Lucent Technologies
Bell Labs Innovations

DEFINITY® AUDIX® System

Release 3.1 Issue 4 to Release 3.1 Issue 6
Change Description

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About This Document

This document describes the hardware compatibility and software changes that have occurred between DEFINITY AUDIX System Release 3.1 Issue 4 and Release 3.1 Issue 6. These changes and enhancements are available on all new DEFINITY AUDIX Systems and all DEFINITY AUDIX upgrades.

Intended Audiences

System administrators and telecommunications managers are one of the primary audiences for this document.

The information in this document is also useful to Lucent Technologies remote and local services personnel, marketing and provisioning personnel, and other Lucent Technologies associates who must understand and support DEFINITY AUDIX voice mail.

How to Use This Document

This document supplements the documentation set received with a new DEFINITY AUDIX R3.1 System. It is most useful for summarizing differences between R3.1 Issue 4 and R3.1 Issue 6.

Trademarks and Service Marks

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- AUDIX® is a registered trademark of Lucent Technologies.
- DEFINITY® Communications System is a registered trademark of Lucent Technologies.
- INTUITY™ is a trademark of Lucent Technologies.

Related Resources

Title	Number	Title
DEFINITY AUDIX System — Release 3.0 to Release 3.1 Change Description	585-300-404	1 or later
A Portable Guide to Voice Messaging	585-300-701	3 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	585-300-111	5 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 R3.1 — Screens Reference	585-300-211	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	585-300-904	5 or later
Switch Administration for the DEFINITY AUDIX System	585-300-509	4 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
GBCS Products Security Handbook	555-025-600	3 or later
Intuity Message Manager User's Guide	585-310-725	1 or later

How to Make Comments About This Document

While we have tried to make this document fit your needs, we are interested in your suggestions for improving it and urge you to please send your comments and suggestions to:

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Change Description for DEFINITY AUDIX Release 3.1, Issue 5 and 3.1, Issue 6

1

Introduction

This chapter summarizes changes and improvements in DEFINITY® AUDIX® System Release 3.1, Issue 5 and 3.1, Issue 6. These changes affect system users and technicians who maintain the system. The changes are organized in the following sections:

- Installation and Upgrades

- Hardware Compatibility

- Changes that affect users

- Changes that affect technicians

Installation and Upgrades

- Installation — Special procedures are not needed to install DEFINITY AUDIX 3.1, Issue 6 on a new installation of the DEFINITY AUDIX System.

- Upgrades — Refer to Chapter 2 of this document for information on upgrading to DEFINITY AUDIX 3.1, Issue 6.

- For additional information on DEFINITY AUDIX 3.1, Issue 6 upgrades or installation, refer to DEFINITY AUDIX System Installation and Upgrade, 585-300-111.

Hardware Compatibility

DEFINITY AUDIX 3.1, Issue 6 is compatible with the following hardware:

- Multifunction Boards
    - TN566B
    - TN567
- Alarm Boards
    - TN2169 (Standard Alarm Board)
    - TN2170 (Ethernet Alarm Board)
- Disk Drives
    - Maxtor 7245S
    - Seagate ST1480N
    - Seagate ST3283N
    - Seagate ST5660N
    - Seagate ST51080N
    - Seagate ST52160N
    - Any other disk factory shipped with a DA 3.1 or earlier system
- Tape Drives
    - TEAC 160MB (Model:MT-2ST/N50)
    - TEAC 600MB (Model:MT-2ST/F50)

Changes That Affect Users

The following enhancements and corrections have been made to DEFINITY
AUDIX R3.1. Features and functionality have not changed; however, the system
operates more efficiently. The changes are based on data collected from the
field or in-house field trials.

- Eliminate update of AGC (automatic gain control) while DTMF (dual tone
  multi frequency) is suppressed — The AGC is now disabled while the
  input record is suppressed (during touch tone).

- SCSI bus reset clears tape medium error — The automated backup
  sometimes failed with a "tape medium error." The automated backup was
  successful until rewind time, but then the first write after rewinding the
  tape would result in a "tape medium error." All subsequent attempts to
  write to the tape resulted in the same.

  This problem has been solved by issuing a SCSI bus reset after the first
  failure. It clears the error, but if it fails again it will not issue another SCSI

bus reset. Also, this fix issues a SCSI bus reset when a tape hardware device error is encountered during the nightly backup and retries the backup before alarming.

■ Supports special characters — DEFINITY AUDIX should be able to support OPTREX characters for the enhanced 84xx display feature on Definity G3r 1.0.44.0 switch load. This relates to how characters are verified in the name field when AUDIX is called. Now characters with a high-order bit set are included in the list of acceptable display characters. DEFINITY AUDIX now works with the Switch OPTREX character set.

■ Change MAX_CLEAN and MAX_PASS tape counters — To reduce TAPE alarm 0000, the MAX_PASS_COUNT was changed from 150 to 12; this causes a TAPE WARNING alarm 0005 to be generated every 12 complete passes of the tape (approximately once per year) instead of every 150 passes. Also, the MAX_CLEAN was changed from 100 to 6; this causes a TAPE WARNING alarm 0006 to be generated every 6 complete passes of the tape (approximately every 6 months) instead of every 100 passes.

■ System Panic alarm eliminated — Previously, SOFTWARE alarm 4100 was generated when a system panic occurred. The alarm was eliminated to be consistent with the INTUITY system's functionality, the alarm was eliminated. This means a system panic does not generate an alarm, but rather it generates an error log entry.

■ Reduce occurrence of VOICE_PT/5 alarms — Alarm level for voice port alarm 5 has been changed from MINOR to WARNING. The maintenance strategy has also changed to clear this alarm whenever TST_VC_PT is run (not just if it passes - if TST_VC_PT fails, alarm 4 is raised).

■ Reduce occurrence of SWITCH/1 alarms — The alarm time for switchlink alarm 3 changed froman immediate response to 15 minutes. The switch alarm 1 changed from minor to warning, and time to alarm changed from immediately to 30 minutes.

■ Play back messages when message headers are corrupted — Users can play back messages with corrupted headers with a "non-existent subscriber" for the originator.

■ Workaround for problems with DSP32c DMA reads — This fixes problems related to voice ports locking up, and cracking noice while listening to messages.

Changes That Affect Technicians

The following enhancements and corrections have been made to DEFINITY AUDIX R3.1. Features and functionality have not changed; however, the system operates more efficiently. The changes are based on data collected from the field or in-house field trials.

■ Add multiple DSP images from 3.2 into the 3.1 load — A new DSP image was added to solve customer problems. This new DSP image does not stop recording during silence, which allows some noise messages to be recorded. A script, "change_dsp," that is only accessible to the tsc login

changes the SDP image downloaded to the DSPs. To activate the new image AUDIX must be rebooted.

After executing the script you have two DSP image options:

— Standard DSP image

— DTMF falsing protection during record/AGC changes

To determine which DSP image is active, you must list the vp files in the pumpware/dsp directory and compare the size of the vp.m file with the other two files. The three vp files in this directory are:

— vp.m
This is the DSP image that is downloaded to the DSPs by the software.

— vp1.m
This is the Standard DSP image.

— vp2.m
This is the DTMF falsing protection during record/AGC changes DSP image.

Use the UNIX command "ls" to list the vp files, as shown:

— ls -l /usr/add-on/audix/lib/pumpware/dsp/vp* (vp1.m image is active).

-rwxrwxr-x1 r2audix voice110756 Oct 3 17:05 vp.m

-rwxrwxr-x1 r2audix voice110756 Oct 3 17:04 vp1.m

-rwxrwxr-x1 r2audix voice110896 Oct 3 17:06 vp2.m

— ls -l /usr/add-on/audix/lib/pumpware/dsp/vp* (vp2.m image is active).

-rwxrwxr-x1 r2audix voice110896 Oct 9 14:29 vp.m

-rwxrwxr-x1 r2audix voice110756 Oct 3 17:04 vp1.m

-rwxrwxr-x1 r2audix voice110896 Oct 3 17:06 vp2.m

■ Rebuild the voice files during upgrade—The main voice files will be deformatted and subsequently reconstructed to accomplish the rebuild.

■ Update company name—All "AT&T" instances visible to users were replaced with either "Lucent Technologies, Inc." or "Lucent."

Software Upgrade from 1.0, 2.0, 3.0, 3.1 to 3.1, Issue 6

2

Introduction

This chapter describes how to upgrade software from previous releases of the DEFINITY AUDIX system to R3.1. For additional information, including version tables, refer to *DEFINITY AUDIX System Installation and Upgrade,* number 585-300-111.

Software Upgrade

To upgrade an R1.0, R2.0, R3.0, or R3.1 DEFINITY AUDIX system to release R3.1, issue 6, perform the following steps. If problems occur, contact the Technical Service Organization (TSO).

The approximate time to complete each step is shown in brackets [ ]. Times may vary widely, depending on the size of the system and the voice storage volume. It should take from one to four hours to complete all the steps.

⚠ WARNING:
> *Contents of the error log, event log, and resolved alarm log will be deleted by the upgrade. Existing customized announcement sets will be preserved. However, if a current backup tape of the customized announcement sets is not available, it is highly recommended that one be made prior to the upgrade. Should anything go wrong during the upgrade, the backup can be reinstalled and those announcement sets used.*

➡ NOTE:
> The customer should inform subscribers that the DEFINITY AUDIX system will be shut down for three to six hours during this upgrade procedure.

1. [The time required for this step depends on the amount of data in the system.]
   Back up the system.

2. [1 min]
   Make sure that the administration terminal is connected to Port A. Log in to the DEFINITY AUDIX system on the administration terminal as **craft**.

3. [30 seconds]
   Enter **change machine**. Ensure that the `machine name` on the screen provides up to eight characters; otherwise, the upgrade will not run.

4. [20 seconds]
   Enter **disable to**. Disable alarms in the **Disable Alarm Origination** screen. If this act is not taken, the RSC will detect alarms while the upgrade is in progress.

⮕ **NOTE:**

> The system responses received during the software upgrade may differ from those included in this document. All system responses are indicated in **9-point type.**

5. [5 min]
   Shut down the system in a camp-on manner using the RESET SYSTEM SHUTDOWN screen. The system responds with information similar to the following:

   System name: audix
   login:

   INIT: New run level: 0

   The system is coming down. Please wait.
   System services are now being stopped.
   System data saved during shutdown.
   The system is down.
   Transferring to Firmware.
   .....
   SHUTDOWN Pending, Code = F022
   Software Maintenance Shutdown
   SHUTDOWN Completed

6. [3 min]
   While waiting for the shutdown to complete, remove the backup tape and clean the tape heads with the cleaning kit supplied with the original system.

   Perform the steps described below.

   a. Remove the working tape and insert the cleaning tape cartridge into the drive, all the way into the streamer. *Do not* lock it into place by turning the front lever clockwise.

   b. Dip the pad of the cleaning stick into the cleaning solution and insert into the guide hole at the bottom of the tape. Ensure that the blue side of the pad touches the head (it will face the LED of the streamer).

   c. Gently pressing the pad against the head, run the stick back and forth through the guide hole 10 times.

> d. Turn the stick until the white side of the pad touches the head. Run the stick back and forth 5 to 10 times.

> e. Using the dry white pad of another cleaning stick, perform the same operation 5 to 10 times.

Remove the cleaning tape and allow the head to dry for approximately one minute.

➤ NOTE:

> If any hardware upgrades are necessary, perform them now.

➤ NOTE:

> Steps 8 and 9 must be completed within 60 seconds after invoking command mode in step 7. Otherwise, the system automatically boots and you must shut down and start over with the upgrade.

7. [1 min.]
    Invoke command mode by pressing (CONTROL)-(C) (C). The system responds with information on the screen similar to the following information:

    MFB 386FW Version: AU00S3EC
    Local Console: Output ON, Input ON
    Remote Maintenance Console: INACTIVE
    command menu:?

8. Press (SHIFT) (?) (ENTER) to list available commands. A menu similar to that below displays.

    command menu: ?

    1 = Display Init History
    2 = Display Status
    3 = Read/Write Functions
    4 = Additional Tests
    5 = Auto Boot
    6 = Preempt Auto Boot
    7 = Manual Boot
    8 = Board Commands
    q = Quit and Auto Boot
    command menu:

9. Enter **6** to *Preempt Auto Boot.*

    Auto Boot Preempted

10. Insert the new release generic tape.

11. [1 min]
    From the command menu, enter **7** to select the Manual Boot option. The system responds with information on the screen similar to the following information:

    command menu: 7
    Auto Boot Preempted
    Enter Tape Device (0-6) (Default = 1):

12. Enter **2** for Boot from Tape.

13. Enter **1** for device number for the tape.

⇒ **NOTE:**
> Two to three minutes may elapse before the following message appears.

MFB Board Diagnostics PASSED
Transferring To Software

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0: Exit
1: Initialize Disk
2: Modify Partition Map
3: Copy Generic Partitions
4: Additional Commands
Enter option:

Confirm that the board diagnostics passed.

⚠ **WARNING:**
> *In the next step **do not press 1** (the Initialize Disk option), which would destroy all existing customer data.*

14. [10 min]
    When the menu appears, enter **3** to select Copy Generic Partitions To Disk. The system responds with information on the screen similar to what follows:

    Enter option: 3
    Enter SCSI ID of Disk (default 0):

15. Enter **0** (zero, the default) for the SCSI ID. Wait for copying to complete (several rows of dots and messages will appear as copying progresses).

    After the generic partitions are copied, the system automatically reboots. The system scrolls with information similar to what follows:

    Enter SCSI ID of Disk (default 0): 0
    Copy generic data from tape to disk
    ....

The following line appears for upgrades if the hard disk drive is larger than 6 hours:

Changing <var.s5> partition size from (e.g.) 35152 to (and always ends at) 17576
Copy Generic Partitions PASSED

Automatic reboot

Loader or Utility Abort
Board Diagnostics PASSED
Transferring To Software

Booting the Operating System... OS loaded. Transferring control...

MFB 386 FW Version:AU00S0EF

Local Console: Output on, Input off

Remote Maintenance Console: Inactive

MFB Board Diagnostics: Passed

Transferring to Software

Booting the OS

total real memory = 15728640
total available memory = 14032896

Lucent Technologies, Inc. UNIX System V/386 Release 4.0 Version 2.1

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DEFINITY(R) AUDIX(R) System
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The system is coming up. Please wait.
WARNING: Firmware verification/reprogramming in progress.
Do not interrupt until completed.
Firmware verification/reprogramming completed successfully.
MFB state set to 35
Welcome to DEFINITY(R) AUDIX(R) System Release 3.1, Issue 6
Installation and Recovery — Copyright (c) 1992,1993 Lucent Technologies, Inc.

In the following steps, you may be prompted for selections from menus to supply further information. Type either the menu number or name, and a carriage return.

Do you wish to

> **1) shutdown**
> **2) install**
> **3) upgrade**
> **4) recover**

?

⚠ **WARNING:**

> *In the next step **do not press 2** (the install option); this destroys all existing customer data.*

16. [2 min]
    When the menu appears, enter **3** to select the upgrade option. When the prompt for a backup tape displays, insert the first of the two **blank** backup tapes included with the upgrade instructions.

    ? 3
    Recovering system information.
    Please insert the first backup tape. Press <return> when ready:
    Checking announcement files for modification in the background.

    After pressing (RETURN), if nothing happens, the tape may be in the retensioning process. Wait 5 to10 seconds and press (RETURN) again to correct the problem.

⚠ **WARNING:**

> *Do not insert the automated backup tapes or the generic tape at this point. The utility overwrites all existing data on the tapes.*

17. When the yellow tape LED on the tape drive goes out, press (RETURN). The screen shows the progress of the backups as they finish. If asked to insert the second **blank** backup tape, insert, and press (RETURN).

    Write the volume label
    *** START Fri Jan 06 08:50:07 EST 1995 ***
    *** END Fri Jan 06 08:50:33 EST 1995 ***
    Save nightly
    *** START OF BACKUP Fri Jan 06 08:50:39 EST 1995 ***
    ..
    *** END OF BACKUP Fri Jan 06 08:54:20 EST 1995 ***
    Save weekly
    *** START OF BACKUP Fri Jan 06 08:54:25 EST 1995 ***
    ....
    *** END OF BACKUP Fri Jan 06 08:58:25 EST 1995 ***
    Checking for customized announcements..................completed.
    Checking announcement file times in "standard".
    No customizations found for "standard".

Checking announcement file times in "terse".
No customizations found for "terse".

If upgrading from a R1.0 or R2.0 release, the US English announcement set names appear as Standard or Terse. *DEFINITY AUDIX System Installation and Upgrade* lists names for all versions of each available language set.

*** START OF BACKUP Fri Jan 06 09:17:21 EST 1995 ***
*** END OF BACKUP Fri Jul 06 09:26:22 EST 1995 ***
Save voice
*** START OF BACKUP Fri Jan 06 09:17:21 EST 1995 ***
..
..
Please insert the next tape
..
....
*** END OF BACKUP Fri Jan 06 09:26:22 EST 1995 ***

Backups have completed successfully.
Upgrading customer data.
Previous customer data release: Release 2.0, Issue 1.

Checking standard disk partitions....completed when done.

[This check will take up to 30 minutes.]

If the upgrade is from a R1.0, R2.0, or R3.0 release:

restore weekly from tape
....
restore voice from tape
....

are done here. If the upgrade is from a R3.1 release, restores are not done.

For R3:

Upgrading mailbox database to R3.1, issue 6...completed.
Upgrading message headers to R3.1, issue 6 ...completed.
Upgrading subscriber profile database to R3.1, issue 6 ... completed.
restore weekly from tape
restore voice from tape

For others:

Upgrading subscriber profile database to R3.1, issue 6 ... completed.
Upgrading message header database to R3.1, issue 6.. completed.
Upgrading voice count database to R3.1, issue 6 ... completed.
Upgrading mailbox database to R3.1, issue 6 ...completed
Upgrading mailing list database to R3.1, issue 6 ...completed
Upgrading traffic load day database to R3.1, issue 6 ...completed
Upgrading traffic load hour database to R3.1, issue 6 ...completed
Upgrading subscriber profile database to R3.1, issue 6 ...completed
Upgrading traffic database to R3.1, issue 6 ...completed

restore weekly from tape

restore voice from tape

Checking disk hours
Checking transfer type

No customized announcements found
Standard announcements will now be replaced.
The announcements tape must be inserted

18. Insert announcements tape. Press RETURN when ready. When the yellow tape LED on the tape drive goes out, press RETURN.

    Reading announcements .... completed.
    Upgrade from the program tape is complete.
    Proceeding with initialization.

    If the upgrade is performed in a time zone different from that set on the upgrade tape, the following actions must take place. Otherwise, skip to the script where noted.

    Reboot to pick up correct time zone.
    Change to state 2 has been completed.
    DEFINITY(R) AUDIX (R) System
    **   - initializing from boot Fri Jan 06 12:53:14 EST 1995**
    No Install errors found
    System name: audix
    login: DEFINITY(R) AUDIX (R) System
    **   - initializing to AUDIX state Jan 06 16:45:00 EST 1995**
    Phase 1 file check PASSED
    Phase 2 file check PASSED
    Phase 3 file check PASSED
    Phase 4 file check PASSED
    Phase 5 file check PASSED
    DOTRACE=yesD
    TRACELOG=/var/spool/audix/tracelog
    TRACECMD=s 60 -o /var/spool/audix/tracelog.a -o/var/spool/audix/tracelog.b
    TRACEOUTPUT=/dev/null
    Save output to Trace process
    OLDTRACELOG=/var/spool/audix/oldtrace

19. [1 min]
    After the `OLDTRACELOG=/var/spool/audix/oldtrace` message appears on the screen, press RETURN to clear the screen and get the login prompt.

20. Log in to the DEFINITY AUDIX system as **craft**. Wait for Active to appear on the status line before you continue.

21. [less than 1 min]
    Run `TEST TAPE CLEAN` to reset the tape cleaning interval counter.

22. [1 min]
    Check the Alarm Status at the top of the screen. If there are alarms, enter `DISPLAY ALARMS at the command line` and take the appropriate action to remove the alarms. Consult *DEFINITY AUDIX System — Maintenance,* 585-300-110 for information on removing alarms.

23. [10 min]
    Call the DEFINITY AUDIX system and log in as a subscriber. Verify that the DEFINITY AUDIX system is in service and working properly; create, send, and retrieve a message.

24. [1 min]
    Remove the language set tape. Insert a customer backup tape to be used for the automated saves.

25. [10 min]
    Run ADD TAPE to equip the tape. Enter a new volume name in the Volume Name field. (The new volume name must be different from the name already in this field, if any.)

26. Press `RETURN` to invoke the add-tape operation. Ignore warnings about releases not matching. Check the status of the ADD TAPE operation using the STATUS TAPE screen. When the ADD TAPE operation is complete, the STATUS TAPE screen will show `In service, idle.` Check the status of the LEDs and State Exceptions.

27. For any upgrade (except when the release is already at R3.2) to work correctly, the **Transfer Dialplan** information must be administered before the first nightly backup. If this has not been accomplished, after the backup the DEFINITY AUDIX will not allow call transfer to work. Refer to the *DEFINITY AUDIX System R3.1 Screens Reference,* 585-300-211 for information on administering this screen.

28. Run DISPLAY TAPE to verify that the backup tape Software Release is now `Release 3.1., issue 6.`

29. If the administration alarm, `A`, appears on the status line, clear the alarm by running DISPLAY ADMINISTRATION-LOG and pressing `ENTER` (F3).

    The administration alarm should now be gone from the status line. If the command prompt fails to appear, press `CANCEL`.

30. [5 min]
    Run SAVE NIGHTLY.

    When the administration alarm, `A`, appears on the status line, run DISPLAY ADMINISTRATION-LOG. If the SAVE NIGHTLY operation was successfully completed, `save manual_nightly passed` displays.

31. [5 min]
    Run SAVE WEEKLY. When the administration alarm, `A`, appears on the status line, run DISPLAY ADMINISTRATION-LOG. If the SAVE WEEKLY operation was successfully completed, `save manual_weekly passed` displays.

32. Enable alarms by entering ENABLE ALARM-ORIGINATION.

33. If you do not have to install Intuity Message Manager, enter **logoff** to log off the system. If Intuity Message Manager will be installed, continue with the *After the Upgrade* section of this document.

This completes the procedure for the R3.1, issue 6 software upgrade.