direct Inward Dialing

DIO
DSP Input/Output Controller

DIOD
Direct Inward/Outward Dialing

DLG
Dual Language Greetings

DM
Database Manager

DMA
Direct Memory Access

DOSS
Delivery Operations Support System

DP
Digital Port

DPE
Digital Port Emulation

DPC
DSP Parallel Interface Controller

DRAM
Dynamic Random Access Memory

DS
Display Set Integration

DS1
Digital Service 1

DSI
Digital Service Interface

DSIC
Dedicated Switch Installation Crew

DSP
Digital Signal Processor

DTE
Data Terminal Equipment

DTMF
Dual Tone Multifrequency

DUSCC
Dual Synchronous Channel Chip

E

EDT
Equipped Device Table

EIA
Electronic Industries Association

EMI
Electro-magnetic Interference

EPROM
Electrically Programmable Read Only Memory

ER
Error Manager

ES
Enhanced Services

ESS
Electronic Switching System

F

FAC
Faceplate and Alarm Controller

FC
Forms Control

FIFO
First-In First-Out

FP
Feature Processor

FPROM
Flash Erasable Programmable Read Only Memory

FSA
File System Administrator

FSO
Field Service Organization

FW
Flashware

G

GBCS
Global Business Communications Systems

GBCSDC
Global Business Communications Systems Design Center

I

ICITT
International Consultive Committee for Telephony and Telegraphy

I^2C
Inter-Integrated Circuit

IDI
Isolating Data Interface

IL
Installation Location

INADS
Initialization and Administration System

I/O
Input/Output

ISB
In Service Busy

ISI
In Service Idle

ISP
In Service Pending

ISDN
Integrated Services Digital Network

ITAC
International Technical Assistance Center

K

Kbps
Kilobits per second

Kbyte
Kilobyte (1024 bytes)

kHz
kilohertz

L

LAN
Local Area Network

LAT
Local Administration Terminal

LCD
Liquid Crystal Display

LEC
Local Exchange Carrier

LED
Light Emitting Diode

LWC
Leave Word Calling

M

Mbyte
Megabyte (approx. one million bytes)

MCM
Maintenance Control Manager

MD
Management Devices

MFAT
Multifunction Analog Telephone

MFB
Multifunction Board

MHz
Megahertz

MM
Message Manager

MOJ
Material on Job

MP
Maintenance Procedure

MPDM
Modular Processor Data Module

MPM
Maintenance Procedure Manager

ms
Millisecond

MSB
Mass Storage Bracket

MSC
Message Service Center

MTBF
Mean Time Between Failures

MWI
Message Waiting Indication

N

NACS
New AUDIX Call Simulator

NDC
National Design Center

NMI
Nonmaskable Interrupt

NVRAM
Nonvolatile Random Access Memory

O

OA&M
Operations, Administration, and Maintenance

OOS-D
Out of Service Due to insufficient translations

OOS-F
Out of Service Fault

OOS-R
Out of Service Resource

OOS-T
Out of Service Testing

OS
Operating System

P

PBX
Private Branch Exchange

PC
Power Converter or Personal Computer

PDM
Processor Data Module

PEC
Price Element Code

PM
Project Manager

PPE
Packet Processing Element

PROC
Procedure

PROM
Programmable Read Only Memory

Q

QSD
Quick Silence Disconnect

R

RAM
Random Access Memory

RISC
Reduced Instruction Set Computer

RMT
Remote Maintenance Terminal

ROM
Read Only Memory

RNX
Route Number Index

RTU
Right to Use

S

SAKI
Sanity and Control Interface

SA
Software Associate

SAS
Subscriber-Specific Announcement Sets

SAT
System Administration Terminal

SCI
Switch Communications Interface

SCSI
Small Computer Systems Interface

SD
Switch Dispatcher, System Data

SDI
SCSI Driver Interface

SIM
System Implementation Manager

SS
Software Specialist, System Status

STRC
Sales Technical Response Center

STU
Standalone Tape Utilities

T

TBD
Tone Based Disconnect

TCP/IP
Transmission Control Protocol/Internet Protocol

TD
Target Driver

TDD
Telecommunications Device for the Deaf

TDM
Time Division Multiplex

TEG
Trunk Equipment Group

TSC
Technical Service Center

TSO
Technical Services Organization

U

UEQ
Unequipped

UL
Underwriters Laboratories

UPS
Uninterruptible Power Supply

USART
Universal Synchronous/Asynchronous Receiver-Transmitter

V

VB
Voice Buffer

VD
Voice Data

VM
Voice Messages

VSC
Voice Session Control

W

WGS
Work Group System

Glossary

NUMERIC

10BaseT
A network baseband medium using twisted pair wire, operating at 10 Mbits per second.

A

Activity Menu
The list of main options voiced to subscribers when they access the DEFINITY AUDIX System.

Administration
The process of setting up a system (such as a switch or a voice mail system) so that it will function as desired. Options and defaults are normally set up (translated) by the system administrator or remote services personnel.

Alarm Board (ALB)
The hardware platform (TN2169 or TN2170) which works with the Multifunction board to provide monitoring for system power and environmental status, -48 VDC to +12 VDC power conversion for the system's disk and tape drives, and remote terminal access. The TN2170 also provides SCSI-to-Ethernet connectivity to support IMAPI.

Alarms
Hardware, software, or environmental problems that may affect system operation. These faults are classified as *major*, *minor*, or *warning*. They are recorded into an alarm log which can be accessed either locally or remotely on a terminal connected to the system.

Analog Port Emulation
One of the two port emulation modes that DEFINITY AUDIX may employ. The other mode is digital port board emulation. When emulating an analog port board (the TN746), only control link (CL) integration is possible.

Angel
A processor activity that exchanges TDM bus control messages and performs functions associated with call setup and port maintenance.

Announcement Fragment
A numbered piece of spoken voice mail information that makes up a system message or prompt.

Asynchronous Transmission
A form of serial communications where each transmitted character is bracketed with a start bit and one or two stop bits.

Asynchronous Data Unit (ADU)
A small device that can extend data transmission far beyond recommended Electronic Industries Association (EIA) limits over building wiring. System terminals may use a Z3A1 or Z3A4 ADU. (Used in some digital networking configurations.)

Audio Messaging Interchange Specification (AMIS)
An analog networking feature that allows subscribers of different voice mail systems to send voice mail messages to one another.

Audit
A software program that resolves filesystem incompatibilities and updates restored filesystems to a workable level of service. Audits are done automatically on a periodic basis, or can be performed on demand.

Audio Information Exchange (AUDIX)
A complete voice-mail messaging system accessed and operated by touch-tone telephones and integrated with a switch.

AUDIX Administration and Data Acquisition Package (ADAP)
A software package which allows the DEFINITY AUDIX administrator to transfer system subscriber, maintenance, or traffic data over the administration port to a personal computer (PC) or Work Group System (WGS).

Automated Attendant
A DEFINITY AUDIX feature that allows a customer to set up a main number with a menu of options that routes callers to an appropriate department at the touch of a button.

B

Backup
A duplicate copy of a filesystem saved on a removable tape. The backup filesystem may be copied back (restored) if the active version is damaged (corrupted) or lost.

Balun
On the DEFINITY AUDIX LAN connection, the adapter needed to connect the twisted-pair breakout cable to the coaxial building wire distribution system.

Baud Rate
Transmission signaling speed.

Boot (or Reboot)
The operation to start a computer system by loading programs from disk to main memory (part of system initialization).

Boot Filesystem
The filesystem from which the system loads its initial programs.

Broadcast Messaging
A feature that enables the system administrator and other designated users to send a voice mail message to all subscribers automatically.

Buffer
Memory used to compensate for time differences in transmission by temporarily storing data.

Busyout Service
When a technician or administrator blocks service to keep customers from using faulty equipment until it can be repaired or tested. For instance, when ports (or a link) are busied out, subscribers who try to access their mailboxes hear a *fast busy* reorder tone. People who would normally reach DEFINITY AUDIX through Call Answering are not forwarded; they hear ringing and no answer at the number they called.

C

Call Answer
A feature that allows the system to answer a call and record a message when the subscriber is unavailable. Callers may be redirected to the system through the call coverage or Call Forwarding switch features. Subscribers may record a personal greeting for these callers.

Call Answer Language Choice
Call answer multilingual option where a user can alternate between a primary language set and a secondary language. The two languages are administered on a per subscriber basis. If this feature is enabled, the subscriber may not use the standard DEFINITY AUDIX Multiple Personal Greetings feature.

Camp-On
A system shutdown option that waits for ports to become idle before blocking service to them. This allows subscribers to finish calls in progress.

Central Office (CO)
A main telephone office where private customer lines are terminated and connected to the public network through common carriers.

Central Processing Unit (CPU)
The Multifunction board's main processor that controls system data transfer, input/output (I/O), and logical instructions.

Class of Service (COS)
The standard set of features given to subscribers when they are first administered (set up with a voice mailbox).

Command Mode
A system state where flashware is in control and software is shut down. In this state, a technician has access to menu options to see flashware status and initialization history, run through flashware diagnostics, and to start or continue system initialization.

Configuration
The particular composition and hardware selected for a system, including internal options and peripheral equipment.

Control Link (CL)
The integration, or interface, between the DEFINITY AUDIX System and the switch that enables the transmission of control messages from the DEFINITY AUDIX System to the switch over a DCIU data link. The control messages are transmitted over a separate cable connection and carry information such as calling-party identification and message-waiting indicator status and control.

Control-Link Mode
The type of switch-link integration for which the DEFINITY AUDIX System, R2.0 or later, is connected to the switch via analog-line card emulation and a digital connection.

D

Digital Communications Protocol (DCP)
An AT&T proprietary protocol

DCP Mode 1
An AT&T proprietary Digital Communications Protocol (DCP) connection using a data rate of 56 Kbps for AUDIX Digital Networking. DCP Mode 1 uses a DS1 facility on the switch or a dedicated facility on the switch or a dedicated facility on a T1 carrier.

DCP Mode 2
DCP Mode 2 is an asynchronous, low-speed (9600 or 19,200 bps) connection for AUDIX Digital Networking. DCP Mode 2 uses a modem/data module or modem/Asynchronous Data Unit (ADU) arrangement and connects over analog or voice-grade data lines.

DCP Mode 3
A DCP connection using a data rate of 64 Kbps for AUDIX Digital Networking. DCP Mode 3 uses a DS1 or ISDN facility on the switch or a dedicated facility on a T1 carrier.

Default
A value that is automatically supplied if no other value is specified.

Digital-Port (DP) Mode
The type of switch-link integration for which the DEFINITY AUDIX System, up through release 3.1, is connected to the switch via digital port board emulation. The type of port board that the DEFINITY AUDIX emulates within the switch (TN754.)

Digital-Port (DP) Board Emulation
In R3.1 and earlier releases, this term referred to both the port emulation and to the integration method. In R3.2 and later, it refers to the port emulation only; the integration method can be either control link (CL) or display set (DS).

Digital Signal Processor (DSP)
Programmed RAM chips on the Multifunction board that provide signaling, power-level control, speech coding, and data processing.

Display Set (DS) Integration
A new term that replaces the term digital port integration for R3.2 and later. It refers to the use of the display and other messages sent from the switch to the port board for providing voice mail integration with the switch. Integration with the switch is achieved via display set messages. The messages carry information such as calling party identification and message waiting indicator status and control.

Disconnect Signaling Detection
Signaling from the CO to the PBX which indicates that the far end caller has hung up.

Dual Language Greetings
When the Call Answer Language Choice is in effect, the subscriber can record personalized greetings for each of the languages listed as the primary and secondary announcement sets. The subscriber instructs the caller to enter *1 to switch to the alternate language.

E

Errors
Problems detected by the system during automatic self-tests and recorded in an error log. Errors can produce an alarm (fault) if they exceed a threshold.

Events
Occurrences such as inline errors, maintenance procedure failures, alarms, errors, or transitions into or out of the *AUDIX* or *OA&M* states which are recorded in an events log.

F

Faceplate and Alarm Controller (FAC)
The circuitry on the Multifunction board which monitors activity of the DEFINITY AUDIX System.

Field
An area on a form, menu, or report where information can be typed or displayed.

Filesystems
A collection of related files (programs or data) stored on disk which are required to initialize a DEFINITY AUDIX System and provide full service.

Flashware
Code that is stored in electrically reprogrammable memory on the DEFINITY AUDIX System. This programming is retained over power outages but can be reprogrammed automatically on board during initialization.

Forms
Terminal screens of information that allow data to be displayed or changed.

G

Generic Tape
A copy of the standard software and standalone tape utilities that is shipped with a new system.

Graceful Shutdown
Taking the DEFINITY AUDIX System offline (to the maintenance shutdown state) using RESET SYSTEM SHUTDOWN in a camp-on manner.

Guest Password
A feature that allows people who are not subscribers to leave messages on the system by dialing a subscriber's extension and entering a system-wide guest password.

H

Header
Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

Hunt Group
A group of ports on a switch usually administered to search for available ports in a circular pattern.

I

Initialization
The process of bringing a system to a predetermined operational state. The start-up procedure tests hardware and flashware; loads the boot filesystem programs; locates, mounts, and opens other required filesystems; and starts normal service.

Initialization and Administration System (INADS)
A maintenance system used by remote technicians to track alarms.

Interboard Bus
The inter-integrated circuit (I^2C) bus that provides connectivity between the Alarm board and the Multifunction board.

Intuity Message Manager
A PC application that is used for the retrieval and display of message headers, addressing to lists, managing personal greetings, and for creating, forwarding, and replying to voice mail messages.

L

Leave Word Calling
A switch feature that allows the calling party to leave a standard (nonvoice) message for the called party using a feature button or dial access code.

Light Emitting Diode (LED)
A red-light indicator on the system faceplate panel that shows the status of operations and possible fault conditions. An unlit LED indicates a healthy system. When flashing, the LED indicates a software problem. When it is steadily lit, a hardware problem exists.

Liquid Crystal Display (LCD)
The 10-character alphanumeric display on the DEFINITY AUDIX faceplate panel that automatically shows status of the system including alarms.

Local Area Network (LAN)
A short distance data communications network used to link computers and peripheral devices under some form of standard control

Local Maintenance Terminal (LMT)
A display terminal located near the DEFINITY AUDIX System and the switch. It is temporarily attached to the Multifunction board via a Y-cable during an on-site service visit.

Login
A unique code used to gain approved access to a subscriber's voice mailbox or to a display terminal.

M

Mailbox
A portion of disk memory given to each subscriber for creating and storing outgoing and incoming messages.

Message-Waiting Lamp
An LED on a telephone that alerts subscribers to new messages.

Modem
A modulator/demodulator used for transmitting analog signals across phone lines.

Multifunction Board (MFB)
The hardware platform (TN566B, 386 version and TN567, 486 version) which holds the central processing unit, controllers, memory devices, and signal processors that make a DEFINITY AUDIX System operational.

Multilingual System
A DEFINITY AUDIX System containing primary and secondary language announcement sets. A large (40 hour) system can hold up to nine different language sets. The Telecommunications Device for the Deaf (TDD)-based announcement set is treated as a multilingual option.

N

Native Mode
The ability of the switch to recognize the DEFINITY AUDIX Multifunction board (MFB) as a TN566B (AUDIX) circuit pack. With native mode support, the switch reserves five slots for the DEFINITY AUDIX assembly, and the switch is able to correctly identify the DEFINITY AUDIX board in alarms sent to the services organization.

Nonnative Mode
Without native mode, the MFB slot is provisioned as a TN754, TN2181 or TN746B, the five slots occupied by the DEFINITY AUDIX assembly are not reserved, and MFB alarms are reported as alarms for a TN754, TN2181, or TN746B.

Nonvolatile Random Access Memory (NVRAM)
A battery-backed RAM on the Multifunction board that retains data through loss of power.

Null Modem Cable
A cable which transposes transmit and receive leads on an RS-232 connection.

O

Operating System (OS)
The set of programs that runs the hardware and interprets software commands.

Operations, Administration, and Maintenance (OA&M)
A state of system operation where core processes of the Multifunction board are accessed, including system initialization, resource configuration, forms interface, entry into the maintenance subsystem, and filesystem access. Also entered when customer data must be restored.

Outcalling
A feature that allows the system to dial subscribers' numbers or go to pagers to inform them they have new messages.

P

Port
A connection or link between two devices, allowing information to travel through it to a desired location. For example, a switch port connects to a DEFINITY AUDIX port to allow a subscriber on a voice terminal to leave a message.

Protocol
A set of specific rules, procedures, or conventions relating to forms and timing of data transmission between two devices.

R

Reboot
A system *reboot* is done to clear major system problems (such as corrupt program memory). It also runs automatically whenever the system is powered up.

Remote Field Update
A set of software changes on a given release that is transmitted from a central location to customer equipment. Changes are generally restricted to serious *bug* fixes and are limited in volume.

Reply Loop Escape
Allows the subscriber the option to return to responding to a message after trying to reply to a non-subscriber message.

Restart
During maintenance, a system *restart* brings the system software back into full service, usually after an administrative shutdown. This is often done to try to clear software problems.

RISC
Reduced Instruction Set Computer. Refers to computers based on an unusually high speed processing technology that uses a far simpler set of operating commands.

S

Sanity and Control Interface (SAKI)
An integrated circuit that receives and transmits TDM bus control messages and monitors the sanity of the angel processor.

Shutdown States
States of system operation where either a technician can shut down the system for maintenance, or where a critical error condition brings down the system. In either case, filesystems are closed and the system can be powered down and removed from the carrier.

Small Computer Systems Interface (SCSI)
An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

Standalone Tape Utility
A software utility with options that include disk drive initialization, copying files from a generic tape onto the customer's disk, and map partition modification.

Subscriber Specific Announcement Set
When the Multilingual feature is enabled, each subscriber form has three fields specifying the announcement set with which the subscriber will interact with the system once they log in, and the two announcement sets with which callers to the subscriber's mailbox can interact with the system.

T

Transmission Control Protocol/Internet Protocol
A set of protocol standards which allows a process on one machine to send data to a process on another machine. Communication may be full or half duplex. TCP/IP includes support for multiple operating systems and machine architectures.

Technical Service Organization
Includes technical support organizations such as the Technical Service Center (TSC), National Service Assistance Center (NSAC), International Technical Assistance Center (ITAC), Center of Excellence (COE), Design Center (DC), Sales Technical Response Center (STRC), and National Technical Marketing (NTM).

Telecommunications Device for the Deaf (TDD)
A feature providing Call Answering and Personal Greeting capabilities to the hearing-impaired. The announcement set responds to Baudot tones which are input from a special keypad.

Time Division Multiplex (TDM) Bus
The interface between the DEFINITY AUDIX System and the switch that carries digitally-encoded voice waveforms and circuit-switched data.

U

Update
A limited incremental change on an existing release involving software only.

Upgrade
The replacement of one release with a new release. This may involve software, flashware, hardware, and/or data.

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