Lucent Technologies
Bell Labs Innovations

INTUITY™ CONVERSANT ® System
Version 6.0
MAP/5P Maintenance

Notice
Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

Your Responsibility for Your System's Security
Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your system manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The system manager is also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use.

Lucent Corporate Security
Whether or not immediate support is required, all toll fraud incidents involving Lucent products or services shoud be reported to Lucent Corporate Security at 1 800 821-8235. In addition to recording the incident, Lucent Corporate Security is available for consultation on security issues, investigation support, referral to law enforcement agencies, and educational programs.

Lucent Technologies Fraud Intervention
If you *suspect that you are being victimized* by toll fraud and you need technical support or assistance, call Technical Service Center Toll Fraud Intervention Hotline at 1 800 643-2353.

Federal Communications Commission Statement
Part 15: Class B Statement. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient the receiving television or radio antenna where this may be done safely.
- To the extent possible, relocate the receiver with respect to the telephone equipment.
- Where the telephone equipment requires AC power, plug the telephone into a different AC outlet so that the telephone equipment and receiver are on different branch circuits.

Part 15: Personal Computer Statement. This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computing input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with noncertified peripherals is likely to result in interference to radio and television reception.

Part 68: Network Registration Number. This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. It is identified by an FCC registration number.

Part 68: Answer-Supervision Signaling. Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:
- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:
- A call is unanswered
- A busy tone is received
- A reorder tone is received

Canadian Department of Communications (DOC)
Interference Information
This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Nomérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique édicté par le ministére des Communications du Canada.

Trademarks
See the section titled "About This Book."

Warranty
Lucent Technologies provides a limited warranty on this product. Refer to the "Limited Use Software License Agreement" card provided with your package.

European Union Declaration of Conformity
Lucent Technologies Business Communications Systems declares that the equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:

EMC Directive	89/336/EEC
Low-Voltage Directive	73/23/EEC

CE The "CE" mark affixed to the equipment means that it conforms to the above directives.

Comments
To comment on this document, return the comment card at the front of the document.

RECYCLED PAPER

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page iii

Contents

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Contents

Page iv

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page v

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page vi

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page vii

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page viii

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page ix

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Contents

Page x

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Contents

Page xi

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Contents

Page xii

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

About This Book
Purpose   Page xiii

About This Book

Purpose

This book, *INTUITY™ CONVERSANT® System Version 6.0 MAP/5P Maintenance*, 585-310-192, contains information for troubleshooting and diagnosing problems associated with the MAP/5P and hardware. Component replacement procedures and common system procedures are also included in the book. Installation procedures for base system software, INTUITY™ CONVERSANT® system software, and optional feature software. Appendices contain a system configuration description, a list of component ordering numbers, a checklist for building a system, and checklists for disaster recovery.

Intended Audiences

This book is intended primarily for the on-site service technician and system administrators. Secondary audiences include the following:

- Field support — Technical Service Organization (TSO)
- Lucent Technologies Helpline personnel

We assume that the primary users of this book have completed the MAP/5P hardware installation training course (see ''Related Resources'').

Release History

This is the first release of this book.

Trademarks

Lucent Technologies has made every effort to supply trademark information about company names, products, and services mentioned in the INTUITY CONVERSANT documentation library. Trademarks indicated below were derived from various sources.

- 5ESS, AUDIX, CONVERSANT, DEFINITY, FlexWord, and Voice Power are registered trademarks and INTUITY is a trademark of Lucent Technologies.

- Microsoft, MS, MS-DOS, Internet Explorer, and Excel are registered trademarks and Windows is a trademark of Microsoft Corporation.

- Truevoice is a registered trademark of AT&T.

- UnixWare is a registered trademark of The Santa Cruz Operation, Inc.

- UNIX is a registered trademark of UNIX System Laboratories, Inc.

- Novell is a registered trademark of Novell, Inc.

- ORACLE, ORACLE*Terminal, OBJECT*SQL, SQL*FORMS, SQL*Menu, SQL*Net, SQL*Plus, PRO*C, and SQL*ReportWriter are trademarks of the Oracle Corporation.

- IBM and VTAM are registered trademarks of International Business Machines Corporation.

- CLEO and LINKix are trademarks of CLEO Communications.

- Hayes and Smartmodem are trademarks of Hayes Microcomputer Products, Inc.

- Ethernet is a trademark of Xerox Corporation.

How to Use This Book

This book is designed to help you maintain your INTUITY CONVERSANT system. It should be used as a quick-reference to obtain specific information you may need on a particular topic.

For Troubleshooting Information

Basic troubleshooting information is available in Chapter 1, ''Troubleshooting''.

For Diagnostic Information

Instructions for conducting diagnostics are available in Chapter 2, ''Diagnostics''.

For Common System Procedures

Instructions for conducting common system procedures are available in Chapter 3, ''Common System Procedures''.

For Hardware Information

Instructions for replacing or installing hardware components of the MAP/5P are available in Chapter 4, ''Getting Inside the Computer'', Chapter 5, ''Replacing or Installing Circuit Cards'', Chapter 6, ''Replacing the Hard Disk Drive'', and Chapter 7, ''Replacing Other Components''.

For Software Information

Instructions for replacing or installing software components of the MAP/5P are available in Chapter 8, ''Installing Base System Software'', Chapter 9, ''Installing the INTUITY CONVERSANT System Software'', and Chapter 10, ''Installing the Optional Feature Software''.

Conventions Used in This Book

This section describes the conventions used in this book.

Terminology

- The word "type" means to press the key or sequence of keys specified. For example, an instruction to type the letter "y" is shown as

  Type **y** to continue.

- The word "enter" means to type a value and then press (ENTER). For example, an instruction to type the letter "y" and press (ENTER) is shown as

  Enter **y** to continue.

■ The word "select" means to move the cursor to the desired menu item and then press (ENTER). For example, an instruction to move the cursor to the start test option on the Network Loop-Around Test screen and then press (ENTER) is shown as

Select Start Test.

■ The INTUITY CONVERSANT system displays *windows, screens,* and *menus.* Windows and screens both show and request system information (Figure 1 through Figure 4). Menus (Figure 5) present options from which you can choose to view another menu, or a screen or window.


```
 3                Shut Down the Machine

Users currently logged on:

root        console       Jul  8 06:39
root        pts000        Jul  8 08:48
```
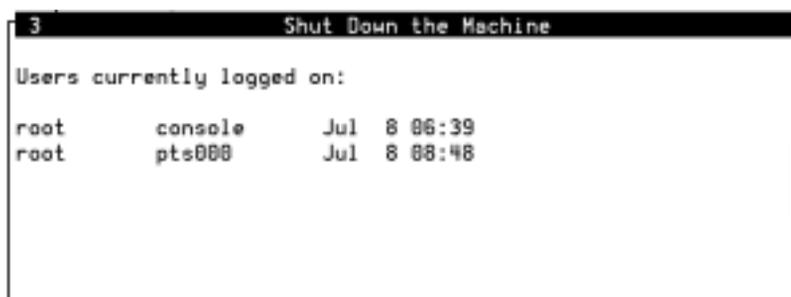
Figure 1.   Example of an INTUITY CONVERSANT Window Showing Information

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

About This Book
Conventions Used in This Book

Page xvii

```
In order to install UnixWare, you must reserve a partition (a
portion of your hard disk's space) on your primary hard disk for
the UNIX System.After you press 'ENTER' you will be shown a screen
that will allow you to create new partitions, delete existing
partitions or change the active partition of your primary hard
disk (the partition that your computer will boot from).

WARNING: All files in any partition(s) you delete will be
destroyed. If you wish to attempt to preserve any files from an
existing UNIX System, do not delete its partition(s).

The UNIX System partition that you intend to use on the primary
hard disk must be at least 120 MBs and labeled 'ACTIVE.'
```

Figure 2.   Example of an INTUITY CONVERSANT Screen Showing Information
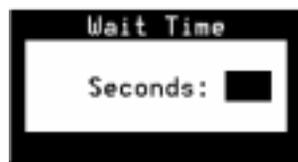
Figure 3.   Example of an INTUITY CONVERSANT Window Requesting Information

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

About This Book
Conventions Used in This Book

Page xviii

```
You may use a partition of your secondary hard disk.  If you
choose to use a partition of your secondary hard disk you will be
shown a screen that will allow you to partition your secondary
hard disk.

WARNING: All files in any partition(s) you delete will be
destroyed.

If you choose to create a UNIX System partition on your secondary
hard disk, it must be at least 40 MBs.

Your Options are:

1.  Do not use a partition of the secondary hard disk for
    the UNIX System.
2.  Use a partition of the secondary hard disk for the
    UNIX System.

Press '1' or '2' followed by 'ENTER'.
```

Figure 4.   Example of an INTUITY CONVERSANT Screen Requesting Information


```
          Voice System Administration

   Application Package Administration
   Backup/Restore
   Configuration Management
   Feature Packages
   Reports
   Script Builder Applications
   Switch Interfaces
   System Monitor
   Unix Management
```
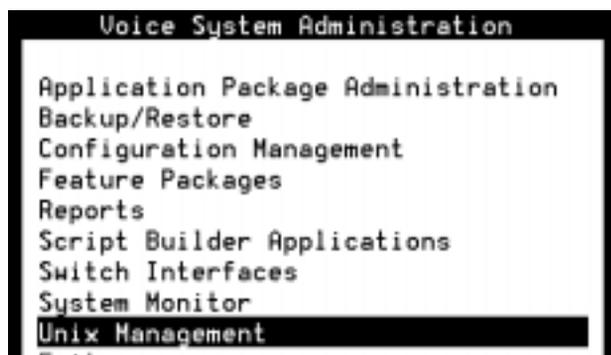
Figure 5.   Example of an INTUITY CONVERSANT Menu

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

About This Book
Conventions Used in This Book

Page xix

Terminal Keys

■ Keys that you press on your terminal or PC are represented as rounded boxes. For example, an instruction to press the enter key is shown as

Press (ENTER).

■ Two or three keys that you press at the same time on your terminal or PC (that is, you hold down the first key while pressing the second and/or third key) are represented as a series of separate rounded boxes. For example, an instruction to press and hold (ALT) while typing the letter "d" is shown as

Press (ALT) (D).

■ Function keys on your terminal, PC, or system screens, also known as *soft keys*, are represented as round boxes followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 3 is shown as

Press (F3) (Choices).

■ Keys that you press on your telephone keypad are represented as square boxes. For example, an instruction to press the first key on your telephone keypad is shown as

Press [1] to record a message.

Screen Displays

■ Values, system messages, field names, and prompts that appear on the screen are shown in typewriter-style `constant-width` type, as shown in the following examples:

Example 1:

Enter the number of ports to be dedicated to outbound traffic in the `Maximum Simultaneous Ports` field.

Example 2:

`Alarm Form Update was successful.`

`Press <Enter> to continue.`

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

About This Book
Conventions Used in This Book   *Page xx*

- The sequence of menu options that you must select to display a specific screen or submenu is shown as follows:

    Start at the Voice System Administration menu and select

    ```
    > Reports
    ```

    ```
        > Message Log Report
    ```
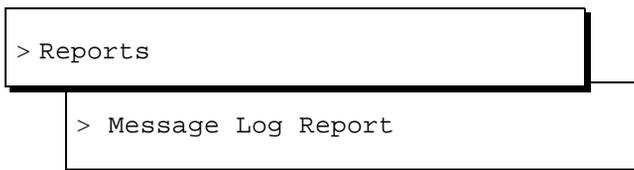
    In this example, you would access the Voice System Administration menu and select the Reports menu. From the Reports menu, you would then select the Message Log Report window.

- Screens shown in this book are examples only. The screens you see on your machine will be similar, but not exactly the same.

Other Typography

- Commands and text you type in or enter appear in **bold type**, as in the following examples:

    Example 1:

    Enter **change-switch-time-zone** at the `enter command:` prompt.

    Example 2:

    Type **high** or **low** in the `Speed:` field.

- Command variables are shown in ***bold italic*** type when they are part of what you must type in and *regular italic* type when they are not, for example

    Enter **ch ma *machine_name***, where *machine_name* is the name of the call delivery machine you just created.

Safety and Security Alert Labels

This book uses the following symbols to call your attention to potential problems that could cause personal injury, damage to equipment, loss of data, service interruptions, or breaches of toll fraud security:

⚠ CAUTION:
Indicates the presence of a hazard that if not avoided can or will cause minor personal injury or property damage, including loss of data.

⚠ WARNING:
Indicates the presence of a hazard that if not avoided can cause death or severe personal injury.

⚠ DANGER:
Indicates the presence of a hazard that if not avoided will cause death or severe personal injury.

⚠ SECURITY ALERT:
Indicates the presence of a toll fraud security hazard. Toll fraud is the unauthorized use of a telecommunications system by an unauthorized party.

Related Resources

This section describes additional documentation and training available for you to learn more about the INTUITY CONVERSANT product.

Documentation

⇒ NOTE:
The *INTUITY™ CONVERSANT® System Version 6.0 System Description*, 585-310-241, contains a detailed description of all books included in V6.0 INTUITY CONVERSANT documentation library. Always refer to the appropriate book for specific information on planning, installing, administering, or maintaining an INTUITY CONVERSANT system.

Required for the System Maintenance

To repair or alter the configuration of your system, you must have a copy of this book, *INTUITY™ CONVERSANT® System Version 6.0 MAP/5P Maintenance*, 585-310-192.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

About This Book
Related Resources

Page xxii

Additional Suggested Documentation

It is suggested that you also obtain and use the following books:

- *INTUITY™ CONVERSANT® System Version 6.0 Alarms and Log Messages*, 585-310-182

- *INTUITY™ CONVERSANT® System Version 6.0 MAP/5P New System Installation*, 585-310-191

- *INTUITY™ CONVERSANT® System Version 6.0 Communication Development*, 585-310-763

- *INTUITY™ CONVERSANT® System Version 6.0 Application Development with Script Builder*, 585-310-760

- *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591

See the inside front cover for information on how to order INTUITY CONVERSANT documentation.

Training

The following training class is recommended as a prerequisite to performing repairs on a V6.0 INTUITY CONVERSANT system:

- Course No. BO3620A, CONVERSANT Installation and Maintenance (for domestic installations)

- Course No. GO3603A, CONVERSANT Installation and Maintenance (for international installations)

For more information on INTUITY CONVERSANT training, call the BCS Education and Training Center at one of the following numbers:

- Organizations within Lucent Technologies: (904) 636-3261

- Lucent Technologies customers and all others: (800) 255-8988

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

About This Book
How to Comment on This Book

Page xxiii

How to Comment on This Book

We are interested in your suggestions for improving this book. Please complete and return the reader comment card that is located behind the title page.

If the reader comment card has been removed, send your comments to:

> Lucent Technologies
> Product Documentation
> Room 22-2H15
> 11900 North Pecos Street
> Denver, Colorado 80234

You may also fax your comments to the attention of the Lucent Technologies INTUITY CONVERSANT writing team at (303) 538-1741.

Please mention the name and order number of this book, *INTUITY™ CONVERSANT® System Version 6.0 Alarms and Log Messages*, 585-310-182.

Disclaimer

Intellectual property related to this product and registered to AT&T Corporation has been transferred to Lucent Technologies Incorporated.

Any reference within this text to American Telephone and Telegraph Corporation or AT&T should be interpreted as references to Lucent Technologies Incorporated. The exception is cross references to books published prior to December 31, 1996, which retain their original AT&T titles.

Lucent Technologies—formed as a result of AT&T's planned restructuring— designs, builds, and delivers a wide range of public and private networks, communications systems and software, consumer and business telephone systems, and microelectronic components. The world-renowned Bell Laboratories is the research and development arm for the company.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

About This Book
Disclaimer

Page xxiv

Troubleshooting

1

Overview

This chapter describes some basic troubleshooting procedures for the most common system problems.

Purpose

The purpose of this chapter is to provide the on-site technician or system administrator with repair procedures for the most common system procedures.

The following assumptions are made in this chapter:

- You have checked the Message Log for any relevant messages. See Chapter 1, "Getting Started" in *INTUITY™ CONVERSANT® Version 6.0 System Alarms and Log Messages*, 585-310-182, for the procedure.

- The procedures in the second column of the tables are intended to provide a starting point to isolate a problem and may not be exhaustive.

- The procedures in the second column assume general editing knowledge and script familiarity, as most of the commands and procedures are performed from the command line.

- You have already performed a visual inspection of the system.

Repairing Power-Up Troubles

Power-up troubles are those that occur when first turn the system on. Table 1-1 lists the indications related to power-up troubles:

Table 1-1.   Repairing Power Up Troubles

Indication	Corrective Action
The system will not power up.	1. Verify that the power toggle switch on the front is in the ON position. 2. Verify all external system connections (power cords and monitor cables) are correct (for example, the blue cable connects to the 3270 card and not to the system parallel port). 3. Verify all external system connections are secure.

During start-up, the system displays the following message:
 	
"Shared memory is marked as invalid. cvis_ menu exiting."
	1. Stop the voice system. See "Stopping the Voice System" in Chapter 3, ''Common System Procedures''.
	
	2. Start the voice system. See "Starting the Voice System" in Chapter 3, ''Common System Procedures''.
	
	3. Enter **cvis_mainmenu**
	
	4. If the problem persists:
	
	   a. Stop the voice system. See "Stopping the Voice System" in Chapter 3, ''Common System Procedures''.
	
	   b. Enter **cp /gendb/shmem/devtbl gendb/shmem/devtbl.old**
	
	   c. Enter **rm /gendb/shmem/devtbl**
	
	   d. Start the voice system. See "Starting the Voice System" in Chapter 3, ''Common System Procedures''.

The **start_vs** command takes a long time to initialize on a system with many analog lines.	1. Starting at the Switch Administration screen, set Dial-Tone Training to "No." See Chapter 5, "Switch Interface Administration," of *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591. **NOTE:** If dial-tone training is "no," you should specify the dial-tone frequency to be used with a particular switch (350 and 440 is the default for DEFINITY®). 2. Verify that the transfers being performed in the application are still functioning properly.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

1 Troubleshooting
Repairing Boot-Up Troubles

Page 1-3

Repairing Boot-Up Troubles

Boot-up troubles are those that occur when the system crashes and reboots itself or when you reboot the system. Table 1-2 lists the indications and possible repair procedures related to boot-up troubles.

Table 1-2.   Repairing Boot-Up Troubles

Indication	Corrective Action
Cards are not recognized during boot up.	1. Enter **pkginfo** 2. Make sure the driver software is installed (SP, Tip/Ring, or T1). 3. Check the circuit cards. See "Circuit Card Diagnostics" in Chapter 2, "Diagnostics". 4. Make sure that cards have the proper switch settings and correct placement of terminating resistors if attached to the TDM bus cable.
When the system boots, it displays messages in the message log report or on the console similar to the following: `Unable to attach shared memory`, `Bad DEVTBL`, and/or `VROP respawning too rapidly`.	1. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures". 2. Enter **cp /gendb/shmem/devtbl /gendb/shmem/devtbl.old** 3. Enter **rm /gendb/shmem/devtbl** 4. Start the voice system. See "Starting the Voice System" in Chapter 3, "Common System Procedures".
The system displays the following message: `Non-system disk or disk error. Replace and hit any key to continue.`	1. Check the diskette drive and confirm that it is empty. 2. Check the cartridge tape drive and confirm that it is empty. 3. Check the power connections. 4. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures".

Continued on next page

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Repairing Boot-Up Troubles

Page 1-4

Table 1-2. **Repairing Boot-Up Troubles** — *Continued*

Indication	Corrective Action
The system passes run level four then reboots continuously (rolling reboot).	1. Power off the platform immediately after the system reboots. 2. Remove one optional circuit card (for example, SP, T1, Tip/Ring). 3. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures". 4. Repeat Steps 1–3 until the system reboots properly. 5. Replace the circuit cards.
The system is experiencing continuous automatic reboots.	1. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures". 2. While rebooting the system, hold down the (ENTER) key when the system displays the UnixWare graphics. 3. When the system prompts you for a previously saved kernel, enter **unix.old** or enter the name of a kernel that you saved manually at a previous time. This file is created automatically each time the kernel is rebuilt. 4. Check the size of the static kernel by entering **size /stand/unix** If the kernel is larger than 4 Mbytes, remove some of the packages.

Continued on next page

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

1 Troubleshooting
Repairing Boot-Up Troubles

Page 1-5

Table 1-2.   Repairing Boot-Up Troubles — *Continued*

Indication	Corrective Action
A file system check shows a file system with 0 files, 0 blocks, or 0 free.	1. Verify the disk partition was adequate. See "Initializing the Hard Disk Drives" in Chapter 8, "Installing Base System Software". 2. Restore the system software from the mkimage backup tape. See "Restoring the INTUITY CONVERSANT System" in Chapter 3, "Common System Procedures". If no backup is available, reload the system software. See Chapter 8, "Installing Base System Software", Chapter 9, "Installing the INTUITY CONVERSANT System Software", and Chapter 10, "Installing the Optional Feature Software".
The system hangs after a reboot and the screen is blank.	1. Check the diskette drive and confirm that it is empty. 2. Check the power connections. 3. Check the power supply by watching for hard disk access with the disk access light. 4. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures".

Repairing System Installation, Upgrade, or Set-Up Troubles

Repairing system installation, upgrade, and set-up troubles are those that occur during initial installation of the voice system, while upgrading either hardware or software, or when adding additional hardware or software. Table 1-3 lists the indications and possible repair procedures related to these troubles.

Table 1-3.   Repairing System Installation/Upgrade/Set-Up Troubles

Indication	Corrective Action
The system cannot initialize the IPCI card.	1. Check for possible conflict with memory and I/O addresses or interrupt conflicts.
	2. Log in as root.
	3. Enter **crash**
	4. Enter **strstat**
	The system displays a screen similar to the screen shown in Figure 1-1.
	a. Increase the values to slightly higher than what is listed in the CONFIG column.
	b. If anything other than 0 is listed in the FAIL column, use the **/etc/conf/bin/idtune** command to increase the tunable parameter. The parameters to tune are NSTREAM, NQUEUE (should be 4 X NSTREAM), NBLK4, NBLK16, NBLK64, NBLK128, NBLK256, NBLK512, NBLK1024, NBLK2048, and NBLK4096.
	c. After you have changed the tunable parameters, use the **/etc/conf/bin/idbuild** command to rebuild the UNIX kernel.
	5. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Repairing Application-Related Troubles

Page 1-7

```
) strstat
ITEM              CONFIG    ALLOC    FREE        TOTAL     MAX     FAIL
streams              106      106       0          592     109        0
queues               522      522       0         1926     538        0
message blocks        75       57      18        24269      77        0
data blocks           68       57      11        18271      68        0
link blocks           16       16       0           16      16        0
stream events          6        4       2            6       6        0

Count of scheduled queues:    0
```

Figure 1-1.   strstat Sample Output

Repairing Application-Related Troubles

These troubles are experienced when the voice system is not taking calls or when the voice system is taking calls but the application is not working as expected. There are a number of subgroups for application troubles, such as speech, database, Text-to-Speech, and Speech Recognition. Table 1-4 lists the indications and possible repair procedures related to these troubles.

Table 1-4.   Repairing Application-Related Troubles

Indication	Corrective Action
The voice system is ringing but is not answering the telephone or the voice system is busy.	1. Scan the Message Log Report for messages related to the trouble. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages,* 585-310-182.
	2. Enter **display card all**
	3. Check the status of all the circuit cards.
	4. Check if the application is properly assigned to the channel(s).
	5. Make sure the application contains the Answer Phone action.

Table 1-4.   Repairing Application-Related Troubles — *Continued*

Indication	Corrective Action
The voice system answers the call, but does not play any speech.	1. Scan the Message Log Report for messages related to the trouble. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages,* 585-310-182.
	2. Enter **display card all**
	3. Verify that the spadm script is not assigned to any channels.
	4. Check the status of all the circuit cards.
	5. If spadm is assigned, reassign the channel to the correct script name. See Chapter 3, "Configuration Management," of *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.
	6. Place test calls to determine if this is occurring on every channel.
	7. If this occurs only on certain channels, it could be a hardware problem. Place the problem channels in a MANOOS state until the card can be replaced.
	8. Enter **trace tsm chan all | tee /tmp/trace.out** This sends the trace output to the console and to the file **/tmp/trace.out**
	9. Review the trace output for failure indications or error messages.

Table 1-4.   Repairing Application-Related Troubles — *Continued*

Indication	Corrective Action
All calls are dropped.	1. Scan the Message Log Report for messages related to the trouble. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages,* 585-310-182.
	2. Enter **hstatus all**
	This will allow you to check the status of the host if this feature is being used.
	If all sessions are recovering or logging in, this could explain the trouble.
	3. Enter **who -rpb**
	4. Search for different time stamps on the processes.
	A recent date different from most of the others may indicate the process respawned.
	5. Record the scenario that caused the problem.
	6. If the process is specific to a feature package, see the trouble table for that feature package in this chapter.

Repairing Script Builder Troubles

Table 1-5 provides information on troubles related to the Script Builder package.

Table 1-5.   Repairing Script Builder Troubles

Indication	Corrective Action
Messages are cut off.	Add a few seconds of initial silence (0.2 to 0.5 seconds) to the beginning of the message to be played. Another way to avoid missing any segment of a message is to construct a phrase consisting of a few seconds of silence and play that phrase first.
The terminal is locked-up.	Use the following key sequence to release your terminal keypad: (CONTROL) (J) **stty sane** (CONTROL) (J)

The system displays the following message:
 	
`No Space On Root File System.`
	1. Press (EXIT) from Script Builder.
	
	2. Clean up the root file system.
	
	   Try to free a minimum of several hundred blocks.
	
	3. Re-enter Script Builder with your application.
	
	   You may find that everything is functioning properly with your application. You may be able to continue right where you left off and just retype any previous changes that were not saved. However, depending on where you were in the application when root ran out of space, some files may be corrupted.
	
	4. If Script Builder fails completely with this application, complete the following Steps a and b:
	
	   a. Remove the transaction part of the application by pressing REMOVE in the Script Builder Applications screen.
	
	   b. Restore it from a backup. See *INTUITY™ CONVERSANT® System Version 6.0 Application Development with Script Builder*, 585-310-760.

Continued on next page

Table 1-5.   Repairing Script Builder Troubles — *Continued*

Indication	Corrective Action
There is no speech output.	1. Make sure the phrase actually exists. If it does not, record it. See the Speech Administration screen in Chapter 7, "Producing Speech," of *INTUITY™ CONVERSANT® System Version 6.0 Application Development with Script Builder*, 585-310-763.
	2. Make sure the OVOL and IVOL parameters are correctly set in the Switch Interface screen. See Chapter 6, "Switch Interface Administration," of *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.
	3. Enter **display card sp**
	4. Check the status of the SP cards.
Host sessions recover repeatedly.	1. Scan the Message Log Report for messages related to the trouble. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages,* 585-310-182.
	2. Make sure a Transaction Base screen has been specified.
	3. Make sure the Login and Recovery sequences both leave the host session at a Transaction Base screen.
A ring no answer occurs for an application that has a host interface.	1. Scan the Message Log Report for messages related to the trouble. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages,* 585-310-182.
	2. Check the host timeout value and verify that the host response time is not exceeded.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

1 Troubleshooting
Repairing Application-Related Troubles
Page 1-12

Repairing Script Builder FAX Actions Troubles

Table 1-6 provides information about trouble related to the Script Builder FAX Actions package. See this table for appropriate corrective action if a trouble with Script Builder FAX Actions arises.

Table 1-6.   Repairing Script Building FAX Actions Troubles

Trouble Indication	Corrective Action
The ASCII to TIFF conversion process failed.	The << SBFAX006 SBF_ASCTOTIFF_FAILED >> line above and similar lines throughout this chapter are explain message identifiers and mnemonics. They can be used as arguments to the explain function. The explain function is used to obtain the explain text associated with the error message. For example, to obtain the information below, enter **explain SBFAX006** at the UNIX shell prompt.
	The script made a request to transmit a text file to the caller. Before the text file can be sent, it must be converted into the appropriate format. This conversion failed for the text file specified.
	Most likely, the file requested is not suitable for transmission. Make sure the file is either a text file or a FAX file entered through the Fax Response Workspace.
The FAX combine process failed.	The system attempted to combine two or three files into a single FAX file. This operation failed. For this operation to be completed, file conversions are performed to get the information into a form suitable for transmission.
	Most likely, one or more of the files requested are not suitable for transmission. Make sure the files requested are either text files or FAX files entered through the Fax Response Workspace.
The FAX cover page process failed.	The script request to join two files into a single FAX file (possibly for use as a cover page) failed. For this operation to be completed, file conversions are performed to get the information into a form suitable for transmission.
	Most likely, one or both of the files requested are not suitable for transmission. Make sure the files requested are either text files or FAX files entered through the Fax Response Workspace.

Continued on next page

Table 1-6.   Repairing Script Building FAX Actions Troubles — *Continued*

Trouble Indication	Corrective Action
FAX file not found.	The script request to transmit a FAX file to the caller failed because the FAX file requested could not be found. Verify that the FAX file exists either in the Fax Response Workspace or at the full path specified in the script.
	The caller did not receive the FAX requested. Consider manually transmitting the FAX message requested by the caller using the delivery number contained in the error message.
Text file not found.	The script request to transmit a file to the caller failed because the file requested could not be found. Verify that the file exists and was specified in the script with the appropriate path.
	The caller did not receive the FAX requested. Consider transmitting it manually to the caller using the delivery number contained in the error message.
The FAX send process failed.	The script request to transmit one or two FAX messages to the caller failed. The return code reported in the error message indicates the result of the delivery request.
	This error may be the result of the failure of earlier FAX Actions. For example, if another FAX Action failed and the script did not check its return value, it is likely that the associated FAX_Send action would also fail. Consult the list below to determine the source of the problem.
	■ 6003FAX file missing
	■ 6105FAXMGR not running/FAX channels not in service/No telephone lines attached
The execute UNIX command failed.	The script request to execute a UNIX command or shell script failed.
	Most likely, the problem is with the command or shell script. Check that the command or shell script that was attempted works when executed manually. If it does, make sure that its full path name is provided to the script.

Repairing Administrative Troubles

Administrative troubles are those that occur while performing a task you have initiated (for example, a trouble arises while performing a mkimage of the system software). Table 1-7 contains troubles related to administrative tasks.

Table 1-7.   Repairing Administrative Troubles

Trouble Indication	Corrective Action
UNIX commands are failing or the disk reported failures.	1. Scan the Message Log Report. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages*, 585-310-182, for the procedure.

ccasum never finishes its cron job.	1. Determine if you are transferring to more than 100 numbers.
	
	If you are, kill the cron job by completing the following Steps a through c:
	
	  a. Enter **ps -ef | grep ccasum**
	
	  b. Search for the parent process id (PID) for ccasum (it is located in the second column from the left).
	
	  c. Enter **kill -9 *pid#***
	    where *pid#* is the PID number.
	
	2. Create an index for ccasum by completing the following Steps a through c:
	
	  a. Log in to SQL*Plus as sti/sti
	
	  b. Enter **create index cca_idx on cca(phone_num);**
	
	  c. Enter **:quit** to exit the SQL*Plus Utility.
	
	3. When the call traffic is light, enter **/vs/bin/util/ccasum**
	
	4. Enter **/vs/bin/util/ccadel** when ccasum is finished.

Using the vi editor causes a core dump.	1. To split the file into multiple segments, enter **split -n *filename name*** where **-n** is the number of lines in each piece (1000 is the default, *filename* is the name of the files you want to split**,** and *name* is the new segment you are creating).

Repairing Operational Troubles

Operational troubles are experienced with the physical components of the voice system, such as a blank monitor or an inoperable modem. These troubles can occur at any time. Table 1-8 contains troubles related to operational tasks.

Table 1-8.   Repairing Operational Troubles

Trouble Indication	Corrective Action

The monitor screen is blank, but the voice system is still taking calls.	1. Check the power on the voice system.
	
	   If on, place a test call to the system.
	
	2. Check the LED on the monitor.
	
	   If on, check the contrast and brightness controls on the monitor.
	
	3. Check the monitor connection to the voice system.
	
	4. Unplug/plug in the monitor cable to the voice system.
	
	5. Check the on/off switch on the monitor.
	
	6. Log in remotely to check out the system and see if the voice system is taking calls.
	
	7. If the problem persists, replace the monitor and or the video controller circuit card.

The **shutdown** and **init** commands will not bring the system down.	1. Perform a hard reboot of the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

Repairing Feature Licensing Troubles

Feature Licensing troubles are those that occur when the user is unable to access certain features of the INTUITY™ CONVERSANT® system. Table 1-9 contains troubles related to operational tasks.

Table 1-9.   Repairing Feature Licensing Troubles

Trouble Indication	Corrective Action
Feature licensing is no longer active.	1. If the name of your system has been changed, notify the TSC.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1   Troubleshooting
Repairing Other Voice System Troubles   *Page 1-16*

Repairing Other Voice System Troubles

The following tables contain some general trouble areas that do not fall into the other classes listed above. Specifically, these troubles include:

- Switching Control Center System (SCCS) and Alarm Relay Unit (ARU) troubles

- Call-transferring troubles

- Performance-related troubles

- Speech-related troubles

- Diagnostic troubles

- Touch-tone input troubles

- Report troubles

- Channel state troubles

Repairing Switching Control Center System (SCCS) and Alarm Relay Unit (ARU) Troubles

Table 1-10 lists the procedures for repairing Switching Control Center System (SCCS) and Alarm Relay Unit (ARU) troubles.

Table 1-10.   Repairing SCCS/ARU Troubles

Indication	Corrective Action
ARU/SCCS hardware is not responding to alarms from the voice system.	1. Check the hardware/cabling connections. See Chapter 3, "Making Cable Connections," in your system installation book
	2. Verify that the serial port on the eight-port asynchronous unit is properly configured on the voice system.
	3. Verify that the CPU (tty00) is properly configured on the voice system.
	4. Verify that the software is communicating with the ARU by completing the following Steps a and b:
	a. Enter **load_aru_b** if the ARU is a J1P158B-1 without scan points.
	Enter **load_aru_c** if the ARU is a J1P158C-1 with scan points.
	As you enter this command, one of the two LEDs on the front of the ARU will flicker, and the word "DOWNLOAD" should flash on the display panel. These LEDs correspond to serial ports A and B on the ARU.
	b. If the LED did not flicker or DOWNLOAD was not displayed, try swapping the connection to the other serial port on the ARU and repeat the procedure.
	If the LED does not flicker, there is a cabling/port configuration problem.
	If the second port works and it has the same switch settings as the 1st, this may indicate a bad serial port on the ARU.
	5. Verify that there are no other processes communicating with the TTY port assigned to the ARU.
	The getty for the TTY port used by the ARU should be initialized at the baud rate configured for the ARU. Once the getty has been initialized for that port, it should be turned off. It will be turned off when the CompuLert/SCCS/ARU package is loaded.
	If not, complete the following Steps a and b:
	a. Manually turn off the getty process.
	b. Check all other processes, dips, etc. and ensure they are not attempting to send/retrieve data from that port.

Table 1-10. Repairing SCCS/ARU Troubles — *Continued*

Indication	Corrective Action
Error message ERROR 03, ERROR 04, or ERROR 10 shows up on the ARU when the unit is powered-on or reset, or when receiving a message from the voice system.	1. Hold the `LK-OUT` and `RESET` keys in at the same time for approximately 2 seconds to verify that the BAUD rate of the ARU (according to switch settings on the back of the unit) for Port A match the BAUD rate of the TTY port used for communication. 2. Press `RESET` again to get back to the NORMAL mode. 3. Check the ARU users manual if changes to the DIP switch settings are necessary. If changes are made, the ARU must be reset or powered off/on for the new settings to take effect on the unit.
Error message ERROR 06, ERROR 07, or ERROR 11 shows up on the ARU when the unit is powered-on or reset, or when receiving a message from the voice system.	1. Hold the `LK-OUT` and `RESET` keys in at the same time for approximately 2 seconds to verify that the BAUD rate of the ARU (according to switch settings on the back of the unit) for Port B match the BAUD rate of the TTY port used for communication. 2. Press `RESET` again to get back to the NORMAL mode. 3. Check the ARU users manual if changes to the DIP switch settings are necessary. If changes are made, the ARU must be reset or powered off/on for the new settings to take effect on the unit.
The red LED for port A/B of the ARU stays on when it is connected to the voice system.	1. Perform the procedure from "ARU/SCCS hardware is not responding to alarms from the voice system." 2. Check the behavior of the serial port with another device, like an asynchronous modem. If the port works with the modem, it is probably fine and just needs to be cabled and configured properly for the ARU.
The wrong priority (critical, major, informational) level is assigned for a particular message.	Enter **chg_alarm** to change the priority level for a particular message sent to the ARU.

Repairing Call-Transfer Troubles

Table 1-11 lists the repair procedures for repairing call-transfer troubles.

Table 1-11. Repairing Call Transfer Troubles

Indication	Corrective Action
Voice system not transferring calls properly.	1. Scan the Message Log Report. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages*, 585-310-182, for the procedure.
	2. Verify the values on the Switch Administration screen as described in Chapter 6, "Switch Interface Administration," of *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.
	If this screen has changed, complete the following Steps a through d:
	a. Save the values.
	b. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures".
	c. Start the voice system. See "Starting the Voice System" in Chapter 3, "Common System Procedures".
	d. Reinstall the application. See "Installing the Script Builder Package" in Chapter 10, "Installing the Optional Feature Software".
	3. Try to transfer a call manually, by completing the following Steps a through d:
	⇒ **NOTE:** You need an analog telephone for this test.
	a. Plug the line going into the voice system into the telephone.
	b. Place the call to this telephone.
	c. Answer the call.
	d. Try to transfer to another extension.
	4. Assign the feature test script to the channel and place test calls.
	5. Enter **trace tsm chan all trip	tee /tmp/trace.out**
	6. Check the logic of the application that is doing the transfer.

Table 1-11.　Repairing Call Transfer Troubles — *Continued*

Indication	Corrective Action
Direct agent calls do not work properly.	Make sure all fields within the ASAI external actions are defined as the documentation states.
	When Script Builder must convert fields from one type to another (that is, char to num), sometimes fields do not contain the values expected.
	For a direct agent call to be successful, the `Split Extension` field must contain the number identifying a valid ACD split.
	If the field is corrupted, the direct agent call will not work.

Repairing Performance Troubles

Table 1-12 lists the repair procedures for repairing performance troubles.

Table 1-12.　Repairing Performance Troubles

Indication	Corrective Action
The system is slow or delayed in speaking.	1. Reduce the load. See "Reducing Load".
The system performance is degraded. For example: ■ Speech breaks are occurring ■ There is bad response time to commands	

Repairing Diagnostics Troubles

Table 1-13 lists the repair procedures for repairing diagnostics troubles.

Table 1-13.　Repairing Diagnostics Troubles

Indication	Corrective Action
Card diagnostics failed.	Check the circuit cards. See "Circuit Card Diagnostics" in Chapter 2, "Diagnostics".

Repairing Touch-Tone Input Troubles

Table 1-14 lists the repair procedures for repairing touch-tone input troubles.

Table 1-14.   Repairing Touch-Tone Input Troubles

Indication	Corrective Action
User touch-tone input is not being correctly interpreted by the system.	1. Verify the Prompt and Collect action matches the intended use in the script. 2. If this is channel related (that is, the trouble only appears on a particular channel) and you have another card, see if the trouble occurs on the other card. If not, replace the original card. See Chapter 5, ''Replacing or Installing Circuit Cards''.

Repairing Report Troubles

Table 1-15 lists the repair procedures for repairing report troubles.

Table 1-15.   Repairing Report Troubles

Indication	Corrective Action
Call data reports are not accurate or they are not complete.	1. Determine if there is any additional free space in the database by entering **dbfrag** 2. Scan the Message Log Report. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages*, 585-310-182, for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Repairing Other Voice System Troubles

Page 1-22

Repairing Channel/Card State Troubles

Table 1-16 lists the repair procedures for repairing channel/card state troubles.

Table 1-16.   Repairing Channel/Card State Troubles

Indication	Corrective Action
Channel/card is in state Manoos.	Restore the channel or card by entering **restore [channel/card] *[channel/card #]***
	See Appendix A, "Summary of Commands," in *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.
Channel/card is in state Foos.	Enter **display channel *<channel number>***
	If T1.5, PRIB, or PRID is displayed, check the error log for a message in the range TWIP013–TWIP018. Follow the recommended repair procedure for that message.
	If VRS6, IVP4, or IVP6 is displayed:
	1. Enter **diagnose card *<card number>***.
	2. If the channel remains Foos, check the telephone connection to the card.
Channel/card is in state Broken.	Follow the repair procedure for message MTC003 provided in Chapter 2, "System Message Listings," in *INTUITY™ CONVERSANT® System Version 6.0 Alarms and Log Messages*, 585-310-182 for the procedure.

Reducing Load

This repair procedure is provided to enable application developers and system administrators to troubleshoot the root cause of system problems. Problems related to performance depend on a wide range of variables; understanding the nature of the problem requires a good understanding of the attributes of the system which effect performance. See Chapter 7, "Performance Information," in *INTUITY™ CONVERSANT® System Version 6.0 System Description*, 585-310-241, before attempting to troubleshoot complex performance-related problems.

> **NOTE:**
> Every INTUITY CONVERSANT system must have a minimum of 32 Mbyte of memory.

The information provided in this section is platform related. Rule out application related performance problems first before proceeding this procedure.

Indicators of Performance Problems

Most performance-related problems become noticeable through either reports of slow response time from end users or performance- or load-related error messages in the alarm log.

Reports of Poor Response Time

If poor response time is reported but no load-related messages are reported to the alarm log, it is likely that the response time delays are a result of

- Host transactions

- Database transactions

- Delays in custom database interface processes (DIPs) or customer IRAPI processes

- Large, complex TSM applications (for example, an application that contains multiple language options)

An application rarely experiences unacceptable delays because of voice processing (playing and coding phrases and recognizing touch tones) without alarms in the alarm log. Voice processing shows little change in response time as system load increases. Typically, if load increases to a point where the system cannot serve voice processing requests in real time, alarms are logged.

Reports of System Inaccessability

Typically, if load increases to a point where the system cannot serve voice processing requests in real time, alarms are logged.   However, if the system is inaccessible, the alarms logged are also inaccessible. UNIX interprocess communication (IPC) message queues may indicate that the system may be nearing its load threshold.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-24

Load-Related Messages in the Alarm Log

Load-related messages in the alarm log indicate that voice processing cannot be carried out in real time because of excessive system load. Components of the system which affect voice processing include

- Central processing unit (CPU)
- Memory
- Hard disk drives

Identifying Load Culprits

Before attempting to analyze the application for load liabilities, it is important to remember that processing external to the application may be the cause of load related problems. Check that none of the following occur at times when load-related alarms are reported:

- Use of the INTUITY CONVERSANT Script Builder application generator on a production machine during peak load hours
- Excessive use of call data event tracking
- Excessive requests to the 3270 host interface
- Reading of large (more than 500 records) database tables that are not indexed
- Reading of and writing to database tables exclusively
- Use of the system monitor program with a fast refresh rate

  A fast refresh rate is anything less than the default rate of 5 seconds.

- Requests of call data reports during peak load periods
- Performance of other operation, administration, and maintenance (OA&M) functions (includes backups, speech administration, etc)
- ASCII to FAX conversions when using Script Builder FAX Actions
- System cron jobs

  $\Longrightarrow$ **NOTE:**
  Every day at 12:15 a.m. all call data is summarized. If this coincides with even low voice processing activity, alarms may be reported. A possible solution is to modify the crontab entry for a time with less load.

If sources of external load have been ruled out, continue with the following sections.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-25

Checking CPU Resources

To check the CPU resources do the following

1. Enter **sar**

   ⇒ **NOTE:**
   The **sar** command reports system activity reports for a wide variety of system resources. (See **sar(1m)** in the *UNIX SVR4.2 Command Reference* for a complete description.)

The system displays the CPU Resources screen (Figure 1-2).

```
00:00:00  %usr       %sys       %wio       %idle
01:00:00   0          0          0          100
02:00:00   0          0          0          100
03:00:00   0          0          0          100
04:00:00   0          0          0          100
05:00:00   0          0          0          100
06:00:00   0          0          0          100
07:00:00   0          0          0          100
08:00:00   0          0          0          100
08:20:00   0          0          0          100
08:40:00   0          0          0          100
09:00:00   0          0          0           99
09:20:00   0          0          0           99
09:40:00   0          4          1           95
10:00:00   9         43          3           45
10:20:00  10         36          2           52
10:40:00  10         23          2           65
11:00:00   9         23          2           65
11:20:00   2          4          1           93
11:40:00   0          0          0           99
```

Figure 1-2.   CPU Resources Screen

⇒ **NOTE:**
To display current CPU usage every 5 seconds for 50 seconds, enter **sar 5 50**

If the CPU Resources screen shows CPU usage (the sum of columns 2 and 3, usr + sys) over 60 percent during the busy hour or when alarms are logged, it is likely that alarms are a result of over utilization of CPU resources.

The output of the second command should only be considered during the busy hour and CPU usage should again be below 60 percent. If either of these test show CPU utilization consistently over 60 percent it is likely that the CPU is the problem.

See "Reducing CPU Usage" below.

Checking Disk Resources

To check the disk resources do the following

1. Enter **sar -c** or **sar -c 5 50**

The system displays the Disk Resources screen (Figure 1-3).

```
00:00:00   scall/s   sread/s   swrit/s   fork/s   exec/s   rchar/s   wchar/s
01:00:00      58        4         0       0.14     0.15      5219       42
02:00:00      37        2         0       0.04     0.04       202        3
03:00:00      35        2         0       0.02     0.02       180        2
04:00:00      38        3         0       0.03     0.04       522        6
05:00:00      48        3         0       0.06     0.06       634        6
06:00:00     108       16        15       0.05     0.07      2021      794
07:00:00    2246       48      1256       0.02     0.03     12984    46369
08:00:00    1841       47       804       0.11     0.13      9475    36937
08:20:00    1036       34        25       0.02     0.02      2649    17658
08:40:00    1067       39        38       0.03     0.04      3985    26619
09:00:00     246       19         5       0.10     0.10       873     3999
09:20:00      76       19         3       0.09     0.10      1956     1347
09:40:00      65       16         0       0.08     0.08       424        6
10:00:00      74       20         1       0.12     0.12       567       38
10:20:00      72       20         1       0.08     0.08       423       15
10:40:00      73       20         1       0.08     0.08       464       17
11:00:00      87       24         5       0.11     0.11      2005      857
11:20:00      78       22         2       0.10     0.10      1001       82
11:40:00     103       27         2       0.27     0.30      3206      195
```

Figure 1-3.   Disk Resources Screen

➡ **NOTE:**

If the sum of the **rchar/s** and **wchar/s** columns is consistently greater than 320000 during the busy hour, then it is likely that the disk is the problem. See "Reducing CPU Usage" for repair procedures.

Checking Memory Resources

To check the CPU resources do the following

1. Enter **sar -p** or **sar -p 5 50**

   The system displays the Memory Resources screen (Figure 1-4).

```
18:42:03   atch/s   pgin/s  ppgin/s   pflt/s   vflt/s  slock/s
18:42:08    0.00     7.75     9.54     0.00    12.13     0.00
18:42:13    4.79    22.75    28.14     0.00    28.34     0.00
18:42:18    6.96    34.79    40.76     0.00    42.74     0.00
18:42:23    3.19    17.93    23.31     0.00    25.10     0.00
18:42:28    9.56     9.96    11.95     0.00    19.52     0.00
18:42:33    5.18    10.16    11.75     0.00    15.54     0.00
18:42:38    3.19     6.37     7.17     0.00    11.95     0.00
18:42:43    3.17     8.33     9.13     0.00    13.29     0.00
18:42:48    0.60    13.94    17.33     0.00    19.52     0.00
18:42:53    0.00     8.76     9.16     0.00    16.33     0.00
18:42:58    0.80    11.16    11.35     0.00    21.12     0.00
18:43:03    0.40     5.98     5.98     0.00    10.76     0.00
18:43:08    0.00     9.38    10.58     0.00    15.57     0.00
18:43:13    0.20     9.36    10.96     0.00    17.53     0.00
18:43:18    0.60    10.76    13.75     0.00    17.93     0.00
18:43:23    3.59     5.79     6.79     0.00     8.98     0.00
18:43:28    1.39     8.95     9.74     0.00    13.92     0.00
18:43:33    6.79     9.18    12.18     0.00    17.96     0.00
18:43:38    0.20     6.96     7.95     0.00    12.33     0.00
18:43:43    0.00     6.97     8.76     0.00    12.75     0.00
18:43:48    0.00     6.35     6.94     0.00    12.30     0.00
18:43:53    0.00    12.50    14.88     0.00    19.64     0.00
18:43:58    0.80     6.96     7.95     0.00    12.92     0.00
```

Figure 1-4.   Memory Resources Screen

2. Check the column labeled vflt/s. Note if this value is consistently close
   to or greater than 50.00 and continue with Step 3.

   ### ➡ NOTE:
   Processes being created and terminated regularly will also cause
   vflt/s to increase. If this is the case, memory may be sufficient, but
   the creation of processes is forcing the operating system to *page*
   processes to disk and back into memory. When processes are
   paged, they respond more slowly and speech processing may be
   interrupted.

3. Enter **sar -g** or **sar -g 5 50**

   The system displays the Memory Resources screen (Figure 1-5).

```
18:42:03   pgout/s ppgout/s pgfree/s pgscan/s
18:42:08     4.97    20.87    27.04    49.30
18:42:13    10.18    35.93    40.52   152.69
18:42:18     5.37    16.90    20.08    68.99
18:42:23     7.97    32.87    33.47    21.71
18:42:28     5.58    11.16    15.54    43.82
18:42:33     3.78    19.52    21.31    23.71
18:42:38     4.58     7.57    14.54    52.39
18:42:43     6.55     9.72    13.69    39.09
18:42:48     7.57    28.09    32.47    34.46
18:42:53     9.16    18.33    25.90    62.75
18:42:58    13.94    16.93    29.28    98.41
18:43:03     6.97    15.94    17.73    18.53
18:43:08     7.39    31.74    34.13    16.97
18:43:13     8.17    23.11    29.88    47.41
18:43:18    16.93    45.82    52.19    58.37
18:43:23     5.79    36.73    36.73     0.00
18:43:28     4.77    29.42    29.42     0.00
18:43:33     2.99    14.77    15.97     5.59
18:43:38     8.75    28.43    35.59   158.05
18:43:43     7.97    31.87    32.87    30.88
18:43:48     5.56    31.94    32.54    22.82
18:43:53    10.91    33.93    41.27    90.48
18:43:58    12.92    45.33    50.89    60.64
```

Figure 1-5.   Memory Resources Screen

4. Check the column labeled pgscan/s. Note if this value is consistently close to or greater than 100 and continue with Step 5.

5. Enter **sar -r**

   The system displays the Memory Resources screen (<u>Figure 1-6</u>).

```
18:42:03 freemem freeswp
18:42:08      82   10406
18:42:13      92   10406
18:42:18     105   10406
18:42:23     102   10405
18:42:28      94   10405
18:42:33      99   10405
18:42:38      96   10405
18:42:43      86   10405
18:42:48     113   10405
18:42:53      87   10405
18:42:58      79   10405
18:43:03     107   10405
18:43:08     106   10405
18:43:13      93   10405
18:43:18      98   10405
18:43:23     167   10405
18:43:28     136   10405
18:43:33     106   10405
18:43:38      86   10405
18:43:43      97   10405
18:43:48      90   10405
18:43:53      79   10405
18:43:58      84   10405
```

Figure 1-6.   Memory Resources Screen

6. Check the column labeled `freemem`. Note if this value is consistently close to or less than 100.

7. If two or more values consistently follow the pattern listed below, see "Reducing Memory Usage" for more information.

    `vflt/s` > 50.00

    `pgscan/s` > 100

    `freemem` < 100

Also, make sure that the appropriate number of SP/SSP circuit cards in your system are assigned the VOICE function. See "SP/SSP Functions" in Chapter 3, "Voice System Administration," of *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-30

Reducing Load for Host

Tune the 3270 host interaction.

The following procedures should be considered for reducing the load for the host.

- Limit the number of screens that must be sent to or retrieved from the host, making the voice system less dependent on host performance.

- The parameters associated with the host can impact system performance. Make sure that time-out periods are long enough for the host to respond but not too long so that the caller must wait unnecessarily. Be aware of how the parameters are used and what is typical for the host system. Keep track of how many LUs the system has and how many channels are to be used. For example, if a system with one host communication board (32 LUs available) has 48 calls active each of which needs to access the host, 16 callers are locked out of the host if LUs are not shared (that is, if the LUs are reserved).

- For host systems that are known to be slow at times, one way of hiding the pause from the host is to use an announce statement between the send host screen and the get host screen statements. For example:

    1. Prompt and Collect (get card number)

    2. Get Host Screen A

    3. Send Host Screen A (send the card number to the host application)

    4. Announce (repeat the card number to the caller)

    5. Get Host Screen (retrieve caller data)

  This would cover part of the time that the host is slow in processing the user-input card number with an announce statement that repeats the number back to the user. By the time the announce is completed, the host may have responded. Thus the user does not realize the gap caused by the slow host response.

- Consider checking the speed of the host link. Increasing the speech of the link to 19.2 or 56 Kbps may decrease any delays in host processing.

Reducing Load for Database

The following should be considered to reduce load because of use of the local database.

- For large tables (over 500 records) that are being read by the application, indexing the tables reduces the access time and impact on system performance. However, note that making changes to indexed tables can also impact system performance.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-31

- The insert (add) record operation is a much faster operation than the update (change) operation. One way to replace a change record with an add record is to add records to a table during the normal call hours and write a shell routine using SQL*PLUS to summarize and delete records during nonpeak hours.

- Attempt using SQL*Views to encapsulate common database queries which require multiple accesses on a single table or accesses from multiple tables.

- Keep in mind that each call data event is a unique record in more than one table. Therefore, every time a call data event is accessed, the database table is updated at the end of the call.

Reducing Load for Custom DIPs/IRAPI Processes

Since DIPs can be vary widely in size and complexity there is little specific information that can be given about DIP performance. In general, DIPs should

- Avoid using excessive memory (more than 200 pages)

- Avoid creating new processes (by using **fork(2)** and **exec(2)** or **system(3)**)

- Rely on minimal communication with the script to reduce message sending

Reducing Load for Voice Processing

See Chapter 7, "Performance Information," in *INTUITY™ CONVERSANT® System Version 6.0 System Description*, 585-310-241, for a more detailed explanation the performance of voice processing. The information below simply attempts to give a step-by-step approach to reducing speech-processing load.

Voice Play

Voice play performance is affected by the

- Coding algorithm
- Phrase length
- Speech pool

Coding Algorithm

Coding algorithm primarily determines how much data must be transferred to do voice processing. Coding algorithms such as SBC16, ADPCM16, and CELP16 pack 4 seconds of speech in a single 8-Kbyte block and show the best performance. PCM64 is at the other extreme of the spectrum; it packs 1 seconds of speech in a single block, and therefore requires the system to do four times the work in the same time. ADPCM32 is the standard coding rate. ADPCM32 is a

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-32

middle ground between performance and sound quality. It packs 3 seconds per block. SBC 24 packs 3 seconds per block. Sound quality must be considered before moving to the SBC16 or ADPCM16 coding algorithms.

Phrase Length

Short phrases (less than 2 seconds for ADPCM32), particularly when played back-to-back (such as through a single Script Builder Announce action), place more load on the system then a single longer phrase. The load manifests itself as increased CPU usage, memory occupancy and, if the speech pool size (see the following paragraph) is larger than the speech buffer cache, disk accesses.

For optimal performance, phrase length should be as close to the total capacity of its block count as possible. Block count is the number of speech blocks required to contain the phrase. If speech does not use blocks efficiently, space is wasted in memory and since data is copied over from disk in block sized chunks, disk accesses and CPU usage increase. For example, a phrase that uses an odd number of seconds (that is, 1, 3, 5, etc) uses only 50 percent of a block, whereas a 2-second phrase uses the entire block. However, the system utilizes CPU and disk resources more efficiently when speaking a 5-second phrase rather than 5 individual 1-second phrases Placing longer phrases into one Announce step is much better than using separate short phrases.

Speech Pool

The speech pool is the quantity of speech data required by an application. It can be thought of as the *working set* for those familiar with virtual memory operating system terminology. The voice system caches speech in main memory. This is called the speech buffer cache, and it allows speech data to be reused without having to constantly retrieve it from disk. If all the active speech data can fit into memory simultaneously, the voice system will not have to continually access the disk for speech data. This results in a substantial savings in both CPU usage and disk accesses. If, however, the speech pool size is larger than the speech buffer cache, then the voice system will have to access the disk more frequently for speech. The larger the speech pool, the more likely speech will have to read from disk.

Calculating speech pool size requires knowing which phrases are usually played during normal script processing and how many blocks of speech these phrases require. See the paragraph above regarding block capacity for various coding algorithms. Calculating the size of the buffer cache requires a meticulous analysis of the application and an understanding on how users progress through a typical call scenario.

The size of the buffer cache is tunable by adding the nbufs parameter in the **/vs/data/spchconfig** file. VROP sets this value dynamically based on the number of telephone network connections in the system. The entry in the **/vs/data/spchconfig** file overrides the VROP setting. Note that you may not set this value to more than 250. A system showing signs of heavy disk activity, a large speech pool, and no appreciable paging activity may be a candidate for specifying the *nbufs* parameter. Modifying this dynamically assigned value

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-33

should be done with extreme caution. Making this number too large may result in system paging, which is the worst condition the voice system can get into with respect to performance.

Reducing Voice Play Load

Reducing load because of voice play requires maximizing speech buffer efficiency, matching the speech pool size to the speech buffer cache, or considering the use of different coding rates which pack more speech into a single block or disk load balancing.

Maximal speech buffer efficiency may be achieved through the concatenation of several small phrases into a single larger phrase. The common practice of trimming silence from the ends of phrases and replacing the silence with short silent phrases is particularly inefficient. Playing silence to introduce delays is also inefficient. Try using the **sleep** instruction as described in Appendix A, "Summary of Script Instructions," of *INTUITY™ CONVERSANT® System Version 6.0 Application Development with Advanced Methods*, 585-310-761.

Matching the speech pool size with the speech buffer cache may be achieved through increasing speech buffer efficiency as described above, and ensuring that phrases are shared both with and between applications.

Voice Code

Performance because of voice coding is affected as is voice play with respect to phrase length and coding algorithm. Voice coding differs is in speech pool size. All coded phrases are *new*, that is, there is no benefit from the speech buffer cache. Indeed, it is likely that coding phrases will force other phrases, which may be likely to be played soon, to be flushed from the cache. Coding will also require a write to disk for each phrase coded. These two factors combine to increase load on the disk. Increased disk load because of coding may be addressed by switching coding algorithms, reducing channel counts or code times, or balancing the disk load.

Reducing CPU Usage

Application types making heavy use of CPU resources typically include those with heavy voice processing or local database loads. See "Reducing Load for Voice Processing" and "Reducing Load for Database" above for more information. If these software components do not appear to be responsible, the following sections suggest other possibilities.

Inefficient DIPs

See "Reducing Load for Custom DIPs/IRAPI Processes" above.

Run Away Processes

If the **sar(1m)** command consistently shows 0 percent idle time, it is likely that a process is in an infinite loop. The process can be identified with **ps(1m)** by examining the change in its CPU time and run status. If it is a system process, contact a service representative. If it is a user process, repair as required.

Inefficient Scripts

Script developers can writing applications that inherently use system resources inefficiently or are extremely large and complex. Since scripts are interpreted, attempting to use the script language or Script Builder for anything but basic call flow control may result in unacceptable inefficiencies. Code segments performing complex lexical or arithmetic calculations should be considered as candidates for DIPs. Also, increase efficiency by creating modular applications that execute several smaller applications from a main application. For example, a main application could allow a user to select a language application (that is, a version of an application in a particular language). The user input would then execute the language application from the main application.

Reducing Disk Usage

Applications making heavy use of voice processing or a local database typically place heavy loads on the disk. See the "Reducing Load for Voice Processing" and "Reducing Load for Database" sections. If problems persist, consider rechecking paging activity and memory usage. Also, consider adding more disks to your platform or disk load balancing or investigate more complex disk mirroring or disk striping. See the performance information in *INTUITY™ CONVERSANT® System Version 6.0 System Description*, 585-310-241, for information about the performance penalties for excessive use of call data events. Be sure that you application falls within the guidelines specified.

Reducing Memory Usage

If you have concluded that your system does not have sufficient memory, the first thing to consider is the processes you have running. Be sure to check "Identifying Load Culprits" above to rule out the effects of external processing. Table 1-17 lists the processes that can be terminated if they are not providing a service to the application.

Table 1-17.   Processes which may be Terminated

xferdip	This process is used only in bridging applications. Enter **xferdip_off** to terminate the process.
lpsched	This process is only required if a line printer is being used with the system. The command **/usr/lib/lpshut** can be used to turn off the lp scheduler. You may also rename the **S80lp** file from the **/etc/rc2.d** directory to **s80lp**. This action prevents the process from being execute during startup, but maintains the file on the system should the scheduler be needed in the future.
Network	Some networking processes such as **rwhod** and **routed** may be unnecessary.
sysmon	Do not run **sysmon** in systems with insufficient memory.

If no processes can be eliminated, be sure that all the packages on your system are being used and are not occupying memory unnecessarily.

Also be aware that script size, both code and data, affects memory usage. Application scripts should be shared across channels whenever possible, and redundant code and data should be eliminated.

Finally, if the nbufs parameter has been specified in the **/vs/data/spchconfig** file and a large number is specified (see "Speech Pool" above), consider reducing *nbufs*. The effect of reducing *nbufs* may be an increase in disk accesses for speech, however, the voice system is more tolerable to disk accesses for speech than for paging.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

1 Troubleshooting
Reducing Load

Page 1-36

Diagnostics

2

Overview

This chapter describes diagnostic procedures for the INTUITY™ CONVERSANT® system.

Purpose

The purpose of this chapter is to provide the on-site technician or system administrator with the correct procedures to diagnose trouble with the INTUITY CONVERSANT system.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-2

Circuit Card Diagnostics

The following diagnostics can be performed on

- Tip/Ring circuit cards

- T1/E1 circuit cards

- SP circuit cards

- SSP circuit cards

Checking Cable Connections for Cables other than the TDM Bus Cable

To check cable connections, do the following:

1. Route calls away from the system during this procedure.

2. Make sure that you know the type of card to be checked.

3. Write down the message text so that when the system is shutdown, you know for which card you are performing this procedure.

4. Shutdown the operating system. See "Shutting Down the Operating System", in Chapter 3, "Common System Procedures", for the procedure.

5. Access the circuit card cage. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer".

6. Check the cable connections to be sure they are properly connected to the appropriate cards. See Chapter 5, "Replacing or Installing Circuit Cards".

   If a cable is not seated properly, reseat the cable and continue with Step 7.

   If the cables appear to be inserted properly, complete the following Steps a through c before continuing with Step 7.

   a. Remove the cables other than the TDM Bus cable.

      ➡ **NOTE:**
      Do not remove the TDM Bus cable at this time.

   b. Remove the circuit card from the system. See "Removing a Circuit Card" procedure in Chapter 5, "Replacing or Installing Circuit Cards".

   c. Replace the circuit card. See "Installing a Circuit Card" procedure in Chapter 5, "Replacing or Installing Circuit Cards".

      ➡ **NOTE:**
      Do not reseat the cables on the circuit card.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics   Page 2-3

7. Reboot the operating system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

8. Enter **diagnose card *\<card number\>***

   where *\<card number\>* is the number of the identified circuit card.

   If the circuit card passes diagnostics, and is on the TDM bus, continue with Step 9.

   If the circuit card passes diagnostics and is not on the TDM bus, replace the cables you removed earlier and restore the system to service.

   If the circuit card fails diagnostics, replace the circuit card and restore the system to service. See Chapter 5, "Replacing or Installing Circuit Cards".

9. Enter **diagnose bus *x***

   where *x* is the number of bus.

   ### ⇒ NOTE:
   X must be either 1 or all.

   If the circuit card passes this diagnostic, replace the cables removed in "Checking Cable Connections for Cables other than the TDM Bus Cable.

   If the circuit card fails this diagnostics, continue with the next procedure, "Checking the Terminating Resistors".

Checking the Terminating Resistors

To check the terminating resistors, do the following:

1. Shutdown the operating system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

2. Verify that the terminating resistors are inserted correctly. See "Terminator SIP Replacement" in Chapter 7, "Replacing Other Components".

   ### ⇒ NOTE:
   The AYC5B and AYC11 do not require orientation of the terminating resistors.

   If the terminating resistors are inserted correctly, continue with Step 3.

If the terminating resistors have not been inserted correctly, complete Steps a through c:

   a. Insert the terminating resistors correctly.

   b. Reboot the system. See "Rebooting the UNIX System", in Chapter 3, "Common System Procedures", for the procedure.

   c. Enter **diagnose card *<card number>***

      where *<card number>* is the number of the identified circuit card.

      If the circuit card passes diagnostics, restore the system to service.

      If the circuit card does not pass the diagnostic, continue with Step 3.

3. Verify that terminating resistors for the TDM bus exist only on the circuit cards connected at either end of the TDM bus.

   If the other circuit cards do not have terminating resistors, continue with the next procedure "Checking the Switch Settings".

   If the other circuit cards have terminating resistors, complete Steps a through c:

   a. Remove the terminating resistors.

   b. Reboot the system. See "Rebooting the UNIX System", in Chapter 3, "Common System Procedures", for the procedure.

   c. Enter **diagnose card *<card number>***

      where *<card number>* is the number of the identified circuit card.

      If the circuit card passes diagnostics, restore the system to service.

      If the circuit card does not pass the diagnostic, continue with the next procedure, "Checking the Backplane Slot".

Checking the Backplane Slot

To check the backplane slot, do the following:

1. Shut down the system. See "Shutting Down the Operating System", in Chapter 3, "Common System Procedures", for the procedure.

2. Change the slot in which the circuit card resides.

3. Login as root.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics   Page 2-5

4. Start the voice system. See *"Starting the Voice System"*, in Chapter 3, *"Common System Procedures"*, for the procedure.

5. Enter **display card *<card number>***

   where *<card number>* is number of the affected circuit card.

   If the circuit card state has changed to MANOOS, enter **restore card *<card number>***

   where *<card number>* is the number of the affected circuit card.

   You have repaired the circuit card problem.

   If the circuit card state has not changed to MANOOS, continue with the next procedure *"Checking the Switch Settings"*.

Checking the Switch Settings

To check the switch settings, do the following:

1. Check the circuit card for proper switch settings. See Chapter 5, *"Replacing or Installing Circuit Cards"*.

2. Toggle the switches to ensure a clean closure.

3. Check the chips on the card.

   If any are not properly seated, reseat them.

4. Check the switches on all other similar circuit cards in the system.

   For example, if the circuit card is a Tip/Ring circuit card, check the switch settings on all of the Tip/Ring circuit cards. See *"Tip/Ring Circuit Cards"* procedure in Chapter 5, *"Replacing or Installing Circuit Cards"*.

5. Toggle the dip switches to ensure a clean closure.

6. Reboot the system. See *"Rebooting the UNIX System"*, in Chapter 3, *"Common System Procedures"*, for the procedure.

7. Login as root.

8. Start the voice system. See *"Starting the Voice System"*, in Chapter 3, *"Common System Procedures"*, for the procedure.

9. Enter **displaycard *<card number>***
   where *<card number>* is number of the affected circuit card.

   If the circuit card state has changed to MANOOS, enter **restorecard *<card number>***
   where *<card number>* is the number of the affected circuit card.

   You have repaired the circuit card.

   If the circuit card state has not changed to MANOOS, continue with Step 10.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics
Page 2-6

10. Shut down the system. See <u>"Shutting Down the Operating System"</u>, in <u>Chapter 3, "Common System Procedures"</u>, for the procedure.

11. Reverse the switch settings of the suspect circuit card with a similar circuit card in the system.

12. Reboot the system. See <u>"Rebooting the UNIX System"</u>, in <u>Chapter 3, "Common System Procedures"</u>, for the procedure.

13. Login as root.

14. Start the voice system. See <u>"Starting the Voice System"</u>, in <u>Chapter 3, "Common System Procedures"</u>, for the procedure.

15. Enter **display card *<card number>***

    where *<card number>* is number of the affected circuit card.

    If the circuit card state has changed to MANOOS, enter **restore card *<card number>***

    where *<card number>* is the number of the affected circuit card.

    If the problem migrates with the switch setting, it is attributable to a software problem and not a hardware problem.

    If the problem remains with the suspect circuit card, replace the suspect circuit card. See <u>Chapter 5, "Replacing or Installing Circuit Cards"</u>.

Checking the Other Circuit Cards

If the above procedures have been attempted and the problem still exists, the problem may be attributed to another circuit card in the system. To determine which card, do the following:

1. Run diagnostics on all remaining cards in the system by entering **diagnose card all**

2. Observe the diagnostics for any failures.

   If any circuit card fails diagnostics, perform the above procedures on that circuit card to determine if it is the source of the problem.

   If all cards pass diagnostics, contact your service representative.

Checking a Circuit Card Using the INTUITY CONVERSANT Windows

The INTUITY CONVERSANT windows can be used to check the status of

- Tip/Ring circuit cards

- IPCI circuit cards

- Fax circuit cards

Checking a Tip/Ring Circuit Card

It is possible to check the entire Tip/Ring circuit card or to check a single channel on the Tip/Ring circuit card.

Checking the Tip/Ring Circuit Card

To check a circuit card using the INTUITY CONVERSANT windows, do the following:

1. Start at the Voice System Administration menu (Figure 2-1).
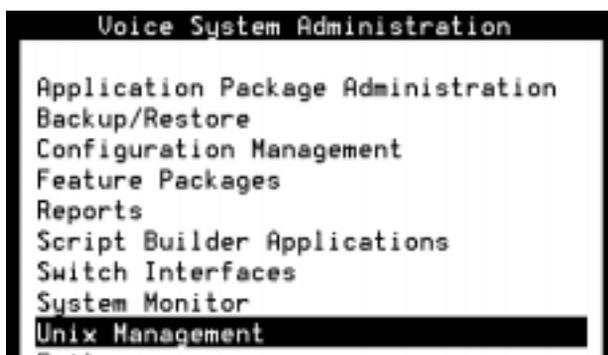
Figure 2-1.   Voice System Administration Menu

2. Select

> Configuration Management

    > System Control

        > Diagnose

            >Diagnose Equipment
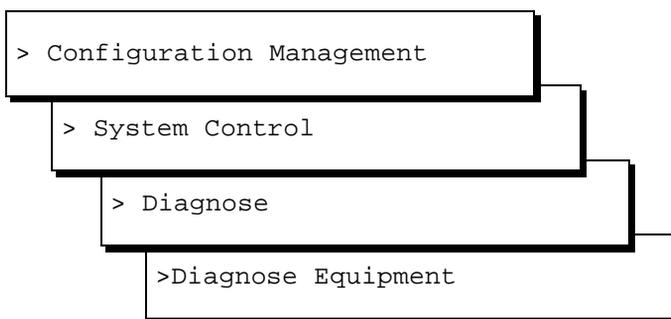
The system displays the Diagnose Equipment Window (Figure 2-2).
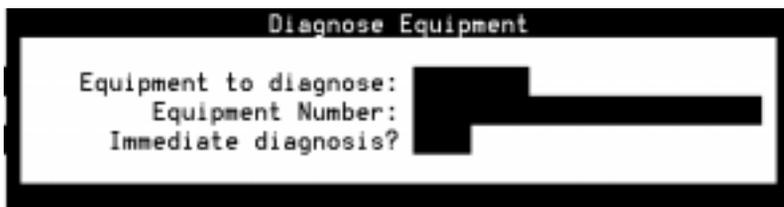
Figure 2-2.   Diagnose Equipment Window

3. Enter **card** in the `Equipment to diagnose` field.

4. Enter a card number, valid range, or all in the `Equipment Number` field.

    ➡️ **NOTE:**
    Enter circuit card ranges using one of the following formats:

    0,1,2
    0 1 2
    0-2

5. If you want to conduct an immediate diagnosis, enter **y** in the `Immediate diagnosis` field.

    ➡️ **NOTE:**
    Immediate diagnosis takes the specified channels out of service immediately even if a call is in progress.

    If you do not want to conduct an immediate diagnosis, enter **n** in the `Immediate diagnosis` field.

    ➡️ **NOTE:**
    The system waits until all specified channels are idle before beginning the diagnosis.

6. Press $\boxed{\text{SAVE}}$ (F3).

    The system removes the circuit card from service and runs the diagnostics.

    If the circuit card passes the diagnostics, the system displays the following message before placing the circuit card back in service:

    `Diag <card>, Passed`

    If the circuit card did not pass the diagnostics, the system displays the following message:

    `Diag <card>, Failed`

    Replace the circuit card.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics   Page 2-9

Checking a Tip/Ring Circuit Card Channel

To check a Tip/Ring circuit card channel using the INTUITY CONVERSANT
windows, do the following:

1. Starting at the Voice System Administration menu (Figure 2-1), select

```
> Configuration Management

    > System Control

        > Diagnose

            >Diagnose Equipment
```
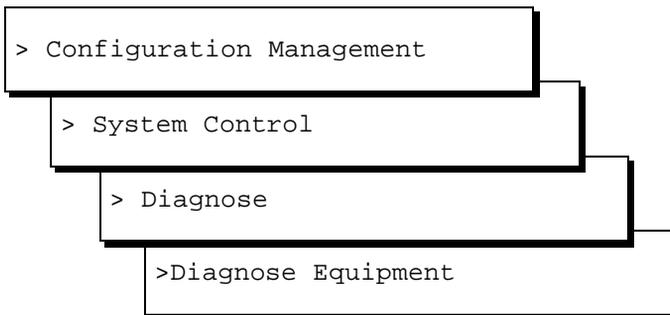
The system displays the Diagnose Equipment Window (Figure 2-2).

2. Enter **channel** in the `Equipment to diagnose` field.

3. Enter a channel number, valid range, or all in the `Equipment Number`
   field.

   > **NOTE:**
   > Enter circuit card ranges using one of the following formats:
   >
   > 0,1,2
   > 0 1 2
   > 0-2

4. If you want to conduct an immediate diagnosis, enter **y** in the `Immediate`
   `diagnosis` field.

   > **NOTE:**
   > Immediate diagnosis takes the specified channels out of service
   > immediately even if a call is in progress.

   If you do not want to conduct an immediate diagnosis, enter **n** in the
   `Immediate diagnosis` field.

   > **NOTE:**
   > The system waits until all specified channels are idle before
   > beginning the diagnosis.

5. Press SAVE (F3).

   The system removes the channel from service and runs the diagnostics.

   If the channel passes the diagnostics, the system displays the following message:

   ```
   Found loop current on Channel X
   Channel X state changed to INSERV.
   Request to diagnose Tip/Ring chan X completed
   ```

   If the circuit card did not pass the diagnostics, replace the circuit card.

Checking an IPCI Circuit Card

To check an IPCI circuit card, do the following:

1. Starting at the Voice System Administration menu (Figure 2-1), select

   > Feature Packages

   > ASAI Administration

   > Diagnose IPCI Board

   The system displays the Diagnose IPCI Board window (Figure 2-3).


```
                    Diagnose IPCI Board

IPCI Board passed all tests

Press ENTER to continue
```
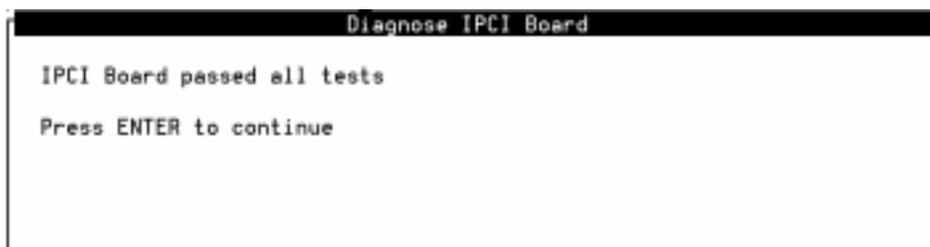
Figure 2-3.   Diagnose IPCI Board Window

2. Press ENTER.

   The system displays the ASAI Administration menu (Figure 2-4).

```
         ASAI Administration
     Channel Administration
    >Diagnose IPCI Board
     Domain Administration
     Initialize IPCI Board
     Parameter Administration
     Show ASAI Software Version
     Show Status of ASAI Link
     Take IPCI Board Off-Line
```
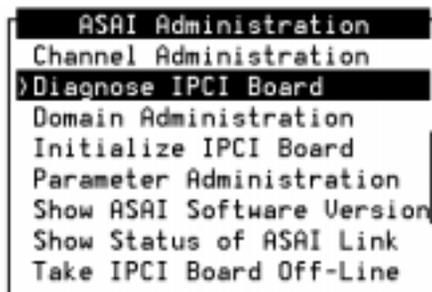
Figure 2-4.   ASAI Administration Menu

If the IPCI circuit card passes the diagnostics, you have completed the procedure.

If the IPCI circuit card fails the diagnostics, replace the circuit card.

Checking a FAX Circuit Card

It is possible to check the entire FAX circuit card or to check a single channel on the FAX circuit card.

Checking the FAX Circuit Card

To check a FAX circuit card, do the following:

1. Starting at the Voice System Administration menu (Figure 2-1), select

> **> Application Package Administration**
>   **> Script Builder FAX Actions**
>   **> FAX Equipment Operations**
>   **>FAX Equipment Diagnostics**

The system displays the FAX Equipment Diagnostics window (Figure 2-5).
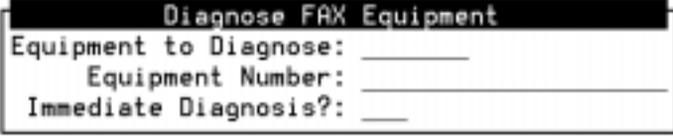
```
┌─────────────────────────────────────────────────┐
│            Diagnose FAX Equipment                 │
│Equipment to Diagnose: _____                    │
│      Equipment Number: _____    │
│ Immediate Diagnosis?: ___                         │
└─────────────────────────────────────────────────┘
```

Figure 2-5.   FAX Equipment Diagnostics Window

2. Enter **card** in the `Equipment to diagnose` field.

3. Enter a card number, valid range, or all in the `Equipment Number` field.

    ### ⟹ NOTE:
    Enter circuit card ranges using one of the following formats:

    0,1,2
    0 1 2
    0-2

4. If you want to conduct an immediate diagnosis, enter **y** in the `Immediate diagnosis` field.

    ### ⟹ NOTE:
    Immediate diagnosis takes the specified channels out of service immediately even if a call is in progress.

    If you do not want to conduct an immediate diagnosis, enter **n** in the `Immediate diagnosis` field.

    ### ⟹ NOTE:
    The system waits until all specified channels are idle before beginning the diagnosis.

5. Press (SAVE) (F3).

    The system displays the FAX Equipment Diagnostics Results window (Figure 2-6).

Figure 2-6.   FAX Equipment Diagnostics Results Window

6. If the FAX circuit card passes the diagnostics, you have completed the
    procedure.

    If the FAX circuit card fails the diagnostics, replace the circuit card.

Checking a FAX Circuit Card Channel

To check a FAX circuit card channel, do the following:

1. Starting at the Voice System Administration menu (Figure 2-1), select

> Application Package Administration

> Script Builder FAX Actions

> FAX Equipment Operations

>FAX Equipment Diagnostics
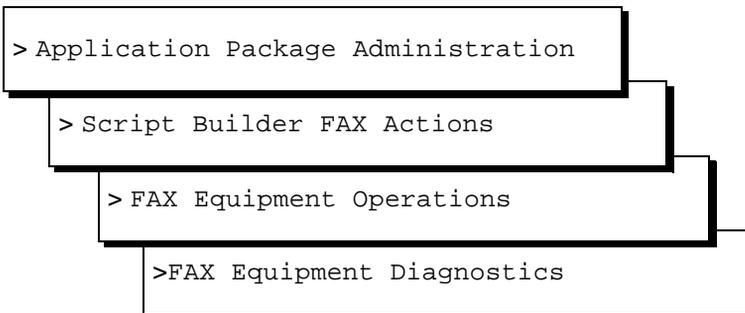
The system displays the FAX Equipment Diagnostics window (Figure 2-5).

2. Enter **channel** in the `Equipment to diagnose` field.

3. Enter a channel number, valid range, or all in the `Equipment Number`
    field.

    NOTE:
    Enter circuit card ranges using one of the following formats:

    0,1,2
    0 1 2
    0-2

4. If you want to conduct an immediate diagnosis, enter **y** in the `Immediate diagnosis` field.

    > **NOTE:**
    > Immediate diagnosis takes the specified channels out of service immediately even if a call is in progress.

    If you do not want to conduct an immediate diagnosis, enter **n** in the `Immediate diagnosis` field.

    > **NOTE:**
    > The system waits until all specified channels are idle before beginning the diagnosis.

5. Press (SAVE) (F3).

    The system displays the FAX Equipment Diagnostics Results window (Figure 2-6).

6. If the FAX circuit card channel passes the diagnostics, you have completed the procedure.

    If the FAX circuit card channel fails the diagnostics, replace the circuit card.

Checking an EQUINOX Multi-Port Serial Circuit Card

To check a multi-port serial circuit card, do the following:

1. At the UNIX prompt, enter **/usr/bin/megadiag**

    The system displays the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-15
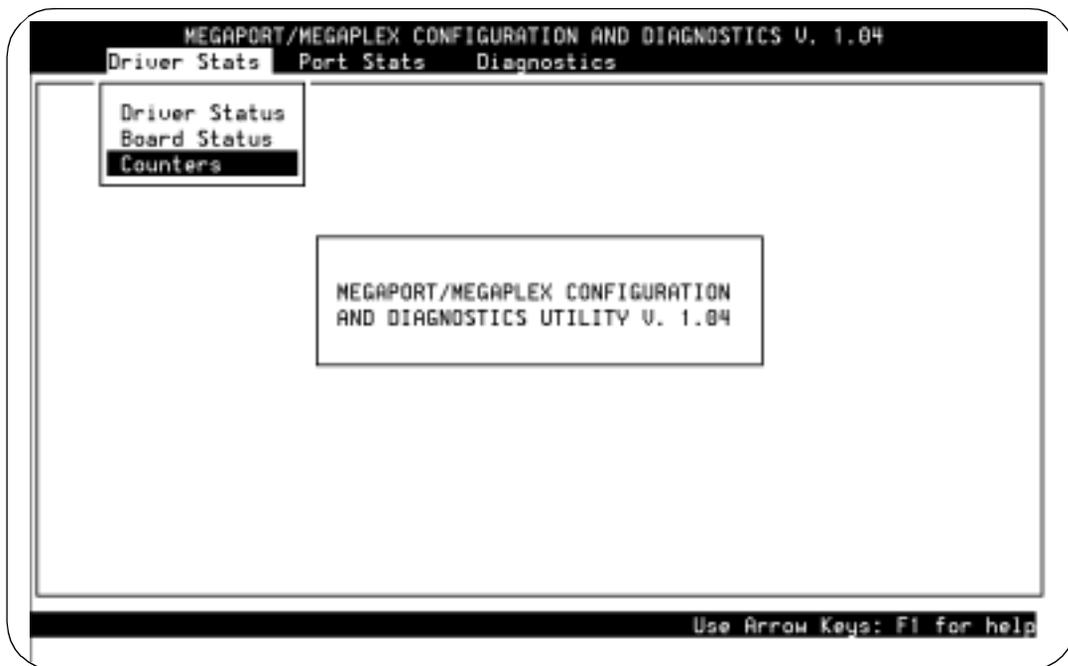
Figure 2-7.   Megaport and Megaplex Configuration and Diagnostics Screen

The Megaport and Megaplex Configuration and Diagnostics screen contains a menu bar with the options Driver Stats, Port Stats, and Diagnostics.

Use the right and left arrow keys on the keyboard to move between the menu bar options.

Use the up and down arrow keys to move between menu options.

Press (ENTER) to select a menu option.

Press (F1) for help.

Press (ESC) to exit.

Displaying Serial Port Driver Stats

The serial port driver stats include:

- Drive Status
- Board Status

Driver Status

The Driver Status option displays the device driver's current configuration including the driver version, number of boards configured, number of boards found, and memory mapping.

To display the drive status, do the following.

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

2. Place the cursor on `Driver Stats`.

3. Place the cursor on `Driver Status`.

4. Press (ENTER).

   The system displays the Driver Status window (Figure 2-8).

```
┌──────────────── Driver Status ────────────────┐
│ Equinox Megaport STREAMS Device Driver, Version 2.24a │
│ Currently configured for 1 board(s) (logical). │
│ Number of boards found: 1                      │
│ Board address          BUFFER          REGISTER │
│ Board # 1            0x000D0000        0x000D2000 │
└────────────────────────────────────────────────┘
```

Figure 2-8.   Driver Status Window

Board Status

To display the board status, do the following.

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

2. Place the cursor on `Driver Stats`.

3. Place the cursor on `Board Status`.

4. Press (ENTER).

   The system displays the Board Status menu (Figure 2-9).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-17

```
 ─── Board ───
/dev/ttysa[a-x]
/dev/ttysb[a-x]
/dev/ttysc[a-x]
/dev/ttysd[a-x]
/dev/ttyse[a-x]
/dev/ttysf[a-x]
/dev/ttysg[a-x]
/dev/ttysh[a-x]
/dev/ttysi[a-x]
/dev/ttysj[a-x]
```

Figure 2-9.   Board Status Menu

Displaying Port Stats

Three options are available on the Port Stats menu:

- Port Status

- Termio

- Register Dump

These options allow the system to show certain port characteristics.

Port Status

The Port Status selection is a real-time representation of the RS-232 leads. It includes:

- Transmit rate

- Receive rate

- Total characters received

- Total characters transmitted

- Buffered data counts

The Port Status display is useful in troubleshooting wiring problems, chattering lines or devices (modems) and in monitoring load activity over a single line. Activity measurements can be taken by noting the Transmitted and Received counts and comparing them with other serial ports.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-18

To display the port status, do the following.

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

2. Place the cursor on `Port Stats`.

3. Place the cursor on `Port Status`.

4. Press (ENTER).

   The system displays the Prompt window (Figure 2-10).


```
device: /dev/ttysaa
```

Figure 2-10.   Prompt Window

5. Enter the name of the device to be verified.

   The system displays the Port Status window (Figure 2-11).


```
                      /dev/ttysaa
      OUTPUT                        INPUT
TD              OFF             RD          OFF
DTR             OFF             DCD         OFF

XON/XOFF        XON`ed
Status          CLOSED
CPS                  0              CPS             0
Transmitted              0         Received              0
Buffered             0          Buffered        0
```

Figure 2-11.   Port Status Window

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-19

Termio

The Termio option displays the general terminal interface data associated with the serial card. It is similar to the "stty" command in that it prints all enabled termio flags.

To display the termio, do the following.

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

2. Place the cursor on `Port Stats`.

3. Place the cursor on `Termio`.

4. Press `ENTER`.

   The system displays the Prompt window (Figure 2-10).

5. Enter the name of the device to be verified.

   The system displays the Termio window .

Register Dump

The Register Dump option displays a real-time window of the on-board registers. The data is in raw form and useful to only Equinox technical personnel. It is used to obtain information about the hardware status and various software flags.

To display the Register Dump, do the following.

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

2. Place the cursor on `Port Stats`.

3. Place the cursor on `Register Dump`.

4. Press `ENTER`.

   The system displays the Prompt window (Figure 2-10).

5. Enter the name of the device to be verified.

   The system displays the Register Dump window (Figure 2-12).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-20

Figure 2-12. **Register Dump Window**

Diagnostics

There are two options on the Diagnostics menu:

- Loopback
- Send

They are intended for the experienced user. The Loopback test is designed to diagnose the board's primary components and their functionalities. There are two types of loopback tests: internal and external. The Send test simply writes a continuous stream of data to the specified port which is helpful in resolving wiring issues.

Serial Port External Loopback Test

Although the option for the serial port external loopback test appears on the screen, this option is not available. You should use the internal loopback test option.

Serial Port Internal Loopback Test

The internal loopback test is the same as the external loopback test except that it does not require that the transmit and receive pins be wired together. Because it does not test the full cabling of the port, the internal loopback test is not as thorough as the external loopback test.

To perform the serial port internal loopback test, do the following:

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-7).

2. Place the cursor on `Diagnostics`.

3. Place the cursor on `Loopback`.

4. Press (ENTER).

   The system displays the Loopback menu (Figure 2-13).
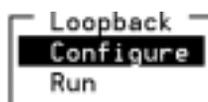
Figure 2-13.   Loopback Menu

5. Place the cursor on `Configure`.

6. Press (ENTER).

   The system displays the Configure menu (Figure 2-14).

Figure 2-14.   Configure Menu

7. Place the cursor on `Board.`

8. Press (ENTER).

   The system displays the Board menu (Figure 2-9).

9. Press (ENTER) to select the first group of ports.

10. Press (ESC).

    The system displays the Loopback menu (Figure 2-13).

11. Place the cursor on `Run`.

12. Press (ENTER).

    The system displays the Run menu (Figure 2-15).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
Circuit Card Diagnostics

Page 2-22

Figure 2-15. Run Menu

13. Place the cursor on 8 Ports.

14. Press (ENTER).

   The system displays the Loop Type menu (Figure 2-16).
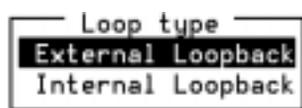
Figure 2-16. Loop Type Menu

15. Place the cursor on Internal Loopback.

16. Press (ENTER).

   The system displays the Internal Loopback window (Figure 2-17).

Figure 2-17. Internal Loopback Window

Database Diagnostics

To check the database free space, do the following:

1. Execute the **dbfrag** command.

   The system displays the System Tablespace screen (Figure 2-18).

   ### ➡ NOTE:
   The data in your System Tablespace screen may be different from
   the data shown in Figure 2-18.

```
         SYSTEM Tablespace, Space is in Oracle Blocks (4096 Bytes/Block)

ALLOCATED    FREE    %FREE     AVG/FRAG   LARGEST   FRAGMENTS   DB_FILES   ROLLBACK
---------   ------   ------    --------   --------   ----------  ---------  ---------
   33000     21448   64.99        7149       2148            3          1       1750
```

Figure 2-18.   System Tablespace Screen

See Chapter 6, "Database Administration," and Appendix A, "Summary of
Commands," in *INTUITY™ CONVERSANT® System Version 6.0
Administration*, 585-310-591, for information on the **dbfrag** command.

2. If the number in the %FREE field is less than 10, add more space to the
   database.

   See Chapter 6, "Database Administration," in *INTUITY™ CONVERSANT®
   System Version 6.0 Administration*, 585-310-591, for information on
   increasing the database size.

   You have completed this procedure.

Extents Diagnostics

An extent is an user defined unit of storage in the ORACLE "storage" clause when defining an ORACLE object. It is used as MINEXTENTS or MAXEXTENTS in the storage clause. An ORACLE object (that is, a table, an index, a rollback segment) grows one extent in size each time the object needs to be expanded.

When the maximum allowed number of extents is reached, the object will not be able to grow further. The object needs to be redefined so that either the size of each extent is increased or the initial object size is increased, to reduce the number of extents required for the storage of this object.

The maximum allowed number of extents in an INTUITY CONVERSANT system is 249.

To check the number of extents, do the following:

1. Enter **dbused**

   The system displays the Space Allocated screen (Figure 2-19).

    **NOTE:**
   The data in your Space Allocated screen may be different from the data shown in Figure 2-19.

```
Usage for "sti/sti"


         Space allocated to objects, Oracle Blocks (4096 Bytes/Block)

 NAME                TYPE            BLOCKS    MBYTES   EXTENTS  MAX_EXTENTS
 ------------------  --------------  --------  --------  -------  ------------
 CCASUM              TABLE               10       .02        1          249
 TRASUM              TABLE               10       .02        1          249
 ABCD                TABLE               10       .02        1          249
 CCA                 TABLE              200       .39        1          249
 EVSUM               TABLE               10       .02        1          249
 RCS                 TABLE             2405      4.70      121          249
 CDHSUM              TABLE               10       .02        1          249
 EVENTS              TABLE             1025      2.00        1          249
 CALL                TABLE              515      1.01        1          249
 SERVICE             TABLE              515      1.01        1          249
 LDBCOLS             TABLE               10       .02        1          249
 E1                  INDEX             1025      2.00        1          249
 C1                  INDEX              515      1.01        1          249
 S1                  INDEX              515      1.01        1          249
```

Figure 2-19.   Space Allocated Screen

2. Compare the value in the EXTENTS column to the value in the MAX_
   EXTENTS column.

3. If the value in the EXTENTS column is greater than or equal to the value in
   the MAX_EXTENTS column, the table has reached its maximum size.

4. Redefine the database table storage. See Chapter 6, "Database
   Administration," in *INTUITY™ CONVERSANT® System Version 6.0
   Administration*, 585-310-591, for information on increasing the database
   size.

   You have completed this procedure.

ORACLE Network Diagnostics

To check the ORACLE network, do the following:

1. Determine the machine name. See Chapter 6, "Database Administration,"
   in *INTUITY™ CONVERSANT® System Version 6.0 Administration*,
   585-310-591.

2. Enter **telnet *host_name***

   where *host_name* is the name of the remote machine to which the
   database process is connected.

   If the log in prompt appears on the screen, the network appears to be
   functioning properly. Continue with Step 3.

   If the log in prompt does not appear on the screen, the network is not
   functioning properly. Contact the network support personnel for help.

3. Press (Ctrl-d) to return to the local machine.

4. Enter **netstat -a**

   The system displays a table similar to the following table:

Active Internet connections (including servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	(state)
tcp	0	0			ESTABLISHED
tcp	0	0			ESTABLISHED
tcp	0	0			LISTEN
tcp	0	0			LISTEN
tcp	0	0			
tcp	0	0			
tcp	0	0			

5. Verify that the remote machine name appears on the screen under the *Foreign Address* column and the corresponding *state* field shows ESTABLISHED.

   If the remote machine name does not appear, contact network support personnel for help.

   If the remote machine name appears on the screen, verify that the ORACLE SQL*Net package is installed on the remote machine.

6. Verify that the network tunable parameters are correct according to the recommendations in the *INTUITY™ CONVERSANT® System Version 6.0 Communication Development*, 585-310-763.

7. Verify the database connection by completing the following Steps a through c:

   a. Invoke the ORACLE utility SQL*PLUS by entering **/oracle/bin/sqlplus sti/sti**

      The system displays the following message:

      ```
      SQL>
      ```

   b. Connect the SQL*PLUS session to the remote database by entering **connect sti/sti \@T:*host_name*:*DB_SID*;**

      The *host_name* is name of the remote machine and the *DB_SID* is the name of the remote database obtained in the DB_SID field in Database Access ID Table under Database Administration. See Chapter 6, "Database Administration," in *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.

      > **NOTE:**
      > You must type a backslash sign (an escape character) following the *sti/sti* and before the @ sign.

   c. If the screen displays the following message the network and remote database are functioning.

      ```
      connected
      ```

      Continue with Step d.

      If `connected` does not appear on the screen, contact the database administrator of the remote machine for help.

   d. Exit from the SQL*PLUS utility by entering **quit**

You have completed this procedure.

TDM Bus Diagnostics

The TDM Bus can be diagnosed

- From the command line

- Through the INTUITY CONVERSANT windows

Using the Command Line

To diagnose the TDM Bus using the command line, do the following:

1. Confirm that the VIS associates the suspect card with "tdm1," by entering
   display card <***card number*** >

   where *card number* is the suspect card.

   If the card is not configured for tdm1, there is a configuration error.
   Complete the following Steps a through f:

   a. Record the current system configuration and service assignments.
      See "Viewing a Configuration" procedure in Appendix A,
      "Configuring a System".

   b. Stop the voice system. See "Stopping the Voice System", in
      Chapter 3, "Common System Procedures", for the procedure.

   c. Move the system configuration and service assignments by
      entering **mv /gendb/shmem/devtbl /gendb/shmem/devtbl.old**

   d. Start the voice system. See "Starting the Voice System", in Chapter
      3, "Common System Procedures", for the procedure.

   e. Reconfigure the system. See "Specifying a New Configuration"
      procedure in Appendix A, "Configuring a System".

2. To confirm that the TDM master/slave configuration is appropriate, enter
   display card all |pg

   ⇒ NOTE:
   The | before *pg* is a pipe symbol, not a lower case *L*.

   The system displays the Circuit Card Configuration screen (Figure 2-20).

   ⇒ NOTE:
   The data in your Circuit Card Configuration screen may be different
   from the data shown in Figure 2-20.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
TDM Bus Diagnostics

Page 2-28

```
CARD 0    STATE: Inserv      CLASS: Digital (E1)        O.S.INDEX: 0
          NAME:  AYC21       OPTIONS: master1,tdm1,PRI1,DCHAN
          FUNCTION: PRI

CD.PT   CHN    STATE    STATE-CHNG-TIME   SERVICE-NAME PHONE    GROUP   OPTS TYPE
 0.0     0    Manoos   Oct 25 17:25:32   -             -         4      tdm  FRM
 0.1     1    Inserv   Oct 25 17:32:48   -             -         4      tdm  PRIB
 0.2     2    Inserv   Oct 25 17:32:47   -             -         4      tdm  PRIB
 0.3     3    Inserv   Oct 25 17:29:46   -             -         4      tdm  PRIB
 0.4     4    Inserv   Oct 25 17:32:46   -             -         4      tdm  PRIB
 0.5     5    Inserv   Oct 25 17:29:46   -             -         4      tdm  PRIB
 0.6     6    Inserv   Oct 25 17:29:46   -             -         4      tdm  PRIB
 0.7     7    Inserv   Oct 25 17:29:45   -             -         4      tdm  PRIB
 0.8     8    Inserv   Oct 25 17:29:45   -             -         4      tdm  PRIB
 0.9     9    Inserv   Oct 25 17:29:44   -             -         4      tdm  PRIB
 0.10   10    Inserv   Oct 25 17:29:45   -             -         4      tdm  PRIB
 0.11   11    Inserv   Oct 25 17:29:44   -             -         6      tdm  PRIB
 0.12   12    Inserv   Oct 25 17:29:44   -             -         6      tdm  PRIB
 0.13   13    Inserv   Oct 25 17:29:44   -             -         6      tdm  PRIB
 0.14   14    Inserv   Oct 25 17:29:43   -             -         6      tdm  PRIB
 0.15   15    Inserv   Oct 25 17:29:44   -             -         6      tdm  PRIB
 0.16   16    Inserv   Oct 25 17:29:21   -             -         6      tdm  PRID
 0.17   17    Inserv   Oct 25 17:29:43   -             -         6      tdm  PRIB

:
```

Figure 2-20. Circuit Card Configuration Screen

3. Confirm that there is only one card associated with the following configurations for tdm1.

   ■ master1

   ■ master2

   ■ master3

   There can be multiple cards designated slave.

   Use (ENTER) to page through the Circuit Card Configuration screen.

   If more than one card is configured as master1, master2, or master3, there is a configuration error. Complete the following Steps a through e:

   a. Record the current system configuration and service assignments. See "Viewing a Configuration" procedure in Appendix A, "Configuring a System".

   b. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for the procedure.

   c. Move the system configuration and service assignments by entering **mv /gendb/shmem/devtbl /gendb/shmem/devtbl.old**

    d. Start the voice system. See <u>"Starting the Voice System"</u>, in <u>Chapter 3, "Common System Procedures"</u>, for the procedure.

    e. Reconfigure the system. See <u>"Specifying a New Configuration"</u> procedure in <u>Chapter A, "Configuring a System"</u>.

4. Shutdown the operating system. See <u>"Shutting Down the Operating System"</u>, in <u>Chapter 3, "Common System Procedures"</u>, for the procedure.

5. If the problem persists, check the TDM resistors. See <u>"Checking the Terminating Resistors"</u> above for the procedure.

6. If the problem persists, check the circuit card switch settings. See <u>"Checking the Switch Settings"</u> above for the procedure.

You have completed this procedure.

Using the INTUITY CONVERSANT Windows

To diagnose the TDM Bus using the INTUITY CONVERSANT windows, do the following:

1. Starting at the Voice System Administration menu (<u>Figure 2-1</u>), select

> Configuration Management

    > System Control

        > Diagnose

            >Diagnose Equipment
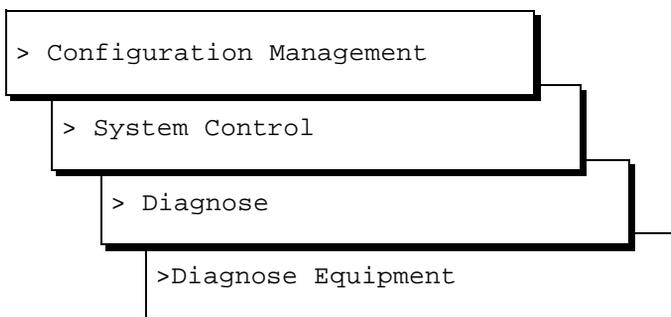
The system displays the Diagnose Equipment Window (<u>Figure 2-2</u>).

2. Enter **bus** in the `Equipment to diagnose` field.

The system automatically places a 1 in the `Equipment Number` field.

3. If you want to conduct an immediate diagnosis, enter **y** in the `Immediate diagnosis` field.

> **NOTE:**
> Immediate diagnosis takes the cards, attached to the TDM bus, out of service immediately even if a call is in progress.

If you do not want to conduct an immediate diagnosis, enter **n** in the `Immediate diagnosis` field.

⇒ NOTE:

> The system waits until all specified channels are idle before
> beginning the diagnosis.

4. Press F3 (Save).

   The system removes the cards attached to the TDM bus from service and
   runs the diagnostics.

   If the TDM bus passes the diagnostics, the system displays the following
   message:

   ```
   Diag <bus>, Passed
   ```

   If the TDM bus did not pass the diagnostics, replace the cable.

Voice Port Loop Around Test

To perform a voice port loop around test, do the following:
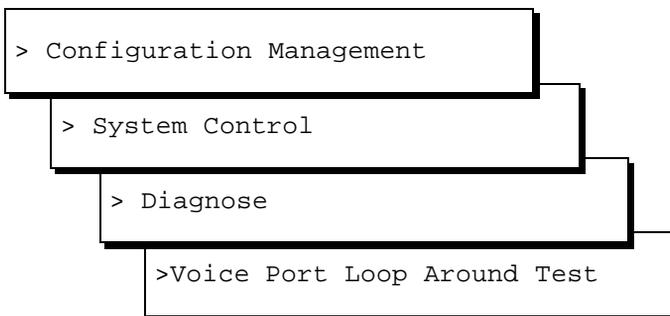
1. Starting at the Voice System Administration menu (Figure 2-1), select

   ```
   > Configuration Management

       > System Control

           > Diagnose

               >Voice Port Loop Around Test
   ```

   The system displays the Voice Port Loop Around Test window
   (Figure 2-21).

```
              Voice Port Loop Around Test

     Dialing Channel:
      Target Channel:
          Test Type:
  Immediate Diagnose?:
```

Figure 2-21.   Voice Port Loop Around Test Window

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

2 Diagnostics
Voice Port Loop Around Test

Page 2-31
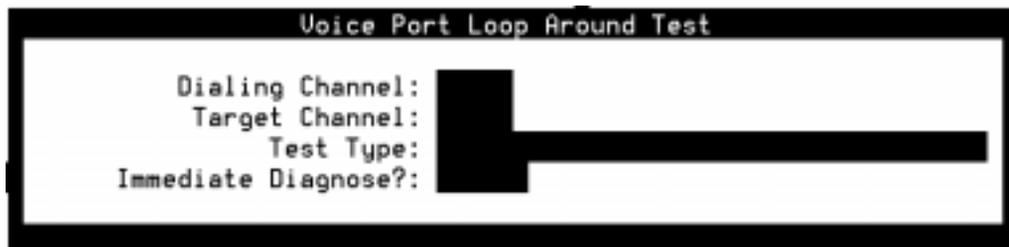
2. Enter a channel number in the `Dialing Channel:` field.

   The dialing channel is the channel which sends the signal used to diagnose the target channel.

   You can enter **AUTO** in this field to allow the system to choose the dialing channel.

3. Enter the number of the channel you want to diagnose in the `Target Channel:` field.

4. Enter a test type in the `Test Type:` field.

   The following tests can be run on the voice port:

   - `all`
   - `code`
   - `fax receive`
   - `fax transmit`
   - `gain control`
   - `loop current/dial tone detection`
   - `manipulation of hook state`
   - `play`
   - `ring detection`
   - `speed control`
   - `touch tone receive`
   - `touch tone transmit`

   ![NOTE icon] **NOTE:**

   > The gain control, loop current/dial tone detection, manipulation of hook state, ring detection, speed control, touch tone receive, and touch tone transmit test types will be run during a voice port loop around test regardless of the entry in the `Test Type:` field.

5. Enter **no** in the `Immediate Diagnose?` field.

   If you enter **yes** in this field the diagnosis will be performed immediately regardless of the current state of the dialing channel.

   ![NOTE icon] **NOTE:**

   > Immediate diagnosis cannot be done when **AUTO** is entered in the `Dialing Channel:` field.

6. Press F3 (Save).

   The system completes the diagnostics and displays the Voice Port Loop Around Test Results screen (Figure 2-22).

```
                Voice Port Loop Around Test Results


     manipulation of hook state          pass
     gain control                        pass
     speed control                       pass
     ring detection                      pass
     touch tone transmit                 pass
     play                                pass
     touch tone receive                  pass
     record                              pass
     fax receive                         pass
     fax transmit                        pass
     loop current/dial tone detection    pass

 Press Enter to continue.
```

Figure 2-**22.**   **Voice Port Loop Around Test Results Screen**

7. Press (ENTER).

    The system displays the Voice Port Loop Around Test window
    (Figure 2-21).

You have completed this procedure.

ASAI Trace Utility

To invoke the ASAI trace feature, type trace dip7 at the system prompt.
Additional VIS processes can be monitored by adding arguments to the
command (for example, trace dip7 chan 1).

⮕ NOTE:

All ASAI trace information displayed by trace is preceded by `ASAI:`. If
trace is used to monitor other VIS processes, that information is preceded
by other key words.

To cancel a trace command, press the DELETE key. The Trace Level parameter
in the ASAI Parameters screen controls the amount of detail that is displayed
when you use the trace dip 7 command to monitor messages and events being
processed by the ASAI system. The trace feature facilitates the debugging of
new applications and is an optional feature that is not required for normal system
operations.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
ASAI Trace Utility

Page 2-33

Three Trace Levels are available:

- The Low setting displays only ASAI error and warning conditions.

- The Normal setting displays information pertaining to the process of the A_Callinfo, A_Event, A_RouteSel, and A_Tran script actions, in addition to the information displayed by the Low setting. Such information is useful when attempting to debug new application scripts which use these actions.

- The High setting provides additional information on ASAI messages that are sent and received between the VIS and the DEFINITY Generic 3i PBX, in addition to the information displayed by the Low and Normal settings.

Low Detail

The Low setting displays only ASAI error and warning conditions. This is the default setting. Use this setting when there is live traffic to minimize processing overhead from the trace feature.

Error message preceded by `ASAI: ERROR:` typically indicate a malfunction in the processing of the ASAI link between the VIS and the PBX, an improperly written script, or an incorrect configuration. Error messages are displayed by trace to give additional insight into problems that are reported as system messages and as error codes in the Return Fields of the external actions. If you receive an error messages in the Message Log Report. The ASAI-related system messages are numbered from ASAI001 through ASAI031 and are discussed in Chapter 3, "System Message Listings." Follow the instructions provided for the message to remedy the problem.

If you receive error messages in the trace output and no ASAI system messages are reported, you may be experiencing a problem with the A_Callinfo, A_Event, A_RouteSel, or A_Tran actions. In this case, one of these actions is probably returning an error code in its Return Field and also in the Cause Value field.

If you receive neither ASAI system message nor error return codes from an ASAI script action but are still receiving error messages in the trace output, you are probably experiencing a system problem and should escalate the problem.

Warning messages indicate a low-severity problem detected by the ASAI system. These message are preceded by `ASAI: WARNING:` and are usually the result of an incorrectly configured system or a manual out of service (manoos) ACD, VDN, or CTL domain that is receiving messages from the PBX. These messages may also correspond to a system message that appears in the Message Log Report. For example, the following message is displayed if you use A_Tran to transfer to an extension for which there is no domain administered in the Domain Administration screen.

```
ASAI: WARNING: Event 'C' Discarded, no CTL Domain for Ext
'1234'
```

At the same time, system message number ASAI031 appears in the Message
Log Report. Similarly, the following message is displayed if you use A_Tran to
transfer to an extension or domain which is not in service.

```
ASAI: WARNING: Event 'C' Discarded, Domain 'name' not active
```

In this case no system message appears in the Message Log Report because it
is not necessarily considered an error.

Normal Detail

In addition to the information displayed by the Low setting, the Normal setting
displays information pertaining to the processing of the A_Callinfo, A_Event, A_
RouteSel, and A_Tran script actions. Such information is useful when attempting
to debug new application scripts which use these actions. The format is specific
to each ASAI action being processed.

A_Callinfo trace information

When A_Callinfo is used in a voice script on a Tip/Ring or LST1 channel, trace
displays the following information. The first line indicates which channel
requested the information. The remaining indented lines contain the information
that is returned to the A_Callinfo action in the voice script.

```
ASAI: A_Callinfo: Sending Info for chan 1
ASAI:Calling party Number:''
ASAI:Called Party Number: '5100'
ASAI:Switch Data: ''
ASAI:Trunk Group Id: '5', Call Id: '163'
ASAI:Cause Value: '0', Return Field: '0'
```

If an error occurs in the processing of A_Callinfo, a message preceded by `ASAI:`
`Error: A_Tran` is displayed along with a description of the problem.

A_Event trace information

When A_Event is used in a monitoring or routing script that is assigned to a
domain, the following trace messages are examples of what is displayed when
each event is reported.

```
ASAI: A_Event: Reporting Event 'C' to Domain
    'name'
ASAI:Connected Party Number: '5609'
ASAI:Calling Party Number: ", Trunk Grp Id: '5'
ASAI:Called Party Number: '5100'
ASAI:Switch Data:"
ASAI:Call id: '170', Other Call Id: '160'
ASAI:LAI Display Info: "
```

```
ASAI:VIS Data: "
ASAI:Routing Id: '30'
ASAI:Return Field: '67'
```

The first line indicates the type of event that is reported and the domain to which
it is reported. The event type is one of the following:

- A (ABANDON) — The caller was abandoned before the call was
  answered.

- C (CONNECT) — The call was alerted or connected.

- E (END) — The call has ended after being answered.

- R (ROUTE REQUEST) — PBX is requesting the call be routed.

The indented lines that follow the first line contain information that is returned in
the corresponding fields of the A_Event action form.

A_RouteSel trace information

When A_RouteSel is used in a routing script that is assigned to an RTE domain,
the following trace messages are examples of what is displayed.

```
ASAI: A_RouteSel: Routing call in Domain 'name'
     (Route ID 1234)
ASAI:Destination Number: '5019'
ASAI:Split Extension: ''
ASAI:Priority Call? Yes
```

If the Route Select could not be sent to the PBX, a trace message preceded by
`ASAI: ERROR: A_RouteSel:` is displayed along with a description of the
problem. In come cases a cause value is also displayed. See Chapter 6 of
*INTUITY™ CONVERSANT® System Version 6.0 Application Development with
Script Builder*, 585-310-760, for a list of A_RouteSel Cause Values.

A_Tran trace information

When A_Tran is used in a voice script on a T/R or LST1 channel, trace displays
messages such as the following indicating a successful transfer.

```
ASAI: A_Tran: requested on chan 1
ASAI: A_Tran: Taking Control of call on chan 1
     (CLID 304)
ASAI: A_Tran: Placing caller on hold, chan 1
ASAI: A_Tran: Make Call on chan 1 (CLID 308)
ASAI:Destination Number: '5019'
ASAI:Split Ext: ''
ASAI:Priority Call? No
ASAI: A_Tran: Make Call completed on chan 1
ASAI:Call State: 'ALERTING'
ASAI: A_Tran: Merging calls on chan 1
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
ASAI Trace Utility

Page 2-36

The first line indicates which channel requested the transfer.

> **NOTE:**
> Each line beginning `ASAI: A_Tran:` indicates the beginning of the next
> processing step required to perform the transfer operation and contains the
> channel number on which the operation is taking place. See Chapter 6 of
> *INTUITY™ CONVERSANT® System Version 6.0 Application Development
> with Script Builder*, 585-310-760, for an explanation of the steps required to
> perform a transfer. Processing steps may not be displayed contiguously
> depending on the amount of activity in the system (that is, other trace
> statements may appear in between each processing step for A_Tran).

The indented lines contain additional information about the current processing
step. The Make Call step is followed by three lines of information which
correspond to input fields in the A_Tran action form. The Make Call completed
steps is followed by a line indicating the outcome of the call. A successful
transfer is indicated by the Merging calls message.

In the following example the outbound call (Make Call completed) was to a busy
destination. In this case, the transfer (merge) was not attempted and the caller
was reconnected to the voice script.

The sequence ends with the following message:

```
ASAI: A_Tran: requested on chan 1
ASAI: A_Tran: Taking Control of call on chan 1
     (CLID 304)
ASAI: A_Tran: Placing caller on hold, chan1
ASAI: A_Tran: Make Call on chan 1 (CLID 308)
ASAI:Destination Number: '5019'
ASAI: Split Ext: ''
ASAI:Priority Call? No
ASAI: A_Tran: Make Call completed on chan 1
ASAI:Call State: 'BUSY'
ASAI: A_Tran: Dropping call on chan 1
ASAI: A_Tran: Reconnecting caller on chan 1
ASAI: A_Tran: Relinquishing control of chan 1
```

Should an error occur in one of the processing steps, trace displays a message
preceded by `ASAI: ERROR: A_Tran:` with a description of the problem.

> **NOTE:**
> If you receive error return codes from the A_Tran action and do not see
> errors while tracing dip7, the problem is detected by the voice script before
> making the request to the ASAI subsystem.

High Detail

In addition to the information displayed by the Low and Normal settings, the High
setting gives additional information on ASAI messages that are sent and
received between the VIS and the DEFINITY Generic 3i PBX. High detail causes
trace to display information concerning call event and routing event messages
as well as requests for domain enable/disable, channel login/logout, and
heartbeat.

Call events

ASAI messages (call events) received from the PBX contain information about a
call on a domain. This information may be useful when attempting to debug an
application script which is monitoring the progress of calls on the PBX. The
format of the call event message is as follows:

```
ASAI: Received EVENT on Domain "name" (CLID num CID
num)
```

The *EVENT* can be one of the following

- ALERTING — The call is ringing at an extension.

- CALLEND — All parties have dropped from the call causing the call to
  end.

- CONFERENCED — The call has been conferenced.

- CONNECTED — The call has been answered.

- CUT THROUGH — The call is interworking with a non-ISDN trunk.

- DENIAL — The call has been routed to an invalid number (intercept).

- DROP — A party on the call has dropped from the call.

- OFFERED — The call has entered the specified domain.

- QUEUED — The call has been placed in a queue and is awaiting delivery
  to an extension.

- 3P CALLEND — A call that was originated by A_Tran has ended.

- TRANSFERRED — The call has been transferred.

- TRUNK SEIZED — The call has been routed to a trunk and the trunk has
  been seized.

The *name* is the name of domain which receives the event as specified in the
Domain Administration screen. See Chapter 4, "Feature Package Administration"
of *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591, for
additional information.

The name will be null for call events received that are not directly associated with
a domain administered in the Domain Administration screen (for example, call
events received for an outbound call placed by the A_Tran script action). The

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
ASAI Trace Utility

Page 2-38

CLID *num* is the ASAI Cluster ID that identifies the specified domain. The CID *num* is the Call ID that identifies the call. The PID is the party ID that identifies which Party dropped from the call and is reported with a DROP message only.

Routing Events

There are two ASAI messages received from the PBX which contain routing information. This information may be useful when debugging a routing application script which is assigned to a RTE domain. The following trace message is printed for each route request received. The format of the trace message is as follows:

```
ASAI: Received ROUTE REQUEST on Domain 'name' (Route ID
num)
```

Another trace message is printed when the PBX has acknowledged or canceled a previous route request. The format of this message is as follows:

```
ASAI: Received ROUTE END on Domain 'name' (Route ID
num)
ASAI: Cause: X
```

$\Longrightarrow$ **NOTE:**

The second line indicates the reason why the route requested ended. After the receipt of this message a Route Selection can no longer be made (that is, A_RouteSel fails) for the specified Route ID. The Route ID is a number which identifies a particular route request.

Domain Enable/Disable Requests

When ACD or VDN domains are enabled or disabled, a message must be sent to the PBX requesting to activate or deactivate the sending of call events for the domain. Following are examples of the trace output that appears when these messages are sent.

```
ASAI: Sending ENABLE for domain 'name', ext '4321',
type 1 (CLID 224)
ASAI: Sending DISABLE for domain 'name', ext '5678'
type 2 (CLID 364)
```

The *name* and *ext* displayed correspond to the parameters administered for the domain in the Domain Administration screen. Note that Type 1 domains are ACD domains and Type 2 domains are VDN domains.

If an enable or disable request fails, a message is displayed which is preceded by `ASAI: ERROR: ENABLE Domain:` along with a description of the problem. If a Cause Value is provided in the message, the request was denied by the PBX.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
ASAI Trace Utility

Page 2-39

Channel Login/Logout Requests

In order to log a channel in or out, an ASAI message must be sent to the PBX. Following are examples of the trace output that appears when these messages are sent.

```
ASAI: Sending LOGIN for chan 1, ext 1234 (CLID 778)
ASAI: Sending LOGOUT for chan1, ext 1234 (CLID 388)
```

The chan and ext displayed correspond to the parameters administered for the domain in the Channel Administration screen.

If a login or logout request fails, a message is displayed which is preceded by `ASAI: ERROR: LOGIN CHANNEL:` along with a description of the problem. If a Cause Value is provided in the message, the request was denied by the PBX.

Heartbeat Requests

To insure that the PBX and the VIS are in constant communication event when there is no traffic, messages are sent back and forth between the two systems. These messages, called heartbeat messages, typically appear only after periods of idleness of longer than 1 minute.

Generally, these trace messages can be ignored unless you suspect a loss of communication between the PBX and the VIS. The messages should alternate every minute during idle periods. Following are examples of these heartbeat messages:

```
ASAI: Received Heartbeat (CLID 7898 ind 1)
ASIA: Sending Heartbeat (CLID 2345)
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

2 Diagnostics
ASAI Trace Utility

Page 2-40

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Overview

Page 3-1

Common System Procedures

3

Overview

This chapter describes procedures for

- Cartridge tape and diskette drive operation

- Backup and restore

- Voice system administration

- Operating system administration

Purpose

The purpose of this chapter is to provide the information necessary to perform the most common procedures associated with the INTUITY™ CONVERSANT® system.

About Cartridge Drives and Tapes

Cartridge tapes provide for the storage of information used by the INTUITY CONVERSANT system. The MAP/100 reads information from and writes information to cartridge tapes through the tape drive. The tape drive is located in Bay 1.

Types of Cartridge Tape Drives

The MAP/100 uses two types of tape drives:

- 2-Gbyte
- 525-Mbyte

> **NOTE:**
> Any tapes, smaller than 525-Mbyte, created in a 2-Gbyte tape drive can be read by a 525-Mbyte tape drive provided the jumpers on the 525-Mbyte tape drive have been configured correctly.
>
> Tapes created in a 525-Mbyte tape drive can be read by a 2-Gbyte tape drive provided the jumpers on the 525-Mbyte tape drive have been configured correctly.

When to Change Cartridge Tapes

The manufacturers of the cartridge tapes recommend that you replace a tape after approximately 30 full-capacity write or read operations. For example, if two tapes are being alternated for the unattended nightly backup, replace both tapes every two months.

Inserting and Removing Cartridge Tapes

This section details the procedures for inserting and removing cartridge tapes from a 2-Gbyte tape drive.

Inserting the Cartridge Tape

To insert a 2-Gbyte cartridge tape, do the following:

1. Locate the tape drive on the front of the MAP/100 (Figure 3-1).
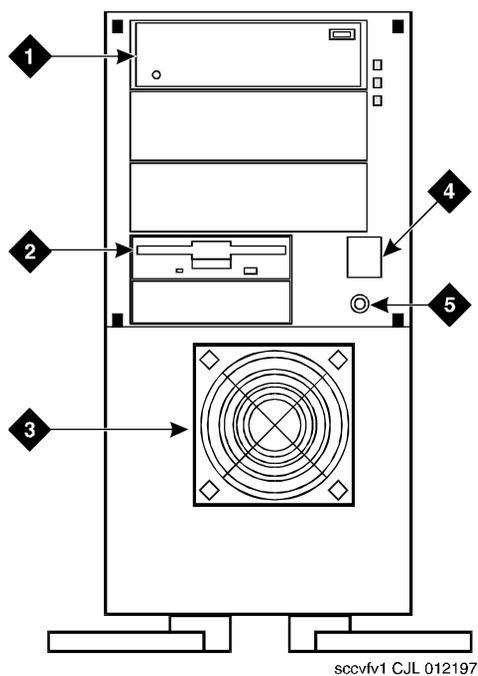
sccvfv1 CJL 012197

1.   Cartridge tape drive
2.   Diskette drive
3.   Circuit card cage fan
4.   Power button
5.   Reset button

Figure 3-1.   Front View of the MAP/5P

2. Check the read/write dial to make sure that the tape is not write-protected.
    The small dial on the front of the tape should be in the horizontal position.

3. Complete Steps a through c to insert the tape in the drive.

    a. Press the button on the upper right corner of the drive to open the
        drive door.

    b. Insert the tape (Figure 3-2).

    c. Close the door to push in the tape.
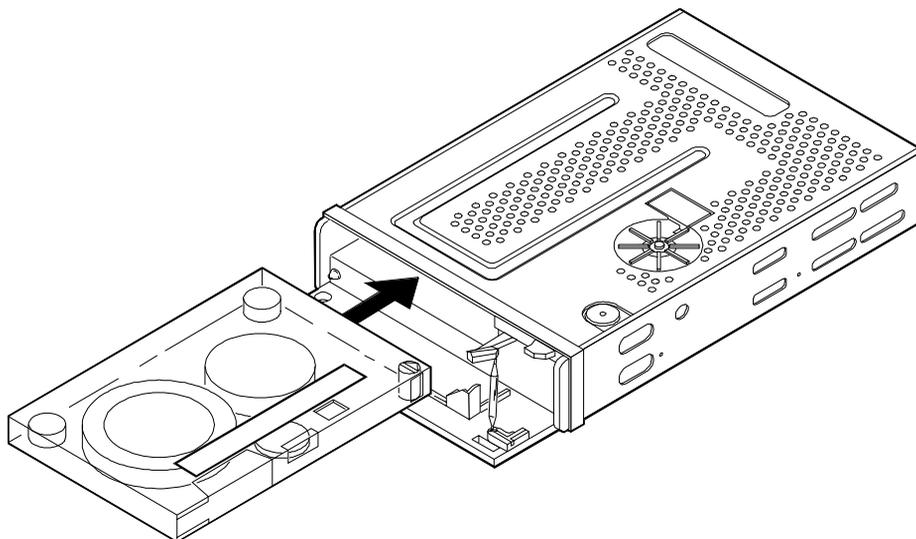
Figure 3-2.   Tape Insertion with a 2-Gbyte Tape Drive

> **NOTE:**
> The light on the 2-Gbyte drive will blink when the drive is in use. If the light
> is lit and not blinking, the tape drive is idle.

Removing the Cartridge Tape

To remove a cartridge tape from a 2-Gbyte tape drive, do the following:

1. Press the button on the upper right corner of the drive to reveal part of the
   tape.

2. Pull out the tape.

> **! CAUTION:**
> *You can only remove the tape when the drive is idle, that is, when the*
> *light is not blinking.*

Formatting Cartridge Tapes

To format a cartridge tape, do the following:

1. Start at the Voice System Administration Menu (Figure 3-3)

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
About Cartridge Drives and Tapes

Page 3-5
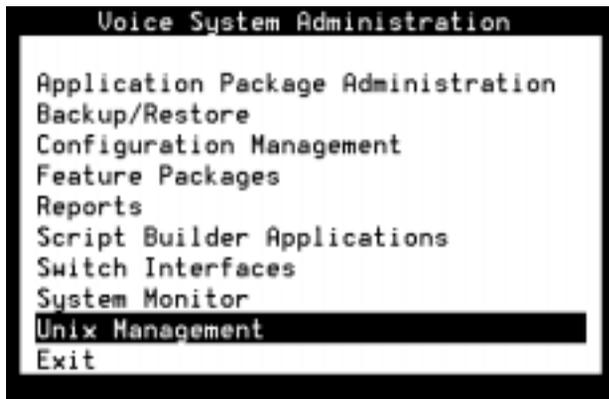
Figure 3-3.   Voice System Administration Menu

2. Select
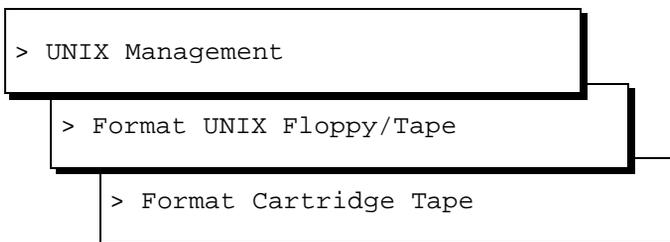
The system displays a Confirm window (Figure 3-4).
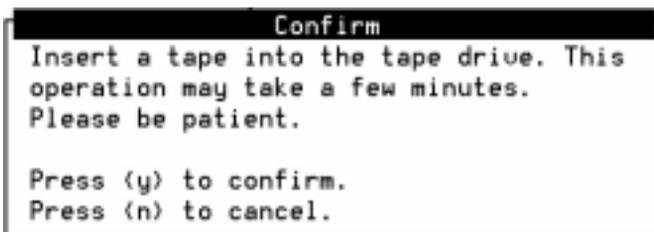
Figure 3-4.   Confirm Window

3. Verify that the tape is not write-protected and insert the tape into the tape drive. See "Inserting and Removing Cartridge Tapes" above for more information.

4. Press **y**

    The system displays a screen stating that the tape has been formatted.

5. Remove the tape from the tape drive.

6. Press $\boxed{\text{ENTER}}$ to continue.

About Diskette Drives and Diskettes

Diskettes can provide for the storage of information used by the INTUITY CONVERSANT system. If information must be transferred from an INTUITY CONVERSANT system without a LAN card, diskettes must be used.

Types of Diskettes

The INTUITY CONVERSANT system is not shipped with disks. If you need disks, obtain unformatted 3.5-inch disks. The disks can be either

- High density (1.44-Mbyte)
- Low density (720-Kbyte)

Inserting and Removing Diskettes

This section details the procedures for inserting and removing diskettes.

Inserting the Diskette

To insert a diskette, do the following:

1. Locate the diskette drive on the front of the MAP/100 (Figure 3-1).

2. Check the read/write switch to make sure that the diskette is not write-protected.

3. Insert the diskette in the drive.

    ### NOTE:
    The light on the diskette drive is on when the drive is in use. If the light is not on, the diskette drive is idle.

Removing the Diskette

To remove a diskette, do the following:

1. Press the button on the lower right corner of the diskette drive to reveal part of the diskette.

2. Pull out the diskette.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
About Diskette Drives and Diskettes
Page 3-7

⚠ CAUTION:
> *You can only remove the diskette when the drive is idle, that is, when the light is not on.*

Formatting Diskettes

To format a diskette, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-3), select

> UNIX Management

> Format UNIX Floppy/Tape

> Format 3.5 inch 1.44 Mbyte (High Density)

The system displays a Confirm window (Figure 3-5).


```
                      Confirm
Insert a diskette into the disk drive.
This operation may take a few minutes.
Please be patient.

Press (y) to confirm.
Press (n) to cancel.
```
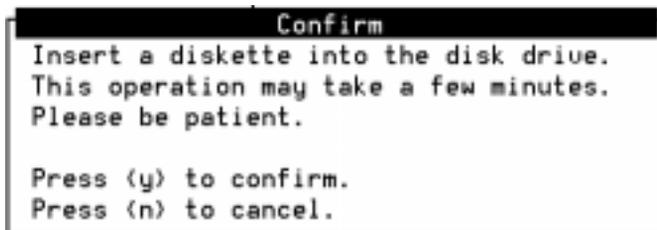
Figure 3-5.   Confirm Window

2. Verify that the diskette is not write-protected and insert the tape into the tape drive. See "Inserting and Removing Diskettes" above for more information.

3. Press **y**

The system displays a screen stating that the tape has been formatted.

4. Remove the tape from the tape drive.

5. Press (ENTER) to continue.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-8

Backing Up the INTUITY CONVERSANT System

There are two tools available for you to use to backup and restore your system:

- BRU (backup/restore utility)

- mkimage

Backup the INTUITY CONVERSANT System Using BRU

The following section describes the procedure for backing up your INTUITY CONVERSANT system using the BRU.

⚠ CAUTION:
Make sure you use the 2.5 Gbyte cartridge tapes (comcode 407557073) when you back up your system.

⇒ NOTE:
Use the backup mechanisms described here to back up and restore files on the same machine only.

Types of BRU

- Root, or disk-level, backup - This is used to save the entire contents of a hard disk and is good to perform to baseline your new system after initial load.

- Full, or UNIX-level - This is a backup of all files and file systems.

- Differential, or UNIX-level differential - this is a backup of files which have changed dates since the last full backup.

When to perform a BRU backup

There are no specific times or rules as to when to perform a BRU backup. The following are a few suggestions:

- When the system is new. Perform a root and/or full backup to baseline your system.

- When your system has been upgraded to a new software release. Perform a differential backup.

- After your system has been upgraded or reconfigured with new or different hardware. Perform a full and/or differential backup.

- When you notice performing a differential backup is taking a long time to complete. Perform a full backup.

Performing a Root Backup

> ⮕ **NOTE:**
> Make sure the INTUITY Backup/Restore Utility is loaded on the system before
> performing a disk backup. This is convenient for doing Verification, Full
> and Differential UNIX backup steps.

Backup of the entire disk consists of two parts: copy disk to tape and checksum
verification. Each part takes about 1 Hour/Gbyte to complete.

To perform a root backup using the BRU tool, do the following:

1. Log in as root.

2. Enter **shutdown -g0 -y**

   The system shuts down.

3. Insert the BRU Disk Backup diskette labeled "QuickStart" into the diskette
   drive. See *"Inserting and Removing Diskettes"* above for the procedure.

4. Press the reset button on the lower front of the MAP/100 peripheral bay.

   The system boots from the BRU diskette. After a few minutes the system
   displays the BRU Main Menu (Figure 3-6).

```
             QuickStart - System Recovery Tool
      Copyright(c) 1997, Enhanced Software Technologies, Inc.



1. Select Recovery Archive Device.
2. Perform System Backup
3. Perform System Recover
4. Perform Archive Volume Verification
5. Recovery Help
9. Restart Native Operating System




Select Option >
```

Figure 3-6.   BRU Main Menu

5. Enter **1**

The system displays the BRU Select Recovery Device Type Menu Screen
([Figure 3-7](#)).

```
Please select the type of Backup Device to use.

1. Wangtek 525 MB QIC Tape Drive
2. Tandberg 2.5 GB QIC Tape Drive
Q. Quit


Select (1, 2, or Q)
```

Figure 3-7.   BRU Select Recovery Device Type Menu Screen

6. Enter the number corresponding to your systems tape drive.

   The system displays the following message:

   `Checking Device.`

   The system displays the BRU Main Menu Screen ([Figure 3-6](#)).

7. Enter **2**

   The system displays the following message:

   `Scanning system hardware for attached hard drives`

   `I found X hard drives attached to this system:`

   `1.  First SCSI Hard Drive Size = xxxxxxxxx`
   `Select Hard Drive to Backup;  Separate multiple entries`
   `with spaces [1]:`

8. Enter the number of the hard disk drive to be backed up.

   The system displays the following message:

   `Total backup size 2048 MBytes`

   `Make sure that the prepared tape is unchanged`
   `Press [ENTER] to continue.`

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-11

9. Press ⌈ENTER⌉

   The system displays the following message:

   ```
   Creating the recovery volume...
   ```

   ```
   This operation can take from minutes to hours depending
   upon the speed of the tape drive being used.
   ```

   ```
   For example:
   ```

   ```
       Wangtek 525MB QIC drive - 12MB/min = 720MB/hr
       Tanberg 2.5GB QIC drive - 17MB/min = 1GB/hr
   ```

   ```
   Backing up X hard drive.
   ```

   ```
   System backup operation completed successfully.
   ```

   ```
   QuickStart will now verify the backup.
   ```

   ```
   While EST recommends that you verify each backup, this
   is an optional process.
   ```

   ```
   Enter V to verify or S to skip [V/S]:
   ```

   ⚠ **CAUTION:**
   *Entering **v** will cause the system to verify the tape using the backup floppy. This procedure will take approximately two hours. During this time the system will be out of service.*

10. Enter **s**

    The system displays the following message:

    ```
    Verification Skipped!
    ```

    ```
    You may verify a QuickStart tape at any time by using
    option 4 from the main QS menu.
    ```

    ```
    Press [ENTER] to return to the main menu.
    ```

11. Press ⌈ENTER⌉

    The system displays the BRU Main Menu Screen (Figure 3-6).

12. Remove the "QuickStart" boot diskette from the diskette drive. See "Inserting and Removing Diskettes" above for the procedure.

13. Enter **9**

14. The system reboots to the INTUITY CONVERSANT system.

15. Verify the root backup tape while the system is in operation. See "Verifying a Root Backup Tape" below for the procedure.

Performing a Full Backup

This procedure can be performed while your system is up and running.

A full UNIX-level backup consists of two components:

- Estimate - this determines how much has changed since the last backup.

- Backup - this is the actual backup performance.

NOTE:
The estimated time required to perform a full backup is 1 Gbyte/hour.

To perform a Full UNIX-level backup, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-3), select

```
> Backup/Restore

   > Full Backup

      > Estimate
```

The system displays a message similar to the following message:

```
Please be patient, depending on the size of the backup
this could take several minutes

Performing Full Backup estimate...

bru:1volume xxxxx files, xxxxxx archive blocks xxxxxx
Kbytes

Please press <ENTER> to return to menu.
```

2. Make sure you have enough backup tapes available to store the system data.

3. Label each cartridge tape with "Full UNIX Backup Tape X."

4. Press (ENTER)

The system displays the Full Backup menu (Figure 3-8).
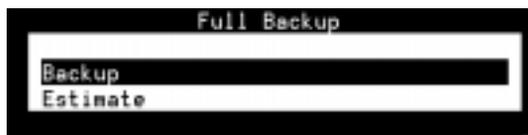
Figure 3-8.   Full Backup Menu

5. Select

> ```
> > Backup
> ```

   The system displays the following message:

   `Please put a tape in the drive.`

   `Press <Enter> to continue or q to quit.`

6. Insert the first tape into the cartridge tape drive. See "Inserting and Removing Cartridge Tapes", above for the procedure.

7. Press ENTER

   The system displays the following message:

   ```
   The Full UNIX backup is now complete.  Please remove the
   tape and label it as "Full UNIX Backup, created
   [today's date]"
   ```

8. Verify the backup tape. See "Verifying a Backup Tape" below for the procedure.

Performing a Differential Backup

Differential backups can be scheduled (to be performed at specified date(s) and time) or performed on demand.

To perform a Differential UNIX-level backup, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-3), select

> Backup/Restore

> Differential Backup

> Estimate

The system displays a message similar to the following message:

```
Please be patient, depending on the size of the backup
this could take several minutes

Performing Differential Backup estimate...

bru:1volume xxxxx files, xxxxxx archive blocks xxxxxx
Kbytes

Please press <ENTER> to return to menu.
```

2. Make sure you have enough backup tapes available to store the system data.

3. Label each cartridge tape with "Differential UNIX Backup Tape X."

4. Press (ENTER)

   The system displays the Differential Backup menu (Figure 3-9).
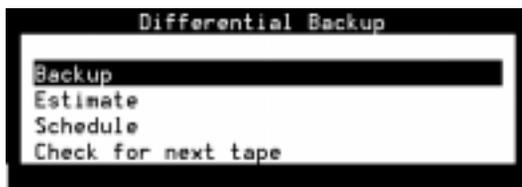

```
Differential Backup
Backup
Estimate
Schedule
Check for next tape
```

Figure 3-9.   Differential Backup Menu

5. Select

> Backup

The system displays the following message:

```
Please put a tape in the drive.

Press <Enter> to continue or q to quit.
```

6. Insert the first tape into the cartridge tape drive. See *"Inserting and Removing Cartridge Tapes"*, above for the procedure.

7. Press [ENTER]

   The system displays the following message:

   ```
   The Differential UNIX backup is now complete.  Please
   remove the tape and label it as "Differential UNIX
   Backup, created [today's date]"
   ```

8. Verify the backup tape. See *"Verifying a Backup Tape"* below for the procedure.

Scheduling a Differential UNIX-Level Backup

You can schedule a differential backup to be performed at a particular time on a weekly basis or on selected days during the week.

> **NOTE:**
> Be sure to have a tape loaded in the tape drive for a backup scheduled at a time when no operator is available.

> **NOTE:**
> The backup will wait for a tape to be inserted if there is not one already in the drive.

To schedule a differential UNIX-level backup, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-3), select

   ```
   > Backup/Restore

       > Differential Backup

           > Schedule
   ```
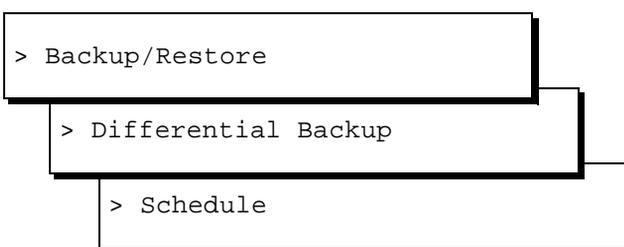
   The system displays the Differential Backup Schedule window (Figure 3-10).

Figure 3-10.   Differential Backup Schedule Window

2. Set the hour at which the system backup will occur by completing the following Steps a through :

   a. Use the left ◄ and right ► arrows on your keyboard to move within the `Time:` field.

   b. In the hour portion of the `Time:` field, enter number between 00 and 23.

   c. In the minute portion of the `Time:` field, enter a number between 00 and 59.

      For example, entering 02:30 activates the backup process at 2:30 am.

3. Press the down ▼ arrow on your keyboard to move to the days of the week.

4. Type **YES** next to the day(s) that you want the differential backup to be performed.

5. Type **NO** next to the days that you do not want the differential backup to be performed.

6. Press F3 (Save).

   The system displays the Differential Backup menu (Figure 3-9).

Verifying a Backup Tape

A backup tape can be verified using the INTUITY CONVERSANT windows or the backup utility boot floppy.

Using the INTUITY CONVERSANT Windows

Verify your backup tape using the BRU once the system is in operation. Perform the verification on the same INTUITY CONVERSANT system or another INTUITY CONVERSANT system that has the BRU loaded.

The BRU verifies:

- Differential backup tapes

- Full backup tapes

- Root backup tapes

Verifying a Differential or Full Backup Tape. To perform a verification, do the following:

1. Insert the backup tape into the tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

2. Starting at the Voice System Administration Menu (Figure 3-3), select

```
> Backup/Restore

    > Verify Backup

        > Differential/Full
```

The system displays the following message:

```
The Backup Tape Verification is now complete. Please
remove the tape, check that the label reflects whether
the tape contains root, full, or differential backup
data, date and time it was created then store it.
```

Verifying a Root Backup Tape. To perform a verification, do the following:

1. Insert the backup tape into the tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

2. Starting at the Voice System Administration Menu (Figure 3-3), select

```
> Backup/Restore

    > Verify Backup

        > "QuickStart"
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-18

The system displays the following message:

```
The Backup Tape Verification is now complete. Please
remove the tape, check that the label reflects whether
the tape contains root, full, or differential backup
data, date and time it was created then store it.
```

Using the Backup Utility Boot Floppy

NOTE:
You must shut down your CONVERSANT system to perform this verification.

To perform the verification, do the following:

1. Log in as root.

2. Enter **shutdown -g0 -y**

   The system shuts down.

3. Insert the BRU Disk Backup diskette labeled "QuickStart" into the diskette drive. See "Inserting and Removing Diskettes" above for the procedure.

4. Press the reset button on the lower front of the MAP/100 peripheral bay.

   The system boots from the BRU diskette. After a few minutes the system displays the BRU Main Menu (Figure 3-6).

5. Enter **4**

   The system displays the following message:

   ```
   Please insert the QuickStart archive media and press
   [ENTER] to continue.
   ```

6. Insert the backup tape into the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

7. Press (ENTER)

   The system displays the following message:

   ```
   Checking the media contents...

   Volume 1 = X SCSI fixed disk, size = 2097152 (2048 MB)
   Verifying the X SCSI fixed disk.
   ```

8. If the verification was successful you have completed the backup procedure.

   If the verification was unsuccessful, repeat the backup procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-19

Backing Up the INTUITY CONVERSANT System Using mkimage

The following section describes the procedure for backing up your INTUITY CONVERSANT system using the **mkimage** command.

⇒ NOTE:
The backup mechanisms described here should be used for backing up and restoring files on the same machine only.

The **mkimage** command backs up all files and speech to cartridge tapes. The **mkimage** command should only be used in the following situations:

- After initially loading a new system

- After upgrading to a new software release

- After upgrading hardware

- After reconfiguring the system

See Appendix A, "Summary of Commands," in *INTUITY™ CONVERSANT® V6.0 Administration*, 585-310-591, for additional information about the **mkimage** command.

Performing a System Backup

To conduct a full system backup using **mkimage**, do the following:

1. Log in as root.

2. Stop the voice system. See "Stopping the Voice System" below for the procedure.

3. Enter **mkimage**

   The system displays the following message:

   ```
   The UNIX kernel will be rebuilt now.  This will take
   some time.  Please wait.

   WARNING: This process will put the system in single
            user mode!!!

   Do you wish to continue (y/n)?
   ```

4. Enter **y**

   The system displays the following message:

   ```
   The system will now be put in single user mode.
   Re-login after the prompt and re-execute this command
   to continue the mkimage process.

   Console Login:
   ```

5. Continue with the next procedure, "Backing Up the Root File System".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-20

Backing Up the Root File System

To back up the root file system, do the following:

1. Log in as root.

2. Enter **mkimage**

   The system displays the following message:

   ```
   Checking the system run level:  Please wait

   The system is in single user mode: Continuing

   The following are approximate tape counts required for
   this backup for various tape drive sizes

       150 Mbyte drive:        X tape(s)
       320 Mbyte drive:        X tape(s)
       525 Mbyte drive:        X tape(s)
       1.2 Gbyte drive:        X tape(s)
       2.0 Gbyte drive:        X tape(s)

   Be sure to number the cartridge tapes consecutively in
   the order they will be inserted.

   Label the tapes 'CONVERSANT Image Tape x' where x
   indicates the insertion sequence.  Also include the
   current date.

   Note: Very large files, such as database files, take
   several minutes to backup.  During this time you will
   not see any progress reported to the console.  If the
   tape drive is running and the system disk light is
   flashing, the operation is in progress.

   Please insert the first tape now.  Press 'ENTER' to
   start image tape creation.
   ```

3. Label the appropriate number of cartridge tapes.

   Label the tapes *CONVERSANT Image Tape x,* where x indicates the
   insertion sequence. Also include the current date on the label.

4. Insert the cartridge tape labeled "CONVERSANT Image Tape 1" into the
   cartridge tape drive. See "Inserting and Removing Cartridge Tapes"
   above for the procedure.

5. Press (ENTER).

   The system takes approximately 30 minutes to load the information onto
   one cartridge tape.

   If your system backup requires more than one cartridge tape, the system
   displays the following message:

   ```
   End of medium on output
   Change to part 2 and press RETURN key. (q)
   ```

   If your backup requires more than one tape, complete Steps a through d:

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-21

a. Remove the cartridge tape labeled "CONVERSANT Image Tape 1" from the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

b. Insert the cartridge tape labeled "CONVERSANT Image Tape 2" into the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

c. Press (ENTER).

d. Repeat Steps a through c for all necessary cartridge tapes.

If your backup does not require more than one tape, continue with Step 6.

6. When the system displays the following message, remove the last cartridge tape from the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

```
The image tapes will be verified now.
Make sure the tapes are inserted in the order they are
made.

Press 'Enter' to start verification.
```

7. Press (ENTER).

The system displays the following message:

```
Please insert the first tape now.  Press 'Enter' to
continue.
```

8. Insert the cartridge tape labeled "CONVERSANT Image Tape 1" into the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

9. Press (ENTER).

The system takes as long to verify a cartridge tape as it did to create it.

The system will prompt for additional tapes if necessary.

10. If your system has speech files located on a second disk, perform the next procedure, "Backing Up the Speech Files".

If your system has only one disk, or is mirrored, continue with the procedure, "Verifying the Back Up".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-22

Backing Up the Speech Files

If your system contains speech files on Hard Disk Drive 2, the system will display the following message:

```
The following are approximate tape counts required for
this backup for various tape drive sizes

   150 Mbyte drive:        X tape(s)
   320 Mbyte drive:        X tape(s)
   525 Mbyte drive:        X tape(s)
   1.2 Gbyte drive:        X tape(s)
   2.0 Gbyte drive:        X tape(s)

Be sure to number the cartridge tapes consecutively in
the order they will be inserted.

Label the tapes 'CONVERSANT Speech Tape x' where x
indicates the insertion sequence.  Also include the
current date.

Note: Very large files, such as database files, take
several minutes to backup.  During this time you will
not see any progress reported to the console.  If the
tape drive is running and the system disk light is
flashing, the operation is in progress.

Please insert the first tape now.  Press 'ENTER' to
start image tape creation.
```

To back up the speech files, using the **mkimage** command, do the following:

1. Label the appropriate number of cartridge tapes.

   Label the tapes 'CONVERSANT Speech Tape x' where x indicates the insertion sequence. Also include the current date on the label.

2. Insert the cartridge tape labeled "CONVERSANT Speech Tape 1" into the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

3. Press ENTER.

   The system takes approximately 30 minutes to load the information onto one cartridge tape.

   If your system backup requires more than one cartridge tape, the system displays the following message:

   ```
   End of medium on output
   Change to part 2 and press RETURN key. (q)
   ```

   If your backup requires more than one tape, complete Steps a through d:

   a. Remove the cartridge tape labeled "CONVERSANT Speech Tape 1" from the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" above for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Backing Up the INTUITY CONVERSANT System

Page 3-23

b. Insert the cartridge tape labeled "CONVERSANT Speech Tape 2" into the cartridge tape drive. See *"Inserting and Removing Cartridge Tapes"* above for the procedure.

c. Press (ENTER).

d. Repeat Steps a through c for all necessary cartridge tapes.

If your backup does not require more than one tape, continue with Step 4.

4. When the system displays the following message, remove the last cartridge tape from the cartridge tape drive. See *"Inserting and Removing Cartridge Tapes"* above for the procedure.

```
The speech tapes will be verified now.
Make sure the tapes are inserted in the order they are
made.

Press 'Enter' to start verification.
```

5. Press (ENTER).

The system displays the following message:

```
Please insert the first tape now.  Press 'Enter' to
continue.
```

6. Insert the cartridge tape labeled "CONVERSANT Speech Tape 1" into the cartridge tape drive. See *"Inserting and Removing Cartridge Tapes"* above for the procedure.

7. Press (ENTER).

The system takes as long to verify a cartridge tape as it did to create it.

The system will prompt for additional tapes if necessary.

8. Continue with the procedure, *"Verifying the Back Up"*.

Verifying the Back Up

When the system is done verifying a cartridge tape it automatically reboots, returns to multi-user format, and displays the console login. To verify the back up, do the following:

1. Log in as root.

2. Enter **vi /SaveVsData/mkimage.log**

If the system displays the following message, the mkimage back up was successful.

```
Creation and verification of the CONVERSANT Image Tape
is complete.
```

If the system does not display this message, the mkimage back up was not successful. Repeat the procedure.

Performing Other Backups

See the *Novell UnixWare Backup and Restore Services* book, which is part of the *UnixWare Documentation Set*, 585-350-908, for information on:

- Establishing an automatic backup using **bkreg**

- Backing up the UnixWare system

- Performing a UnixWare incremental backup

- Copying files using **cpio**

- Backing up non-Script Builder Applications

- Backing up a database

See *INTUITY™ CONVERSANT® V6.0 Application Development with Script Builder*, 585-310-760, for information on:

- Backing up Script Builder applications

See *INTUITY™ CONVERSANT® V6.0 Speech Development, Processing and Recognition*, 585-310-762, for information on:

- Backing up speech files using **spsav**

Restoring the INTUITY CONVERSANT System

The following section describes the procedure for restoring your INTUITY CONVERSANT system.

There are two tools available for you to use to restore your system:

- BRU (Backup/Restore utility)

- mkimage

Restore the INTUITY CONVERSANT System Using BRU

The following section describes the procedure for restoring your INTUITY CONVERSANT system using the BRU.

The BRU restores up to one or more tapes and has a checksum verification option available. BRU restore is a 3-step process:

- Root, or disk-level, restore.

- Full, or UNIX-level, restore.

- Differential, or UNIX-level differential restore.

Performing a Root Restore

> ⇨ **NOTE:**
> The INTUITY CONVERSANT system must be shut down in order to restore an
> entire disk.

To perform a root restore using the BRU tool, do the following:

1. Log in as root.

2. Enter **shutdown -g0 -y**

   This message will shutdown the system.

3. Insert the BRU Disk Backup diskette labeled "QuickStart" into the diskette
   drive. See *"Inserting and Removing Diskettes"* above for the procedure.

4. Press the reset button on the lower front of the MAP/100 peripheral bay.

   The system will boot from the BRU diskette. After a few minutes, the
   system displays the BRU Main Menu Screen (Figure 3-6).

5. Enter **1**

   The system displays the BRU Select Recovery Device Type Menu Screen
   (Figure 3-7).

6. Enter the number corresponding to your systems tape drive.

   The system displays the following message:

   ```
   Checking Device...
   ```

   The system displays the BRU Main Menu Screen (Figure 3-6).

7. Enter **3**

   The system displays the following message:

   ```
   Please insert the QuickStart tape in the tape drive and
   press [ENTER].
   ```

8. Insert the recovery tape in the tape drive. See "Inserting and Removing
   Cartridge Tapes" above for the procedure.

9. Press (ENTER)

   The system displays the following message:

   ```
   Verifying the tape and reading the contents listings.

   Tape contains a QuickStart backup and is ready.

   There is 1 drive volume on this tape
   Volume 1 = X SCSI Hard Drive size = 2097152 (2048 MB)

   Press [ENTER] to continue.
   ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Restoring the INTUITY CONVERSANT System

Page 3-26

10. Press ⌈ENTER⌉

    The system displays the following message:

    ```
    Restoring the X hard drive.
    ```

    ![] **NOTE:**
    The restore speed is about 1GByte/hour.

    ```
    Press [ENTER] to return to the main menu.
    ```

11. Press ⌈ENTER⌉

    The system displays the BRU Main Menu Screen (Figure 3-6).

12. Remove the "QuickStart" boot diskette from the diskette drive. See
    "Inserting and Removing Diskettes" above for the procedure.

13. Enter **9**

14. The system reboots to the INTUITY CONVERSANT system.

15. Continue with "Performing a Full Restore".

Performing a Full Restore

A Full Restore is the second step in the recovery process.

To perform a Full Restore, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-6), select

   ```
   > Backup/Restore

        > Restore
   ```

   The system checks to see if the INTUITY CONVERSANT Voice System is
   running. If the voice system is running, continue with step 2, otherwise go
   to step 3.

   The system displays the following message:

   ```
   The Voice System is running, do you want to stop it for
   Restore?
   ```

2. Enter **y**

   ![] **NOTE:**
   If you choose N, the voice system is not stopped and the restoration
   does not continue.

3. Insert the tape labelled "Full Backup Created [latest date available]." See
    "Inserting and Removing Cartridge Tapes" for the procedure.

    The system displays a message similar to the following message:

    ```
    Do you want to recover the following volume:
    Full Backup created on April 3, 1997:  2:30 A. M.
    Enter y to recover (y):
    ```

4. Enter **y**

    ⟹ NOTE:
    > If more than one tape is required to restore, the system will prompt
    > you to insert the additional tapes when they are needed.

5. Continue with "Performing a Differential Restore".

Performing a Differential Restore

A Differential Restore is the third step in the recovery process.

To perform a Differential Restore, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-6), select

    ```
    > Backup/Restore

        > Restore
    ```

    The system checks to see if the CONVERSANT Voice System is running. If
    the voice system is running, continue with step 2, otherwise go to step 3.

    The system responds with the following message:

    ```
    The Voice System is running, do you want to stop it for
    Restore?
    ```

2. Enter **y**

    ⟹ NOTE:
    > If you choose N, the voice system is not stopped and the restoration
    > does not continue.

3. Insert the tape labelled "Differential Backup Created [latest date available]."   See *"Inserting and Removing Cartridge Tapes"* for the procedure.

   The system displays a message similar to the following message:

   ```
   Do you want to recover the following volume:
   Differential Backup created on April 3,1997: 2:30 A. M.
   Enter y to recover (y):
   ```

4. Enter **y**

   ⇒ **NOTE:**
   > If more than one tape is required to restore, the system will prompt you to insert the additional tapes when they are needed.

5. Press the reset button on the lower front of the MAP/100 peripheral bay.

Performing a System Restoration Using mkimage

To perform a system restoration, do the following:

1. From Chapter 8, *"Installing Base System Software"*, perform the following procedures:

   a. *"Beginning the UnixWare Installation"*

   b. *"Setting Up the UnixWare Environment"*

   c. *"Initializing the Hard Disk Drives"*

   d. *"Transferring the UnixWare Files"*

   The system displays the Application Server Media Type screen (Figure 3-11).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
  Restoring the INTUITY CONVERSANT System   *Page 3-29*

```
The Application Server software is available on diskette or tape
or network server.  You must select the source you will use to
install the software.




Your choices are:

1. Diskette Drive 1
2. Unixware for Intuity CONVERSANT
3. Network Install Server
4. Intuity Image/Snap Tape

Press a number between '1' and '4' followed by 'ENTER':
```

Figure 3-11.   Application Server Media Type Screen

2. Insert your system backup cartridge tape labeled "CONVERSANT Image
    Tape 1" into the tape drive. See "Inserting and Removing Cartridge
    Tapes" above for the procedure.

3. Type **4**

4. Press (ENTER).

    The system displays the Insert Tape screen (Figure 3-12).

```
Please insert the Intuity Image/Snap cartridge tape into the tape
drive and press 'ENTER'.




















Your choices are:

1. The tape has been inserted in the tape drive.
2. Go back to previous menu.

Press '1' or '2' followed by 'ENTER':
```

Figure 3-12.   Insert Tape Screen

5. Press $\boxed{\text{ENTER}}$.

   This will accept the default of 1 to indicate the tape has been inserted and is ready for access.

   The system displays the following message:

   ```
   Installation in progress.  This will take several
   minutes.  Please do not remove the tape.
   ```

   The installation process will take two to three hours to complete. When the system installation is complete the system will display a message stating that you are able to remove the tape from the drive.

6. Remove the tape labeled "CONVERSANT Image Tape 1" from the tape drive. See *"Inserting and Removing Cartridge Tapes"* above for the procedure.

7. Press $\boxed{\text{ENTER}}$.

   The system reboots.

8. If your system has more than one hard disk drive clean the secondary hard disk drives. See *"Cleaning a Hard Disk Drive"*, in Chapter 6, *"Replacing the Hard Disk Drive"*, for the procedure.

   ⚠ **CAUTION:**
      Do not remove the partition on the root hard disk drive.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Restoring the INTUITY CONVERSANT System

Page 3-31

9. Reboot the system. See *"Rebooting the UNIX System"*, below for the procedure.

10. Perform the *"Activating the Volume Manager"*, procedure in Chapter 8, *"Installing Base System Software"*.

The system is now ready for you to restore speech files or activate mirroring. To restore the speech files, see "Saving and Restoring," in Chapter 1, "Overview of Speech," in *INTUITY™ CONVERSANT® Version 6.0 Speech Development, Recognition, and Processing*, 585-310-762. To activate mirroring, see *"Establishing Mirroring"*, in Chapter 6, *"Replacing the Hard Disk Drive"*.

Restoring the Database Directory from System Backup

⚠ CAUTION:

> *Current data, system traffic data, and application data may be lost depending on the date of the last system backup.*

1. If the database system is running, perform the *"Stopping the Database System"* procedure below.

2. Perform the "Selective System Restore" procedure described in *Novell UnixWare Backup and Restore Services* book which is part of the *UnixWare Documentation Set*, 585-350-908. Specify the directory **/oracle/dbs**.

3. If there are other database files created outside the **/oracle/dbs** directory, perform the "Selective System Restore" procedure for each of the files. See the *Novell UnixWare Backup and Restore Services* book which is part of the *UnixWare Documentation Set*, 585-350-908, for this procedure.

4. Perform the *"Starting the Voice System"* procedure below to start the database and the voice system.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Administering the Voice System

Page 3-32

Administering the Voice System

Administering the voice system includes:

- Starting the voice system

- Stopping the voice system

- Shutting down the voice system

Starting the Voice System

You can stop the voice system from either the INTUITY CONVERSANT windows or the command line.

Using the INTUITY CONVERSANT Windows

To start the voice system, do the following:

1. Starting at the Voice System Administration menu ([Figure 3-13](#)), select
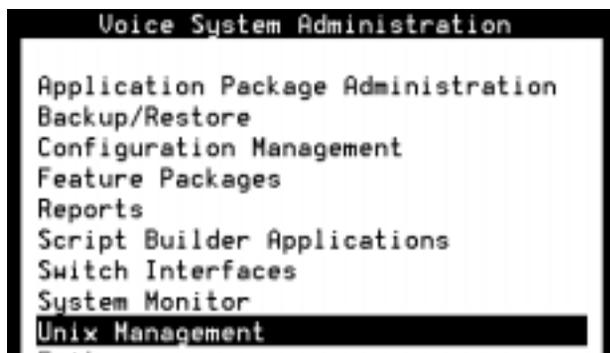
Figure 3-13. **Voice System Administration Menu**
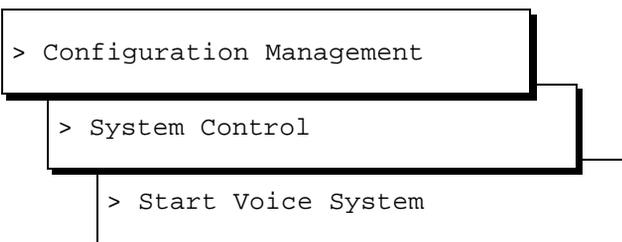
The system displays the following messages:

```
running bitmapmgr...
bitmapmgr completed.
```

```
Form Filler Audit complete. No errors found.

ORACLE RDBMS is already started.

The Voice System is starting

The Voice System is initializing cards

The Voice System is still initializing cards
Please wait...

Startup of the Voice system is now complete.

Hit acknowledge key to continue.
```

2. Press F1 (acknowledge).

   The system displays the System Control menu (Figure 3-14).
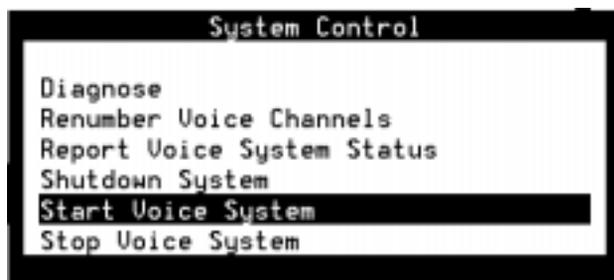
Figure 3-14.   System Control Menu

Using the Command Line

To start the voice system, do the following:

1. Enter **start_vs**

   The system displays the following messages:

```
running bitmapmgr...
bitmapmgr completed.

Form Filler Audit complete. No errors found.

ORACLE RDBMS is already started.

The Voice System is starting

The Voice System is initializing cards

The Voice System is still initializing cards
Please wait...

Startup of the Voice system is now complete.
```

Stopping the Voice System

You must stop the voice system to complete the following tasks:

- Replacing a component in the MAP/100

- Performing routine backup and restore procedures

When the voice system is stopped, the entire system is placed in the idle state when all lines are free, the internal system tables are saved, and all processes are turned off.

The voice system can be stopped from either the INTUITY CONVERSANT windows or the command line.

Using the INTUITY CONVERSANT Windows

To stop the voice system, do the following:

➤ NOTE:
Have the system administrator route calls away from the system before beginning this procedure.

1. Starting at the Voice System Administration menu (Figure 3-13), select

```
> Configuration Management

    > System Control

        > Stop Voice System
```

The system displays the Wait Time window (Figure 3-15).

```
Wait Time

Seconds: ■
```
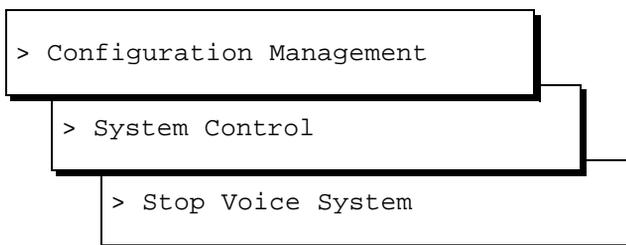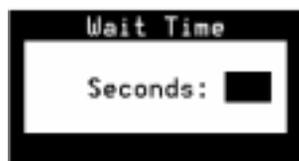
Figure 3-15.   Wait Time Window

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Administering the Voice System

Page 3-35

2. Enter a number between 60 and 600.

   This is the number of seconds you want the system to wait for all calls to clear before stopping the voice system.

3. Press F3 (save).

   The system displays the following messages:

   ```
   The Voice System is now stopping.

   Initiating request to clear all calls in the next X
   seconds.

   Orderly idling of the system succeeded.

   After the voice system has completely stopped, use the
   "Start Voice System" choice from the system control
   menu to restart the voice system.

   The Voice System has stopped.

   Press Enter to continue.
   ```

4. Press ENTER.

   The system displays the System Control menu (Figure 3-14).

Using the Command Line

To stop the voice system, do the following:

⇒ NOTE:

Have the system administrator route calls away from the system before beginning this procedure.

1. Enter **stop_vs *time***

   where *time* is the time (60 to 600 seconds) that you want the system to wait before it begins the shut down procedure. The default wait time is 180 seconds.

   The system displays the following message:

   ```
   The Voice System is now stopping.

   Initiating request to clear all calls in the next X
   seconds.

   Orderly idling of the system succeeded.

   After the voice system has completely stopped, use the
   "Start Voice System" choice from the system control
   menu to restart the voice system.
   ```

Shutting Down the Voice System

To shut down the voice system, do the following:

1. Starting at the Voice System Administration menu ([Figure 3-13](#)), select

```
> Configuration Management

    > System Control

        > Shutdown System
```
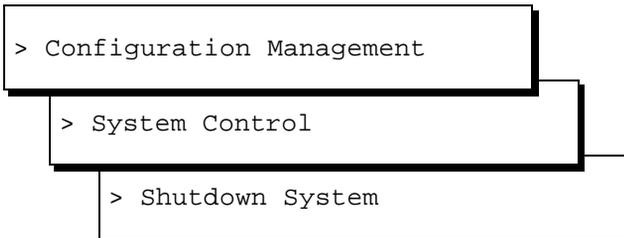
The system displays the Wait Time window ([Figure 3-15](#)).

2. Enter a number between 0 and 60.

   This is the number of seconds you want the system to wait for all calls to clear before shutting down the voice system.

3. Press F3 (save).

   The system displays the following messages:

   The Voice System is now stopping.

   Initiating request to clear all calls in the next **X** seconds.

   Orderly idling of the system succeeded.

   After the voice system has completely stopped, use the "Start Voice System" choice from the system control menu to restart the voice system.

Administering the Operating System

Administering the operating system includes

- Shutting down the operating system

- Rebooting the operating system

Shutting Down the Operating System

You can shut down the operating system

- Using the INTUITY CONVERSANT windows

- Using the command line

NOTE:
The system automatically resets the machine clock for daylight savings time. If your system is down at the time at that daylight savings time is updated (April and October), your machine clock will not indicate the correct time.

Using the INTUITY CONVERSANT Windows

1. Stop the voice system. See "Stopping the Voice System", above

2. Start at the INTUITY CONVERSANT system menu (Figure 3-16).

```
         Intuity CONVERSANT V6.0

 UNIX System Administration
 Voice System Administration
 Exit
```
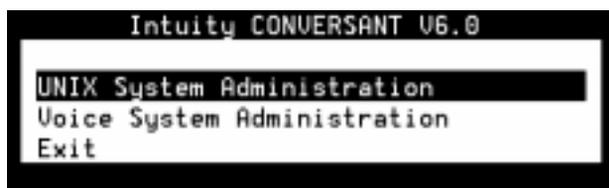
Figure 3-16.   INTUITY CONVERSANT System Menu

3. Select

```
> UNIX System Administration

    > Machine

        > shutdown
```

The system displays the Shut Down the Machine window ([Figure 3-17](#)).

```
 3                  Shut Down the Machine

Users currently logged on:

root        console     Jul  8 06:39
root        pts000      Jul  8 08:48
```
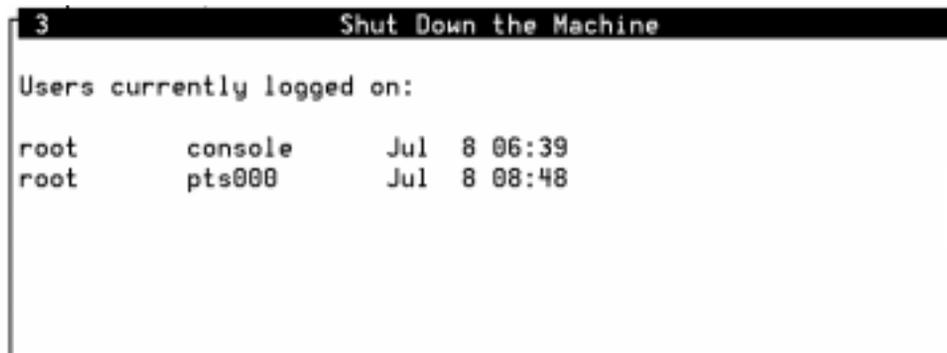
Figure 3-17. Shut Down the Machine Window

4. Press F3 (Continue).

    The system displays the next Shut Down the Machine window
    ([Figure 3-18](#)).

```
 4                  Shut Down the Machine

Number of seconds before shutdown starts:        60

WARNING: Once started, this procedure CANNOT BE STOPPED!
         Strike SAVE to proceed with shutdown and exit OA&M.
```
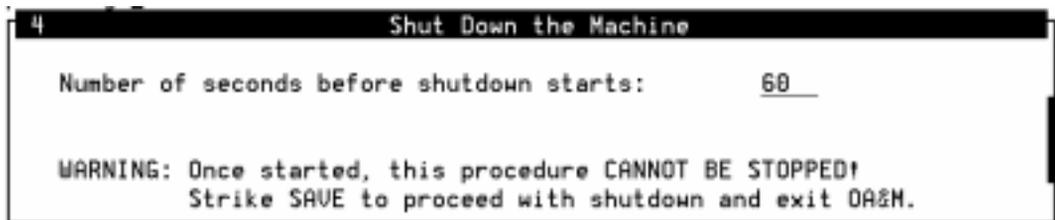
Figure 3-18. Shut Down the Machine Window (continued)

5. Enter the number of seconds the machine should wait to clear all calls
    before shutting down. Valid values are between 0 and 9999.

6. Press F3 (save).

    If you selected "0," the shutdown starts immediately. In this case, all
    remote users (if any) are notified that a shutdown is starting immediately.

Using the Command Line

To shut down the operating system using the command line, do the following:

1. Stop the voice system. See "Stopping the Voice System" above.

2. Enter **shutdown -i0 -y -g0**

Rebooting the UNIX System

To reboot the UNIX system, do the following:

1. Stop the voice system. See "Stopping the Voice System" above for the procedure.

2. Enter **shutdown i6 -y -g0**

Administering the Database System

Administering the database system consists of

- Starting the database system
- Stopping the database system

Starting the Database System

To start the database system, do the following:

1. Enter **/oracle/bin/ior w**

   The system displays the following messages followed by the UNIX prompt.

   ```
   ORACLE instance started.
   Database mounted.
   Database opened.
   Total System Global Area877716 bytes
   Fixed Size  24908 bytes
   Variable Size410440 bytes
   Database Buffers409600 bytes
   Redo Buffers32768 bytes
   SQL*DBA complete.
   ```

   If the database start-up fails, the system may hang, forcing you to press
   (DEL), or the system may provide error information and return the system
   prompt. If the system returns error information, enter:

   /oracle/bin/oerr ora *error_num*

   where *error_num* is the ORACLE error number in the reason field of the
   error message.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Administering the Database System

Page 3-40

The output will contain a brief explanation of the error, the cause, and the action to take to correct it.

NOTE:
You can also refer to the *ORACLE Error Messages and Codes Manual* for the explanation. If the error is unique to the UNIX environment, you can also see the *ORACLE for UNIX Technical Reference Guide* for detailed information.

Follow the actions suggested to correct the problem.

Stopping the Database System

To stop the database system, do the following:

1. If the voice system is still running, perform above.

2. Enter **/oracle/bin/ior s**

   The system displays the following messages followed by the UNIX prompt.

   ```
   Database closed.

   Database dismounted.

   ORACLE instance shut down.

   SQL*DBA complete.
   ```

   If the database shutdown was not successful, complete Steps a and b.

   a. Press (DEL).

      The system displays the following message:

      ```
      ORA-01013: user requested cancel of current
      operation SQL*DBA complete.
      ```

   b. Enter **/oracle/bin/ior c**

      The system displays the following message:

      ```
      ORACLE instance shut down.
      SQL*DBA complete.
      ```

Dropping a Database Table

If the table resides in a remote system machine, perform the following procedure on that remote machine.

NOTE:
If the table resides in a non-system remote machine, contact the database administrator of the remote machine for assistance.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

3 Common System Procedures
Administering the Database System

Page 3-41

1. Enter **/oracle/bin/orastat** to verify that the database is running

   The system displays either the number 1 or the number 0.

   If "1" is displayed, the database is not running. Perform "Starting the Database System" above.

   If "0" is displayed, the database is running. Continue with Step 2.

2. Enter **/oracle/bin/sqlplus sti/sti**

   This will invoke the ORACLE SQL*PLUS utility.

   The system displays the following message:

   ```
   SQL*Plus: Release 3.1.1.9.1>
   ```

3. Enter **drop table *<"tblname">***

   where *<"tblname">* is the name of the table to be dropped enclosed in double quotes.

   ### ➡ NOTE:
   The table name is case sensitive. It must also be enclosed in double quotes appearing exactly as it appears in the system message.

   If the table is dropped successfully, the system displays the following message:

   `Table dropped.`

   If the `<reason>` field is `ORA: 00942 table or view does not exist`, continue with Step 4.

   If the table cannot be dropped, complete Steps a through d.

   a. Enter **quit**

      This will exit the SQL*PLUS utility.

   b. Perform "Stopping the Database System", above.

   c. Perform "Starting the Database System", above.

   d. Repeat Step 3 of this procedure.

4. Enter **quit**

   This will exit the SQL*PLUS utility.

Recreating the System Traffic Tables

To recreate the system traffic tables, do the following:

⇒ NOTE:
All current system traffic data is lost after performing this procedure.

1. Stop the voice system. See "Stopping the Voice System" above for the procedure.

2. Enter **/oracle/bin/sqlplus \@ /oracle/dist/cdh.sql**

   This will drop and recreate all system traffic tables.

3. Start the voice system. See "Starting the Voice System" above for the procedure.

Verifying the Date and Time

Checking the UNIX Date and Time Window

To check the UNIX Date and Time window, do the following:

1. Starting at the Voice System Administration Menu (Figure 3-3), select

```
> UNIX Management

    > UNIX Date and Time
```

The system displays the UNIX Date and Time window (Figure 3-19).
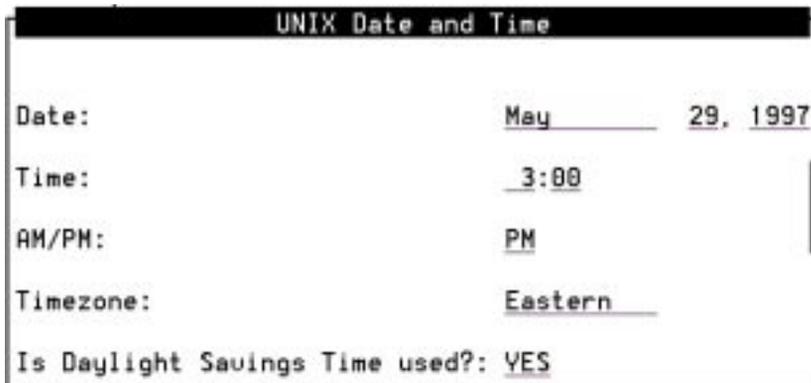
Figure 3-19.   UNIX Date and Time Window

2. Check each of the fields under UNIX Date and Time.

   If all of the fields are correct, press ⌈CANCEL⌉ (F6).

   If a field contains incorrect information, continue with the next procedure, ''Changing the UNIX Date and Time Window''.

Changing the UNIX Date and Time Window

The user can change any of the displayed fields. To change one field in the Date and Time window, the user must either change or acknowledge the information in each field.

Changing the Date Field

The date field contains the month, day, and year.

Changing the Month

1. Place the cursor on the Month field in the UNIX Date and Time window.

2. If the month shown is not correct, complete Steps a through c:

   a. Press ⌈CHOICES⌉ (F2) to display the months of the year (Figure 3-20).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Verifying the Date and Time

Page 3-44

Figure 3-20.   UNIX Month Choices Menu

    b. Use ▲ or ▼ to move the cursor and highlight the correct month.

    c. Press (ENTER) to place the name of the correct month into the month field.

> ➡ **NOTE:**
> The user can also select the current month by entering the corresponding alphabetic abbreviation from this list: **Ja**, **F**, **Mar**, **Ap**, **May**, **Jun**, **Jul**, **Au**, **S**, **O**, **N**, **D**.

    Continue with the next procedure *''Changing the Day''*.

If the month shown is correct, press (ENTER) for no change and continue with the next procedure *''Changing the Day''*.

Changing the Day

If the day of the month shown is not correct, enter the correct day as a number from 1 to 31 and continue with the next procedure *''Changing the Year''*.

If the day of the month shown is correct, press (ENTER) for no change and continue with the next procedure *''Changing the Year''*.

Changing the Year

If the year shown is not correct, enter the correct year as a number from 1996 to 2038 and continue with the next procedure *''Changing the Time Field''*.

If the year shown is correct, press (ENTER) for no change and continue with the next procedure *''Changing the Time Field''*.

Changing the Time Field

If the time shown is not correct, enter the correct time in the form of *hours:minutes* and continue with the next procedure *''Changing the AM/PM Field''*.

⇒ NOTE:

Use a 12-hour a.m./p.m. standard. Do not use the 24-hour military standard.

If the time shown is correct, press (ENTER) for no change and continue with the next procedure *''Changing the AM/PM Field''*.

Changing the AM/PM Field

If AM/PM is not correct as shown, type **a** for a.m. or **p** for p.m. and continue with the next procedure *''Changing the Time Zone Field''*.

If AM/PM is correct as shown, press (ENTER) for no change and continue with the next procedure *''Changing the Time Zone Field''*.

Changing the Time Zone Field

If the time zone shown is not correct, complete Steps 1 through 3 and continue with the next procedure "*Changing the Is Daylight Savings Time Used Field*".

1. Press (CHOICES) (F2) to display the list of time zones (Figure 3-21).

```
┌──────────────┐
│ Timezone     │
│▶Greenwich    │
│ Atlantic     │
│ Eastern      │
│ Central      │
│ Mountain   ▐ │
│ Pacific    ▐ │
│ Yukon        │
│ Alaska       │
│ Bering       │
│ Hawaii       │
└──────────────┘
```
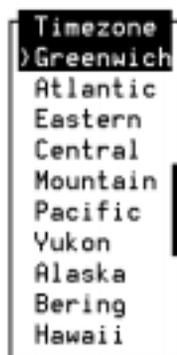
Figure 3-21.   UNIX Time Zone Choices Menu

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

3 Common System Procedures
Verifying the Date and Time   Page 3-46

2. Use ▲ or ▼ to move the cursor and highlight the correct time zone.

3. Press ENTER to place the name of the correct time zone into the
    `Timezone` field.

If the time zone shown is correct, press ENTER for no change and continue with
the next procedure *"Changing the Is Daylight Savings Time Used Field"*.

Changing the Is Daylight Savings Time Used Field

1. Type **y** for yes or **n** for no depending upon whether or not daylight savings
    time is used at any time during the year.

2. Press SAVE (F3) to save the changes and continue with the next
    procedure *"Acknowledging the Changes to the Date and Time Window"*.

Acknowledging the Changes to the Date and Time Window

After the changes have been made to the Date and Time window the user must
ensure that the system recognizes the new information. To acknowledge the new
information, do the following:

1. Reboot the INTUITY CONVERSANT system. See *"Rebooting the UNIX
    System"* above for the procedure.

    At this time the date and time changes will take affect.

2. Starting at the Voice System Administration Menu (Figure 3-3), select

> UNIX Management

> UNIX Date and Time

The system displays the UNIX Date and Time window (Figure 3-19).

3. Check each of the fields under `UNIX Date and Time` to ensure that the
    changes have been recorded.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

4 Getting Inside the Computer
Overview

Page 4-1

Getting Inside the Computer

4

Overview

This chapter describes procedures for

- Proper electrostatic discharge protection

- Power removal and restoration

- Computer chassis access

Purpose

The purpose of this chapter is to provide the correct procedures for accessing the internal components of the MAP/5P.

Protecting Against Damage from Electrostatic Discharge

> ⚠ **CAUTION:**
> *Read this section before unpacking the MAP/5P. You* **must** *observe proper grounding techniques to prevent the discharge of static electricity from your body into ESD-sensitive components.*

Circuit cards and packaging materials that contain ESD-sensitive components are usually marked with a yellow-and-black warning symbol (Figure 4-1).

Figure 4-1. ESD Warning Symbol

To avoid damaging ESD-sensitive components, follow these rules:

- Handle ESD-sensitive circuit cards only after attaching a wrist strap to your bare wrist. Attach the other end of the wrist strap to a ground that terminates at the system ground, such as any unpainted metallic chassis surface.

- Handle a circuit card by the faceplate or side edges only (Figure 4-2 and Figure 4-3).

> ⚠ **CAUTION:**
> *Ensure that your palm is not in contact with the non-component side of the board.*
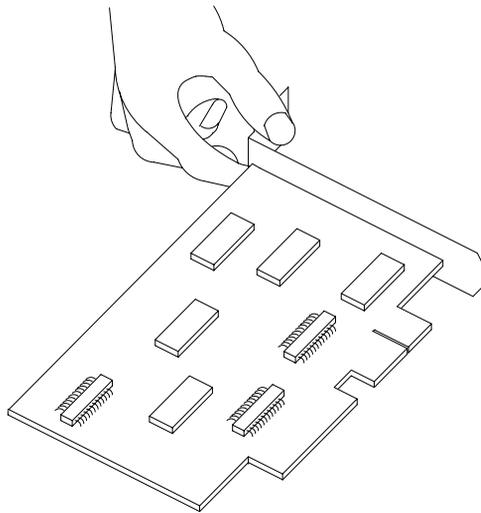
Figure 4-2.   How to Hold a Small Circuit Card
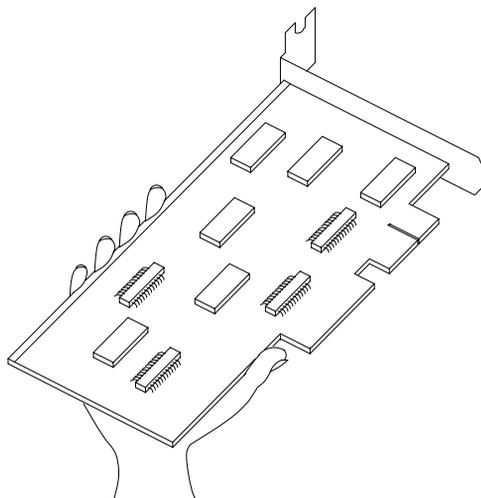
Figure 4-3.   How to Hold a Large Circuit Card

- Keep circuit cards away from plastics and other synthetic materials such as polyester clothing.

- Do not hand circuit cards to another person unless that person is grounded at the same potential level.

- Hold devices such as a hard disk, floppy drive, or streaming tape in the same manner as a large circuit card. The ESD-sensitive area of these components is located on the bottom surface (Figure 4-4).
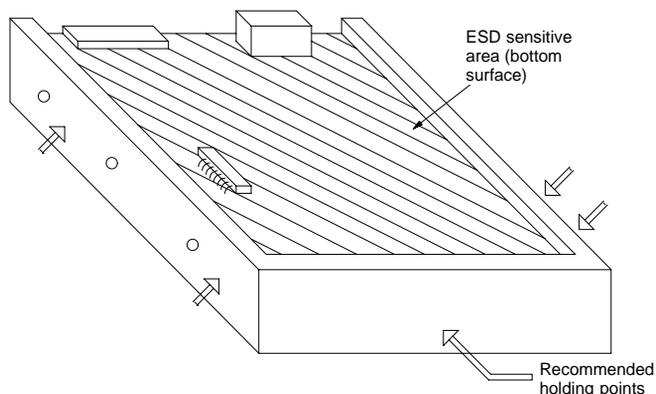
Figure 4-4.   ESD-Sensitive Area of an Electronic Component

Removing Power from the MAP/5P

The MAP/5P requires a dedicated circuit with a dedicated circuit breaker. The power cord connects to the rear of the MAP/5P at the point labeled AC power inlet receptacle (Figure 4-5).
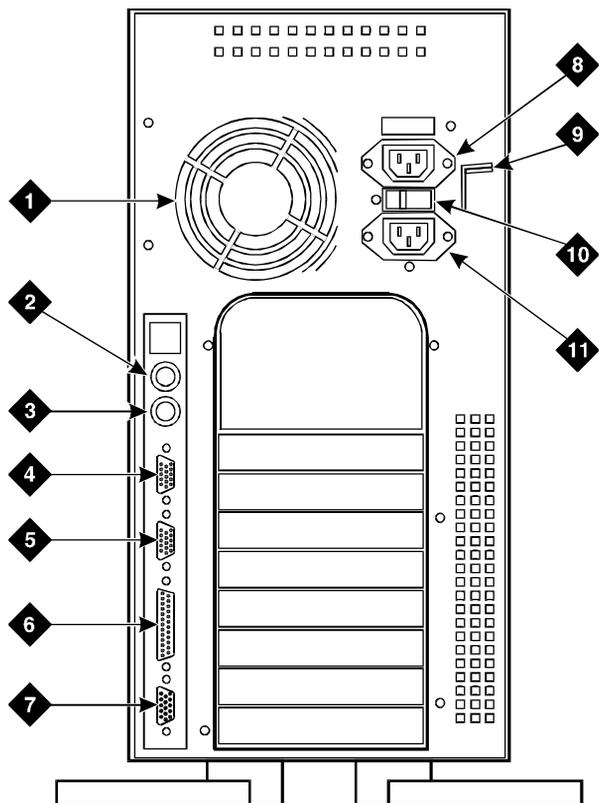
1.   Power supply fan intake
2.   Keyboard connector
3.   Mouse connector
4.   COM1
5.   COM2
6.   Parallel port
7.   Video connector
8.   AC power supply outlet
9.   Dress cover lock
10.   AC voltage selector switch
11.   AC power inlet receptacle

Figure 4-5.   Back View of the MAP/5P

Before you begin any work in the MAP/5P complete the following procedure to remove power from the MAP/5P:

1. Shut down the INTUITY™ CONVERSANT® system. See *"Shutting Down the Operating System"* in Chapter 3, "Common System Procedures", for the procedure.

2. Turn off the monitor's power switch.

    The green or amber lamp on the front bottom of the monitor should be off.

3. Turn off the power switch on the front of the MAP/5P.

    The green lamp labeled POWER ON on the front of the unit should be off.

4. Unplug the MAP/5P from the power outlet.

5. Remove the MAP/5P power cord from the AC receptacle in the wall.

6. Observe the correct lock-out/tag-out precautions for isolating power as outlined in the Lucent lock-out/tag-out procedure.

Removing the Dress Cover

The dress cover provides protection for the internal components of the MAP/5P. You must remove the dress cover to access these components.

⚠ **DANGER:**

Shut power off before removing the dress cover. See "Removing Power from the MAP/5P" for the procedure.

To remove the dress cover, do the following:

1. Place the dress cover lock (Figure 4-5) in the open position.

    ### ➡ **NOTE:**
    Figure 4-5 shows the dress cover lock in the locked position.

2. Simultaneously compress the dress cover latches on either side of the MAP/5P (Figure 4-6).

3. Slide the dress cover away from the MAP/5P.
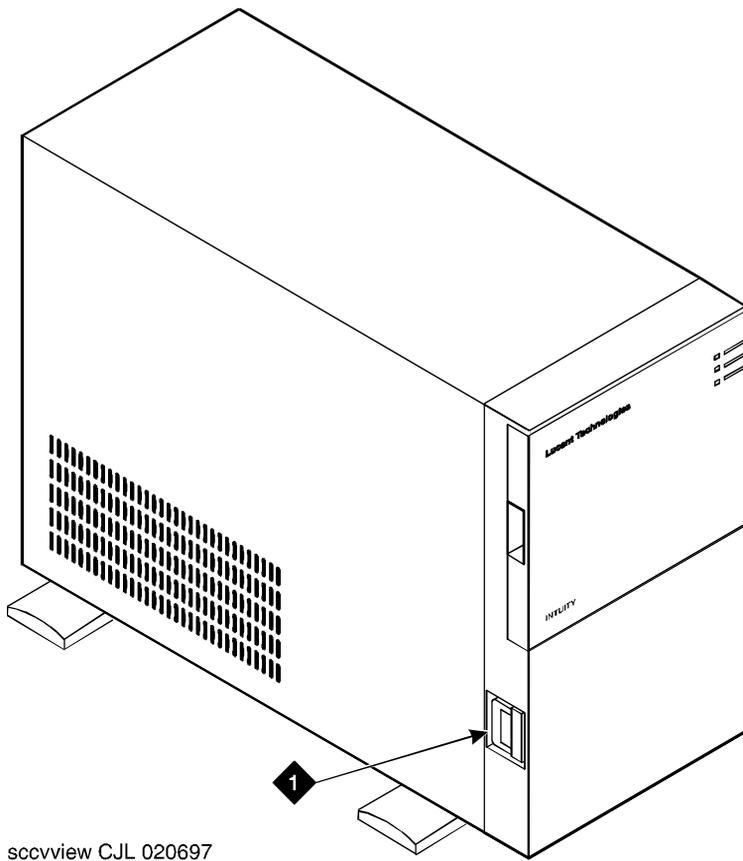
sccvview CJL 020697

1.   Dress cover latch

Figure 4-6.   Removing the Dress Cover

Replacing the Dress Cover

To replace the dress cover, do the following:

1. Align the dress cover with the MAP/5P chassis.

2. Slide the dress cover back until it locks into place.

3. Close the dress cover lock on the back of the MAP/5P chassis.

Restoring Power to the MAP/5P

To restore power to the MAP/5P, do the following:

1. Plug the MAP/5P power cord into the designated power outlet.

2. Fasten the power cord to the MAP/5P dress cover lock using a cable tie.

   $\Longrightarrow$ **NOTE:**
   Leave some slack in the power cord between the dress cover lock
   and the back of the MAP/5P.

3. Turn on the monitor's power switch.

   The green or amber lamp on the front bottom of the monitor should be lit.

4. Press on the power switch on the front of the MAP/5P.

   The green lamp on the front of the unit should be lit.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5   Replacing or Installing Circuit Cards
Overview

Page 5-1

Replacing or Installing Circuit Cards

5

Overview

This chapter describes

- Configuring circuit cards in the MAP/5P

- Types of circuit cards

- General steps for circuit card installation

- Specific procedures for installation of standard and optional MAP/5P circuit cards

- Settings for resource options

Purpose

The purpose of this chapter is to ensure that

- Circuit cards are installed correctly

- Resource options are set correctly

General Procedures

The general procedures include:

- Removing a circuit card

- Installing a circuit card

Removing a Circuit Card

⚠ CAUTION:

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

To remove a circuit card, you must:

- Remove the INTUITY™ CONVERSANT® system from service

- Access the circuit card

- Extract the circuit card

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing the Circuit Card

To access the circuit card, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
General Procedures

Page 5-3

Extracting the Circuit Card

To extract the circuit card, do the following:

1. Locate the circuit card to be replaced within the card cage.

2. Disconnect any attached cables.

   $\Longrightarrow$ **NOTE:**
   Pay close attention to the connectivity of each cable to make it easier to connect them to the replacement circuit card.

3. If there are cables attached to other circuit cards which would impede the removal of the card, disconnect them and place them to the side.

   $\Longrightarrow$ **NOTE:**
   Pay close attention to the connectivity of each cable.

4. Remove the retaining screw from the circuit card faceplate and save it.

5. Remove the circuit card from the backplane slot by gently pulling on each corner of the card.

   $\Longrightarrow$ **NOTE:**
   Note the slot assignment because you must install the replacement card in the same backplane slot. See *"Component Assignments"* in *Appendix A, "Configuring a System"*, for circuit card slot assignments.

6. Remove the circuit card from the MAP/5P.

   ⚠ **CAUTION:**
   Hold the circuit card carefully by the edges and place it on a grounded mat. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer", for detailed electrostatic discharge precautions.

7. If the circuit card being replaced is defective, note all symptoms of failure and include this information with the circuit card when it is returned.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
General Procedures

Page 5-4

Installing a Circuit Card

> **⚠ CAUTION:**
> *Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".*

To install a circuit card, you must:

- Insert the circuit card

- Reassemble the MAP/5P

- Restore the INTUITY CONVERSANT system to service

> **➡ NOTE:**
> If you are adding an additional circuit card to the INTUITY CONVERSANT system, complete the procedures, "Removing the INTUITY CONVERSANT System from Service" and "Accessing the Circuit Card".

Inserting the Circuit Card

To insert the circuit card, do the following:

1. Remove the new circuit card from its ESD-protective wrapping.

   > **➡ NOTE:**
   > Keep the package and all ESD-protective wrapping. You must re-use the material in which the replacement circuit card was packaged to meet the manufacturer's warranty.

2. Verify the circuit card switch and jumper settings. Ensure address switches and jumpers are set to match the old card.

   > **➡ NOTE:**
   > See the specific instructions listed later in this chapter for each type of circuit card you are installing then continue with Step 3.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
General Procedures   Page 5-5

3. If the circuit card is the last circuit card connected to either end of the TDM bus, you must ensure that the TDM bus terminator single in-line packages (SIPs) are in place on the circuit card. See *"Terminator SIP Replacement"* in Chapter 7, *"Replacing Other Components"*.

   If the circuit card is not the last circuit card on the bus, you must remove the SIPs.

   > **NOTE:**
   > "Last circuit card connected" means that there are no other cards between the circuit card and the end of the bus. There may, however, be empty connectors.

4. If the circuit card you are installing is the last circuit card on the bus, check those circuit cards that were already in place to ensure that the SIPs have been removed.

5. Holding the circuit card by its upper corners, slide the card into the backplane connector slot position from which you removed the damaged card. If necessary, see Appendix A, *"Configuring a System"*, to determine the correct slot in which to place the card.

6. Apply even pressure to both corners of the circuit card until it is locked into the backplane.

7. Secure the circuit card faceplate into position by replacing the retaining screw.

8. Replace all cables on the new card. Make sure these cables are attached to their proper terminations.

9. Replace all cables removed from other cards. Make sure these cables are attached to their proper terminations.

Reassembling the MAP/5P

To reassemble the MAP/5P, replace the dress cover. See *"Replacing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system to service, do the following:

1. Restore power to the MAP/5P. See *"Restoring Power to the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call to a user.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings   Page 5-6

Circuit Card Settings

The following sections list the specific jumper and switch settings for optional circuit cards.

> ⚠️ **CAUTION:**
> *Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".*

This section provides the following information on the optional feature circuit cards:

- Switch and jumper settings

- Other installation requirements that are specific to the particular circuit card you are installing

In general, circuit cards are not preset at the factory. You must set the switches and jumpers (resource options) *before* you install the cards. When you set the switches according to the instructions in this book, remember that OFF is equivalent to open and ON is equivalent to closed.

8-Port Asynchronous Circuit Card (EQUINOX Megaport 8C5 8-Port Serial I/O Board)

Figure 5-1 shows the EQUINOX Megaport 8C5 8-Port Asynchronous circuit card and the location of the jumpers. Verify that no jumpers are set.

There are no switches to set in the 8-Port Asynchronous circuit card.
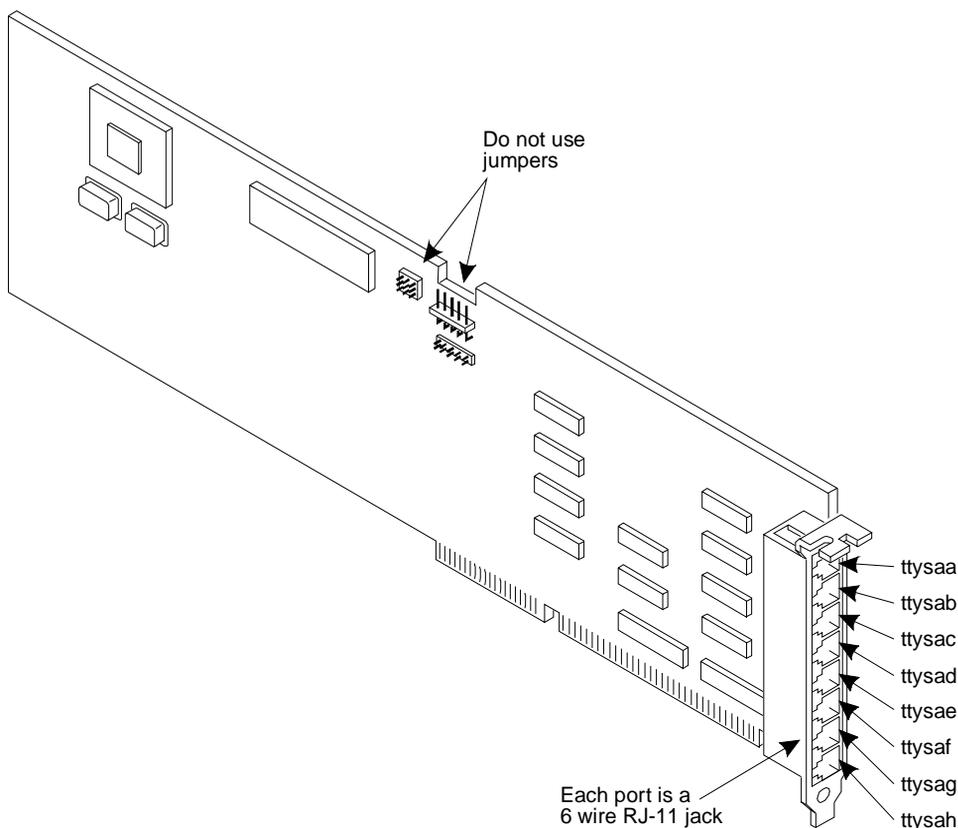
**Figure 5-1.   8-Port Asynchronous Circuit Card (EQUINOX Megaport 8C5
8-Port Serial I/O Board)**

To install the Equinox Megaport card driver, do the following:

1. If you are not already logged in as **root**, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "Equinox Megaport/Megaplex STREAMS
   Device Driver (ISA/EISA) 1 of 1" into the diskette drive. See "Inserting and
   Removing Diskettes" in Chapter 3, "Common System Procedures", for the
   procedure.

4. Press (ENTER).

   The system displays the following message:

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-8

```
Installation in progress -- do not remove the diskette.

The following packages are available:
  1. eqx          Equinox Megaport/Megaplex STREAMS
                   Device Driver (ISA/ESA)
                   (i386)

Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]:
```

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: Equinox Megaport/Megaplex STREAMS Device Driver
   (eqx) from <diskette1>

   Equinox Megaport/Megaplex STREAMS Device Driver
   (i386)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   Press Enter to Continue.
   ```

6. Press (ENTER).

   The system displays the following message:

   ```
   What do you wish to install?

   (1) MEGAPORT
   (2) MEGAPLEX
   (H) Help

   Enter 1 or 2 [1]:
   ```

7. Press (ENTER).

   The system displays the following message:

   ```
   Up to 10 MEGAPORT boards can be installed on a system.
   Enter the number of boards you are installing [1]:
   ```

8. Press (ENTER).

   The system displays the following message:

   ```
   Early version MEGAPORT boards required a 64KB buffer
   block instead of the 8KB block used by boards currently
   being manufactured.

   Are you installing any early version MEGAPORT boards
   which require a 64KB buffer block? (Y/N/H) [N]
   ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-9

9. Press ENTER.

    The system displays the following message:

    ```
    Where do you wish to install the board(s) in memory:

    (1) Between 640KB and 1MB
    (2) Above 1MB
    (H) Help

    Enter 1 if there is 16 MB or more of physical memory
    installed in your system.
    Enter 2 if there is less than 16 MB of physical memory
    installed in your system.

    Default is between 640KB and 1MB [1]:
    ```

10. Press ENTER.

    The system displays the following message:

    ```
    8KB of unoccupied memory is required for the MEGAPORT
    board(s). This 8KB memory block must reside on a 8KB
    boundary with the last four hex digits being one of the
    following:

    0000, 2000, 4000, 6000, 8000, a000, c000, e000.

    Enter 8KB common buffer block address [d0000]:
    ```

11. Enter the appropriate memory block boundary.

    The memory block boundary is determined by the INTUITY CONVERSANT Hardware Resource Allocator. See "Hardware Resource Allocator Operation" in Appendix A, "Configuring a System", for more information.

    The system displays the following message:

    ```
    Each MEGAPORT requires 8KB of unoccupied memory. The
    address of this 8KB control block must end with the last
    four hex digits being one of the following:

    0000, 2000, 4000, 6000, 8000, a000, c000, e000.

    Board 1:       Enter address of 8KB control block
    [d2000]:
    ```

12. Enter the appropriate memory block boundary.

    The memory block boundary is determined by the INTUITY CONVERSANT Hardware Resource Allocator. See "Hardware Resource Allocator Operation" in Appendix A, "Configuring a System", for more information.

    The system displays the following message:

    ```
    Is this an EISA machine (y/n) [No]?
    ```

13. Press (ENTER).

    The system displays the following message:

    ```
    MEGAPORT CONFIGURATION SUMMARY

    Number of boards installed:        1
    Common 8KB buffer block:           XXXXX
    Board 1, 8KB control block:        XXXXX
    EISA system:                       N

    Is this correct? (y/n)
    ```

14. Enter **y**

    The system displays several status messages and then the following message:

    > The UNIX Operating System kernel will be rebuilt to include you configuration changes during the next system reboot.

    Installation of Equinox Megaport/Megaplex STREAMS Device Driver (ISA/ESA) (eqx) was successful.

    ```
    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

15. Enter **q**

16. Remove the diskette labeled "Equinox Megaport/Megaplex STREAMS Device Driver (ISA/EISA) 1 of 1" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

17. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

Ethernet LAN Circuit Cards

The INTUITY CONVERSANT system supports two types of Ethernet LAN circuit cards:

- ISA - Industry Standard Architecture
- PCI - Peripheral Component Interconnect

These cards allow you to connect the INTUITY CONVERSANT system to your local area network.

ISA Ethernet LAN Circuit Cards

The system supports two versions of the ISA Ethernet LAN circuit card.

- SMC8216
- SMC8416

SMC8216 Circuit Card

Figure 5-2 shows the SMC8216 Ethernet LAN circuit card.

Figure 5-2.   Ethernet LAN Circuit Card - SMC8216

The default software configuration is as follows:

- IRQ - 10

- I/O base address - 280

- RAM base address - D8000

The default setting for the jumper on W1 is "1" (Figure 5-3). This position configures the card to be software programmable beginning at the default settings.
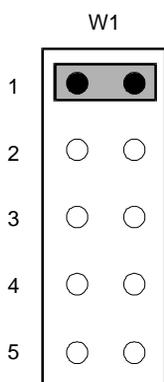
Figure 5-3.   Ethernet LAN Circuit Card Software Programmable Jumper Setting

There are no switches to set on the Ethernet LAN circuit card.

SMC8416 Circuit Card

Figure 5-4 shows the SMC8416 Ethernet LAN circuit card.
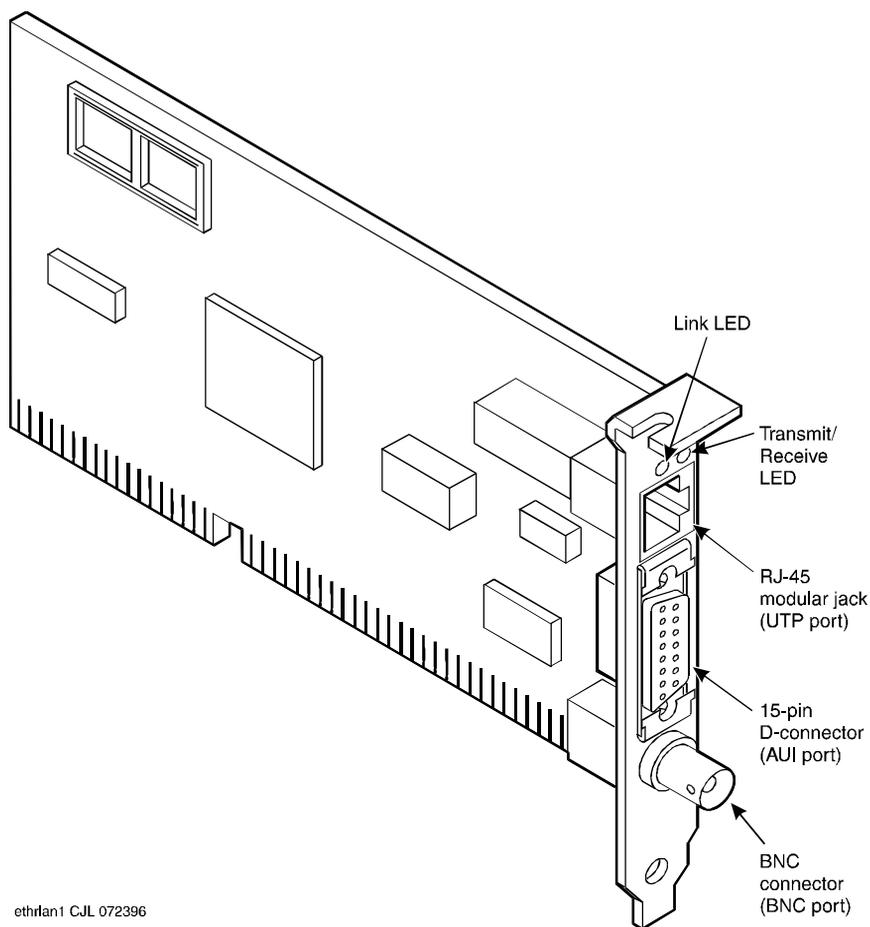
Figure 5-4.   Ethernet LAN Circuit Card - Version 2 (SMC8416)

There are no jumpers or switches associated with Version 2 of the Ethernet LAN circuit card.

Installing an ISA LAN Circuit Card

Installation of a Version 2 LAN circuit card, in a system which did not previously have a LAN circuit card, involves

- Installing the LAN circuit card driver

- Installing the LAN circuit card

- Verifying the LAN circuit card installation

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-14

Installing the ISA Hardware Driver. To install the LAN circuit card driver, do the following:

1. If you are not already logged in as **root**, do so now.

2. Stop the voice system. See *"Inserting and Removing Diskettes"* in Chapter 3, "Common System Procedures", for the procedure.

3. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

4. Insert the diskette labeled "SMC Ethernet Device Driver ISA Release 3.07 1 of 1" into the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, "Common System Procedures", for the procedure.

5. Press ⏎ENTER.

   The system displays the following message:

   ```
   The following packages are available:
     1. smeUW11    SMC Ethernet Device Driver ISA Release
                   3.07

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

6. Press ⏎ENTER.

   The system displays the Adapter Selection Screen (Figure 5-5).

```
Specify the number of SMC Ethernet Adapters to be configured


SMC ISA Adapters:







                        ┌──────────┐        ┌──────────┐
                        │  Apply   │        │  Reset   │
                        └──────────┘        └──────────┘


Use TAB/BACK TAB to move between fields.  When form is complete,
TAB to the "Action:" field, select "Apply", and press <Enter> to
continue
```

Figure 5-5. Adapter Selection Screen

7. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

8. Select 1.

9. Press the down ▼ arrow to move to the `Apply` field.

10. Press ENTER.

The system displays the Access Mode Selection Screen (Figure 5-6).

```
ADAPTER:


This screen allows you to select either Memory-Mapped or IO-Mapped
for access mode of adapter.

If you are not using SMC 8416 adapter, select Memory-Mapped mode

Access Mode:




                    ┌──────────┐        ┌──────────┐
                    │  Apply   │        │  Reset   │
                    └──────────┘        └──────────┘



Use TAB/BACK TAB to move between fields.  When form is complete,
TAB to the "Action:" field, select "Apply", and press <Enter> to
continue
```

Figure 5-6.   Access Mode Selection Screen

11. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.

12. Select Memory-Mapped.

13. Press the down ▼ arrow to move to the Apply field.

14. Press ENTER.

    The system displays the SMCETH Parameter Selection Screen (Figure 5-7).

```
ADAPTER: SMCETH


This screen allows you to select various parameters to be
configured for adapter 1.


Interrupt Vector:
    I/O Address:
    RAM Address:




                    ┌─────────┐      ┌─────────┐
                    │  Apply  │      │  Reset  │
                    └─────────┘      └─────────┘




Use TAB/BACK TAB to move between fields.  When form is complete,
TAB to the "Action:" field, select "Apply", and press <Enter> to
continue
```

Figure 5-7.   SMCETH Parameter Selection Screen

15. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

16. Select the appropriate vector number.

    The vector number is determined by the INTUITY CONVERSANT Hardware Resource Allocator. See "Hardware Resource Allocator Operation" in Appendix A, "Configuring a System".

17. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

18. Select the appropriate I/O base address.

    The I/O base address is determined by the INTUITY CONVERSANT Hardware Resource Allocator. See "Hardware Resource Allocator Operation" in Appendix A, "Configuring a System".

19. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

20. Select the appropriate RAM base address.

    The RAM base address is determined by the INTUITY CONVERSANT Hardware Resource Allocator. See "Hardware Resource Allocator Operation" in Appendix A, "Configuring a System".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-18

> ⇨ **NOTE:**
> For Version 1 circuit cards, select the RAM base address to provide a 16-Kbyte block of RAM space.
> For Version 2 circuit cards, select the RAM base address to provide an 8-Kbyte block of RAM space.

21. Press the down ▼ arrow to move to the `Apply` field.

22. Press ENTER.

    The system displays a series of messages.

23. Remove the diskette labeled "SMC Ethernet Device Driver ISA Release 3.07 1 of 1" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

24. Reboot the system.

25. Continue with the next procedure, "Installing the ISA LAN Circuit Card".

Installing the ISA LAN Circuit Card. To install Version 2 of the Ethernet LAN circuit card, do the following:

1. Run the Hardware Resource Allocator to determine the configuration and slot assignment of the Version 2 LAN circuit card. See "Adding Hardware to an Existing Configuration" in Appendix A, "Configuring a System".

2. Record the output.

3. Shut down the system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

4. Install the Version 2 LAN circuit card. See "Installing a Circuit Card" above for the procedure.

5. Continue with the next procedure, "Configuring the ISA LAN Circuit Card".

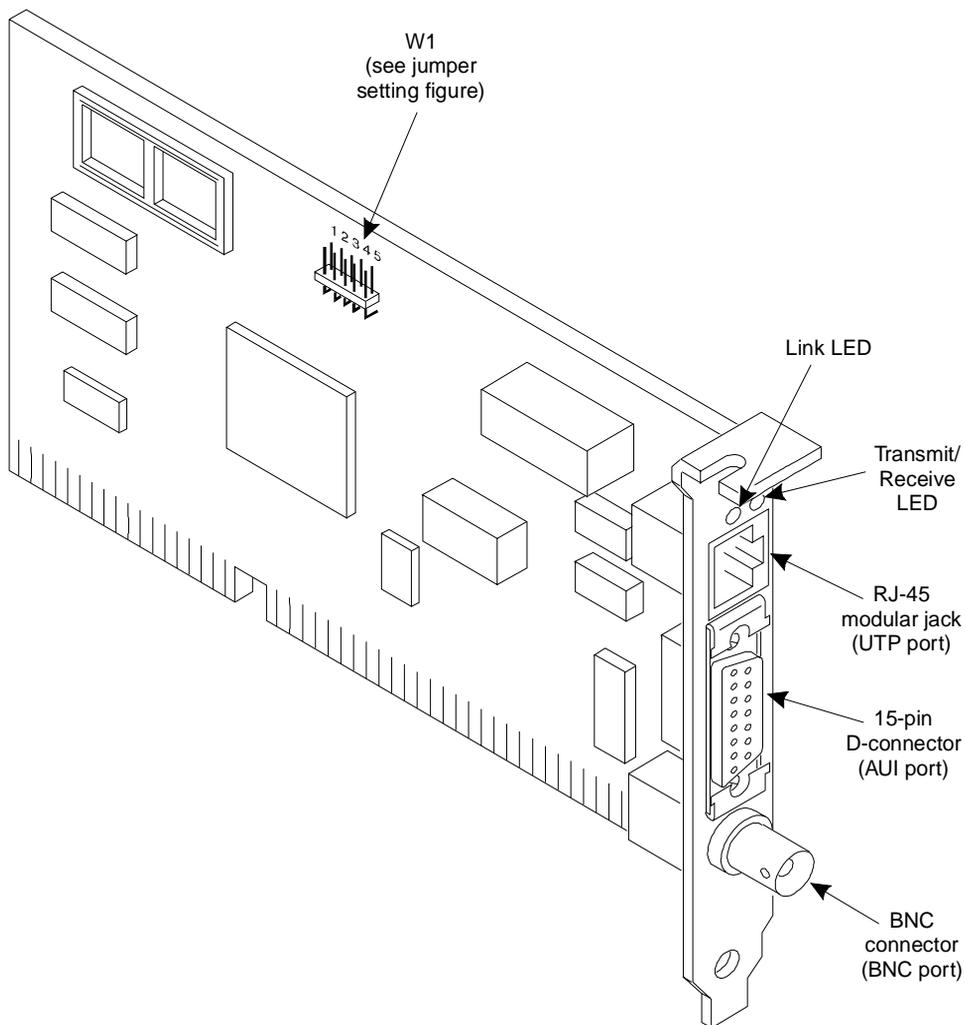**Configuring the ISA LAN Circuit Card.** To configure the Version 2 LAN circuit card, do the following:

The default software configuration is as follows:

- IRQ - 10
- I/O base address - 280
- RAM base address - D8000
- Access mode - Memory Mapped
- PnP - Disabled

1. Compare the default values with the values you received from the Hardware Resource Allocator.

   If the default values match the values you received from the Hardware Resource Allocator, skip this step and continue with Step 2.

   If the initializing values do not match the values you received from the Hardware Resource Allocator, complete the following Steps a through g:

   > **NOTE:**
   > The discrepancy in values will create error messages. Ignore these messages.

   a. Install the LAN Adapter Setup Program. See "Installing the LAN Adapter Setup Program" in Chapter 10, "Installing the Optional Feature Software", for the procedure.

   b. Enter **/etc/ezsetup**

      The system displays the SMC LAN Adapter Setup screen (Figure 5-8).

```
SMC LAN Adapter Setup Program -- Version 1.21


Board Type:   8416BTA
Node Address: 0000C0314EDB


                  Current Setup

I/O Base Address    280
IRQ                 15
RAM Size            8 K
WIN Size            16 K
RAM Base Address    0D8000
Add Wait States     Yes
Network Connection  TwPr-No Link
Link Integrity      n/a
ROM Size            Disabled
ROM Base Address    Disabled
Pnpboot             n/a


Do you want to change the setup? (y)->
```

Figure 5-8.   SMC LAN Adapter Setup Screen - Sample Output

   c. Enter **y**

   d. Change the appropriate values.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-20

e. Enter **/etc/confnet.d/configure -i**

The system displays the following message:

```
These are the device(s) available on your system:
1    sme_0
```

```
Type the number of the device(s) to be configured
with inet [?,??,q]
```

f. Enter the appropriate number for the sme_0 device.

The system displays the following message:

```
Please enter the IP host name for device sme_0:
```

g. Enter the your machine name.

> **⚠ CAUTION:**
> *Do not take the default.*

The system displays the following message:

```
Please initialize the IP address for host XXX:
```

2. Enter the IP address.

The system displays the following message:

```
Configure host XXX with default Ethernet(TM)ifconfig
options?
Info message is long. (yes no ClassC BerkeleyC info;
default: info)
```

3. Enter the **ClassC**.

The system displays the system prompt.

4. Continue with the next procedure, "Verifying the ISA LAN Circuit Card Installation".

Verifying the ISA LAN Circuit Card Installation. To check the Version 2 LAN circuit card installation, do the following:

1. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

2. Check the message log report for TCP/IP or LAN adapter errors. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages*, 585-310-182.

3. Verify that you have network connectivity using the **ping** command. See Appendix A, "Summary of Commands," in *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.

Replacing an ISA LAN Circuit Card

To replace an ISA LAN circuit card, do the following:

1. Run the Hardware Resource Allocator to determine the configuration and slot assignment of the Version 2 LAN circuit card. See *''Adding Hardware to an Existing Configuration''* in Appendix A, *''Configuring a System''*.

2. Record the output.

3. Complete the *''Installing the ISA LAN Circuit Card''* procedure above.

4. Complete the *''Configuring the ISA LAN Circuit Card''* procedure above.

5. Complete the *''Verifying the ISA LAN Circuit Card Installation''* procedure above.

You have completed this procedure.

PCI Ethernet LAN Circuit Cards

The system supports two versions of the PCI Ethernet LAN circuit card

- SMC8432
- SMC9332

SMC8432 Circuit Card

The SMC8432 Ethernet LAN circuit card is a 10-Mbps circuit card. Figure 5-9 shows the SMC8432 Ethernet LAN circuit card.

cdcvpdb LJK 051497
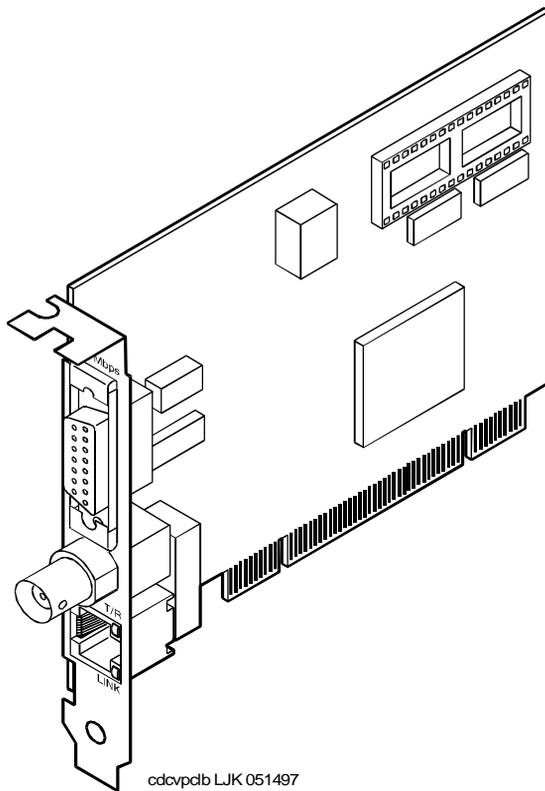
Figure 5-9.   SMC8432 Ethernet LAN Circuit Card

There are no jumpers on the circuit card.

SMC9332 Circuit Card

The SMC9332 Ethernet LAN circuit card is a 10/100-Mbps circuit card. Figure 5-10 shows the SMC9332 Ethernet LAN circuit card.

cdcvpcla LJK 051497
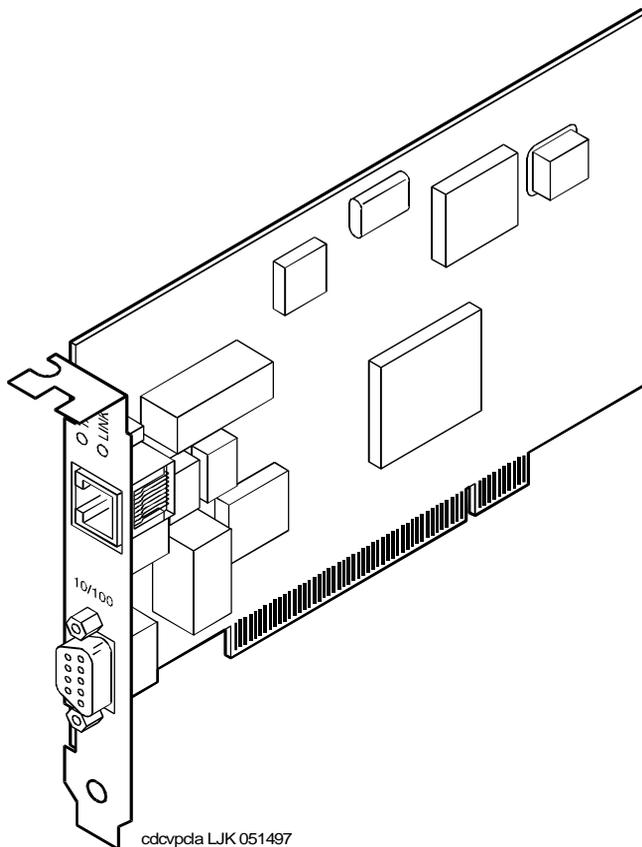
Figure 5-10.   SMC9332 Ethernet LAN Circuit Card

There are no jumpers on the circuit card.

Installing a PCI LAN Circuit Card

Installation of a 10Mbps or a 10/100Mbps PCI LAN circuit card, in a system which did not previously have a LAN circuit card, involves

- Installing the PCI LAN circuit card driver

- Installing the PCI LAN circuit card

- Changing the CMOS parameter settings

- Initializing the PCI LAN circuit card

- Verifying the PCI LAN circuit card installation

Installing the PCI Hardware Driver. To install the 10Mbps or 10/100Mbps PCI
LAN circuit card driver, do the following:

⇒ **NOTE:**
   Before proceeding, determine the system's hub connections from the
   system administrator.

1. Determine the following:

   ■ The system's hub connection

   ■ The media type

   ■ The LAN speed

   ■ The link integrity status

2. If you are not already logged in as root, do so now.

3. Stop the voice system. See "Stopping the Voice System" in Chapter 3,
   "Common System Procedures", for the procedure.

4. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

5. Insert the diskette labeled "SMC EtherPower Device Driver PCI (UnixWare
   1.1)" into the diskette drive. See "Inserting and Removing Diskettes" in
   Chapter 3, "Common System Procedures", for the procedure.

6. Press (ENTER).

   The system displays the following message:

   ```
   The following packages are available:
     1. smpwUW11   SMC EtherPower Device Driver
                   (UnixWare 1.1) Release 1.03

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

7. Press (ENTER).

   The system displays the Adapter Selection Screen (Figure 5-11).

```
Specify the number of SMC EtherPower Adapters to be configured


SMC EtherPower Adapters:




                        Apply          Reset



Use TAB/BACK TAB to move between fields.  When form is complete,
TAB to the "Action:" field, select "Apply", and press <Enter> to
continue
```

Figure 5-11.   Adapter Selection Screen

8. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.

9. Select a number between 0 and 2.

> ⚠ **CAUTION:**
> *Selecting 0 aborts the installation and the system redisplays the following:*
> ```
> Insert diskette into Floppy Drive 1.
> Type [go] when ready,
>     or [q] to quit:  (default:  go)
> ```

10. Press the down ▼ arrow to move to the `Apply` field.

11. Press ⌈ENTER⌋.

The system displays the Adapter Type Selection Screen ().

```
ADAPTER:

This screen allows you to select adapter type of adapter.

In this version only the same kind of adapters can be installed in
the same system.

Adapter Type:




                       ┌──────────┐        ┌──────────┐
                       │  Apply   │        │  Reset   │
                       └──────────┘        └──────────┘




Use TAB/BACK TAB to move between fields.  When form is complete,
TAB to the "Action:" field, select "Apply", and press <Enter> to
continue
```

Figure 5-12.   Adapter Type Selection Screen

12. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

13. For 10Mbps, select SMC8432

    For 10/100Mbps, select SMC9332

14. Press the down ▼ arrow to move to the Apply field.

15. Press ENTER.

    The system displays the Media Type Selection Screen (Figure 5-13).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-27

```
ADAPTER:

This screen allows you to select media type of adapter.

Media Type:




                    ┌──────────┐      ┌──────────┐
                    │  Apply   │      │  Reset   │
                    └──────────┘      └──────────┘


Use TAB/BACK TAB to move between fields.  When form is complete,
TAB to the "Action:" field, select "Apply", and press <Enter> to
continue
```

Figure 5-13.   Media Type Selection Screen

16. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.

17. Select the appropriate media type.

   The media type is dependent on the system's hub connection.

   If you selected SMC8432 in Step 13, there are five available options:

   ■ AutoMedia Detect

   ■ BNC

   ■ AUI

   ■ UTP10

   ■ UTP10FD

   If you selected SMC9332 in Step 13, there are four available options:

   ■ STP100 or UTP100

   ■ UTP100 Full Duplex

   ■ UTP10 - Link Integrity ON

   ■ 10Mbps - Link Integrity ON

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings Page 5-28

18. Press the down ▼ arrow to move to the `Apply` field.

19. Press `ENTER`.

    The system displays the following messages:

    ```
    Installation of SMC EtherPower Device Driver PCI
    (UnixWare 1.1)
    (smpwUW11) was successful.
    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

20. Enter **q**

21. Remove the diskette labeled "SMC EtherPower Device Driver PCI (UnixWare 1.1)" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

22. Run the Hardware Resource Allocator to determine the configuration and slot assignment of the PCI LAN circuit card. See "Adding Hardware to an Existing Configuration" in Appendix A, "Configuring a System".

23. Record the output.

    The INTR and PCI slot assignments are needed for the PnP/PCI System Configuration settings in the "Changing CMOS Parameter Settings for the PCI LAN Circuit Card" procedure below.

24. Continue with the next procedure, "Installing the PCI LAN Circuit Card".

Installing the PCI LAN Circuit Card. To install either a 10Mbps or a 10/100Mbps PCI LAN circuit card, do the following:

1. Shut down the system if it is up and running, otherwise continue with step 2. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

2. Install the 10Mbps or 10/100Mbps PCI LAN circuit card. See "Installing a Circuit Card" above for the procedure.

3. Continue with the next procedure, "Changing CMOS Parameter Settings for the PCI LAN Circuit Card" to change the CMOS PnP/PCI System Configuration.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-29

Changing CMOS Parameter Settings for the PCI LAN Circuit Card. To change the CMOS Pnp/PCI System Configuration for either a 10Mbps or a 10/100Mbps PCI LAN circuit card, do the following:

1. Perform a hard reboot of the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

   ⇒ **NOTE:**

   You must perform a hard reboot to access the CMOS parameter settings.

2. During the POST, press (CONTROL) (ALT) (ESC).

   The system displays the following message:

   `Please standby for SETUP Utility...`

   After the system has installed the BIOS it displays the CMOS BIOS Utility screen (Figure 5-14).

```
         BIOS Utility

          Basic System Configuration
          Advanced System Configuration
          Power Saving
          System Security
          PnP/PCI System Configuration
          Load Setup Default Settings
```

Figure 5-14.   BIOS Utility screen

3. Use the up (▲) and down (▼) arrows on your keyboard to move through the field selections.

4. Select PnP/PCI System Configuration

5. Press (ENTER)

6. The system displays the PnP/PCI System Configuration screen (Figure 5-15).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5   Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-30

```
                   PnP/PCI System Configuration


  PCI IRQ Setting - - - - - - - - - - - - - - - -[manual]

                                INTA    INTB    INTC    INTD

     PCI Slot 1                 [14]
     PCI Slot 2                                         [14]
     PCI Slot 3                                 [14]
     On-Board VGA               [- -]


  PCI IRQ Sharing - - - - - - - - - - - -[NO]
  VGA Palette Snoop - - - - - - - - - -[Disabled]
  Plug & Play OS - - - - - - - - - - - [NO]
  Reset Resources Assignment  - - - - -[NO]
```

Figure 5-15.   PnP/PCI System Configuration screen

7. Use the up ⬆ and down ⬇ arrows on your keyboard to move through the field selections.

8. Select and highlight the field next to the PCI slot number specified in the Hardware Resource Allocater.

9. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

10. Select the IRQ setting specified in the Hardware Resource Allocater.

11. Press ESC

The system redisplays the BIOS Utility screen (Figure 5-14).

12. Press ESC

The system displays the following:

```
Do you want to save CMOS data?
     [YES]        [NO]
```

13. Use the left ◀ and right ▶ arrows on your keyboard to move through the field selections.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-31

14. Select [YES]

15. Press (ENTER)

   The system automatically reboots.

16. Continue with the next procedure, .

Configuring the PCI LAN Circuit Card. To configure the 10Mbps or
10/100Mbps PCI LAN circuit card, do the following:

1. Enter **/etc/confnet.d/configure -i**

   The system displays the following message:

   ```
   These are the device(s) available on your system:
   1    smpw_0
   ```

   ```
   Type the number of the device(s) to be configured with
   inet [?,??,q]
   ```

2. Enter the appropriate number.

   The system displays the following message:

   ```
   Please enter the IP host name for device sme_0:
   ```

3. Enter the your machine name.

   ### ⚠ CAUTION:
   Do not take the default.

   The system displays the following message:

   ```
   Please initialize the IP address for host XXX:
   ```

4. Enter the IP address.

   The system displays the following message:

   ```
   Configure host XXX with default Ethernet(TM)ifconfig
   options?
   Info message is long. (yes no ClassC BerkeleyC info;
   default: info)
   ```

5. Enter the **ClassC**.

   The system displays the system prompt.

6. Continue with the next procedure,
.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-32

Verifying the PCI LAN Circuit Card Installation. To set the 10Mbps or 10/100Mbps PCI LAN circuit card installation, do the following:

1. Reboot the system.   See *"Rebooting the UNIX System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

2. Check the message log report for TCP/IP or LAN adapter errors. See Chapter 1, "Getting Started," in *INTUITY™ CONVERSANT® System Version 6.0 System Alarms and Log Messages*, 585-310-182.

3. Verify that you have network connectivity using the **ping** command. See Appendix A, "Summary of Commands," in *INTUITY™ CONVERSANT® System Version 6.0 Administration*, 585-310-591.

Replacing a PCI LAN Circuit Card

To replace a 10Mbps or a 10/100Mbps PCI LAN circuit card, do the following:

1. Run the Hardware Resource Allocator to determine the configuration and slot assignment of the PCI LAN circuit card. See *"Adding Hardware to an Existing Configuration"* in Appendix A, *"Configuring a System"*.

2. Record the output.

3. Complete the *"Installing the PCI LAN Circuit Card"* procedure above.

4. Complete the *"Configuring the PCI LAN Circuit Card"* procedure above.

5. Complete the *"Verifying the PCI LAN Circuit Card Installation"* procedure above.

Fax Circuit Card

The MAP/5P supports one Fax circuit card. Figure 5-16 shows the Fax circuit card.
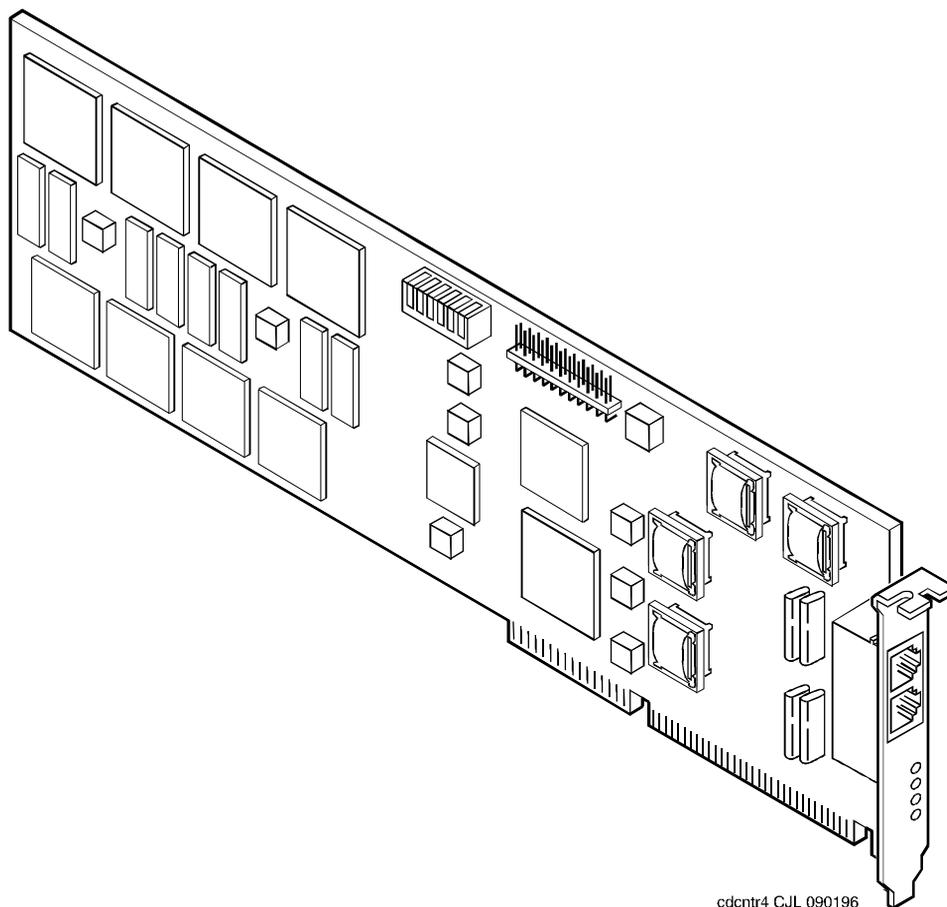
cdcntr4 CJL 090196

Figure 5-16.   Fax Circuit Card

Jumper Settings

Jumpers on the Fax circuit card are located in the top center of the circuit card (Figure 5-16).

Figure 5-17 shows a diagram of the jumpers. Interrupt numbers are indicated above the jumper blocks. In this example, the jumper is set to 5. You must set the jumpers according to the output of the Hardware Resource Allocator for the system you are installing. See *"Hardware Resource Allocator Operation"* in Appendix A, "Configuring a System", for more information.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5   Replacing or Installing Circuit Cards
Circuit Card Settings   *Page 5-34*
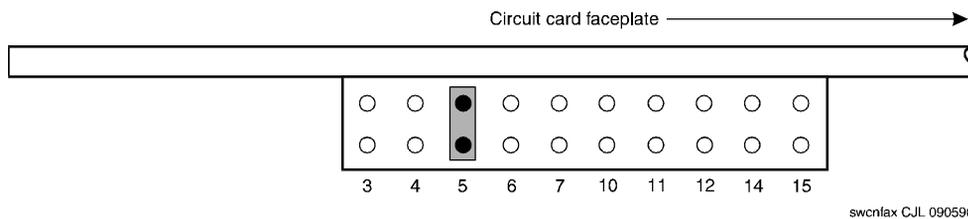
Figure 5-17.   Sample Jumper Settings and Interrupt Numbers for the Fax Circuit Card

Switch Settings

Set the switches as shown in Figure 5-18. Switch #1 does not affect the base I/O address. It is used to pull up the TR114 interrupt line.
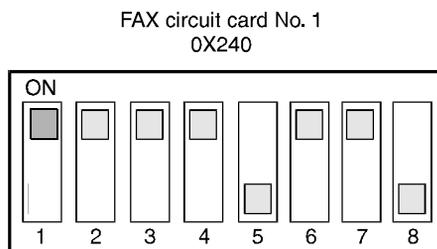
Figure 5-18.   Switch Settings for the Fax Circuit Card

FIFO/SIB Synchronous Host Circuit Card

One FIFO/SIB synchronous host card is supported. Figure 5-19 shows the FIFO/SIB synchronous host card and the location of the switches and interrupt jumpers.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-35
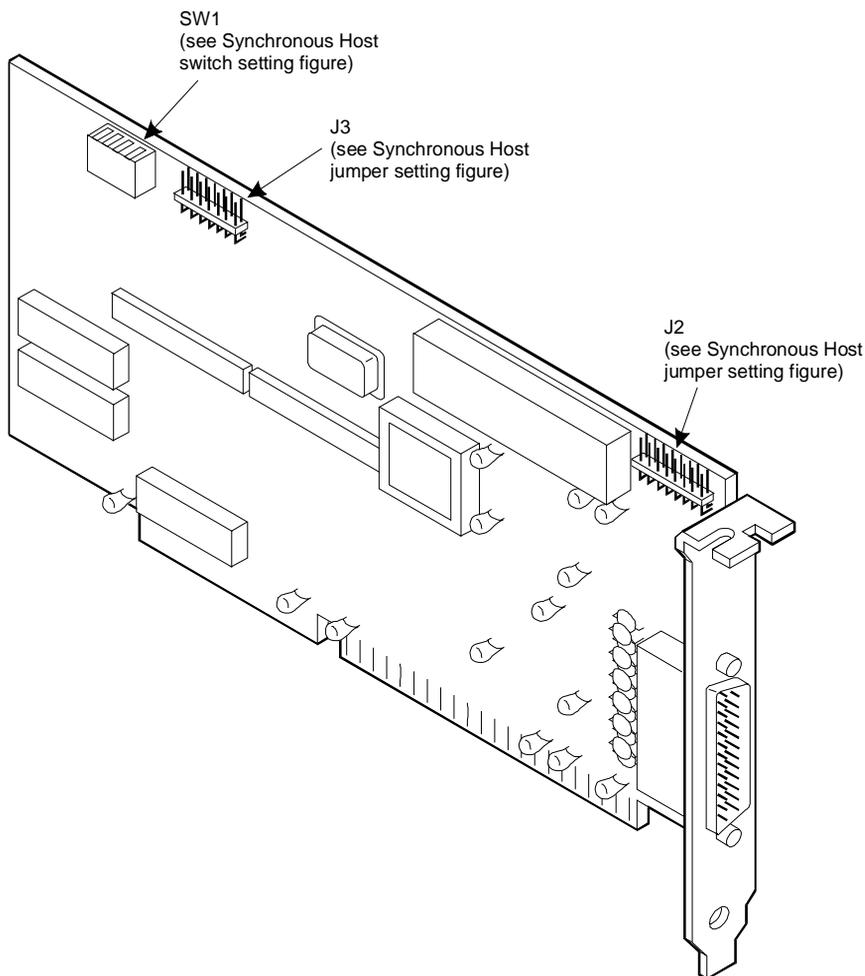
Figure 5-19.   FIFO/SIB Synchronous Host Circuit Card

Jumper Settings

There are two jumper locations on the synchronous host circuit card, J3 and J2.

Use J3 to set the interrupt request line (IRQ) to a value of 3, 5, 9, 10, 11, 12, or 13 (Figure 5-20). The IRQ corresponds to the number below the pins. Figure 5-20 shows the card set with an IRQ of 3. See ''Hardware Resource Allocator Operation'' in Appendix A, ''Configuring a System'', for more information.

> **NOTE:**
> If you are using IRQ 9, ensure that IRQ 2 is unused on your system.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-36

J2 is preset at the factory. However, before you install the FIFO/SIB synchronous host circuit card, ensure that this jumper is set as shown in Figure 5-20.

➡ **NOTE:**
When operating at 64 kbaud, this setting supports a maximum cable length of 15 ft.
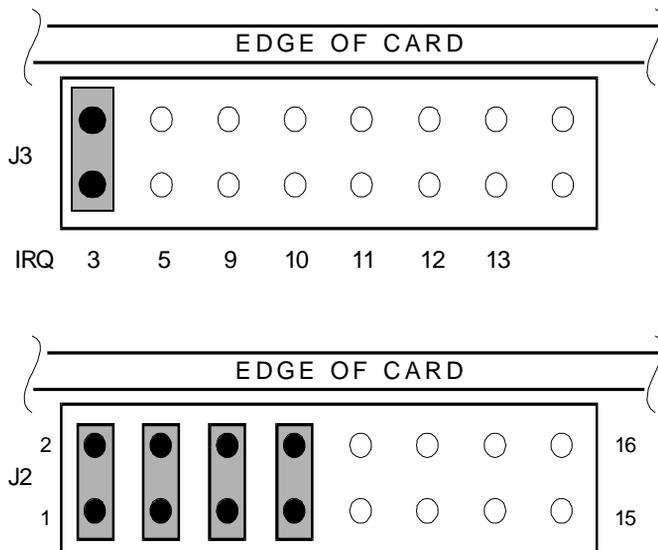
Figure 5-20.   **Jumper Settings for the FIFO/SIB Synchronous Host Circuit Card**

Switch Settings

Figure 5-19 shows the location of the I/O switch block SW1. Figure 5-21 shows the I/O switch settings for an address of 380.

Base I/O address = 380 Hex
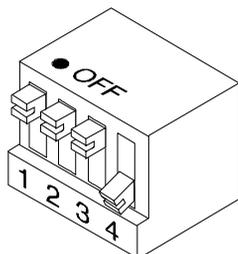
All switches closed or OFF

NOTE: Switch 4 is not used.

Figure 5-21.   Switch Settings for the FIFO/SIB Synchronous Host Circuit Card

Table 5-1 shows the switch settings for other potential I/O addresses.

Table 5-1.   FIFO/SIB Switch Settings

	Switch		
I/O Address	**1**	**2**	**3**
250	On	On	Off
260	Off	Off	On
2B0	On	Off	On
2E0	Off	On	On
380 (default)	Off	Off	Off
3A0	On	Off	Off
3E0	Off	On	Off
Disabled	On	On	On

Remote Maintenance Circuit Card

The remote maintenance circuit card provides remote diagnostics of basic MAP/5P components (Figure 5-22). There is one remote maintenance circuit card installed on the system.
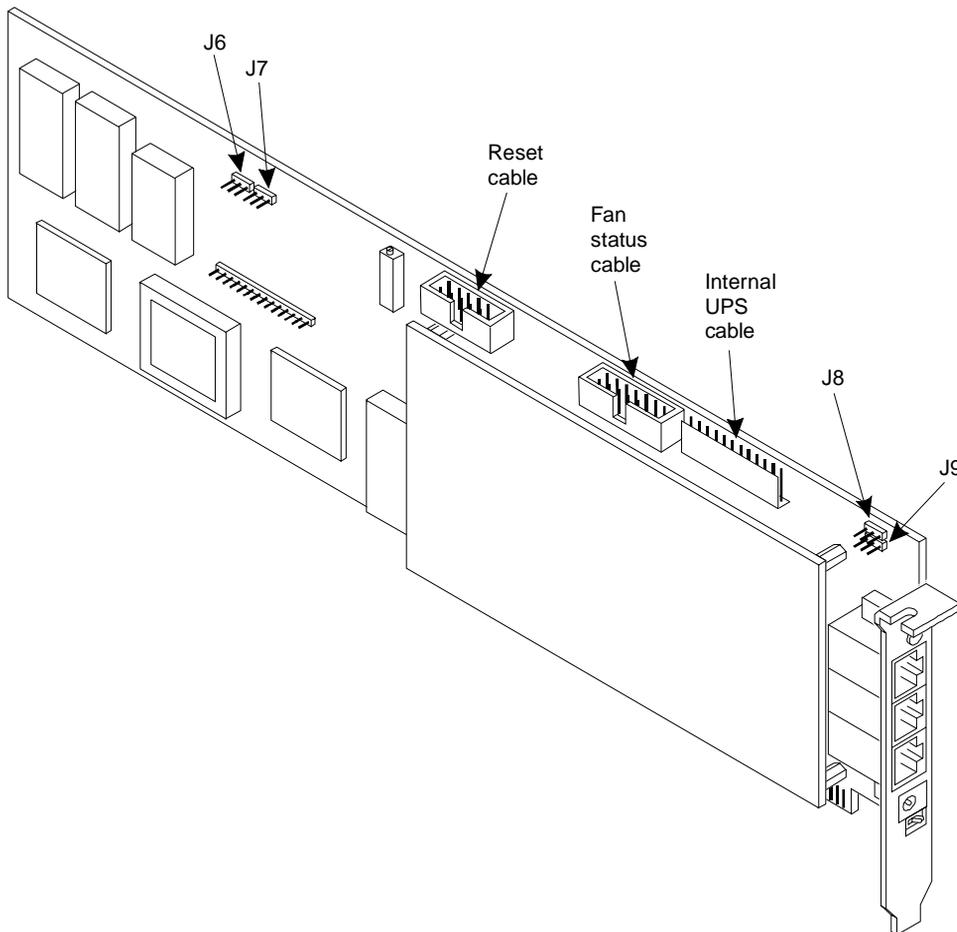
Figure 5-22.   Remote Maintenance Circuit Card

Setting the Resource Options

Figure 5-23 shows the faceplate of the remote maintenance circuit card and an enlarged view of the BIOS Extension EPROM (BEE) enable switch. Ensure that this switch is set to the ON (default) position as shown.
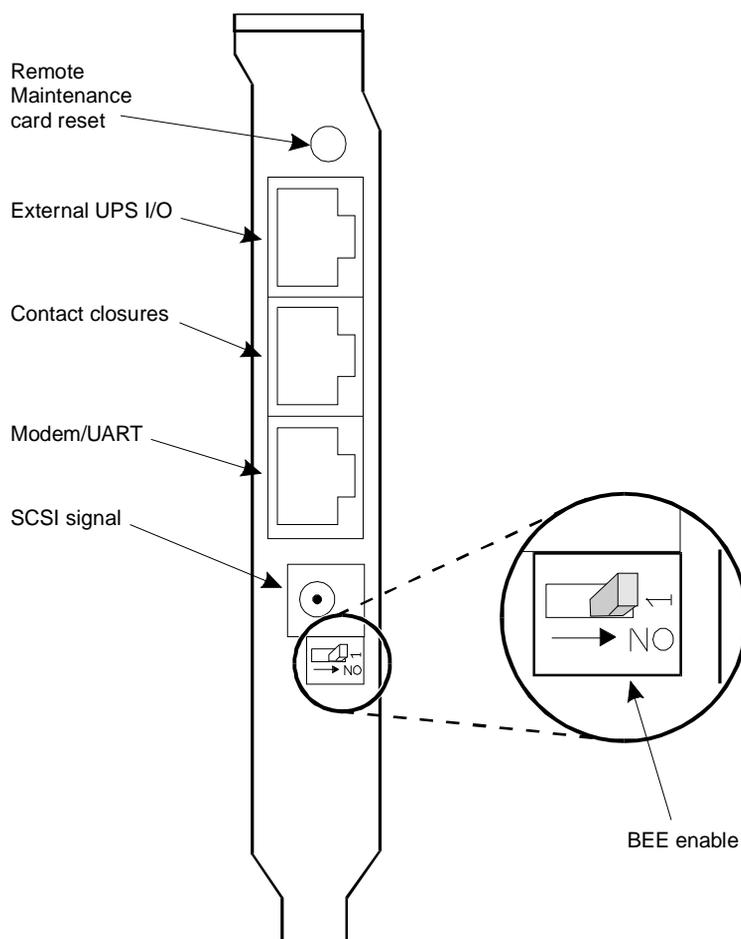
Figure 5-23.   Faceplate of the Remote Maintenance Circuit Card Showing the BEE Enable Switch

There are four jumper locations on the Remote Maintenance circuit card (J6, J7, J8, and J9). Verify that a jumper is installed on pins 1 and 2 of each one as shown in Figure 5-24.
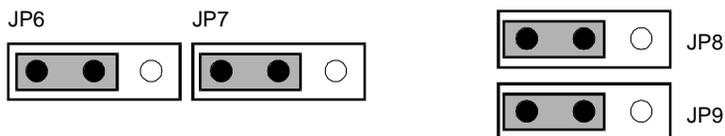
Figure 5-24.   Jumper Settings for the Remote Maintenance Circuit Card

Inserting the Remote Maintenance Circuit Card

To insert the remote maintenance circuit card, do the following:

1. Complete the steps in *"Installing a Circuit Card"*, above.

2. Connect the remote maintenance circuit card reset cable to the bottom two pins of CN30. Figure 5-25 shows the location of CN30 and Figure 5-26 shows which pins the cable should be placed on.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-41

jpcvmb4 CJL 040797

1. JP5 - flash BIOS function
2. JP6 - BIOS ROM type
3. JP1 - BIOS type
4. JP2 - LED function
5. JP15 - standby power connector
6. JP4 - second-level cache
7. JP3 - second-level cache
8. JP30 - external battery connector
9. JP16 - software shutdown
10. JP42 - L2 cache mode
11. JP43 - CPU voltage for I/O
12. JP7 - regulator
13. JP44 - CPU voltage for core
14. JP11 - SMM/reset switch
15. CN19
16. CN30
17. JP14 - power-on switch connector

Figure 5-25.   Motherboard Jumper Locations
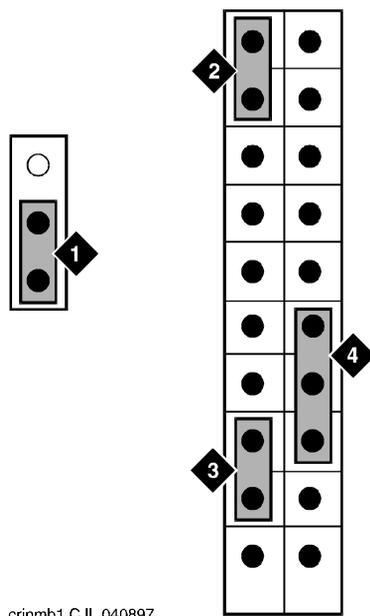
crinmb1 CJL 040897

1.   RMB cable (pins 1 and 2 of CN30)
2.   Reset switch connector (pins 19 and 20 of CN19)
3.   Turbo LED connector (pins 12 and 13 of CN19)
4.   Power LED connector (pins 3,4, and 5 of CN19)

Figure 5-26.   Motherboard Cable Connections

Installing the Remote Maintenance Circuit Card Driver

To install the remote maintenance circuit card driver, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "Remote Maintenance Board Package 1 of 1" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

4. Press ⬚ENTER⬚.

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. rmb        Remote Maintenance Board Package
                   (Kickstart 3 for V6 and Mach4)
                   (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press ⬚ENTER⬚.

   The system displays the following message:

   ```
   PROCESSING:
   Set: Remote Maintenance Board Package (Kickstart 3 for
   V6 and Mach4) (rmb) from <diskette1>

   INTUITY Remote Maintenance Board Package
   (Kickstart 3 for V6 and Mach4)
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   Installation of Remote Maintenance Board Package
   (Kickstart 3 for V6 and Mach4) (rmb) was successful.

   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

6. Enter **q**

7. Remove the diskette labeled "Remote Maintenance Board Package 1 of 1"
   from the diskette drive. See "Inserting and Removing Diskettes" in
   Chapter 3, "Common System Procedures", for the procedure.

Installing the Remote Maintenance Circuit Card Integration Software

To install the remote maintenance circuit card integration software, do the
following:

1. If you are not already logged in as root, do so now.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
  Circuit Card Settings

Page 5-44

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "INTUITY RMB Integration Software Version 1.0 1 of 1" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

4. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. rmbinteg   INTUITY RMB Integration Software
                   Version 1.0
                   (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press ENTER.

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY RMB Integration Software Version 1.0
   (rmbinteg) from <diskette1>

   INTUITY RMB Integration Software Version 1.0
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following message:

   ```
   Installation of INTUITY RMB Integration Software
   Version 1.0 (rmbinteg) was successful.

   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

6. Enter **q**

7. Remove the diskette labeled "INTUITY RMB Integration Software Version 1.0 1 of 1" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

SCSI Controller Circuit Card

The SCSI controller circuit card provides the ability to interface with internal and external SCSI devices. The MAP/5P accommodates one SCSI controller circuit card (Figure 5-27).
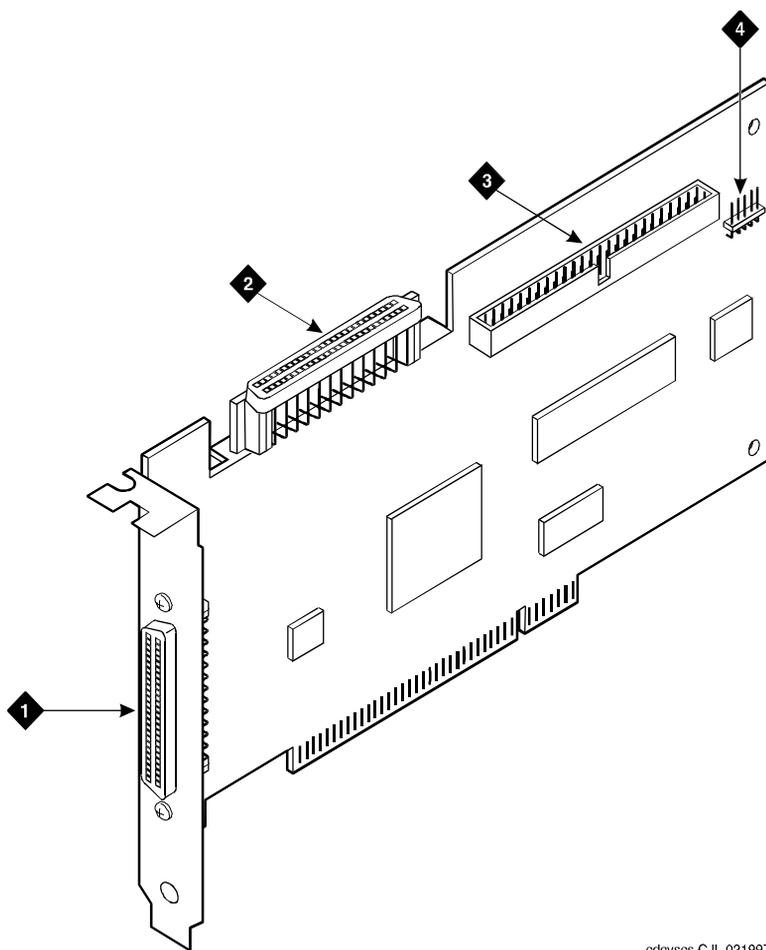
cdcvscs CJL 021997

1.   68-Pin 16-bit external SCSI connector
2.   68-Pin SCSI cable connector
3.   50-pin cable connector (not used)
4.   LED cable connector

Figure 5-27.   SCSI Controller Circuit Card

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-46

There are no jumpers or switches on the SCSI controller circuit card.

To install the SCSI controller circuit card, do the following:

1. See *''General Procedures''* for the SCSI controller circuit card installation procedure.

2. Verify the SCSI Utility settings by completing the following Steps a through g:

   a. When prompted during the boot up, press (CONTROL) (A).

      The system displays the Host Adapter Configuration screen (Figure 5-28).

```
Would you like to configure the Host Adapter, or run the SCSI disk
utilities?  Select the option and press <Enter>.  Press <F5> to switch
between color and monochrome modes.


                            Options
               Configure/View Host Adapter Settings
                      SCSI Disk Utilities
```

Figure 5-28.   Host Adapter Configuration Screen

   b. Place the cursor on `Configure/View Host Adapter Settings`. Use the up (▲) and down (▼) arrows to move the cursor.

   c. Press (ENTER).

   d. Compare the Host Adapter settings with those listed in Table 5-2. Change any that do not match.

      Use the up (▲) and down (▼) arrows to move the cursor between fields. Use the left (◄) and right (►) arrows to change the value of the field. Use the (ESC) key to return to the previous menu.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-47

Table 5-2.   Host Adapter Settings

Option	Setting
SCSI Bus Interface Definitions	
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	Automatic
Boot Device Options	
Boot Target ID	0
Boot Lun Number	0
SCSI Device Configuration	
Initiate Sync Negotiation	Yes (Enabled)for all IDs
Maximum Sync Transfer Rate	20 Mbytes/sec for all IDs
Enable Disconnection	Yes (Enabled)for all IDs
Send Start Unit Command	No (Disabled)for all IDs
Initiate Wide Negotiation	Yes (Enabled)for all IDs
Advanced Host Adapter Settings	
Plug and Play SCAM Support	Disabled
Host Adapter BIOS	Enabled
Support Removable Disks Under BIOS as Fixed Disks	Boot only
Extended BIOS Translation for DOS Drives > 1 Gbyte	Enabled
Display <CTRL-A> Message During BIOS Initialization	Enabled
Multiple LUN Support	Disabled
BIOS Support for Bootable CD-ROM	Enabled
BIOS Support for Int 13 Extensions	Enabled
Support for Ultra SCSI Speed	Disabled

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-48

e. When you have completed setting the SCSI utility, press (ESC).

The system displays the following message:

```
Do you want to save the SCSI Utility changes

     YES                    NO
```

f. Place the cursor on YES

g. Press (ENTER).

Tip/Ring Circuit Cards

The Tip/Ring circuit cards provide the channels used by the Lucent INTUITY system. There are six channels on each Tip/Ring circuit card. The MAP/5P accommodates three Tip/Ring circuit cards. The INTUITY CONVERSANT system supports the

- AYC10 Tip/Ring circuit card
- AYC30 Tip/Ring circuit card

AYC10 Tip/Ring Circuit Card

The AYC10 Tip/Ring circuit card (Figure 5-29) provides six channels.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-49
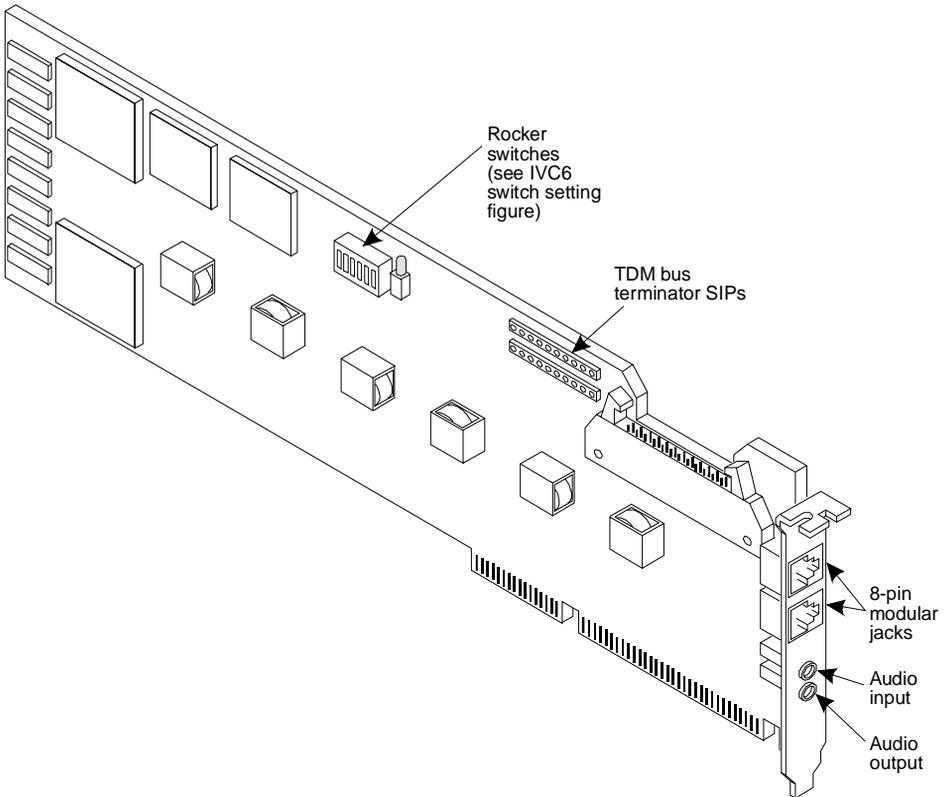
Figure 5-29.   AYC10 Tip/Ring Circuit Card

Each of the possible three Tip/Ring circuit cards in the MAP/5P has a unique address. The addresses are set on the card switch bank (Figure 5-30). There are no jumpers to set on the AYC10 Tip/Ring circuit card.

Base I/O address = 100 Hex.   Base I/O address = 200 Hex.   Base I/O address = 300 Hex.
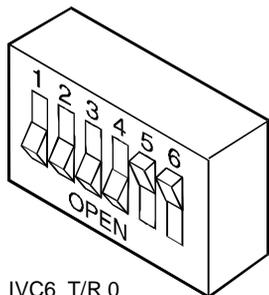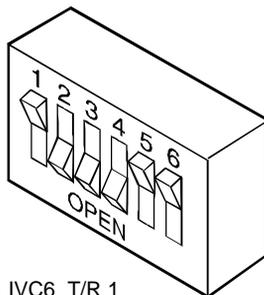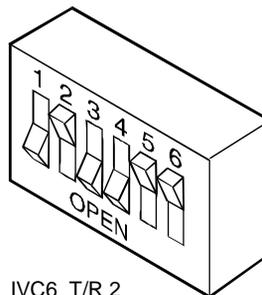
IVC6 T/R 0   IVC6 T/R 1   IVC6 T/R 2
First card installed   Second card installed   Third card installed

Figure 5-30.   AYC10 Tip/Ring Switch Settings

See *''General Procedures''* for the Tip/Ring circuit card installation procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-51

AYC30 Tip/Ring Circuit Card

The AYC30 Tip/Ring circuit card (Figure 5-31) provides six channels.
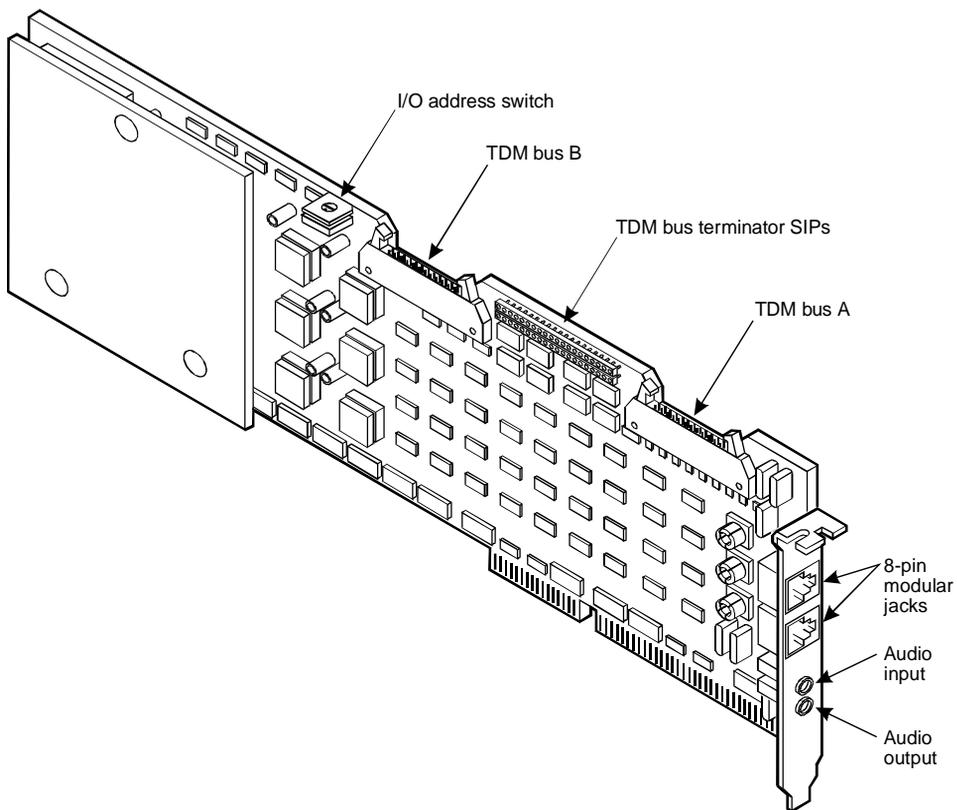
ngtr KLC 070296

Figure 5-31.   AYC30 Tip/Ring Circuit Card

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-52

Each Tip/Ring circuit card in the system must have a unique address. To set these addresses, the switch must be configured properly. Figure 5-32 shows the switch settings for the AYC30 Tip/Ring circuit card.

Figure 5-32.   AYC30 Tip/Ring Circuit Card Switch Settings

Installing the Tip/Ring Circuit Card Driver

> **NOTE:**
> If the Tip/Ring circuit cards are not recognized when the voice system is started or if other problems are noticed with the Tip/Ring circuit card driver, it may be necessary to remove and reinstall the Tip/Ring circuit card driver. Occasionally dynamically loadable drivers fail to load into the UnixWare kernel properly.

To install the Tip/Ring circuit card driver, do the following:

1. Stop the voice system. See ″Stopping the Voice System″ in Chapter 3, ″Common System Procedures″, for the procedure.

2. Run the Hardware Resource Allocator to determine the configuration and placement of the Tip/Ring circuit cards to be installed. See ″Adding Hardware to an Existing Configuration″ in Appendix A, ″Configuring a System″.

3. If you are not already logged in as root, do so now.

4. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

5. Insert the diskette labeled ″Tip/Ring Board Driver 1 of 1″ into the diskette drive. See ″Inserting and Removing Diskettes″ in Chapter 3, ″Common System Procedures″.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-53

6. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.
   ```

   ```
   The following packages are available:
     1. tipring    INTUITY Tip/Ring Board Driver
                    (i486)
   ```

   ```
   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

7. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Tip/Ring Board Driver (tipring) from
   <diskette1>
   ```

   ```
   INTUITY Tip/Ring Board Driver
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   Please enter the IRQ:
   ```

8. Enter the IRQ provided by the Hardware Resource Allocator.

   The system displays several status messages and then the following
   message:

   ```
   Installation of INTUITY Tip/Ring Board Driver (tipring)
   was successful.
   ```

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

9. Enter **q**

10. Remove the diskette labeled "Tip/Ring Board Driver 1 of 1" from the
    diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
    "Common System Procedures".

Token Ring Circuit Card

The Token Ring circuit card allows you to connect the INTUITY CONVERSANT
system to your local area network.

The Token Ring circuit card (Figure 5-33) is software configured. A diskette,
provided with the Token Ring circuit card, is used to set the IRQ, I/O address,
ROM address, RAM address, and RAM size.
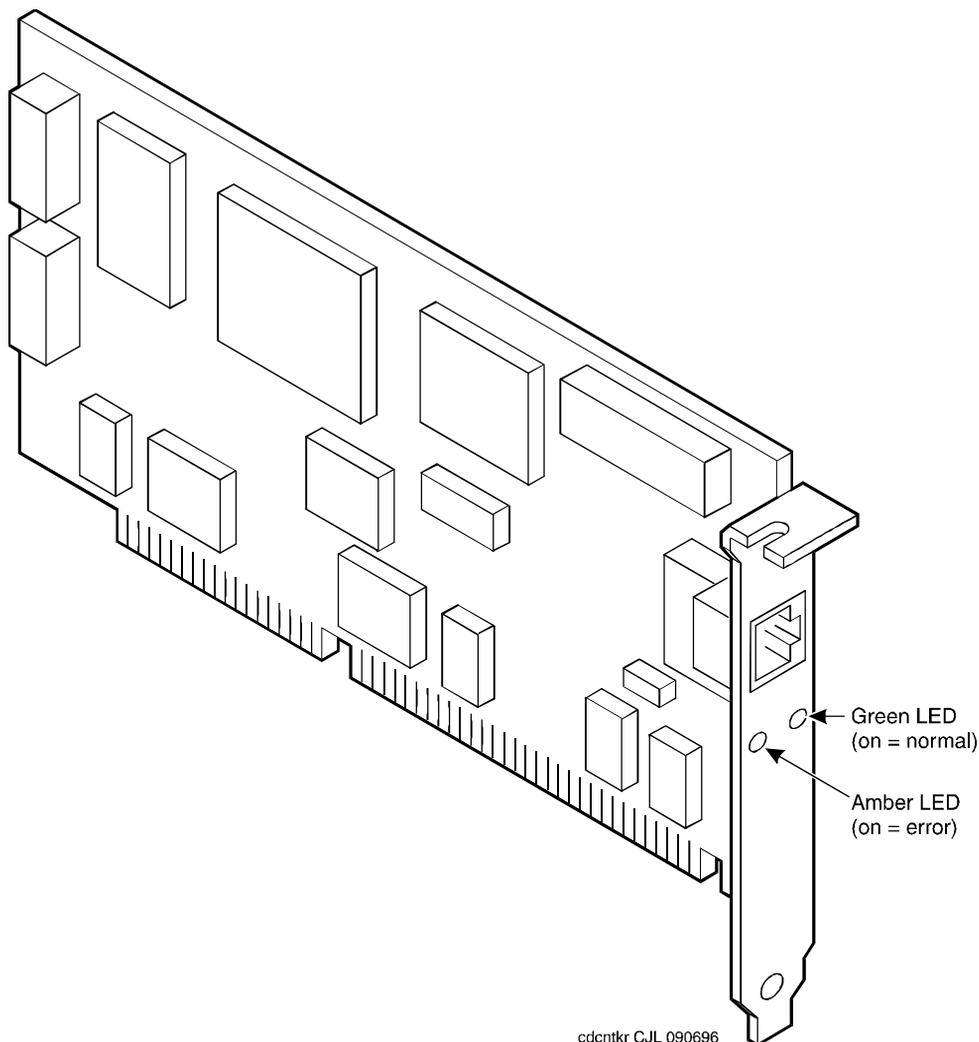
Figure 5-33.   Token Ring Circuit Card

Configuring the Token Ring Circuit Card

To configure the Token Ring circuit card, do the following:

1. If the Token Ring circuit card is being added to the system, run the INTUITY
   CONVERSANT Hardware Resource Allocator to determine the resource
   assignments. See "Hardware Resource Allocator Operation" in Appendix
   A, "Configuring a System", for the procedure.

> ⚠️ **CAUTION:**
> *You must run the new Hardware Resource Allocator if upgrading or replacing a Version 1 to/with a Version 2. IRQ 2 or 3 are the only valid IRQ assignments.*

Record the parameters listed in Table 5-3.

Table 5-3.   Token Ring Circuit Card Settings

Parameter	Setting
IRQ	
ROM address ⚠️ **CAUTION:** *Do not use ROM address CC000.*	
RAM address	
I/O address	

If the Token Ring circuit card is replacing an existing Token Ring circuit card, record and use the existing hardware resource parameters. You can view the existing parameters by entering **/etc/conf/sdevice.d/ibmtok**

The system displays a message similar to the following message:

```
ibmtok   Y   16  6   1   3    A20 A23 CC000    CDFFF    -1
ibmtok   Y   16  0   0   0    0   0   D0000    D3FFF    -1
```

Record the parameters listed in Table 5-3.

In the example message, the IRQ is 3, the ROM address range is CC000 - CDFFF, the RAM address range is D0000 - D3FFF, and the I/O address range is A20 - A23.

2. Verify that IRQ being used by the existing Token Ring circuit card, or designated by the Hardware Resource Allocator, is available.

To set the IRQs complete the following Steps a and b:

   a. Enter **cd /etc/conf/cf.d**

   b. Enter **awk '{if($6==2||$6==3||$6==9){print$0}}' sdevice**

If this command generates no output, the IRQs are available.

If the command generates output specifying ibmtok, the IRQs are available.

If the command generates any other output the IRQs are unavailable.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-56

3. Verify that the Token Ring BIOS ROM address is set to **DC000 - DDFFF**. See *"Verifying the CMOS Settings"* in Chapter 7, "Replacing Other Components", for the procedure.

⚠ CAUTION:
> *The Token Ring circuit card must be configured before the CPU CMOS configuration is performed.*

4. Make sure the Token Ring ROM is not shadowed. See *"Verifying the CMOS Settings"* in Chapter 7, "Replacing Other Components", for the procedure.

5. Install the new Token Ring circuit card. See *"Installing a Circuit Card"* for the procedure.

⇒ NOTE:
> Complete all 10 steps in the installation procedure.

6. Connect the Token Ring circuit card to the LAN.

⚠ CAUTION:
> *Do not use a 10 Base T (802.3) wire to connect the Token Ring circuit card to the LAN.*

7. Insert the diskette labeled *Token Ring Setup Floppy* into the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, "Common System Procedures", for the procedure.

8. Reboot the system. See *"Rebooting the UNIX System"* in Chapter 3, "Common System Procedures", for the procedure.

The system displays the following message:

```
Starting PC DOS

PC DOS 7.0 Startup Menu

1.  IBM Auto 16/4 Token-Ring ISA Extended Diagnostics
2.  IBM Auto 16/4 Token-Ring ISA Configuration Using
LANAID

Enter a choice:
```

9. Enter **2**

The system displays the following message:

```
Hit any key to continue with LANAID from diskette or
remove the diskette and reboot the system normally.
```

10. Press (ENTER).

The system displays the LANAID Copyright screen (Figure 5-34).

```
            LAN Adapter Installation and Diagnostics
            Version 1.4
            (C) Copyright IBM Corporation 1995



U.S. Government users restricted rights - Use, duplication or disclosure
restricted by GSA ADP schedule contract with IBM Corporation


    [ Continue ]        [  Enter  ]
```

Figure 5-34.   LANAID Copyright Screen

11. Press (ENTER) to accept the default of Continue.

    The system displays the following message:

    Querying your machines current configuration.

    Please wait.

    To accept the Fast Path configuration and perform Fast
    Path, select one of the Fast Path options.

    To bypass the Fast Path options, select <Standard
    Install>

    Default = Standard Install

12. Press (ENTER) to accept the default.

    The system displays the Standard Installation Options screen
    (Figure 5-35).
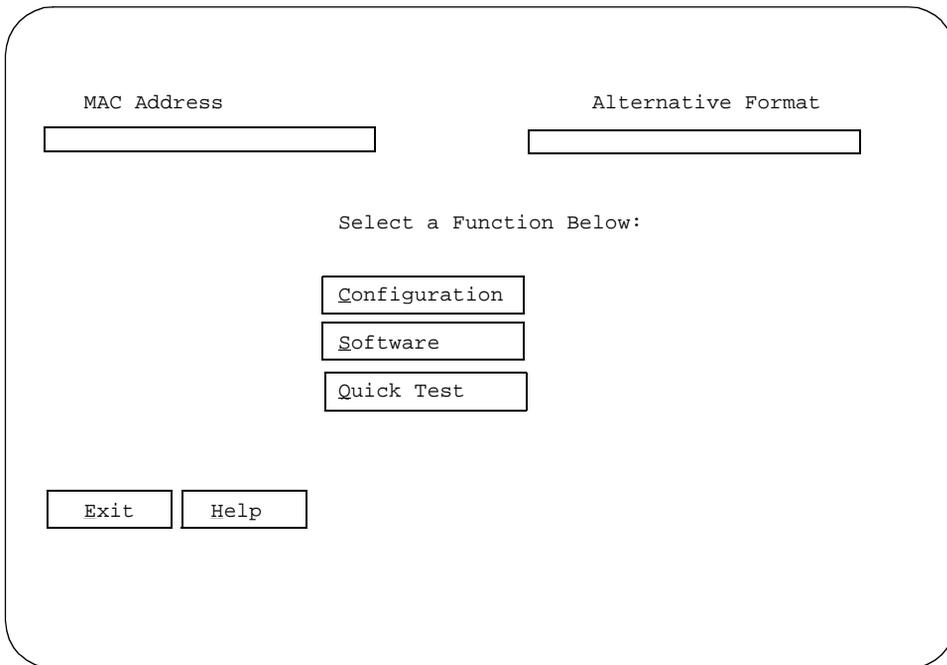
```
                                                              
          MAC Address                         Alternative Format
      ┌──────────────────────────────┐    ┌──────────────────────────────┐
      └──────────────────────────────┘    └──────────────────────────────┘


                          Select a Function Below:


                          ┌─────────────────────┐
                          │ Configuration        │
                          ├─────────────────────┤
                          │ Software             │
                          ├─────────────────────┤
                          │ Quick Test           │
                          └─────────────────────┘


      ┌───────────┐  ┌───────────┐
      │   Exit    │  │   Help    │
      └───────────┘  └───────────┘
```

Figure 5-35.   Standard Installation Options Screen

13. Press $\boxed{\text{ENTER}}$ to accept the default of `Configuration`.

The system displays the Configuration Parameters screen
(Figure 5-36).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-59

```
      MAC Address                    Alternate Format
  ┌──────────────────────┐      ┌──────────────────────┐
  └──────────────────────┘      └──────────────────────┘


  ○ Pnp Configuration

  ● Manual Configuration


   IRQ      ┌──────────────────┐         ┌─────────────────┐
            └──────────────────┘         │   Auto Sense    │
                                         │                 │
   Ram size ┌──────────────────┐         │ ○  Enabled      │
            └──────────────────┘         │ ●  Disabled     │
                                         ├─────────────────┤
   ROM      ┌──────────────────┐         │   Data Rate     │
            └──────────────────┘         │                 │
                                         │ ○   4 Mbps      │
   RAM      ┌──────────────────┐         │ ●  16 Mbps      │
            └──────────────────┘         ├─────────────────┤
   I/O      ┌──────────────────┐         │   Remote IPL    │
            └──────────────────┘         │                 │
                                         │ ○  Enabled      │
                                         │ ●  Disabled     │
                                         ├─────────────────┤
                                         │   Bus Width     │
                                         │                 │
                                         │ ●  8 bit        │
                                         │ ○ 16 bit        │
                                         └─────────────────┘

  ┌─────────┐  ┌──────────┐  ┌─────────┐  ┌────────┐
  │ STORE   │  │ SUGGEST  │  │ CANCEL  │  │ HELP   │
  └─────────┘  └──────────┘  └─────────┘  └────────┘
```

Figure 5-36.   Configuration Parameters Screen

14. If your system is equipped with a mouse, complete the following Steps a through q to set the configuration parameters.

   If your system is not equipped with a mouse, skip to Step 15.

   a. Click on `Manual Configuration`.

   b. Click on `IRQ`.

   c. Choose the IRQ you recorded in Table 5-3.

   > **NOTE:**
   > The phrase "in use" next to an option indicates that the option is being used for another circuit card. If there is no other circuit card in the system using IRQ 2 or 3, the system may still indicate that one of these IRQs is "in use." In this instance the system is referring to the Token Ring circuit card you are installing and the "in use" IRQ may be used.

   d. Click on `ROM`.

   e. Choose the ROM address you recorded in Table 5-3.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-60

f. Click on RAM. Use the up (▲) and down (▼) arrows to move the cursor.

g. Choose the RAM address you recorded in Table 5-3.

h. Click on I/O. Use the up (▲) and down (▼) arrows to move the cursor.

i. Choose the I/O address you recorded in Table 5-3.

j. Click on 16 Kbytes in the RAM Size field.

k. Click on Disabled in the Auto Sense field.

l. Click on 16 Mbps in the Data Rate field.

m. Click on Disabled in the Remote IPL field.

n. Click on 8 bit in the Bus Width field.

o. Click on Store.

p. Click on Done.

The system displays the Standard Installation Options screen (Figure 5-35).

q. Click on Quick Test.

15. If your system is not configured with a mouse, complete the following Steps a though q to set the configuration parameters.

a. Place the cursor on Manual Configuration. Use the up (▲) and down (▼) arrows to move the cursor.

b. Press (ENTER).

c. Set the IRQ.

1. Place the cursor on IRQ. Use the up (▲) and down (▼) arrows to move the cursor.

2. Press (ENTER).

The system displays a list of choices.

3. Use the up (▲) and down (▼) arrows to highlight the IRQ you recorded in Table 5-3.

➯ **NOTE:**
The phrase "in use" next to an option indicates that the option is being used for another circuit card. If there is no other circuit card in the system using IRQ 2 or 3, the system may still indicate that one of these IRQs is "in use." In this instance the system is referring to the Token Ring circuit card you are installing and the "in use" IRQ may be used.

4. Press (ENTER).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings   *Page 5-61*

   d. Set the I/O address.

      1. Place the cursor on `I/O`. Use the up ▲ and down ▼ arrows to move the cursor.

      2. Press ENTER.

         The system displays a list of choices.

      3. Use the up ▲ and down ▼ arrows to highlight the I/O address you recorded in Table 5-3.

      4. Press ENTER.

   e. Set the ROM address.

      1. Place the cursor on `ROM`. Use the up ▲ and down ▼ arrows to move the cursor.

      2. Press ENTER.

         The system displays a list of choices.

      3. Use the up ▲ and down ▼ arrows to highlight the ROM address you recorded in Table 5-3.

      4. Press ENTER.

   f. Set the RAM address.

      1. Place the cursor on `RAM`. Use the up ▲ and down ▼ arrows to move the cursor.

      2. Press ENTER.

         The system displays a list of choices.

      3. Use the up ▲ and down ▼ arrows to highlight the RAM address you recorded in Table 5-3.

      4. Press ENTER.

   g. Set the RAM size.

      1. Place the cursor on `RAM Size`. Use the up ▲ and down ▼ arrows to move the cursor.

      2. Press ENTER.

         The system displays a list of choices.

      3. Use the up ▲ and down ▼ arrows to highlight `16K`.

      4. Press ENTER.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-62

h. Disable the Auto Sense function.

1. Press `TAB`.

    This will place the cursor in the `AUTO Sense` field.

2. Place the cursor on `Disable`. Use the up `▲` and down `▼` arrows to move the cursor.

3. Press `ENTER`.

i. Set the Data Rate.

1. Press `TAB`.

    This will place the cursor in the `Data Rate` field.

2. Place the cursor on `16 Mbps`. Use the up `▲` and down `▼` arrows to move the cursor.

3. Press `ENTER`.

j. Disable the Remote IPL.

1. Press `TAB`.

    This will place the cursor in the `Remote IPL` field.

2. Place the cursor on `Disable`. Use the up `▲` and down `▼` arrows to move the cursor.

3. Press `ENTER`.

k. Set the Bus Width.

1. Press `TAB`.

    This will place the cursor in the `Bus Width` field.

2. Place the cursor on `8 bit`. Use the up `▲` and down `▼` arrows to move the cursor.

3. Press `ENTER`.

l. Press `TAB` until the cursor is on `Store`.

m. Press `ENTER`.

n. Press `TAB` until the cursor is on `Accept`.

o. Press `ENTER`.

The system displays the Standard Installation Options screen (Figure 5-35).

p. Press `TAB` until the cursor is on `Quick Test`.

q. Press `ENTER`.

The system tests the configuration of the Token Ring circuit card.

r. Press `TAB` until the cursor is on `Cancel`.

s. Press `ENTER`.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-63

    t. Press (TAB) until the cursor is on `Exit`.

    u. Press (ENTER).

    v. Press (ENTER).

16. Remove the diskette labeled "LANAID" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

17. Perform a hard reboot of the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

Installing the Token Ring Hardware Support Package

To install the Token Ring hardware support package, do the following:

1. If you are not already logged in as **root**, do so now.

2. Insert the diskette labeled "Token Ring Hardware Support" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

3. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
     or [q] to quit:  (default:  go)
   ```

4. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress.  Do not remove the diskette.

   The following packages are available:

   1 tok       Token Ring Hardware Support
               (i386) 1.3

   Select the package(s) you wish to process (or 'all' to
   process all packages).  (default: all) [?,??,q]
   ```

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Package:  Token Ring Hardware Support (tok) from
   <diskette1>.
   ```

   During the installation, the system presents a blue screen. In this screen, input the number and type of Token Ring cards in the system, and the hardware settings of the card.

   The system displays a series of informational screens

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-64

The INTUITY CONVERSANT system supports the use of *one* IBM Token Ring Network 16/4 Adapter circuit card. Use this information as well as the output from the INTUITY CONVERSANT Hardware Resource Allocator to enter the data in this screen.

NOTE:

The Token Ring Network Adapter circuit card is Version 16/4, not 16/4A.

CAUTION:

Do not use ROM address CC000.

The system displays the following message:

```
Do you wish to continue with installation? [y,n,?,q]:
(default: y)
```

If, during the installation of the Token Ring Hardware Support package, you did not see the blue screen, the installation was not successful. Reinstall the package by completing the following Steps a through h:

    a. From the system prompt #, enter **pkginfo**

    b. Find the tok (Token Ring Hardware Support) package and use the **pkgrm** command to remove it.

    c. Enter **shutdown -g0 -y -i6**

       When the system reboots and comes back up, it displays the login screen.

    d. Press ALT E.

    e. Enter **root**

    f. Enter your root password.

       The system responds by displaying the system prompt #.

6. Enter **rm /etc/inst/scripts/postreboot.sh**

    g. Repeat the installation procedure for installing the Token Ring Hardware Support package.

7. Press ENTER.

The system displays the following message:

```
...

Installing Token Ring Hardware Support as <tok>
```

When the package has finished installing, the system displays the following message:

```
Installation of Token Ring Hardware Support (tok) was
successful.
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-65

```
Insert diskette into Floppy Drive 1.
Type [go] when ready.
  or [q] to quit:  (default:  go)
```

8. Enter **q**

   The system responds with a message to say that if all desired packages are installed, the machine should be rebooted.

   ## ⚠ CAUTION:
   Do not reboot the system at this time.

   The system displays the system prompt #.

9. Remove the diskette. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

5 Replacing or Installing Circuit Cards
Circuit Card Settings

Page 5-66

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6   Replacing the Hard Disk Drive
Overview   Page 6-1

Replacing the Hard Disk Drive

6

Overview

This chapter describes

- How to Identify a failed hard disk drive

- Hardware procedures for replacing a hard disk drive

- Software procedures for preparing the system for a new hard disk drive

- Software procedures for initializing a hard disk drive

Purpose

The purpose of this chapter is to ensure that hard disk drives are installed in the proper manner.

Identifying a Failed Hard Disk Drive

Before a hard disk drive can be replaced you must identify which drive has failed. This section details how to identify a failed hard disk drive in INTUITY™ CONVERSANT® systems with two hard disk drives (both mirrored and unmirrored).

➤ NOTE:
If your system is configured with only one hard disk drive, see "Recovering from a Hard Disk Drive 0 Failure (Nonmirrored or Single-Disk System)" for the procedure.

Contents of the Hard Disk Drives in a Two-Drive System

To determine which hard disk drive has failed, it is necessary to know what type of information is stored on each drive. Table 6-1 shows the information contained on each hard disk drive in a nonmirrored system.

Table 6-1.   Contents of the Hard Disk Drives in a Nonmirrored System

Disk Identity	Contents of Disk
Hard Disk Drive 0, SCSI ID 00, Bay 3	UNIX operating system, all INTUITY CONVERSANT software, system data, and speech/voice storage
Hard Disk Drive 1, SCSI ID 01, Bay 4	Speech/voice storage

➤ NOTE:
The contents for Hard Disk Drive 0 are identical in nonmirrored and single-disk systems.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Identifying a Failed Hard Disk Drive
Page 6-3

Table 6-2 shows the information contained on each hard disk drive in a mirrored system.

Table 6-2.   Contents of the Hard Disk Drives in a Mirrored System

Disk Identity	Contents of Disk
Hard Disk Drive 0, SCSI ID 00, Bay 3	UNIX operating system, all INTUITY CONVERSANT software, system data, and speech/voice storage
Hard Disk Drive 1, SCSI ID 01, Bay 4	The same information as is contained on Disk 0

Identifying a Hard Disk Drive 0 Failure in a Nonmirrored or Single-Disk System

Because Hard Disk Drive 0 contains the only copy of the operating software in a nonmirrored or single disk system, a failure of this drive results in a complete failure of the system. If this occurs you can not reboot the system. See ''Recovering from a Hard Disk Drive 0 Failure (Nonmirrored or Single-Disk System)'' for the replacement procedure.

Identifying a Hard Disk Drive 1 Failure in a Nonmirrored System

Hard Disk Drive 1 contains speech and voice storage. If this hard disk drive fails, speech is lost. In the event of a Hard Disk Drive 1 failure the system displays the following message:

```
WARNING:    Disk Driver:  HA0 TC0 LU1 - Check Condition
```

If this message appears on the screen, contact your remote maintenance center.

Identifying a Hard Disk Drive Failure in a Mirrored System

In a mirrored system both hard disk drives contain the same information. As a result, if either hard disk drive fails, the other drive continues to operate the system. There is no noticeable difference in service. A hard disk drive failure in a mirrored system is identified by the message shown above in ''Identifying a Hard Disk Drive 1 Failure in a Nonmirrored System''.

The number preceded by LU in the message is the SCSI ID of the failed hard disk drive. If this message appears on the screen, contact your remote maintenance center.

Recovering from a Hard Disk Drive 0 Failure

The following sections list the procedures for replacing Hard Disk Drive 0 in mirrored, nonmirrored, and single-disk systems.

Recovering from a Hard Disk Drive 0 Failure (Nonmirrored or Single-Disk System)

Because Hard Disk Drive 0 contains the base system software. Therefore, after you replace the hard disk drive, you must reinstall the entire INTUITY CONVERSANT system if this disk fails on a nonmirrored or single-disk system.

⚠ WARNING:

*After installing a 2-Gbyte hard disk drive into a system as Disk 0, **DO NOT ATTEMPT TO INSTALL AN OLDER VERSION OF UnixWare**. The version of the operating system tape that should be used contains the phrase "Independent Image." If the operating system tape does not contain this phrase, notify the remote maintenance center immediately.*

To reinstall the INTUITY CONVERSANT system software, do the following:

1. Replace Hard Disk Drive 0. See *"Replacing a Hard Disk Drive"* for the procedure.

2. Restore the system using the CONVERSANT Image Tape created using the **mkimage** command. See *"Performing a System Restoration Using mkimage"* in Chapter 3, *"Common System Procedures"*, for the procedure.

3. Restore the speech files using the **spres** command.

Recovering from a Hard Disk Drive 0 Failure (Mirrored System)

In the event of a Hard Disk Drive 0 failure in a mirrored system, the system remains operational with no noticeable degradation of service. The following procedure explains how to replace Hard Disk Drive 0 on a mirrored system.

⚠ CAUTION:

This initial synchronization of data on a mirrored system can degrade service, depending on system load. Therefore, perform this procedure only during off-peak hours.

To restore the INTUITY CONVERSANT system, do the following:

1. Replace Hard Disk Drive 0. See *"Replacing a Hard Disk Drive"* for the procedure.

2. Insert the diskette labeled "Veritas Boot Floppy 1 of 1" into the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, *"Common System Procedures"*, for the procedure.

3. Reboot the system. See *"Rebooting the UNIX System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

   The system displays the following message:

   ```
   Enter boot SCSI drive:
   ```

4. Enter **D:unix**

   The system displays the console login.

5. Log in as root.

6. Enter **voldiskadm**

   The system displays the Volume Manager Support Operations screen (Figure 6-1).

```
Volume Manager Support Operations
Menu: VolumeManager/Disk

 1        Add or initialize a disk
 2        Encapsulate a disk
 3        Remove a disk
 4        Remove a disk for replacement
 5        Replace a failed or removed disk
 6        Mirror volumes on a disk
 7        Move volumes from a disk
 8        Enable access to (import) a disk group
 9        Remove access to (deport) a disk group
10        Enable (online) a disk device
11        Disable (offline) a disk device
list     List disk information

 ?        Display help about menu
 ??       Display help about menuing system
 q        Exit from menus

Select an operation to perform:
```

Figure 6-1.   Volume Manager Support Operations Screen

7. Enter **list**

    The system displays the List Disk Information screen (Figure 6-2).

```
List Disk Information
Menu: VolumeManager/Disk/ListDisk

     Use this menu option to display a list of disks.  You can
     also choose to list detailed information about the disk at
     a specific disk device address.

Enter disk device or "all" [<address>,all,q,?] (default:all)
```

Figure 6-2.   List Disk Information Screen

8. Press ENTER.

    The system displays the following message:

    ```
    DEVICE        DISK          GROUP         STATUS
    c0t0d0        disk00        rootdg        online
    c0t1d0        disk01        rootdg        online
    ```

9. Record the device IDs and disk names in the following table:

Device	**Disk**

10. Press ENTER.

    The system displays the Volume Manager Support Operations screen (Figure 6-1).

11. Enter **4**

    The system displays the following message:

    `Enter the name of the disk to remove.`

12. Enter the disk name for the drive with the device ID *c0t0d0*.

    ⇒ **NOTE:**
    This should be disk00.

    The system displays the Volume Manager Support Operations screen
    (Figure 6-1).

13. Enter **5**

    The system displays the following message:

    `Enter the name of the disk to replace.`

14. Enter the same disk name as in Step 12.

    The system displays the following message:

    `Enter the device ID of the disk to use as a replacement.`

15. Enter **c0t1d0**

    The system displays the Hard Disk Partitioning – Disk 1 screen
    (Figure 6-3).

```
      Total disk size is 2048 cylinders (2048.0MB)


                                                          Approx
  Partition   Status   Type    Start   End   Length    %    MB
  1           Active   UNIX    0       2047  2048    100  2048.0
                       System

      SELECT ONE OF THE FOLLOWING

      0. Overwrite system master boot code
      1. Create a partition
      2. Change Active (Boot from) partition
      3. Delete a partition
      4. Update (Update disk configuration and exit)
      5. Exit (Exit without updating disk configuration)

      Enter selection:
```

Figure 6-3.   Hard Disk Partitioning – Disk 1 Screen

16. Enter **1**

    The system responds with a screen where you must supply information for
    the new partition.

17. Select UNIX System. Use ◄ and ► to move through the Partition Type field selections.

18. Press TAB to move to the Percentage of Disk field.

19. Enter **100**

20. Press ▼ to move to the Apply box and press ENTER.

    The system displays the Hard Disk Partitioning – Disk 1 screen (Figure 6-3).

21. Enter **4**

    The system displays the Volume Manager Support Operations screen (Figure 6-1).

22. Enter **q**

    The system starts mirroring the contents of Hard Disk Drive 1 to Hard Disk Drive 0. This does not interrupt normal operation of the INTUITY CONVERSANT system.

23. Remove the diskette labeled "Veritas Boot Floppy 1 of 1" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

Recovering from a Hard Disk Drive 1 Failure

The following procedure explains how to replace a hard disk drive on an existing INTUITY CONVERSANT system.

This procedure only applies to Hard Disk Drive 1. If you can log in to the INTUITY CONVERSANT system, it is possible that Hard Disk Drive 0 has failed. See one of the procedures in "Recovering from a Hard Disk Drive 0 Failure" (nonmirrored or mirrored, depending on your configuration) for instructions.

Recovering from a Hard Disk Drive 1 Failure (Nonmirrored System)

In the event of a Hard Disk Drive 1 failure in a nonmirrored system, the system is still operational. However, speech files are lost. The following procedure explains how to replace Hard Disk Drive 1 on a nonmirrored system.

To restore the INTUITY CONVERSANT system, do the following:

1. Replace Hard Disk Drive 0. See "Replacing a Hard Disk Drive" for the procedure.

2. Log in as root.

3. Enter **voldiskadm**

   The system displays the Volume Manager Support Operations screen
   (Figure 6-1).

4. Enter **list**

   The system displays the List Disk Information screen (Figure 6-2).

5. Press (ENTER).

   The system displays the following message:

   ```
   DEVICE      DISK        GROUP       STATUS
   c0t0d0      disk00      rootdg      online
   c0t1d0      disk01      rootdg      online
   ```

6. Record the device IDs and disk names in the following table:

Device	Disk

7. Press (ENTER).

   The system displays the Volume Manager Support Operations screen
   (Figure 6-1).

8. Enter **3**

   The system displays the following message:

   ```
   Enter the name of the disk to remove.
   ```

9. Enter the disk name for the drive with the device ID *c0t1d0*.

   ⇛ **NOTE:**
   This should be disk01.

   The system displays the Volume Manager Support Operations screen
   (Figure 6-1).

10. Add Hard Disk Drive 1 to the system. See ''Adding Hard Disk Drive 1 to a
    System for Speech Storage'' for the procedure.

11. Restore the speech files using the **spres** command. See *INTUITY™
    CONVERSANT® Version 6 Speech Development, Processing, and
    Recognition, 585-310-762,* for the procedure.

Recovering from a Hard Disk Drive 1 Failure (Mirrored System)

In the event of a Hard Disk Drive 1 failure in a mirrored system, the system is still operational and there is no noticeable degradation of service. The following procedure explains how to replace Hard Disk Drive 1 on a mirrored system.

> ⚠️ **CAUTION:**
> *This initial synchronization of data on a mirrored system can degrade service, depending on system load. Therefore, perform this procedure only during off-peak hours.*

To restore the INTUITY CONVERSANT system, do the following:

1. Replace Hard Disk Drive 0. See "Replacing a Hard Disk Drive" for the procedure.

2. Log in as root.

3. Enter **voldiskadm**

   The system displays the Volume Manager Support Operations screen (Figure 6-1).

4. Enter **list**

   The system displays the List Disk Information screen (Figure 6-2).

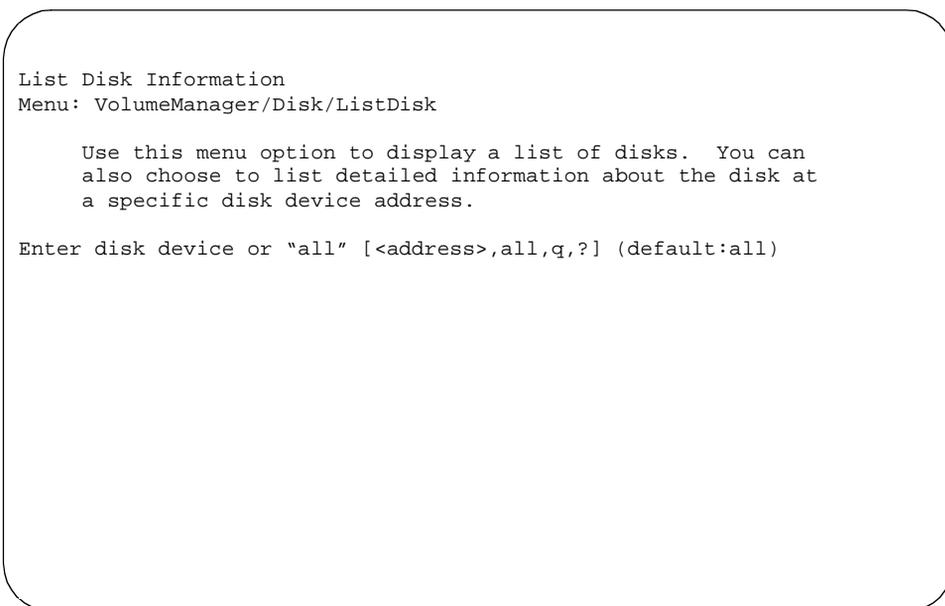5. Press (ENTER).

   The system displays the following message:

   ```
   DEVICE      DISK        GROUP       STATUS
   c0t0d0      disk00      rootdg      online
   c0t1d0      disk01      rootdg      online
   ```

6. Record the device IDs and disk names in the following table:

Device	Disk

7. Press (ENTER).

   The system displays the Volume Manager Support Operations screen (Figure 6-1).

8. Enter **4**

   The system displays the following message:

   ```
   Enter the name of the disk to remove.
   ```

9. Enter the disk name for the drive with the device ID *c0t1d0*.

   ### ➡ NOTE:
   This should be disk01.

   The system displays the Volume Manager Support Operations screen
   (Figure 6-1).

10. Enter **5**

    The system displays the following message:

    ```
    Enter the name of the disk to replace.
    ```

11. Enter the same disk name as in Step 9.

    The system displays the following message:

    ```
    Enter the device ID of the disk to use as a replacement.
    ```

12. Enter **c0t0d0**

    The system displays the Hard Disk Partitioning – Disk 1 screen
    (Figure 6-3).

13. Enter **1**

    The system responds with a screen where you must supply information for
    the new partition.

14. Select UNIX System. Use ◄ and ► to move through the Partition
    Type field selections.

15. Press TAB to move to the Percentage of Disk field.

16. Enter **100**

17. Press ▼ to move to the Apply box and press ENTER.

    The system displays the Hard Disk Partitioning – Disk 1 screen
    (Figure 6-3).

18. Enter **4**

    The system displays the Volume Manager Support Operations screen
    (Figure 6-1).

19. Enter **q**

    The system starts mirroring the contents of Hard Disk Drive 0 to Hard Disk
    Drive 1. This does not interrupt normal operation of the INTUITY
    CONVERSANT system.

Replacing a Hard Disk Drive

The MAP/5P can contain two hard disk drives. The first hard disk drive, SCSI ID 0, is located in Bay 6 (Figure 6-4). The second hard disk drive, if provided, is located in Bay 5 (Figure 6-4).
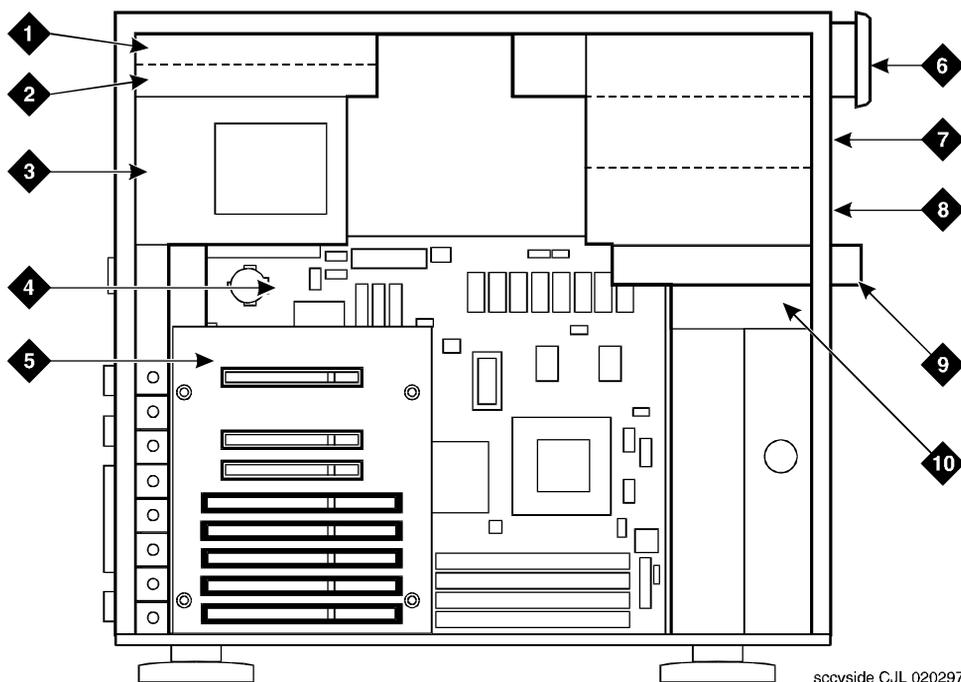
1. Bay 6 - Hard Disk Drive 0
2. Bay 7 - Empty
3. Power supply
4. Motherboard
5. Riser card

6. Bay 1 - Cartridge tape drive
7. Bay 2 - Empty
8. Bay 3 - Empty
9. Bay 4 - Diskette drive
10. Bay 5 - Hard Disk Drive 1 (if used)

Figure 6-4.   Internal View of the MAP/5P

Replacing Hard Disk Drive 0

⚠ CAUTION:

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

Hard Disk Drive 0 Removal

To remove Hard Disk Drive 0, you must:

- ■ Remove the INTUITY CONVERSANT system from service.
- ■ Access the hard disk drive.
- ■ Extract the hard disk drive.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

> ⇒ **NOTE:**
> This procedure is not necessary if Hard Disk Drive 0 has failed on a
> single-disk system.

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Stop the voice system. See *"Stopping the Voice System"* in Chapter 3, *"Common System Procedures"*, for the procedure.
3. Shut down the system. See *"Shutting Down the Operating System"* in Chapter 3, *"Common System Procedures"*, for the procedure.
4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Accessing Hard Disk Drive 0

To access Hard Disk Drive 0, remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*.

Extracting Hard Disk Drive 0

To extract Hard Disk Drive 0, do the following:

1. Remove the SCSI cable from the back of the hard disk drive.
2. Remove the power cord from the back of the hard disk drive.
3. Locate the screws holding Hard Disk Drive 0 to the peripheral bay frame.

> ⇒ **NOTE:**
> Pay close attention to the location of the screws in both the
> peripheral bay chassis and the hard disk drive. If you return the
> screws to a different position, the hard disk drive may protrude from
> or be recessed into the chassis.

4. Holding the rear of the hard disk drive, remove these screws.
5. Place the hard disk drive assembly, with the printed circuit board facing up, on an ESD-protected surface.
6. Continue with the next procedure, *"Hard Disk Drive 0 Installation"*.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Replacing a Hard Disk Drive

Page 6-14

Hard Disk Drive 0 Installation

To install Hard Disk Drive 0, you must:

- Set the jumper settings.
- Insert the hard disk drive.

Setting the Hard Disk Drive 0 Jumper Settings

Configure the jumpers on Hard Disk Drive 0 as shown in Figure 6-5.
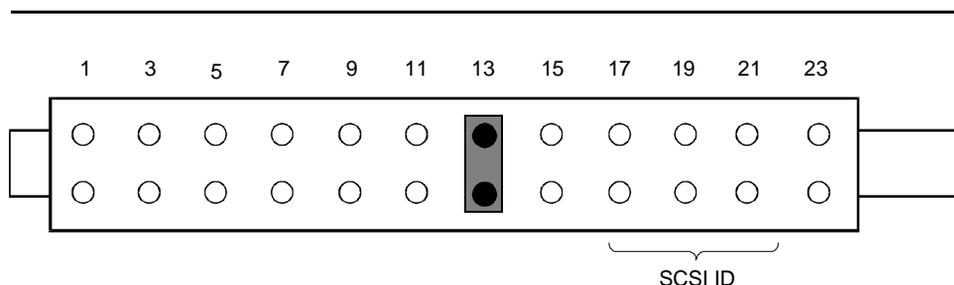
Figure 6-5.   Hard Disk Drive 0 Jumper Settings

Inserting Hard Disk Drive 0

To insert the hard disk drive, do the following:

1. Remove the new hard disk drive from its ESD-protective wrapping.

   > **NOTE:**
   > Keep the package and all ESD-protective wrapping. You must re-use the material in which the replacement hard disk drive was packaged to meet the manufacturer's warranty.

2. Align Hard Disk Drive 0, with the component side down, with the correct holes in Bay 6.

   > **NOTE:**
   > Pay close attention to the location of the screws in both the peripheral bay chassis and the hard disk drive. If you return the screws to a different position, the hard disk drive may protrude from or be recessed into the chassis.

3. Attach the hard disk drive to the peripheral bay using the four screws removed in Step 4 of ''Extracting Hard Disk Drive 0''.

4. Attach the power cable to the hard disk drive.

5. Attach the SCSI cable to the hard disk drive.

Replacing Hard Disk Drive 1

> ⚠ **CAUTION:**
> *Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".*

Hard Disk Drive 1 Removal

To remove Hard Disk Drive 1, you must:

- Remove the INTUITY CONVERSANT system from service.
- Access the hard disk drive.
- Extract the hard disk drive.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing Hard Disk Drive 1

To access Hard Disk Drive 1, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer" for this procedure.

Extracting Hard Disk Drive 1

To extract Hard Disk Drive 1, do the following:

1. Remove the SCSI cable from the back of the hard disk drive.

2. Remove the power cord from the back of the hard disk drive.

3. Press down on the thumb-tab which locks the peripheral frame in place (Figure 6-6).
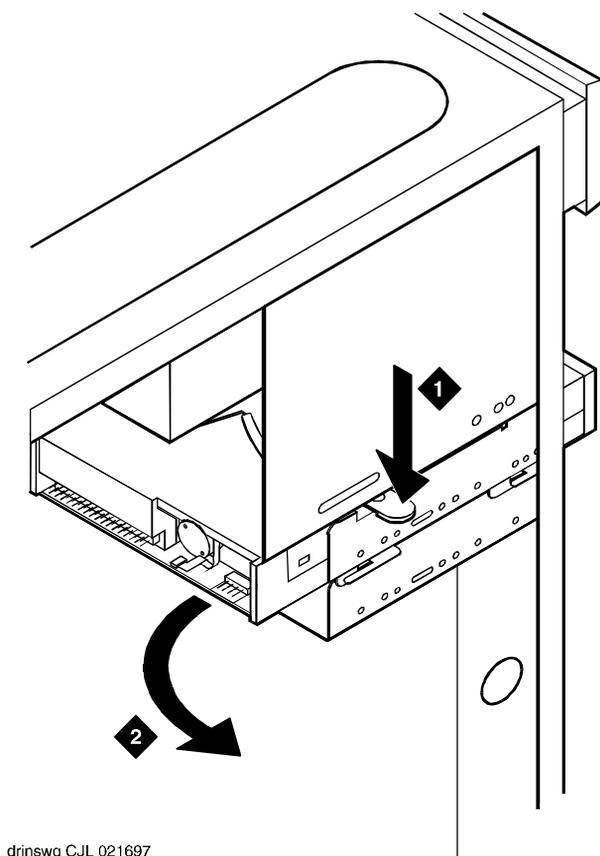
drinswg CJL 021697

1.   Press down on the thumb tab.
2.   Rotate the frame out of the chassis.

Figure 6-6.   Removing the Peripheral Frame

4. Pull the peripheral frame toward you (Figure 6-6).

   The frame will rotate toward the front of the MAP/5P until the bracing lip clears. You can then pull the frame out of the MAP/5P.

5. Locate the screws holding Hard Disk Drive 1 to the peripheral frame

   ➡ NOTE:
   Pay close attention to the location of the screws in both the peripheral bay chassis and the hard disk drive. If you return the screws to a different position, the hard disk drive may protrude from or be recessed into the chassis.

6. Holding the rear of the hard disk drive, remove these screws.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Replacing a Hard Disk Drive

Page 6-17

7. Remove Hard Disk Drive 1 from the peripheral frame.

8. Place the hard disk drive assembly, with the printed circuit board facing up, on an ESD-protected surface.

9. Continue with the next procedure, "Hard Disk Drive 1 Installation".

Hard Disk Drive 1 Installation

To install Hard Disk Drive 1, you must:

■ Set the jumper settings.

■ Insert the hard disk drive.

Setting the Hard Disk Drive 1 Jumper Settings

Configure the jumpers on Hard Disk Drive 1 as shown in Figure 6-7.
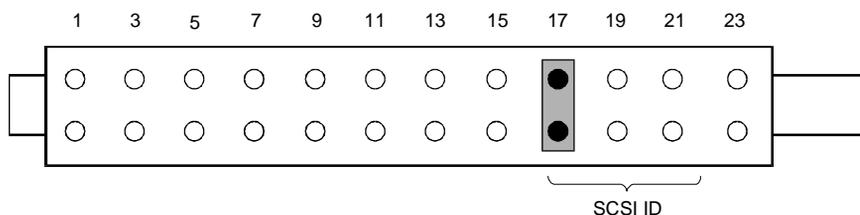
Figure 6-7.   Hard Disk Drive 1 Jumper Settings

Inserting Hard Disk Drive 1

To insert the hard disk drive, do the following:

1. Remove the new hard disk drive from its ESD-protective wrapping.

   ➡ NOTE:
   Keep the package and all ESD-protective wrapping. You must return the defective hard disk drive in the material in which the replacement hard disk drive was packaged to meet the manufacturer's warranty.

2. Attach the hard disk drive, with the component side down, to the peripheral frame using the four screws removed in Step 6 of "Extracting Hard Disk Drive 1".

   ➡ NOTE:
   Pay close attention to the location of the screws in both the peripheral bay chassis and the hard disk drive. If you return the screws to a different position, the hard disk drive may protrude from or be recessed into the chassis.

3. Attach the power cable to the hard disk drive.

4. Attach the SCSI cable to the hard disk drive.

5. Place the front of the peripheral frame into the MAP/5P.

6. Align the peripheral frame so that the bracing lip on the MAP/5P chassis is below the guide on the peripheral frame (Figure 6-8).
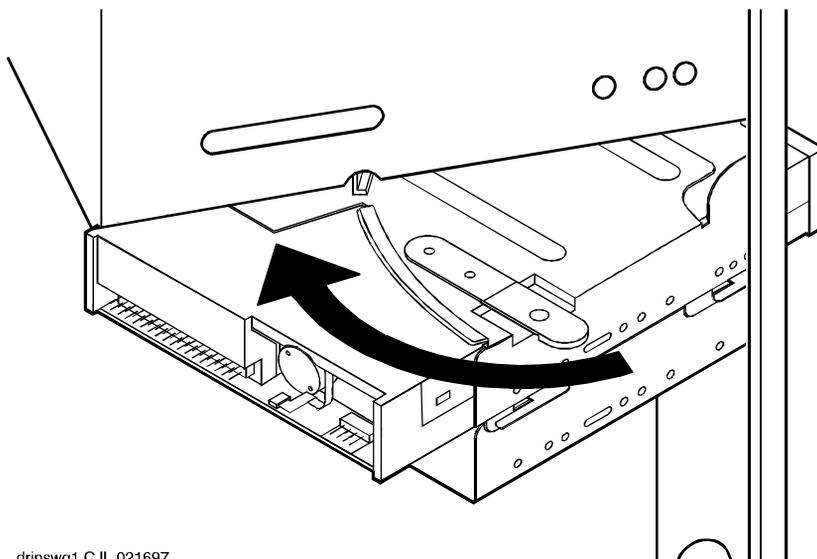
drinswg1 CJL 021697

Figure 6-8.   Installing the Peripheral Frame

7. Rotate the peripheral frame into the MAP/5P chassis until it is locked in place.

8. Check the cable connections to both the diskette drive and Hard Disk Drive 1.

Adding a Hard Disk Drive

This section details the procedures for adding a second hard disk drive to an INTUITY CONVERSANT system with only one hard disk drive. If you are replacing an existing drive, see "Recovering from a Hard Disk Drive 0 Failure" or "Recovering from a Hard Disk Drive 1 Failure" for the procedure.

Adding Hard Disk Drive 1 to a System for Mirroring

To add a hard disk drive, do the following:

1. Install the new hard disk drive. See "Replacing a Hard Disk Drive" for the procedure.

2. Clean the new hard disk drive. See "Cleaning a Hard Disk Drive" for the procedure.

3. Log in as root.

4. Enter **voldiskadm**

   The system displays the Volume Manager Support Operations screen (Figure 6-1).

5. Enter **1**

   The system displays the Add or Initialize a Disk screen (Figure 6-9).

```
Add or initialize a disk
Menu: VolumeManager/Disk/AddDisk

Use this operation to add a disk to a disk group.  You can select an
existing disk group or create a new disk group.  You can also initialize
a disk without adding it to a disk group, which leaves the disk available
for use as a replacement disk. This operation takes, as input, a disk
device, for example c0t2d0, a disk group (or none to leave the disk
available for as a replacement disk).  If you are adding the disk to a
disk group, you will be asked to give a name to the disk.

Select disk device to add [<address>,list,q,?]
```

Figure 6-9.   Add or Initialize a Disk Screen

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Adding a Hard Disk Drive **Page 6-20**

6. Enter **list** to show a list of the disk devices recognized by the system.

> **NOTE:**
> The **list** command will show the newly added disk "online" or "error,"
> but not as part of any disk group. Choose this disk address for the
> next prompt.

The system displays the following message:

```
DEVICE          DISK           GROUP           STATUS
c0t0d0          disk00         rootdg          online
c0t1d0          -              -               online
```

7. Enter the device to add.

The system displays the following message:

```
Disk device c0tXd0 appears to have been initialized
already.
The disk is currently available as a replacement disk.
```

> **NOTE:**
> If the disk is a brand new disk, the above message is not displayed.
> Sometimes the newly added disk STATUS is shown as "error"
> instead of "online." This may happen until the disk is added to the
> Volume Manager internal configuration files using **voldiskadm**.

```
Do you wish to reinitialize c0tXd0?
```

8. Enter **y**

The system displays the following message:

```
You can choose to add this disk to an existing disk
group, to create a new disk group, or you can choose to
leave the disk available for use by future add or
replacement operations. To create a new disk group,
select a disk group name that does not yet exist. To
leave the disk available for future use, specify a disk
group name of "none".

Which disk group [<group>,none,list,q,?] (default:
rootdg)
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Adding a Hard Disk Drive

Page 6-21

9. Press $\boxed{\text{ENTER}}$.

The system displays the following message:

```
You must now select a disk name for the disk. This disk
name can be specified to disk removal, move, or
replacement operations. If you move the disk, such as
between host bus adapters, the disk will retain the
same disk name, even though it will be accessed using a
different disk device address name.
```

```
Enter disk name [<name>,q,?] (default: disk01)
```

10. Enter the disk name.

If you are adding Hard Disk Drive 0, enter **disk00**

If you are adding Hard Disk Drive 1, enter **disk01**

The system displays the following message:

```
The requested operation is to initialize disk device
c0tXd0 and to add this device to disk group rootdg as
disk disk0X.
```

```
Continue with operation? [y,n,q,?] (default: y)
```

11. Press $\boxed{\text{ENTER}}$.

The system displays the Initialize a Disk screen (Figure 6-10).

```
Initialize a disk
Menu:  VolumeManager/Disk/AddDisk

The fdisk utility will now be invoked to allow you to select partitions
to be used for the DOS operating system, and one fdisk partition to use
for storing UNIX partitions.  Please create exactly one partition with
type UNIX.  If you wish to be able to boot UNIX on this disk, you must
also make the UNIX partition the active partition.


Continue?
```

Figure 6-10.   Initialize a Disk Screen

12. Enter **y**

    The system displays the following message:

    ```
    The recommended default partitioning for your disk is:

    a 100% "UNIX System" partition.
    ```

    To select this please type "y". To partition your disk differently, type "n" and the "fdisk" program will let you select other partitions.

13. Enter **y**

    After approximately 20 to 30 minutes the system indicates that the procedure was successful.

14. Press (ENTER).

    The system displays the Volume Manager Support Operations screen (Figure 6-1).

15. Enter **q**

    The system displays the system prompt.

Adding Hard Disk Drive 1 to a System for Speech Storage

1. Complete the procedure, "Adding Hard Disk Drive 1 to a System for Mirroring".

2. Log in to the system as root.

3. Enter **sysadm**

   NOTE:

   This procedure assumes that there is no file or directory named **/home3** on the system. If **/home3** exists, choose another unique name and substitute that name for /**home3** throughout the following procedure.

   The system displays the UNIX System V Administration menu (Figure 6-11).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Adding a Hard Disk Drive

Page 6-23

Figure 6-11.   UNIX System V Administration Menu

4. Select

The system displays the Display Disk <disk01> window (Figure 6-12).

Figure 6-12.   Display Disk Window

5. Record the value in the `Length` field in the space below.

Length

_____

6. Press F6 (Cancel) twice.

    The system displays the VERITAS Volume Manager menu (Figure 6-13).

_____


```
2                       VERITAS Volume Manager
 Basic Disk Operations       - Add, remove, and modify disks
 Basic Filesystem Operations - Create, remove, and modify file systems
 Basic Volume Operations     - Create, remove, and modify volumes
)Display Disks               - Show disks under Volume Manager control
 Display Volumes             - Display parameters of volumes
 Set Defaults                - Set defaults for top down utilities
```

_____
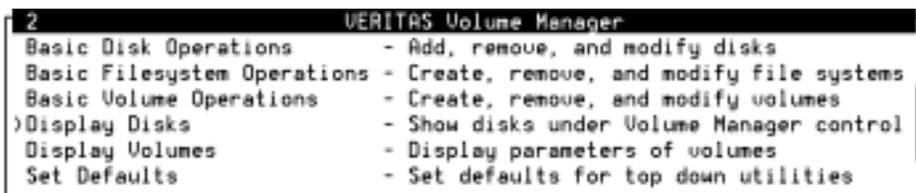
Figure 6-13.   VERITAS Volume Manager Menu

7. Select

```
>Basic Volume Operations
```

```
    > Create
```
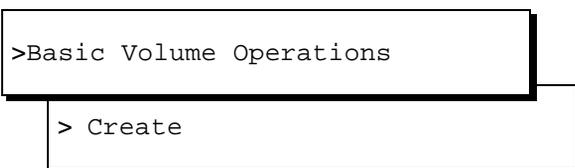
    The system displays the Create Volumes window (Figure 6-14).
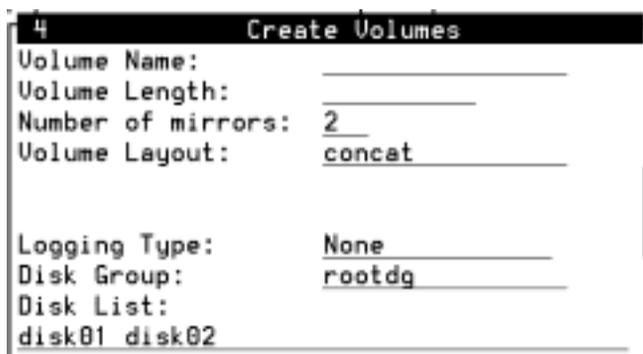
Figure 6-14.   Create Volumes Window

8. Enter **home3** in the `Volume Name:` field.

9. Enter the number you recorded in Step 5 in the `Volume Length:` field.

10. Enter **0** in the `Number of Mirrors:` field.

11. Enter **concat noncontig** in the `Volume Layout:` field.

12. Enter **None** in the `Logging Type:` field.

13. Enter **rootdg** in the `Disk Group:` field.

14. Enter **disk01** in the `Disk List:` field.

15. Press [F3] (Save).

16. Press [F6] (Cancel).

17. Press [F7] (Cmd-menu).

18. Select

```
>Exit
```

The system displays the UNIX prompt.

19. Enter **/sbin/mkfs -F vxfs -o C,bsize=8192 /dev/rvol/home3 <number>**
    where number is the length of disk from Step 5 above.

The system displays the following message:

`Mkfs: make vxfs file system?`

`(DEL if wrong)`

20. Press [ENTER].

21. Enter **cp /etc/vfstab /etc/vfstab.orig**

22. Add the following line to the file */etc/vfstab*:

    /dev/vol/home3 /dev/rvol/home3 /home3 vxfs 1 yes mincache=closesync

23. Enter **mkdir /home3**

24. Enter **mount /home3**

25. Enter **mkdir -p /home3/vfs/talkfiles**

    ⇒ **NOTE:**
    There is a sysadm menu option for creating a filesystem, but we recommend that you do not use this menu option when creating large file systems.

Cleaning a Hard Disk Drive

Cleaning a hard disk drive can be done by:

- Using the fdisk command
- Low-level formatting the hard disk drive

Using the fdisk Command

A hard disk drive that contains data cannot be installed in a INTUITY CONVERSANT system. The hard disk drive must be cleaned before use.

To clean a hard disk drive, do the following:

1. Log in to the system as root.

2. Enter **fdisk /dev/rdsk/c0t1d0s0**

    ⚠ **CAUTION:**
    The phrase c0t1d0s0 is the name of the disk to be cleaned. The phrase c0t1d0s0 is correct for Hard Disk Drive 1. Hard Disk Drive 0 is named c0t0d0s0.

The system displays the Disk Cleaning screen (<u>Figure 6-15</u>).

```
        Total disk size is 2048 cylinders (2048.0MB)



                                                                  Approx
 Partition   | Status  | Type   | Start | End  | Length |   %   |   MB
 1           | Active  | UNIX   | 0     | 2047 | 2048   | 100   | 2048.0
             |         | System |       |      |        |       |

        SELECT ONE OF THE FOLLOWING

        0. Overwrite system master boot code
        1. Create a partition
        2. Change Active (Boot from) partition
        3. Delete a partition
        4. Update (Update disk configuration and exit)
        5. Exit (Exit without updating disk configuration)

        Enter selection:
```

Figure 6-15.   Disk Cleaning Screen

3. Enter **3**

    The system displays the following message:

    ```
    Enter the number of the partition you want to delete
     (or enter x to exit)
    ```

4. Enter the number of the partition.

    For the example given in Figure 6-15, you would enter **1**

    The system displays the following message:

    ```
    Do you want to delete partition X?  This will erase all
    files and programs in this partition (type "y" or "n").
    ```

5. Enter **y**

    The system displays the following message:

    ```
    Partition X has been deleted.
    ```

    The system displays the Disk Cleaning screen (Figure 6-15).

6. Enter **4**

The system displays the following message:

```
If you have created or altered a partition, you must
initialize the partition to reflect the new
configuration.  For a UNIX System partition run the
disksetup(1m) command.  For a DOS partiton, run the DOS
format command.  Changes limited to the "Active" status
field require no additional action.
```

7. Reboot the system. See *"Rebooting the UNIX System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

Low-Level Formatting the Hard Disk Drive

To low-level format a hard disk drive, do the following:

1. Reboot the system. See *"Rebooting the UNIX System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

2. Press (CONTROL) (A) when prompted.

The system displays the Host Adapter Configuration screen (Figure 6-16).

```
Would you like to configure the host adapter or run the SCSI disk
utilities?  Select the option and press <Enter>.  Press <F5> to switch
between color or monochrome.


                            Options
                Configure/View Host Adapter Settings
                      SCSI Disk Utilities
```

Figure 6-16.   Host Adapter Configuration Screen

3. Place the cursor on SCSI Disk Utilities. Use the up (▲) and down (▼) arrows to move the cursor.

4. Press (ENTER).

The system displays the SCSI Disk Utilities screen (Figure 6-17).

```
          Select SCSI Disk and press <Enter>.

          SCSI ID #0     IBM DORS-32160
          SCSI ID #1     IBM DORS-32160
          SCSI ID #2     No Device
          SCSI ID #3     TANDBERG TDC4200
          SCSI ID #4     No Device
          SCSI ID #5     No Device
          SCSI ID #6     No Device
          SCSI ID #7     AIC - 7850
```
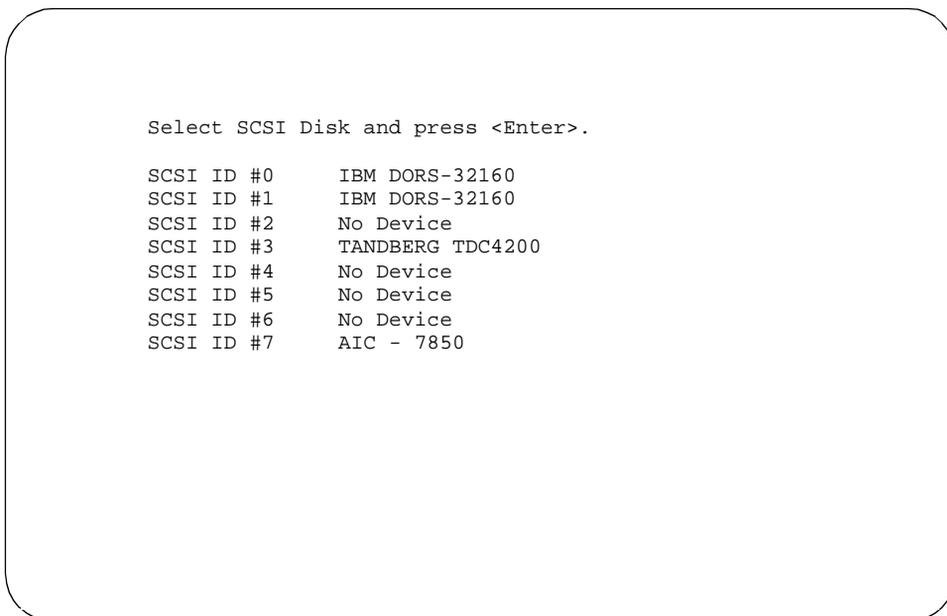
Figure 6-17.   SCSI Disk Utilities Screen

5. Place the cursor on the SCSI Disk to be formatted. Use the up ▲ and down ▼ arrows to move the cursor.

6. Press ENTER.

   The system displays the Configure/Format Disk screen (Figure 6-18).

```
                         Configure Disk
                          Format Disk
```
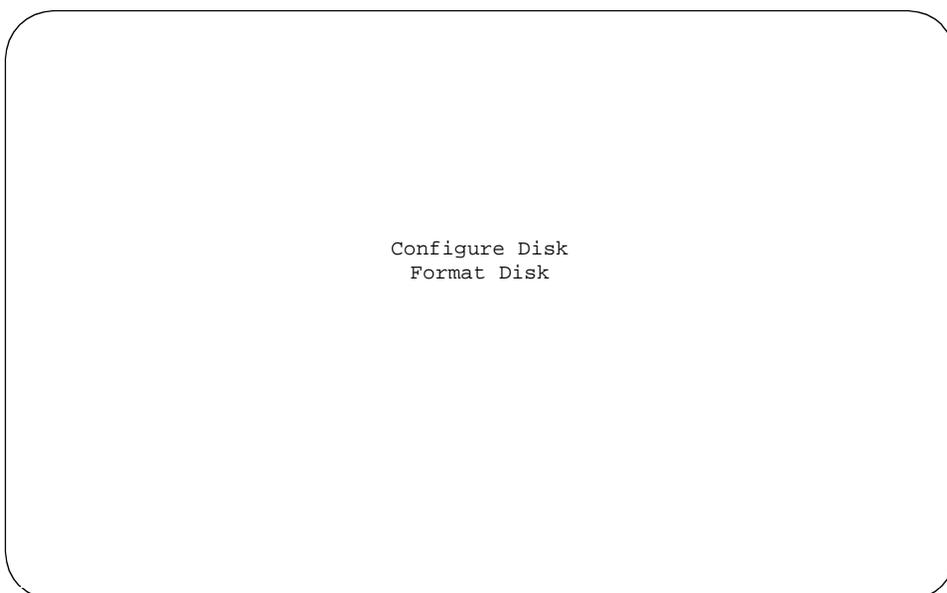
Figure 6-18.   Configure/Format Disk Screen

7. Place the cursor on the `Format Disk`. Use the up [▲] and down [▼] arrows to move the cursor.

8. Press (ENTER).

    The system asks you to confirm that the disk is to be formatted.

9. Enter **y**

Mirroring

This section details procedures for establishing or removing mirroring on a two-disk INTUITY CONVERSANT system.

Establishing Mirroring

Establishing disk mirroring includes copying data from the first disk to the second disk, then enabling mirroring so that the two disks continue to be in sync. When mirroring to another disk, make sure that the second disk is at least as large as the first one. If the second disk is larger, the additional space remains unused and may be used later if there is a need to grow a file system.

The following procedure shows the system entries and system responses when mirroring disk00 and disk01. If you are mirroring other disks, your responses will be different.

1. Set the jumpers on Hard Disk Drive 1. See "Replacing Hard Disk Drive 1" for the procedure.

2. Place Hard Disk Drive 1 in the MAP/5P. See "Replacing Hard Disk Drive 1" for the procedure.

3. Add Hard Disk Drive 1 to the system. See "Adding Hard Disk Drive 1 to a System for Mirroring" for the procedure.

4. At the UNIX prompt, enter **voldiskadm**

    The system displays the Volume Manager Support Operations screen (Figure 6-1).

5. Enter **6**

    The system displays the Mirror Volumes on a Disk screen (Figure 6-19).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Mirroring

Page 6-31

```
Mirror volumes on a disk
Menu:  VolumeManager/Disk/Mirror

This operation can be used to mirror volumes on a disk.  These volumes can
be mirrored onto another disk or onto any available disk space.  Volumes
will not be mirrored if they are already mirrored.  Also, volumes that are
comprised of more than one subdisk will not be mirrored.
Mirroring volumes from the boot disk will produce a disk that can be used
as an alternate boot disk.
At the prompt below, supply the name of the disk containing the volumes
to be mirrored.


Enter disk name
```

Figure 6-19.   Mirror Volumes on a Disk Screen

6. Enter **list**

    The system displays the Disk Group screen (Figure 6-20).

```
Disk group:  rootdg

DM   NAME   DEVICE       TYPE       PRIVLEN      PUBLEN        PUBPATH
dm disk00 c0t0d0s0    sliced       512         2422237     /dev/rdsk/c0t0d0se
dm disk00 c0t1d0s0    sliced       512         3448320     /dev/rdsk/c0t1d0se


Enter disk name
```

Figure 6-20.   Disk Group Screen

7. Enter **disk00**

   The system displays the following message:

   ```
   You can choose to mirror volumes from disk disk00 onto
   any available disk space, or you can choose to mirror
   onto a specific disk.  To mirror to a specific disk,
   select the name of that disk.  To mirror to any
   available disk space, select "any".
   ```

   ```
   Enter destination disk [<disk>,list,q,?] (default: any)
   ```

8. Enter **disk01**

   The system displays the following message:

   ```
   The requested operation is to mirror all volumes on
   disk disk00 in disk group rootdg onto available disk
   space on disk disk01.
   ```

   ```
   NOTE:  This operation takes a long time to complete.
   ```

   ```
   (It will take approximately 20 minutes to mirror all
   volumes on a 1.2 Gbyte disk.)
   ```

   ```
   Continue with the operation?
   ```

9. Enter **y**

   The system displays the following message:

   ```
   Mirror volume standvol
   Mirror volume swapvol
   Mirror volume rootvol
   Disk disk01 is now bootable
   Mirror volume mtce
   Mirror volume oracle
   Mirror volume tmp
   Mirror volume vol
   Mirror volume vs
   ```

   ```
   Mirroring of disk disk01 is complete.
   ```

   ```
   Mirror volumes on another disk?
   ```

10. Enter **n**

    The system displays the Volume Manager Support Operations screen
    (Figure 6-1).

11. Enter **q**

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
Mirroring

Page 6-33

Removing Mirroring

To remove mirroring, do the following:

1. At the UNIX prompt, enter **sysadm**

   The system displays the UNIX System V Administration menu (Figure 6-11).

2. Select

   ```
   >volume_mgmt
   ```
   ```
   > Basic Volume Operations
   ```
   ```
   > Remove Mirror
   ```

   The system displays the Remove Mirrors window (Figure 6-21).
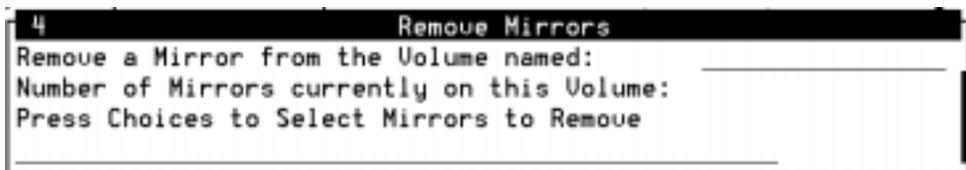
Figure 6-21. Remove Mirrors Window

3. Enter the name of the volume in the `Remove a Mirror from the Volume named:` field.

4. Place the cursor in the `Press Choices To Select Mirrors to Remove` field.

5. Press F2 (Choices).

   The system displays a menu of disk drives.

6. Select

   ```
   > disk01
   ```

7. Press F3 (Save).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

6 Replacing the Hard Disk Drive
   Mirroring

Page 6-34

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

7   Replacing Other Components
Overview

Page 7-1

Replacing Other Components

7

Overview

This chapter describes the procedures for replacing the

- Cartridge tape drive
- CMOS battery
- Diskette drive
- Fans
- Memory
- Motherboard
- Riser card
- Power supply
- Terminator SIP

Purpose

The purpose of this chapter is to ensure that you use the correct procedures to replace the internal components of the MAP/5P. This chapter also provides information on the correct configuration and settings for the individual components.

Cartridge Tape Drive Replacement

> ⚠️ **CAUTION:**
> *Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".*

The cartridge tape drive is located in Bay 1 of the MAP/5P (Figure 7-1).
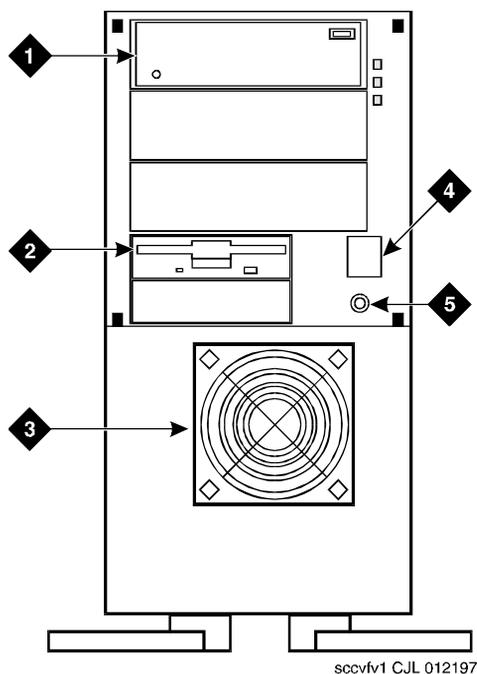
sccvfv1 CJL 012197

1.   Cartridge tape drive
2.   Diskette drive
3.   Circuit card cage fan
4.   Power button
5.   Reset button

Figure 7-1.   Front View of the MAP/5P

The following procedures detail removal and installation of the cartridge tape drive for the MAP/5P (Figure 7-2).
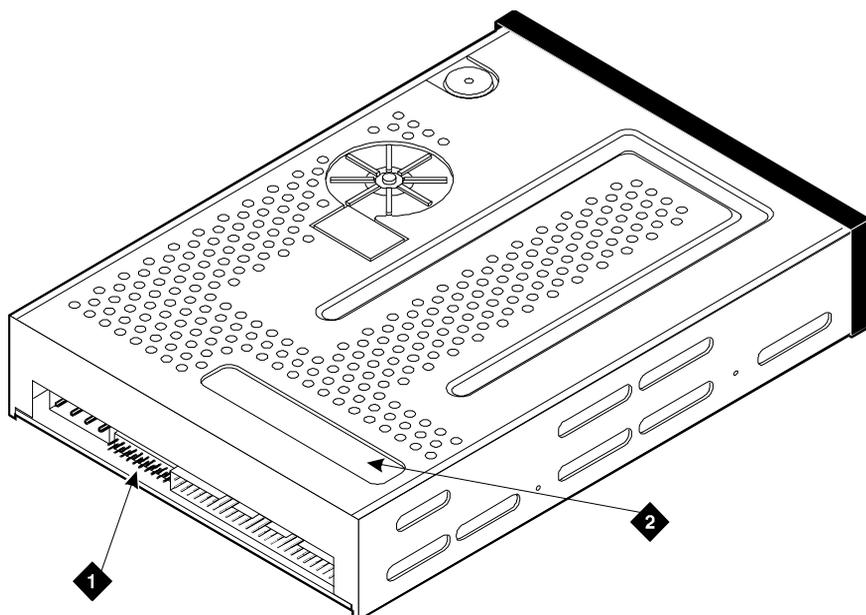
1.   Jumpers   2.   Terminating resistors

Figure 7-2.   Cartridge Tape Drive

Cartridge Tape Drive Removal

To remove a cartridge tape drive, you must:

- Remove the INTUITY™ CONVERSANT® system from service.

- Access the cartridge tape drive.

- Extract the cartridge tape drive.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7   Replacing Other Components
   Cartridge Tape Drive Replacement   Page 7-4

3. Shut down the voice system. See *"Shutting Down the Operating System"* in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing the Cartridge Tape Drive

To access the cartridge tape drive, remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, "Getting Inside the Computer", for the procedure.

Extracting the Cartridge Tape Drive

To extract the cartridge tape drive, do the following:

1. Remove the SCSI cable from the cartridge tape drive.

   ⇒ **NOTE:**
   Make sure the SCSI cable pin adapter remains attached to the SCSI cable.

2. Remove the power cord from the cartridge tape drive.

3. Locate the four screws on the peripheral bay chassis that secure the drive in Position 1 of the peripheral bay.

   ⇒ **NOTE:**
   Pay close attention to the location of the screws in both the peripheral bay chassis and the cartridge tape drive. If you return the screws to a different position, the cartridge tape drive may protrude from or be recessed into the chassis.

4. Holding the rear of the drive, loosen and remove these mounting screws.

5. Slide the drive forward within the peripheral bay and remove through the front opening of the chassis.

   ⚠ **CAUTION:**
   The drive fits tightly in the peripheral bay. Do not scrape wiring or components on the underside of the drive.

6. Continue with the next procedure, *"Cartridge Tape Drive Installation"*.

Cartridge Tape Drive Installation

To install a cartridge tape drive, you must:

- Verify the resource options.

- Insert the cartridge tape drive.

- Reassemble the MAP/5P.

- Restore the INTUITY CONVERSANT system to service.

Verifying the Resource Options

To verify the resource options, do the following:

1. Remove the three terminating resistors on the cartridge tape drive (Figure 7-2).

2. Verify that the settings are correct as shown in Figure 7-3.
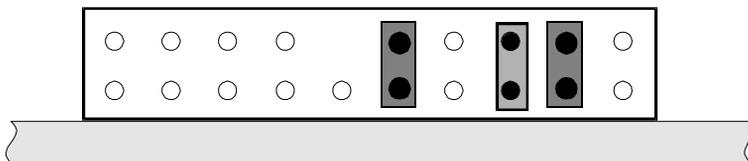
Figure 7-3.   Jumper Settings for the Cartridge Tape Drive, SCSI ID = 3

Inserting the Cartridge Tape Drive

To insert the cartridge tape drive, do the following:

1. Remove the new cartridge tape unit from its ESD-protective wrapping.

   ⇒ **NOTE:**
       Keep the package and all ESD-protective wrapping. You must re-use the material in which the replacement tape drive was packaged to meet the manufacturer's warranty.

2. Place the new drive in the Position 1 of the peripheral bay chassis with the printed circuit board side down.

3. Position the unit so that the cartridge tape drive screw holes line up with the appropriate holes in the peripheral bay.

   ⇒ **NOTE:**
       Pay close attention to the location of the screws in both the peripheral bay chassis and the cartridge tape drive. If you return the

screws to a different position, the cartridge tape drive may protrude from or be recessed into the chassis.

4. Secure the drive in the peripheral bay using the four screws removed in Step 4 of the procedure, *"Extracting the Cartridge Tape Drive"*.

5. Attach the power cable to the cartridge tape drive.

6. Attach the SCSI cable to the cartridge tape drive.

   ⮕ **NOTE:**
       Make sure the SCSI cable pin adapter is attached to the SCSI cable.

Reassembling the MAP/5P

To reassemble the MAP/5P, replace the dress cover. See *"Replacing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See *"Restoring Power to the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call to the system.

CMOS Battery Replacement

⚠ **CAUTION:**
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

The CMOS battery is located on the motherboard (Figure 7-4).
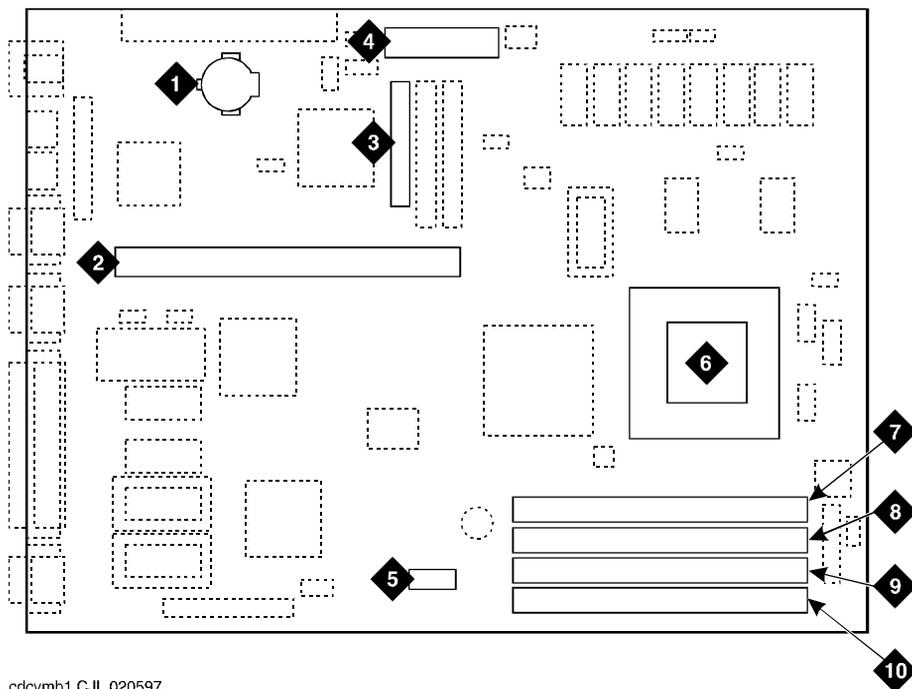
cdcvmb1 CJL 020597

1. CMOS battery   6.   CPU fan
2. Riser card connector   7.   SIMM4 socket (empty)
3. Diskette cable connector   8.   SIMM3 socket (empty)
4. Power supply connectors   9.   SIMM2 socket
5. Switches   10. SIMM1 socket

Figure 7-4. MAP/5P Motherboard

CMOS Battery Removal

To remove the CMOS battery, you must:

- Remove the INTUITY CONVERSANT system from service.

- Access the CMOS battery.

- Extract the CMOS battery.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing the CMOS Battery

To access the CMOS battery, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Extracting the CMOS Battery

To extract the CMOS battery, do the following:

1. Gently push the battery to the side, away from the rear of the MAP/5P, until it has cleared the retaining bracket.

2. Pull the battery from the motherboard.

CMOS Battery Installation

To install the CMOS battery, you must:

- Insert the CMOS battery.

- Reassemble the MAP/5P.

- Restore the INTUITY CONVERSANT system to service.

- Verify the CMOS settings.

Inserting the CMOS Battery

To insert the CMOS battery, do the following:

1. Gently push the battery to the side, away from the rear of the MAP/5P, until it has cleared the retaining bracket.

2. Push the battery into the motherboard.

Reassembling the MAP/5P

To reassemble the MAP/5P, replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call to the system.

Verifying the CMOS Settings

To verify the CMOS settings, see "Inserting the Motherboard".

Diskette Drive Replacement

⚠ CAUTION:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

The 1.44-Mbyte, 3.5-inch diskette drive is located in Bay 4 of the peripheral bay, as shown in Figure 7-1. There are no jumpers associated with the diskette drive used in the MAP/5P.

⇨ NOTE:
If you are replacing the diskette cable, you must remove the riser card. See "Riser Card Replacement" for the procedure.

Diskette Drive Removal

To remove the diskette drive, you must:

- Remove the INTUITY CONVERSANT system from service.

- Access the diskette drive.

- Extract the diskette drive.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See *"Stopping the Voice System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

3. Shut down the voice system. See *"Shutting Down the Operating System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Accessing the Diskette Drive

To access the diskette drive, remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Extracting the Diskette Drive

To extract the diskette drive, do the following:

1. Remove the diskette cable from the back of the diskette drive.

2. Remove the power cord from the back of the diskette drive.

3. Press down on the thumb-tab which locks the peripheral frame in place (Figure 7-5).
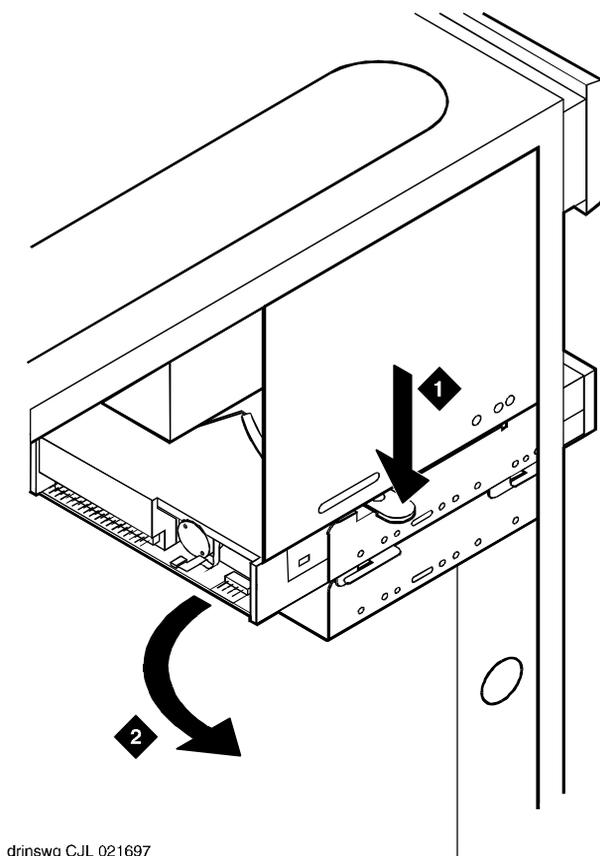
drinswg CJL 021697

1.   Press down on thumb tab
2.   Rotate frame out of chassis

Figure 7-5.   Removing the Peripheral Frame

4. Pull the peripheral frame toward you (Figure 7-5).

    The frame will rotate toward the front of the MAP/5P until the bracing lip
    clears. You can then pull the frame out of the MAP/5P.

5. Locate the screws holding the diskette drive to the peripheral frame

    ⇒ NOTE:
        Pay close attention to the location of the screws in both the
        peripheral frame and the diskette drive. If the screws are returned to
        a different position, the diskette drive may protrude from or be
        recessed into the chassis.

6. Holding the rear of the diskette drive, remove these screws.

7. Remove the diskette drive from the peripheral frame.

⚠ CAUTION:

Handle the diskette drive with care. The spindle motor, stepping motor, and printed circuit board are located on the bottom of the diskette drive. Do not place any force or strain on these components and do not touch the surface of the diskette drive printed circuit board.

8. Place the diskette drive assembly, with the printed circuit board facing up, on an ESD-protected surface.

9. Continue with the next procedure, "Diskette Drive Installation".

Diskette Drive Installation

To install the diskette drive, you must:

■ Insert the diskette drive.

■ Reassemble the MAP/5P.

■ Restore the INTUITY CONVERSANT system to service.

Inserting the Diskette Drive

To insert the diskette drive, do the following:

1. Remove the new diskette drive from its ESD-protective wrapping.

➤ NOTE:

Keep the package and all ESD-protective wrapping. You must re-use the material in which the replacement diskette drive was packaged to meet the manufacturer's warranty.

2. Attach the diskette drive to the peripheral frame using the four screws removed in Step 6 of "Extracting the Diskette Drive".

➤ NOTE:

Pay close attention to the location of the screws in both the peripheral frame and the diskette drive. If the screws are returned to a different position, the diskette drive may protrude from or be recessed into the chassis.

3. Attach the power cable to the diskette drive.

4. Attach the diskette cable to the diskette drive.

5. Place the front of the peripheral frame into the MAP/5P.

6. Align the peripheral frame so that the bracing lip on the MAP/5P chassis is below the guide on the peripheral frame (Figure 7-6).
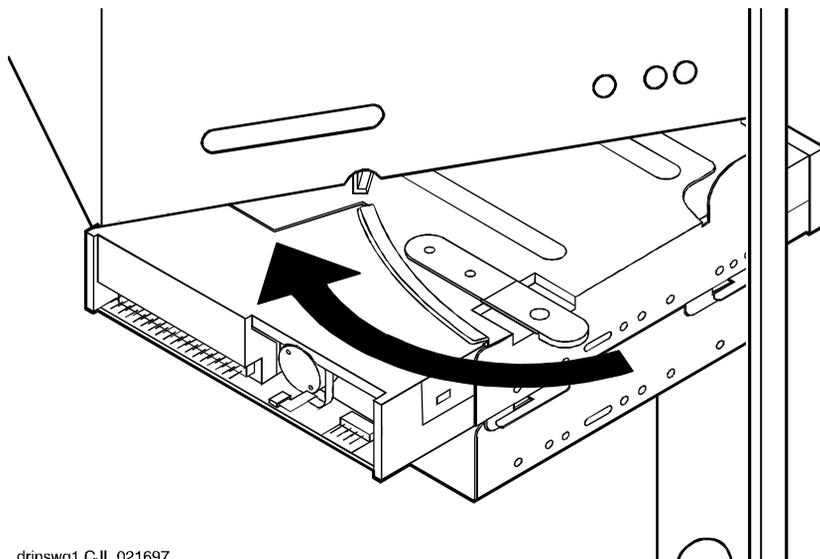
drinswg1 CJL 021697

Figure 7-6.   Installing the Peripheral Frame

7. Rotate the peripheral frame into the MAP/5P chassis until it is locked in place (Figure 7-6).

8. Check the cable connections to both the diskette drive and Hard Disk Drive 1 (if installed).

Reassembling the MAP/5P

To reassemble the MAP/5P, replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call to the system.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

7   Replacing Other Components
Fan Replacement

Page 7-14

Fan Replacement

![warning] **CAUTION:**

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

The MAP/5P contains the following fans that provide cooling inside the unit.

- Power supply fan.

- Circuit card cage fan.

- CPU fan.

The power supply fan is located inside the power supply and is *not* serviceable. Never attempt repairs to this fan. If it fails, you must replace the entire power supply. See "Power Supply Replacement" for more information.

Circuit Card Cage Fan Replacement

The circuit card cage fan is located in front of the card cage, behind the dress cover (Figure 7-1). The circuit card cage fan forces air flow through the MAP/5P chassis, across the circuit cards.

Circuit Card Cage Fan Removal

To remove the circuit card cage fan, you must:

- Remove the INTUITY CONVERSANT system from service.

- Access the circuit card cage fan.

- Extract the circuit card cage fan.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing the Circuit Card Cage Fan

To access the circuit card cage fan, do the following:

1. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Remove the protective aluminum screen which holds the circuit card cage fan in the chassis.

Extracting the Circuit Card Cage Fan

To extract the circuit card cage fan, do the following:

1. Lift the circuit card cage fan out of the chassis.

2. Unplug the 12-VDC power lead connector.

> ### ⚠ CAUTION:
> *Do not operate the MAP/5P for any length of time without the circuit card cage fan installed and operational.*

3. Continue with the next procedure, "Circuit Card Cage Fan Installation".

Circuit Card Cage Fan Installation

To install the circuit card cage fan, you must:

■ Insert the circuit card cage fan.

■ Reassemble the MAP/5P.

■ Restore the INTUITY CONVERSANT system to service.

Inserting the Circuit Card Cage Fan

To insert the circuit card cage fan, do the following:

1. Attach the 12-VDC connector to the circuit card cage fan.

2. Place the circuit card cage fan in the MAP/5P chassis.

> ### ➤ NOTE:
> Make sure the air flow is directed into the MAP/5P chassis. There is an air flow direction arrow on the fan.

Reassembling the MAP/5P

To reassemble the MAP/5P, do the following:

1. Replace the aluminum screen.

2. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify that the replacement fan is operating by placing a small sheet of paper across the grill on the intake side of the fan. The paper should adhere to the grill.

   If the fan is not operating or is spinning very slowly, check all wiring connections and voltages to ensure that the replacement unit is receiving power.

   > ⚠ **CAUTION:**
   > *Do not leave the MAP/5P powered up for any length of time until the circuit card cage fan is fully operational.*

3. Verify the INTUITY CONVERSANT system operation by placing a call to a user.

CPU Fan Replacement

The CPU fan is located on the motherboard, on top of the CPU (Figure 7-4).

CPU Fan Removal

To remove the circuit card cage fan, you must:

- Remove the INTUITY CONVERSANT system from service.
- Access the CPU fan.
- Extract the CPU fan.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Operating System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing the CPU Fan

To access the CPU fan, do the following:

1. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Remove all of the circuit cards. See "Removing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.

   $\Longrightarrow$ **NOTE:**
   Pay close attention to the riser card connector slots from which each circuit card is removed. The circuit cards will need to be replaced in the same slots in the new riser card. See "Component Assignments" in Appendix A, "Configuring a System", for circuit card placement.

Extracting the CPU Fan

To extract the CPU fan, do the following:

1. Remove the two screws which hold the CPU fan to the motherboard.

2. Lift the CPU out of the chassis.

3. Unplug the 12-VDC power lead connector.

4. Continue with the next procedure, "CPU Fan Installation."

CPU Fan Installation

To install the CPU fan, you must:

■ Insert the CPU fan.

■ Reassemble the MAP/5P.

■ Restore the INTUITY CONVERSANT system to service.

Inserting the CPU Fan

To insert the CPU fan, do the following:

1. Attach the 12-VDC connector to the CPU fan.

2. Place the CPU fan on the motherboard.

3. Replace the two screws which hold the CPU fan to the motherboard.

Reassembling the MAP/5P

To reassemble the MAP/5P, do the following:

1. Replace the circuit cards. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.

2. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See *"Restoring Power to the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call.

Memory Replacement

Single in-line memory modules (SIMMs) are located in the lower right hand portion of the motherboard (Figure 7-4). The following situations could indicate a missing or defective SIMM:

- The system will not boot.

- The power-on memory test fails.

- A parity error on the motherboard occurs.

In the case of a defective SIMM, you should replace both SIMMs.

⚠ CAUTION:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

SIMM Removal

To remove the SIMMs, you must:

- Remove the INTUITY CONVERSANT system from service.

- Access the SIMMs.

- Verify the SIMM seating.

- Extract the SIMMs.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See *"Stopping the Voice System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

3. Shut down the voice system. See *"Shutting Down the Operating System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Accessing the SIMMs

To access the SIMMs, do the following:

1. Remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

2. Remove the circuit cards in the bottom three slots. See *"Removing a Circuit Card"* in Chapter 5, *"Replacing or Installing Circuit Cards"*.

Verifying the SIMM Seating

To verify the SIMM seating, do the following:

1. Apply pressure to both SIMMs to ensure they are properly seated.

2. If both are properly seated then both should be replaced.

   Continue with the next procedure, *"Extracting the SIMMs"*.

   If one or more of the SIMMs are not properly installed or seated, complete the following Steps a through d:

   a. Properly seat the SIMM.

   b. Replace the dress cover. See *"Replacing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

   c. Restore the incoming power. See *"Restoring Power to the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

   d. Reboot the system. See *"Rebooting the UNIX System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

      If the system shows an amount of memory equal to that installed, the problem has been corrected. Complete the following Steps 1 through 7:

      1. Shut down the system. See *"Shutting Down the Operating System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

      2. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

      3. Remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

4. Replace the circuit cards in the bottom three slots. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards".

5. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

6. Restore the incoming power. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

7. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

If the system shows an amount of memory less than that installed on the card both of the SIMMs should be replaced, continue with the next procedure, "Extracting the SIMMs".

Extracting the SIMMs

To extract the SIMMs, do the following:

1. Release the metal snap locks at the edge of the SIMM2 socket by gently pushing them to the outside (Figure 7-7).
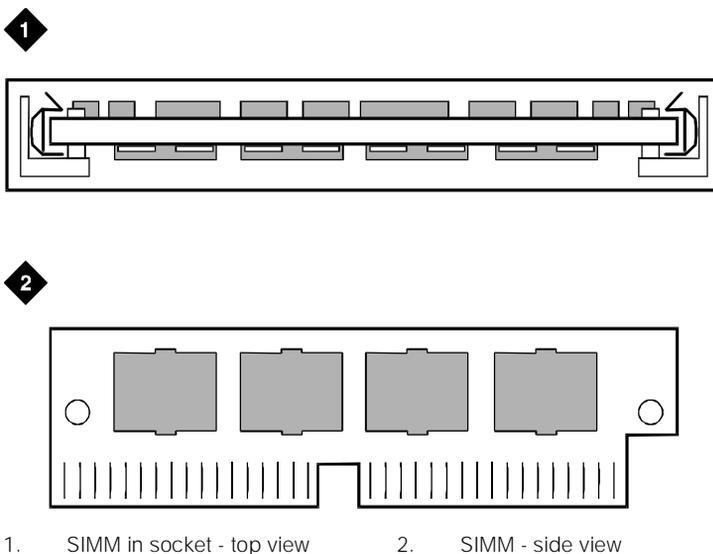
1. SIMM in socket - top view 2. SIMM - side view

Figure 7-7. SIMM Socket

2. Rotate the SIMM downward to approximately a 45-degree angle.

3. Remove the SIMM.

4. Repeat Steps 1 through 3 for the SIMM located in the SIMM1 socket.

5. Continue with the next procedure, "SIMM Installation".

SIMM Installation

To install the SIMMs, you must:

- Insert the SIMMs.

- Reassemble the MAP/5P.

- Restore the INTUITY CONVERSANT system to service

Inserting the SIMMs

To insert the SIMMs, do the following:

1. Install a SIMM in the SIMM1 socket by positioning it at approximately a 45-degree angle with respect to the motherboard.

   > **NOTE:**
   > All SIMMs are keyed to prevent them from being inserted incorrectly.

2. Push down at that angle until the SIMM is reseated into the SIMM carrier.

3. Snap the SIMM into place by rotating it to an upright position.

   The metal snap lock on the ends of the connector for the SIMM will be forced open and then lock when in the upright position.

4. Ensure the connector guide pins are seated into the clearance holes provided at each end of the SIMM.

   When properly seated, the guides should be fully extended into the circuit card clearance holes.

5. Repeat Steps 1 through 4 to install a SIMM in the SIMM2 socket.

Reassembling the MAP/5P

To reassemble the MAP/5P, do the following:

1. Replace the circuit cards in the bottom three slots. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.

2. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See *"Restoring Power to the MAP/5P"* in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call.

Motherboard Replacement

⚠ **CAUTION:**
> *Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".*

Motherboard Removal

To remove the motherboard, you must:

- Remove the INTUITY CONVERSANT system from service.

- Access the motherboard.

- Extract the motherboard.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See *"Stopping the Voice System"* in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See *"Shutting Down the Operating System"* in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, "Getting Inside the Computer", for the procedure.

Accessing the Motherboard

To access the motherboard, do the following:

1. Disconnect any cables attached to the ports in the back of the MAP/5P (Figure 7-8).

2. Remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.


```
sccvm5pb CJL 012197
```
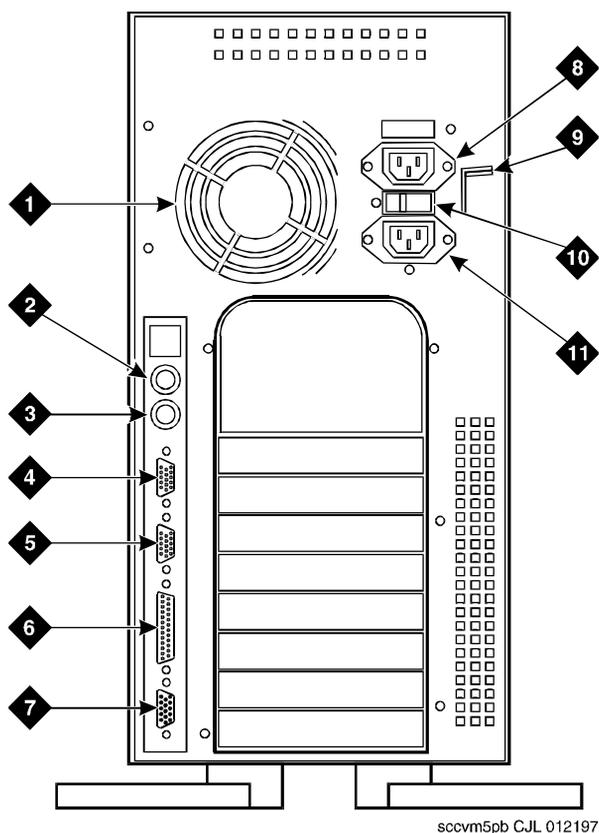
1. Power supply fan intake
2. Keyboard connector
3. Mouse connector
4. COM1
5. COM2
6. Parallel port
7. Video connector
8. AC power supply outlet
9. Dress cover lock
10. AC voltage selector switch
11. AC power inlet receptacle

Figure 7-8.   Rear View of the MAP/5P

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
  Motherboard Replacement

Page 7-24

3. Remove all of the circuit cards. See *"Removing a Circuit Card"* in Chapter 5, *"Replacing or Installing Circuit Cards"*.

4. Remove the riser card. See *"Riser Card Removal"* for the procedure.

Extracting the Motherboard

To extract the motherboard, do the following:

1. Disconnect the diskette cable from the motherboard (Figure 7-4).

2. Disconnect the power supply connections from the motherboard (Figure 7-4).

3. Push up on the motherboard retaining bracket.

4. Gently pull the motherboard forward until it has cleared the alignment pegs.

5. Slide the motherboard toward the front of the MAP/5P to allow the cable connectors, in the rear of the MAP/5P, to clear the chassis.

6. Remove the motherboard from the MAP/5P chassis.

7. Remove the memory from the motherboard. See *"SIMM Removal"* for the procedure.

    $\Longrightarrow$ **NOTE:**
    The new motherboard contains no memory. Use the memory from the defective motherboard to populate the replacement.

8. Continue with the next procedure, *"Motherboard Installation"*.

Motherboard Installation

To install the motherboard, you must:

■ Verify the resource options.

■ Insert the motherboard.

■ Reassemble the MAP/5P.

■ Restore the INTUITY CONVERSANT system to service.

Verifying the Resource Options

The motherboard contains switches and jumpers that you must verify. Figure 7-4 shows the location of the switches. Figure 7-9 shows the location of the jumpers on the motherboard.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7   Replacing Other Components
Motherboard Replacement

Page 7-25

jpcvmb4 CJL 040797

1.   JP5 - flash BIOS function
2.   JP6 - BIOS ROM type
3.   JP1 - BIOS type
4.   JP2 - LED function
5.   JP15 - standby power connector
6.   JP4 - second-level cache
7.   JP3 - second-level cache
8.   JP30 - external battery connector

9.   JP16 - software shutdown
10.   JP42 - L2 cache mode
11.   JP43 - CPU voltage for I/O
12.   JP7 - regulator
13.   JP44 - CPU voltage for core
14.   JP11 - SMM/reset switch
15.   CN19
16.   CN30
17.   JP14 - power-on switch connector

Figure 7-9.   Motherboard Jumper Locations

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Motherboard Replacement

Page 7-26

To verify the resource options, do the following:

1. Verify the jumper settings on the motherboard (Figure 7-10).
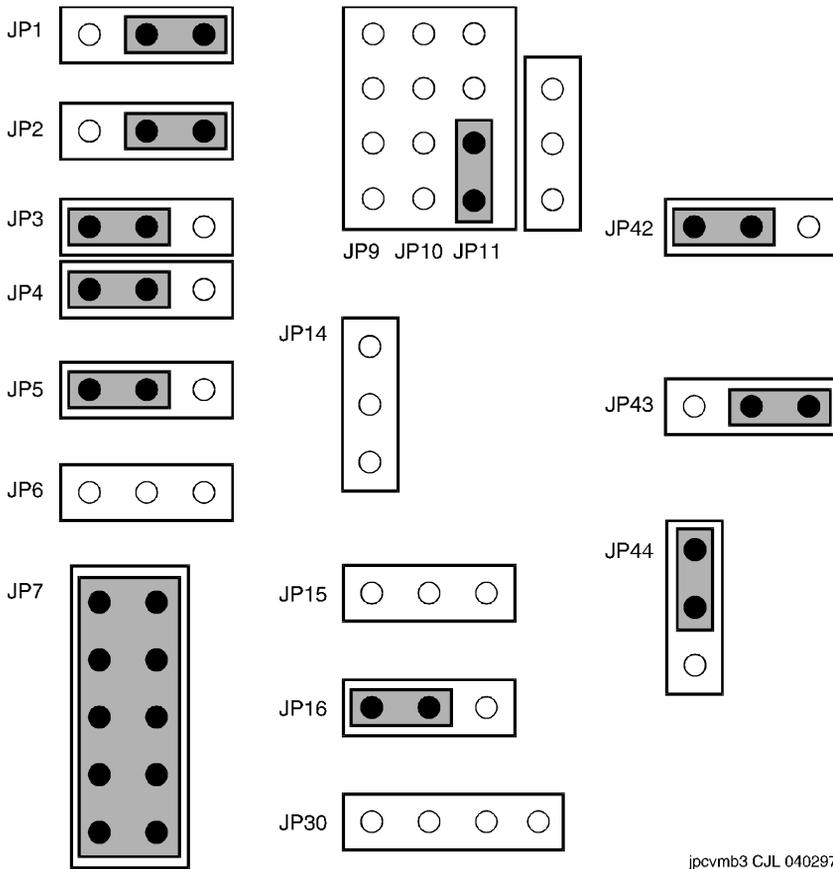
Figure 7-10.   Motherboard Jumper Settings

2. Verify the switch settings on the motherboard (Figure 7-11).
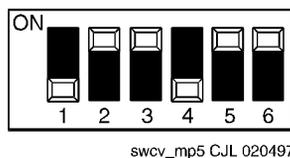
Figure 7-11.   Motherboard Switch Settings

Inserting the Motherboard

To insert the motherboard, do the following:

1. Place the SIMMs from the defective motherboard on to the replacement motherboard. See "SIMM Installation" for the procedure.

2. Place the motherboard in the MAP/5P.

3. Align the external cable connectors on the motherboard with the corresponding holes in the MAP/5P chassis.

4. Slide the motherboard to the rear of the MAP/5P so that the external cable connectors protrude through the rear of the unit.

5. Align the holes in the motherboard with the alignment pegs in the MAP/5P (Figure 7-4).

6. Gently push the motherboard into the MAP/5P until the retaining bracket has snapped into place (Figure 7-4).

7. Attach the diskette cable to the motherboard (Figure 7-4).

8. Attach the power supply connections to the motherboard (Figure 7-4).

9. Attach the reset switch connector to CN19 (Figure 7-12).
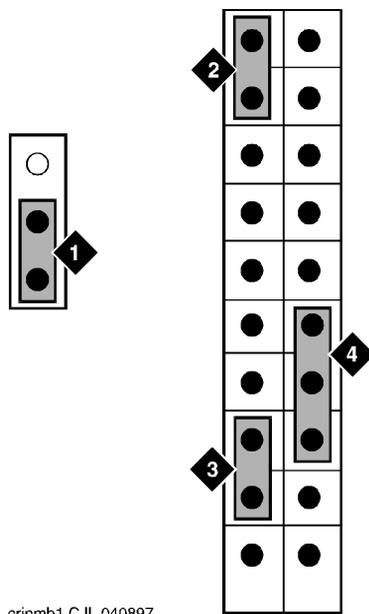
crinmb1 CJL 040897

1. RMB cable (pins 1 and 2 of CN30)
2. Reset switch connector (pins 19 and 20 of CN19)
3. Turbo LED connector (pins 12 and 13 of CN19)
4. Power LED connector (pins 3,4, and 5 of CN19)

Figure 7-12.   Motherboard Cable Connections

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Motherboard Replacement

Page 7-28

10. Attach the turbo LED connector to CN19 (Figure 7-12).

11. Attach the power LED connector to CN19 (Figure 7-12).

12. Attach the remote maintenance circuit card reset cable to CN30 (Figure 7-12).

Reassembling the MAP/5P

To reassemble the MAP/5P, do the following:

1. Replace the riser card. See "Riser Card Installation" for the procedure.

2. Replace the circuit cards. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards".

3. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

4. Attach any cables that were connected to the following ports in the back of the MAP/5P (Figure 7-8):

   - Video port

   - Keyboard port

   - COM1

   - COM2

   - Parallel port

   - I/O port

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system , do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the CMOS settings by completing the following Steps a through e:

   a. When prompted, press (CONTROL) - (ALT) - (ESC).

      The system displays the CMOS Configuration screen (Figure 7-13).

```
                        Basic System Configuration
                      Advanced System Configuration
                        Power Saving Configuration
                              System Security
                      PnP/PCI System Configuration
```
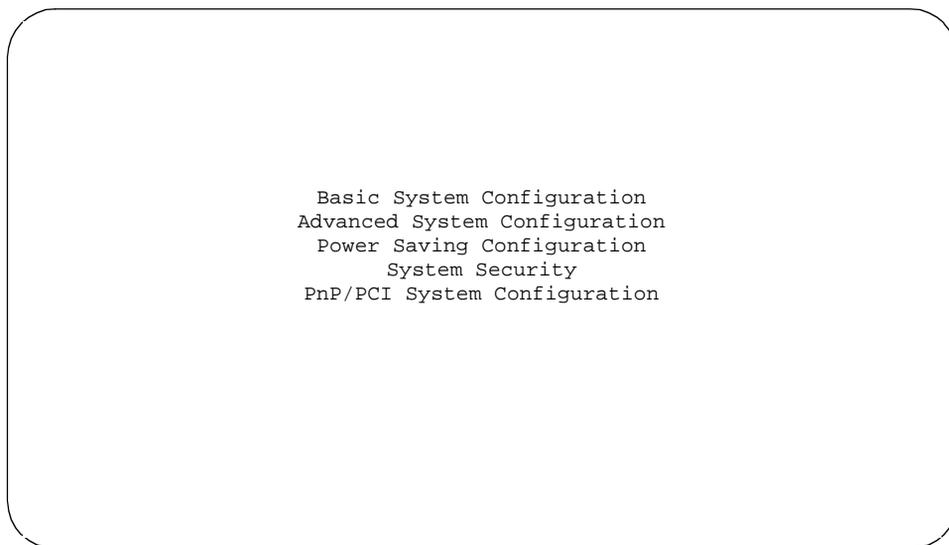
Figure 7-13.   CMOS Configuration Screen

    b. Compare the CMOS settings with those listed in Table 7-1.

      Use the up ▲ and down ▼ arrows to move the cursor between
      fields. Use the left ◄ and right ► arrows to change the value of the
      field. Use the ESC key to return to the previous menu.

Table 7-1.   CMOS Settings

Option	Setting
Basic System Configuration	
IDE0	AUTO
IDE1	AUTO
IDE2	AUTO
IDE3	AUTO
On-board IDE Controller	Disabled
Hard Disk Block Mode	Disabled
Advanced PIO Mode	Disabled
Hard Disk Size >504 MB	Disabled
Hard Disk 32 Bit Access	Disabled
Large Memory Support Mode	Normal

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

7 Replacing Other Components
Motherboard Replacement

Page 7-30

Table 7-1. CMOS Settings — *Continued*

Option	Setting
Number Lock After Boot	Enabled
Memory Test	Enabled
Quiet Boot	Enabled
Configuration Table	Disabled
Advanced System Configuration	
Internal Cache (CPU Cache)	Enabled
External Cache	Enabled
Cache Scheme	Write Back
ECC/Parity Mode Selection	Parity
Memory @ 15MB-16MB Reserved for	[System] use
Power Saving Configuration	
Power Management Mode	Disabled
Power Saving Operation Mode	[Traditional]
IDE Hard Disk Standby Timer	Off
Monitor Power Saving Timer	Off
System Standby Timer	Off
System Suspend Timer	Off
IRQ2, IRQ9	Disabled
IRQ3	Disabled
IRQ4	Disabled
IRQ5	Disabled
IRQ7	Disabled
IRQ10	Disabled
IRQ11	Disabled
IRQ12	Disabled
IRQ15	Disabled
Quick Start Timer	Off
Point Device Location	[None]

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Motherboard Replacement

Page 7-31

Table 7-1.   CMOS Settings — *Continued*

Option	Setting
System Security	
Diskette Drive	Normal
Hard Disk Drive	Normal
System Boot Drive	Drive A then Drive C
Boot from CD-Rom	Disabled
Serial Port 1 Base Address	[3F8h]
Serial Port 2 Base Address	[2F8h]
Parallel Port Address	[378(IRQ7)]
Operation Mode	[Standard Parallel Port SPP] Mode
On-board PS/2 Mouse (IRQ12)	Disabled
Set-up Password	[None]
Power on Password	[None]
PnP/PCI System Configuration	
PCI IRQ Setting	Manual
PCI Slot 1	INTA 14
PCI Slot 2	INTD 14
PCI Slot 3	INTC 14
On-Board VGA	–
PCI IRQ Sharing	[No]
VGA Palette Snoop	[Disabled]
Plug & Play OS	[No]
Reset Resources Assignment	[No]

c. When you have completed setting the CMOS, press (ESC).

The system displays the following message:

```
Do you want to save the CMOS settings?

     YES                    NO
```

d. Select YES

e. Press (ENTER).

3. Verify INTUITY CONVERSANT system operation by placing a call.

Power Supply Replacement

The 110/220-VAC power supply is located in the upper left corner of the MAP/5P as shown in Figure 7-14.
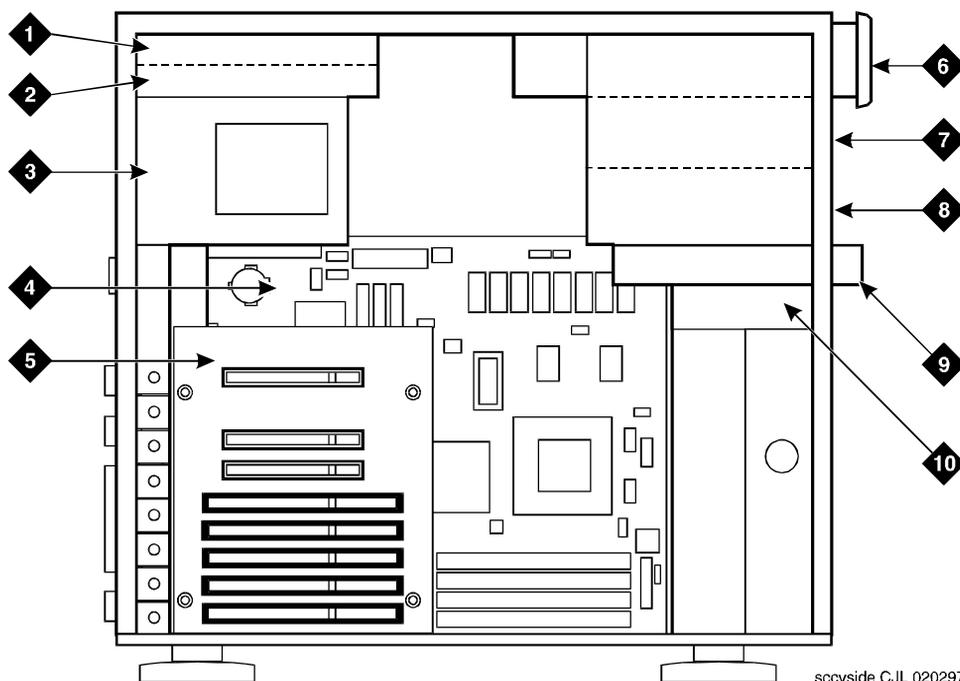
1. Bay 6 - Hard Disk Drive 0
2. Bay 7 - Empty
3. Power supply
4. Motherboard
5. Riser card

6. Bay 1 - Cartridge tape drive
7. Bay 2 - Empty
8. Bay 3 - Empty
9. Bay 4 - Diskette drive
10. Bay 5 - Hard Disk Drive 1 (if used)

sccvside CJL 020297

Figure 7-14.   MAP/5P Internal Layout

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Power Supply Replacement

Page 7-33

Power Supply Removal

To remove the power supply, you must:

- Remove the INTUITY CONVERSANT system from service.

- Access the power supply.

- Extract the power supply.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See *"Stopping the Voice System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

3. Shut down the voice system. See *"Shutting Down the Operating System"* in Chapter 3, *"Common System Procedures"*, for the procedure.

4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Accessing the Power Supply

To access the power supply, remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Extracting the Power Supply

To extract the power supply, do the following:

1. Unplug the connector to the cartridge tape drive (Figure 7-15).

2. Unplug the connector to the diskette drive (Figure 7-15).

3. Unplug the connector to Hard Disk Drive 1, if provided (Figure 7-15).

4. Unplug the connector to Hard Disk Drive 0 (Figure 7-15).

5. Unplug both connectors to the motherboard (Figure 7-15).
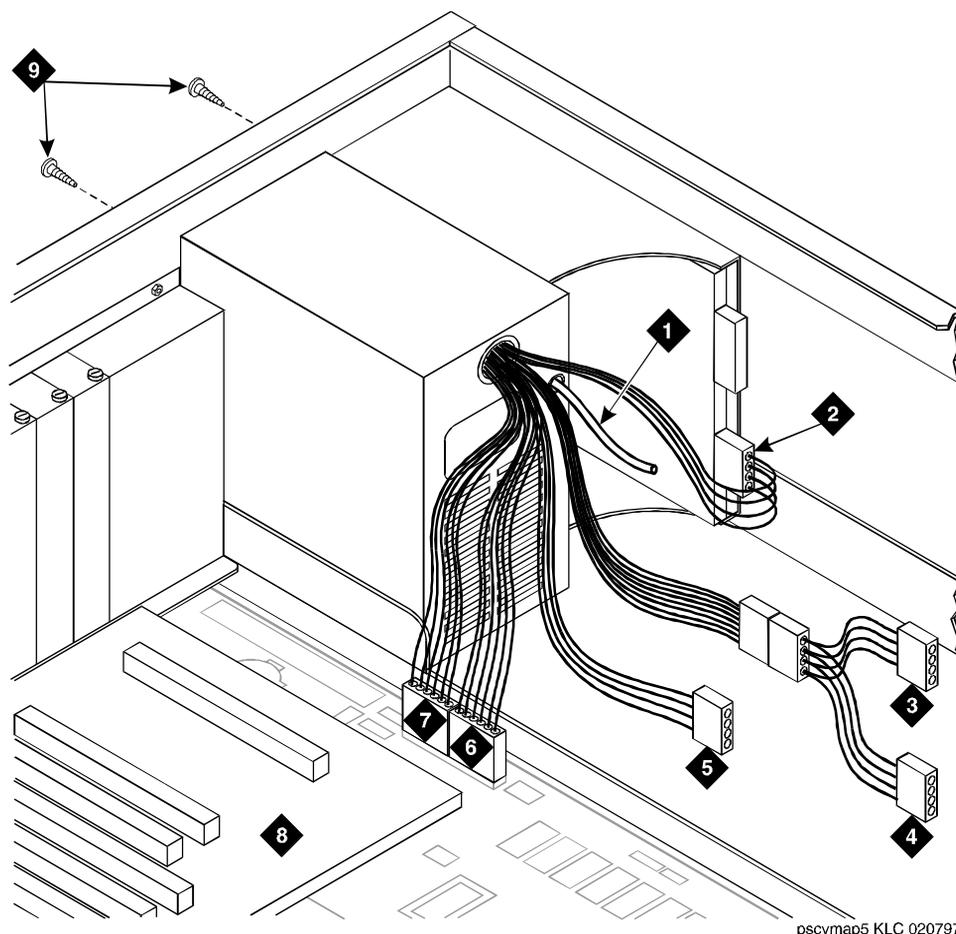
pscvmap5 KLC 020797

1.	Power-on switch cable	6.	Motherboard connector
2.	Hard Disk Drive 0 connector	7.	Motherboard connector
3.	Diskette drive connector	8.	Riser card
4.	Hard Disk Drive 1 connector	9.	Power supply retaining screws
5.	Cartridge tape drive connector		

Figure 7-15.   MAP/5P Power Supply

6. Locate the power supply switch cable, which is mounted to the front of the chassis by a single screw.

7. Remove the screw holding the power supply switch (Figure 7-16).
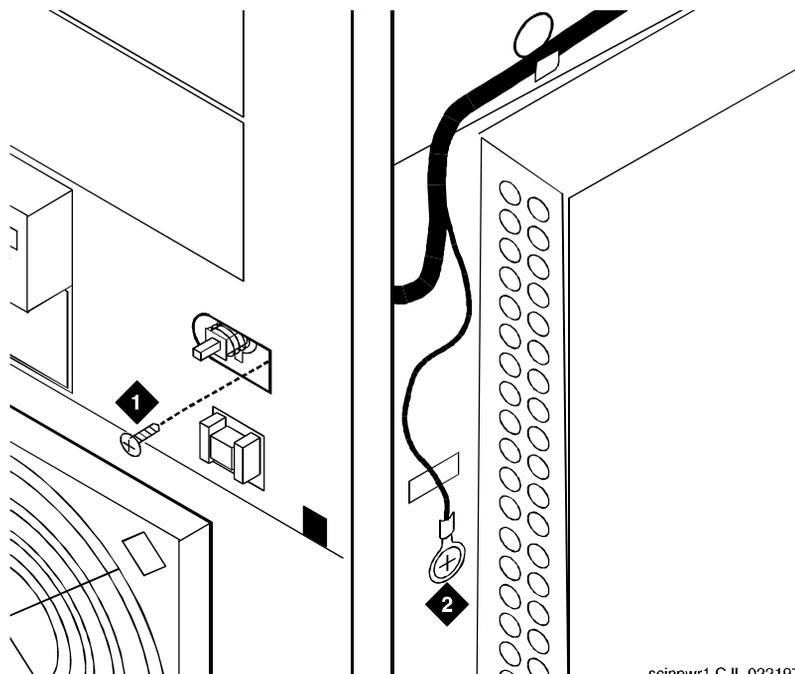
scinpwr1 CJL 022197

1.   Power supply switch retaining screw
2.   Power supply grounding wire and screw

Figure 7-16.   Power Supply Switch

8. Remove the screw which holds the grounding wire to the chassis
    (Figure 7-16).

9. Slide the power supply switch out of the retaining slot.

10. Remove the four screws on the chassis rear area that secure the power
    supply unit (Figure 7-15).

11. Slide the unit slightly forward towards the front of the MAP/5P and tilt
    towards the riser card.

12. Lift and remove the power supply.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Power Supply Replacement

Page 7-36

Power Supply Installation

To install the power supply, you must:

- Insert the power supply.

- Reassemble the MAP/5P.

- Restore the INTUITY CONVERSANT system to service.

Inserting a Power Supply

To insert the power supply, do the following:

1. Remove the spare power supply unit from the shipping carton.

   ⇒ **NOTE:**
   Keep the package and all ESD-protective wrapping. You must re-use the material in which the replacement tape drive was packaged to meet the manufacturer's warranty.

2. Verify the input AC voltage selection switch, located on the chassis side close to the button edge, is in the correct position.

   The switch is a slide type. Printed text on the surface indicates the input voltage requirements, either 115 or 230 Volts. The correct position for systems installed in the United States is 115 volts.

3. Install the power supply unit into the chassis and align the screw holes.

4. Install the four screws on the chassis rear area that secure the power supply unit (Figure 7-15).

5. Attach the power supply DC output connectors to the motherboard (Figure 7-15).

   ⇒ **NOTE:**
   The connectors are keyed to prevent them from being inserted incorrectly.

6. Attach the connector to the cartridge tape drive (Figure 7-15).

7. Attach the connector to the diskette drive (Figure 7-15).

8. Attach the connector to the Hard Disk Drive 1, if provided (Figure 7-15).

   If Hard Disk Drive 1 is not installed, dress this lead back out of the way to reduce cable congestion.

9. Attach the connector to Hard Disk Drive 0 (Figure 7-15).

10. Dress the power switch cable around to the front of the MAP/5P (Figure 7-17).
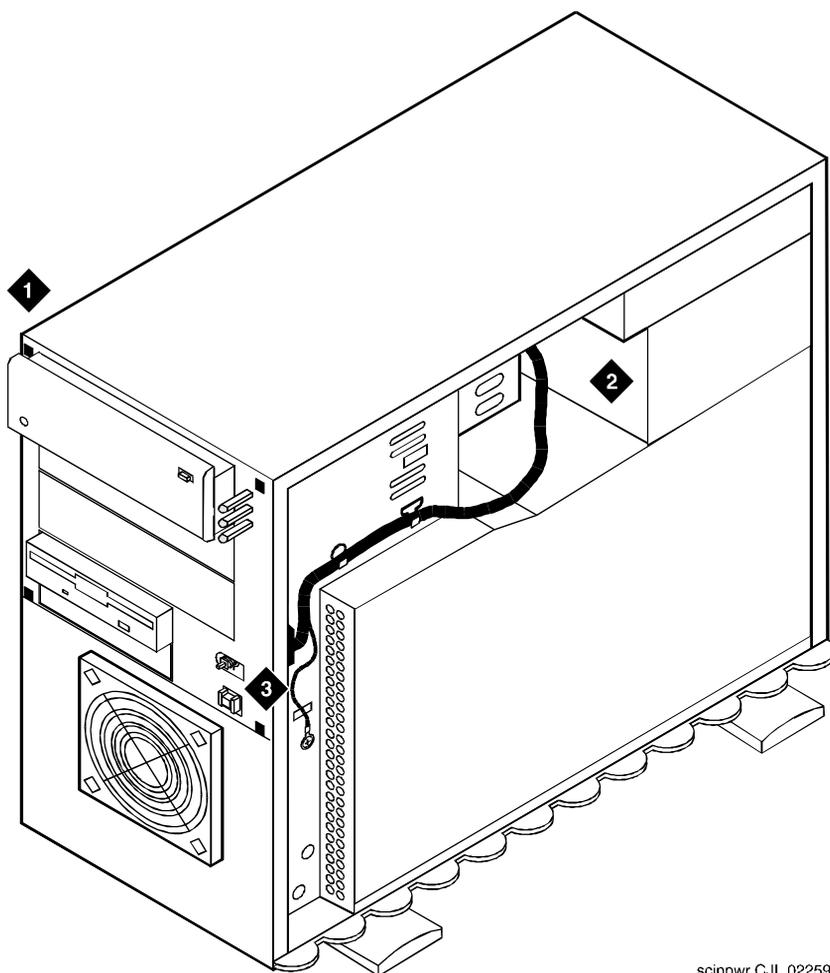
scinpwr CJL 022597

Figure 7-17.   Power Switch Cable

11. Slide the power switch into the slot provided (Figure 7-16).

12. Replace the screw you removed in Step 7 of ''Power Supply Removal''.

Reassembling the MAP/5P

To reassemble the MAP/5P, replace the dress cover. See ''Replacing the Dress Cover'' in Chapter 4, ''Getting Inside the Computer'', for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See *"Restoring Power to the MAP/5P"* in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call.

Riser Card Replacement

⚠ **CAUTION:**
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting Against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer".

The following procedures detail the 6-slot riser card installation and removal. All of the circuit cards are connected to the riser card. The riser card is located in the back of the MAP/5P card cage area (Figure 7-14). The riser card is connected to the motherboard.

Riser Card Removal

To remove the riser card, you must:

■ Remove the INTUITY CONVERSANT system from service.

■ Access the riser card.

■ Extract the riser card.

Removing the INTUITY CONVERSANT System from Service

To remove the INTUITY CONVERSANT system from service, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. Stop the voice system. See *"Stopping the Voice System"* in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See *"Shutting Down the Operating System"* in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See *"Removing Power from the MAP/5P"* in Chapter 4, "Getting Inside the Computer", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

7 Replacing Other Components
  Riser Card Replacement

Page 7-39

Accessing the Riser Card

To access the riser card, do the following:

1. Remove the dress cover. See *"Removing the Dress Cover"* in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Remove all of the circuit cards. See *"Removing a Circuit Card"* in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.

   ⇒ **NOTE:**
   Pay close attention to the riser card connector slots from which each circuit card is removed. You must replace the circuit cards in the same slots in the new riser card. See *"Component Assignments"* in Appendix A, "Configuring a System", for circuit card placement.

Extracting the Riser Card

To extract the riser card, do the following:

1. Remove the screw in the lower left corner of the riser card.

2. Gently pull the riser card away from the motherboard until the riser card connector is removed from the slot on the motherboard.

3. Continue with the next procedure, *"Riser Card Installation"*.

Riser Card Installation

To install the riser card, you must:

■ Insert the riser card.

■ Reassemble the MAP/5P.

■ Restore the INTUITY CONVERSANT system to service.

Inserting the Riser Card

To insert the riser card, do the following:

1. Remove the new riser card from its ESD protective wrapping.

   ⇒ **NOTE:**
   Keep the package and all ESD-protective wrapping. You must re-use the material in which the replacement tape drive was packaged to meet the manufacturer's warranty.

2. Align the riser card connector with the slot on the motherboard.

3. Gently push the riser card connector into the motherboard.

4. Replace the screw in the bottom left corner of the riser card.

Reassembling the MAP/5P

To reassemble the MAP/5P, do the following:

1. Replace the circuit cards removed in Step 1 of *"Extracting the Riser Card"*.

   ⇒ **NOTE:**
   Be sure to mount these cards in their correct riser card slot. See *"Component Assignments"* in Appendix A, *"Configuring a System"*, for circuit card placement.

2. Replace the Dress Cover. See *"Replacing the Dress Cover"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

Restoring the INTUITY CONVERSANT System to Service

To restore the INTUITY CONVERSANT system, do the following:

1. Restore power to the MAP/5P. See *"Restoring Power to the MAP/5P"* in Chapter 4, *"Getting Inside the Computer"*, for the procedure.

2. Verify the INTUITY CONVERSANT system operation by placing a call to a user.

Terminator SIP Replacement

If the circuit card is the last circuit card connected to either end of the TDM bus, you must ensure that the TDM bus terminator single in-line packages (SIPs) are in place on the circuit card. If the circuit card is not the last circuit card on the bus, you must remove the SIPs.

⇒ **NOTE:**
"Last circuit card connected" means that there are no other cards between the circuit card and the end of the bus. There may, however, be empty connectors.

To replace a terminator SIP, complete the following:

1. Align the terminator SIP with the SIP socket on the circuit card (Figure 7-18).

   There are markings on both the terminator SIP and the circuit card which should be used to align the terminator SIP.

2. Insert the terminator SIP.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Terminator SIP Replacement

Page 7-41

Various locations for
component pin 1 orientation

- Dot or square
  OR
- The number 1

Pin 1 placement
on the PWB

TDM SIP
terminating
resistors (2)

1

1

1

Printed wiring
board (PWB)

SIP socket
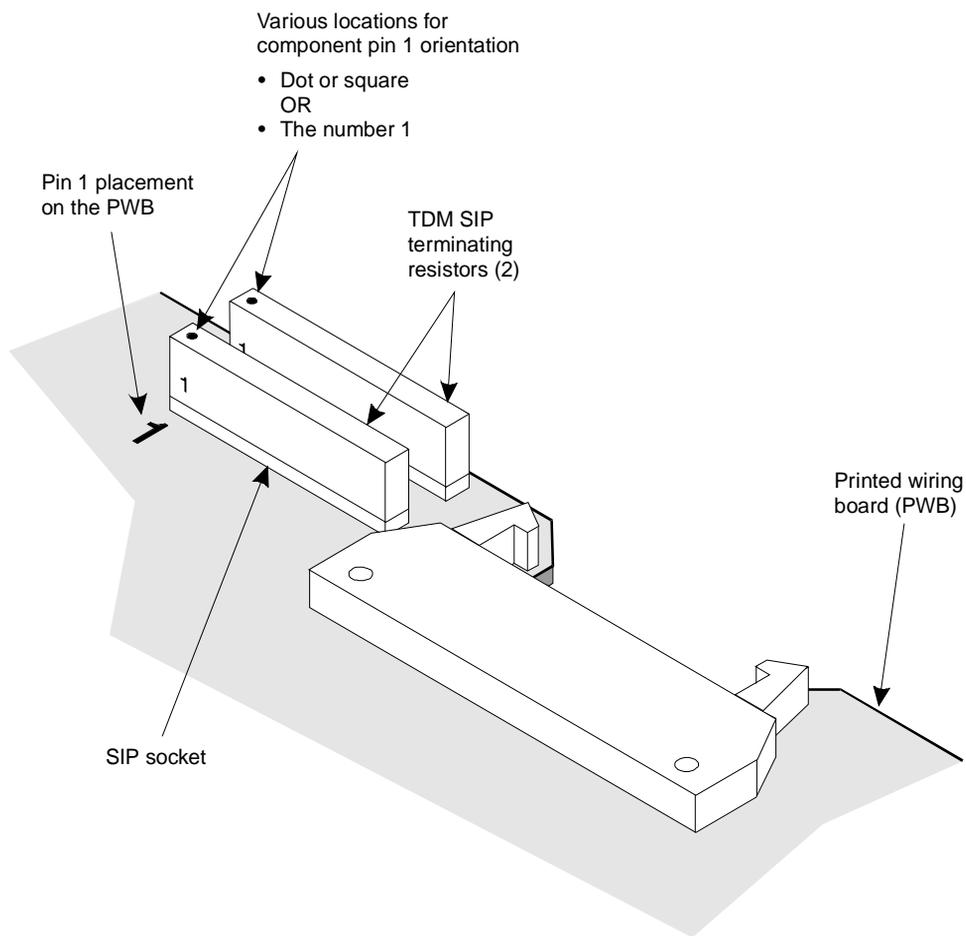
Figure 7-18.   Replacing Terminator SIPs on the TDM Bus

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

7 Replacing Other Components
Terminator SIP Replacement

Page 7-42

Installing Base System Software

8

Overview

This chapter describes the installation procedures for the

- UnixWare operating system software package

- Veritas software package

- INTUNIX Patch and Enhancement software package

Purpose

This purpose of this chapter is to provide the information necessary to reload the operating system after a disk failure. Use this chapter in conjunction with Appendix D, ''Disaster Recovery Checklists''.

> **NOTE:**
> The installer must have the root password to complete this procedure.

Installing Base System Software

> **NOTE:**
> Installing the UnixWare operating system unmounts file systems. If this
> software is being loaded onto a system that has clean hard disks that have
> not been previously loaded, the system will not detect file systems. If this is
> a recovery installation, the system will detect previously loaded file
> systems.

Beginning the UnixWare Installation

To load software onto a new or used disk, do the following:

1. Insert the diskette labeled "INTUITY CONVERSANT V6.0 UnixWare for
   Boot Floppy 1" into the diskette drive. See "Inserting and Removing
   Diskettes" in Chapter 3, "Common System Procedures", for the
   procedure.

2. If the system is off, turn it on using the power button on the front of the
   MAP/5P (Figure 8-1).

   If the system is on, reboot the system. See "Rebooting the UNIX System"
   in Chapter 3, "Common System Procedures", for the procedure.

> **! CAUTION:**
> *Do not press* (CONTROL) (A) *when the system prompts for it.*
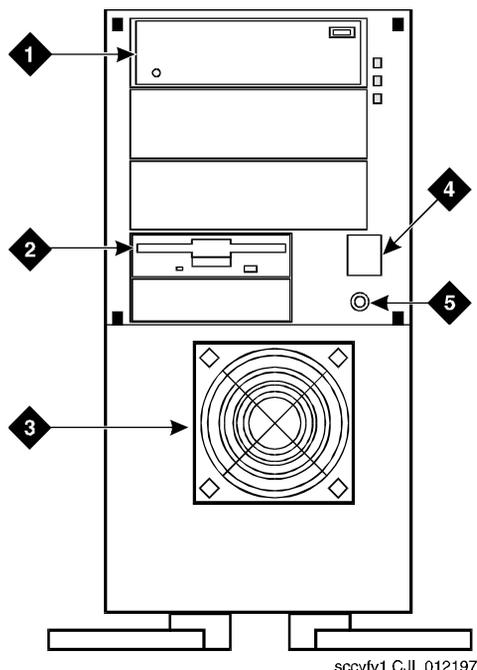
1. Cartridge tape drive
2. Diskette drive
3. Circuit card cage fan
4. Power button
5. Reset button

Figure 8-**1.**   **Front View of the MAP/5P**

The system displays the red UnixWare introduction screen as it begins to load the base system software. This screen will be displayed for several minutes.

When the system has loaded the first boot floppy it displays the following message:

```
Remove the diskette labeled 'Boot Floppy 1 of 3'.

If you have a diskette labeled 'Host Bus Adapter
Drivers', insert that diskette now.

For more information on Host Bus Adapter diskettes, see
the UnixWare Installation Handbook.

Otherwise, if you do not have (or do not need to use) a
Host Bus Adapter diskette, insert the diskette labeled
'Boot Floppy 2 of 3' now.

Press 'ENTER' to continue.
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance **585-310-192**

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software **Page 8-4**

3. Remove the diskette labeled "INTUITY CONVERSANT V6.0 UnixWare for Boot Floppy 1" from the diskette drive.

4. Insert the diskette labeled "Pentium PCI HBA Floppy" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

5. Press ENTER.

   The system displays the Remove Host Bus Adapter Disk screen (Figure 8-2).

```
The Host Bus Adapter driver(s) on the Host Bus Adapter diskette
have been loaded and you can now remove the diskette.

If you have another Host Bus Adapter diskette (for different
adapters) insert that disk now.

For more information on Host Bus Adapter diskettes, see the
UnixWare Installation Handbook.

Otherwise, if you do not have (or do not need to use) another Host
Bus Adapter diskette, insert the diskette labeled 'Boot Floppy 2
of 3' now.




Press 'Enter' to continue.
```

Figure 8-2. **Remove Host Bus Adapter Disk Screen**

6. Remove the diskette labeled "Pentium PCI HBA Floppy" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

7. Insert the diskette labeled "UnixWare for INTUITY Boot Floppy 2" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

8. Press ENTER.

   The system displays the following message:

   ```
   Continuing UnixWare installation...
   ```

   After a few minutes the system displays the Introduction screen (Figure 8-3).

```
     Welcome to the UnixWare installation process!

     If you have never installed UnixWare before, it is
     recommended that you press the 'F1' (or '?') key now to
     learn more about the installation process and the hardware
     requirements of UnixWare.

     -Pressing the 'F1' (or '?') key at any time during
      installation will display more information or help.

     -Pressing the 'Del' key at any time cancels the
     installation.

     Press the 'F1' (or '?') key for more information or
     'ENTER' to continue.
```

Figure 8-3.   Introduction Screen

> **⚠ CAUTION:**
> *If you use the* [DELETE] *key to stop the UnixWare installation at any time during this process, you will have to restart the software installation process at Step 1.*

> **⇒ NOTE:**
> If the system displays a message that the system must have at least 60 MByte of space in the hard disk drive to install UNIX, there is a problem with the hard disk drive. The cable may not be connected, or the hard disk drive may be damaged. Power down the system and check the hard disk drive cables. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

9. Press [ENTER].

   If Disk 0 has been replaced with a new hard disk drive, the system displays the UnixWare Installation Files Deleted Warning screen (Figure 8-4). Press [ENTER] and continue with the next procedure, "Setting Up the UnixWare Environment".

   If the system does not display the UnixWare Installation Files Deleted Warning, continue with the next procedure, "Setting Up the UnixWare Environment".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8   Installing Base System Software
     Installing Base System Software

Page 8-6

```
       WARNING: Files have been detected in the active
       partition(s) of your hard disk(s).

       In order to install the operating system, you must have an
       active UNIX partition occupying 100% of your hard disk. No
       other partitions may share the disk.

       You have the option of removing the existing partitions at
       this point and creating a new UNIX partition. You should
       only remove the existing partitions if you don't want to
       save any files on your disk.

       If you elect to abort the installation, the existing
       partitions will not be removed and installation will be
       halted.

       1. Destroy existing partitions and create a new UNIX
       partition.

       2. Abort the installation, leaving existing partitions
       untouched.

       Type '1' or '2' followed by 'ENTER':1
```

Figure 8-4.   UnixWare Installation Files Deleted Warning Screen

Setting Up the UnixWare Environment

To set up the UnixWare Environment, do the following:

1. Starting at the Introduction screen (Figure 8-3), press ENTER.

   The system displays the Keyboard Setup screen (Figure 8-5).

```
The UnixWare installation procedure supports the following
international keyboards. You may select alternate keyboard types
by using the left and right arrow keys and then press the 'ENTER'
or 'RETURN' key.


Keyboard Nationality:


                    Apply            Reset



When Finished, move the cursor to "Apply and then press 'Enter' to
continue.
```

Figure 8-5.   Keyboard Setup Screen

2. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.

3. Select U.S. ASCII.

4. Press the down ▼ arrow to move to the Apply field and press ENTER.

   The system displays the Configure Date and Time screen (Figure 8-6).

```
On this screen, you will check the current date and time that is
set on your computer and change them if necessary. You also select
what timezone configuration you require. Either set a continent(s)
which will lead you onto a further screen with locations or manual
entry for a custom timezone.


    The current date:
    The current Time:
    Enter the current year:
    Enter the month of the year:
    Enter the day of the month:
    Enter the hour of the day:
    Enter the minute of the hour:
    Timezone configuration:


                        ┌──────────┐        ┌──────────┐
                        │  Apply   │        │  Reset   │
                        └──────────┘        └──────────┘



Press 'TAB' to move the cursor between fields. When finished, move
the cursor to 'APPLY' and then press 'ENTER' to continue.
```

Figure 8-6.   Configure Date and Time Screen

5. Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

6. Select the appropriate data for each field.

7. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays the Continent Location Choice screen (Figure 8-7).

```
On this screen you choose the country/location you are in, having
already selected the continent. To go back to the continent screen
select 'BACK ONE SCREEN'. Use the left and right arrow keys.




Location




                    ┌──────────┐        ┌──────────┐
                    │  Apply   │        │  Reset   │
                    └──────────┘        └──────────┘




Press 'TAB' to move the cursor between fields. When finished, move
the cursor to 'APPLY' and then press 'ENTER' to continue.
```

Figure 8-7. Continent Location Choice Screen

8. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.

9. Select the appropriate data for each field.

10. Press the down ▼ arrow to move to the `Apply` field and press `ENTER`.

   The system displays the Primary Hard Disk Partitioning screen (Figure 8-8).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-10

```
In order to install UnixWare, you must reserve a partition (a
portion of your hard disk's space) on your primary hard disk for
the UNIX System.After you press 'ENTER' you will be shown a screen
that will allow you to create new partitions, delete existing
partitions or change the active partition of your primary hard
disk (the partition that your computer will boot from).

WARNING: All files in any partition(s) you delete will be
destroyed. If you wish to attempt to preserve any files from an
existing UNIX System, do not delete its partition(s).

The UNIX System partition that you intend to use on the primary
hard disk must be at least 120 MBs and labeled 'ACTIVE.'
```

Figure 8-**8.** **Primary Hard Disk Partitioning Screen**

11. Continue with the next procedure, .

Initializing the Hard Disk Drives

To partition the hard disk drives, do the following:

1. Starting at the Primary Hard Disk Partitioning screen (Figure 8-8), press
   ENTER.

   The system displays the Hard Disk Partitioning, Disk 1 screen (Figure 8-9).

```
        Total disk size is 263 cylinders (2063.0MB)


                                                              Approx
  Partition | Status |  Type  | Start |  End  | Length |   %  |   MB
 ────────────────────────────────────────────────────────────────────
 1          | Active | UNIX   | 0     | 262   | 263    | 100  | 2063.0
            |        | System |       |       |        |      |




        1. Overwrite system master boot code
        2. Delete a partition
        3. Exit (Update disk configuration and exit)
        4. Cancel (Exit without updating disk configuration)
```

Figure 8-9.   Hard Disk Partitioning, Disk 1 Screen

2. Enter **3**

   If you have a second hard disk drive, the system displays the Secondary
   Hard Drive Partitioning screen (Figure 8-10).

   If you do not have a second hard disk drive, skip Step 3 and continue with
   Step 4.

```
You may use a partition of your secondary hard disk for the UNIX
system.  If you choose to use a partition of your secondary hard
disk you will be shown a screen that will allow you to partition
your secondary hard disk.

WARNING: All files in any partition(s) you delete will be
destroyed.

If you choose to create a UNIX System partition on your secondary
hard disk, it must be at least 40 MBs.

Your Options are:

1.  Do not use a partition of the secondary hard disk for
    the UNIX System.
2.  Use a partition of the secondary hard disk for the
    UNIX System.

Press '1' or '2' followed by 'ENTER'.
```

Figure 8-10.　Secondary Hard Disk Partitioning Screen

　　　　　3.　Enter **1**

　　　　　　　The system displays the Installation Type Selection screen (Figure 8-11).

```
You must choose a system type. The system type you choose will
determine the default file system sizes you will specify on the
next screen.

Press the 'F1' or '?' key to see more information about these
different system types.

    Platform Type:
    CPU Type:
    Offer Type:




                      ┌─────────┐      ┌─────────┐
                      │  Apply  │      │  Reset  │
                      └─────────┘      └─────────┘



Press 'TAB' to move between fields.  Press 'ENTER' to apply
fields.
```

Figure 8-11.　Installation Type Selection Screen

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-13

4. Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

5. Select the appropriate data for each field as specified in Table 8-1.

Table 8-1.   Installation Type Selection Screen Entries

Field	Setting
`Platform type:`	MAP/5P
`CPU type:`	Pentium
`Offer type:`	INTUITY™ CONVERSANT®

6. Press the down ▼ arrow to move to the `Apply` field and press (ENTER).

The system displays the Set up File Systems on Disk screen (Figure 8-12).

```
Enter file system sizes on first disk.

                    Size of / in MB: xx
              Size of /stand in MB: xx
          Size of /dev/dump in MB: xx
          Size of /dev/swap in MB: xx
                 Size of mtce in MB: xx
                  Size of /vs in MB: xx
             Size of /oracle in MB: xx
                Size of /tmp in MB: xx
             Size of /voice1 in MB: xx



                  ┌─────────┐         ┌─────────┐
                  │  Apply  │         │  Reset  │
                  └─────────┘         └─────────┘


Consult software installation manual for correct sizes.

Megabytes in active partition: Disk 1 - 2063


```

Figure 8-12.   Set up File Systems on Disk Screen

7. Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-14

8. Enter the appropriate number of megabytes of space needed for each slice as specified in Table 8-2.

⇒ **NOTE:**
The sizes listed in Table 8-2 are the recommended sizes. If you are loading a system using a mkimage tape, or if you are loading a new system, without a mkimage tape, use the recommended sizes.

Table 8-2.   Space Requirements for the MAP/5P

Slice	Space Requirements (MByte)
/	715 ⇒ **NOTE:** If you are installing the extended Oracle package, you may want to set this file system size to 615.
/stand	15
/dev/dump	65
/dev/swap	129 ⇒ **NOTE:** The formula used to determine what to enter here is: (2 x memory) + 1 = size Ex: 2x32Mbyte + 1 = 65, 2x64Mbyte + 1 = 129, etc.
mtce	20
/vs	200
/oracle	200 ⇒ **NOTE:** If you are installing the extended Oracle package, you may want to set this file system size to 300.
/tmp	20
/voice1	600

9. Press the down $\boxed{\blacktriangledown}$ arrow to move to the `Apply` field and press $\boxed{\text{ENTER}}$.

The system displays the Hard Disk Surface Analysis screen ([Figure 8-13](#)).

```
Surface analysis is recommended but not required.    Here you must
choose to skip or perform surface analysis.

Press the 'F1' or '?' key to see more information about these
different system types.




You choices are:

1. Perform surface analysis
2. Skip surface analysis

Press '1' or '2' followed by 'ENTER':1
```

Figure 8-13.   Hard Disk Surface Analysis Screen

> ⚠ **CAUTION:**
>   *Ignore the message at the top of this screen. Surface analysis is
>   required for all systems because it makes a configuration change to
>   the disk. Failure to perform surface analysis may cause the INTUITY
>   CONVERSANT system to fail.*

10. Continue with the next procedure, "[Transferring the UnixWare Files](#)."

Transferring the UnixWare Files

To transfer the UnixWare files, do the following:

1. Starting at the Hard Disk Surface Analysis screen ([Figure 8-13](#)), press
    $\boxed{\text{ENTER}}$.

The system accepts the default of 1, performs the surface analysis, and
displays the following message:

```
Checking the hard disk for defects and creating file
systems. This will take a few minutes. Please wait.
```

The system displays the following message:

```
Copying Unix System files from the diskette onto your
hard drive. This will take a few minutes. Please wait.
```

The system then clears the screen and displays the following message:

```
Making file systems on your hard disk.  This will take a
few minutes.  Please wait
```

After approximately 10 minutes the system displays the Exchange Diskette screen (Figure 8-14).

```
Remove the diskette from the drive and insert the diskette
labeled "Boot Floppy 3 of 3" now.

Press 'Enter' to continue.
```

Figure 8-14.   Exchange Diskette Screen

2. Remove the diskette labeled "UnixWare for INTUITY Boot Floppy 2" from the diskette drive. See *''Inserting and Removing Diskettes''* in Chapter 3, *''Common System Procedures''*, for the procedure.

3. Insert the diskette labeled "UnixWare for INTUITY Boot Floppy 3" into the diskette drive. See *''Inserting and Removing Diskettes''* in Chapter 3, *''Common System Procedures''*, for the procedure.

4. Press (ENTER).

The system displays the following message:

```
Copying Unix System files from the diskette onto your
hard drive. This will take a few minutes. Please wait.
```

The system then clears the screen and displays the following message:

```
Making file systems on your hard disk.  This will take a
few minutes.  Please wait
```

The system displays the Remove Diskette screen (Figure 8-15).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-17

```
      Remove boot floppy 3 of 3 from the drive now.

      Press 'Enter' to continue.
```

Figure 8-15. Remove Diskette Screen

5. Remove the diskette labeled "UnixWare for INTUITY Boot Floppy 3" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

6. Continue with the next procedure, "Installing the Application Server".

Installing the Application Server

To Install the application server, do the following:

1. Starting at the Remove Diskette screen (Figure 8-15), press ENTER.

   The system displays the Application Server Media Type screen (Figure 8-16).

```
The Application Server software is available on diskette or tape
or network server.  You must select the source you will use to
install the software.




Your choices are:

1. Diskette Drive 1
2. Unixware for Intuity CONVERSANT Tape
3. Network Install Server
4. Intuity Image/Snap Tape

Press a number between '1' and '4' followed by 'ENTER':
```

Figure 8-16.   Application Server Media Type Screen

2. Insert the cartridge tape labeled "INTUITY CONVERSANT VIS V6.0 UnixWare for INTUITY" into the tape drive. See "Inserting and Removing Cartridge Tapes" in Chapter 3, "Common System Procedures", for the procedure.

3. Enter **2**

   The system displays the Insert Tape screen (Figure 8-17).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software   Page 8-19

```
Please insert the Application Server cartridge tape into the tape
drive and press 'ENTER'.




















Your choices are:

1. The tape has been inserted in the tape drive.
2. Go back to previous menu.

Press '1' or '2' followed by 'ENTER':
```

Figure 8-17.   Insert Lucent INTUITY Tape Screen

> 4. Press `ENTER`.
>
>   This will accept the default of 1 to indicate the tape has been inserted and
>   is ready for access.
>
>   The system displays the following message:
>
>   `Installation in progress.  This will take several`
>   `minutes.  Please do not remove the tape.`
>
>   After a few minutes the system displays a verification screen (Figure 8-18).

```
The following packages are included in this set for this release.
Select "Yes" in the install column for the packages you wish to
install.

                              Package Name    Install?
             ----------------------------    --------
                              Base System       Yes
                         Printer Support        Yes
             Network Support Utilities          Yes
 Enhanced Application Compatibility             Yes
                    Graphics Utilities          Yes
            Adobe Type Manager (TM)             Yes
                    Desktop Manager             Yes
                  Advanced Commands             Yes

                        ┌─────────┐         ┌─────────┐
                        │  Apply  │         │  Reset  │
                        └─────────┘         └─────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-18.   Verification Screen

5. Select the packages as shown in Figure 8-18.

    Use the left ◄ and right ► arrows on your keyboard to move through the
    field selections. Use the down ▼ arrow to move to the next field.

6. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays another verification screen (Figure 8-19).

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                        Package Name    Install?
          ---------------------------   --------
                  Networked Graphics      Yes
                              OA&M        Yes
       Extended Backup and Restore        Yes
                  Terminfo Utilities      Yes
                   BSD Compatibility      No
             Applications and Demos       Yes
                Netware UNIX Client       No
             Motif Runtime Package        Yes

                    Apply            Reset


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-19. Verification Screen

7. Select the packages as shown in Figure 8-19.

   Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

8. Press the down ▼ arrow to move to the `Apply` field and press ENTER.

   The system displays another verification screen (Figure 8-20).

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                          Package Name      Install?
            ---------------------------     --------
                   Basic NetWare Server        No
        European Language Supplement           No
                        User Upgrade           Yes
                Fingertip Librarian            Yes
          Commands Reference Manual            Yes
System Files Device Reference Manual           Yes
                    ATM Basic Fonts            Yes
   Distributed File System Utilities           Yes


                        ┌─────────┐    ┌─────────┐
                        │  Apply  │    │  Reset  │
                        └─────────┘    └─────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-20.   Verification Screen

9. Select the packages as shown in Figure 8-20.

    Use the left ◄ and right ► arrows on your keyboard to move through the
    field selections. Use the down ▼ arrow to move to the next field.

10. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays another verification screen (Figure 8-21).

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                        Package Name      Install?
        ---------------------------     --------
    Remote Procedure Call Utilities       Yes
               Internet Utilities         Yes
    Commands Networking Extension         Yes
               Internet Reference         Yes
            UnixWare Supplement           Yes
           Windowing Korn Shell           Yes
        Software Packaging Tools          Yes
    C Optimized Compilation System        Yes


                    +---------+       +---------+
                    | Apply   |       | Reset   |
                    +---------+       +---------+



Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-21.   Verification Screen

11. Select the packages as shown in <u>Figure 8-21</u>.

    Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

12. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays another verification screen (<u>Figure 8-22</u>).

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                        Package Name      Install?
            --------------------------    --------
                    Enhanced Debugger        Yes
              XWIN GWS Development            Yes
          Desktop Manager Development         Yes
                MooLIT Development            No
  Motif Intrinsics Libraries Includes        Yes
                    Kernel Debugger          No
            ISV Sample Source Code           Yes
                IHV Sample Source            Yes

                          ┌─────────┐      ┌─────────┐
                          │  Apply  │      │  Reset  │
                          └─────────┘      └─────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-22.   Verification Screen

13. Select the packages as shown in Figure 8-22.

     Use the left ◄ and right ► arrows on your keyboard to move through the
     field selections. Use the down ▼ arrow to move to the next field.

14. Press the down ▼ arrow to move to the Apply field and press ENTER.

     The system displays another verification screen (Figure 8-23).

```
 ╭──────────────────────────────────────────────────────────────╮
 │ The following packages are included in this set for this release.
 │ Select "Yes"in the install column for the packages you wish to
 │ install.
 │
 │                       Package Name     Install?
 │            ---------------------------  --------
 │     Operating System API Ref. Manual      Yes
 │   Windowing Service API Ref. Manual       Yes
 │     NetWare C Interface Ref. Manual       Yes
 │               Motif API Reference         Yes
 │           Device Driver Reference         Yes
 │                   XWIN GWS Fonts          Yes
 │    UNIX Software Development Tools        Yes
 │          Programming in Standard C        Yes
 │
 │                     ┌──────────┐      ┌──────────┐
 │                     │  Apply   │      │  Reset   │
 │                     └──────────┘      └──────────┘
 │
 │
 │ Press 'TAB' to move the cursor between fields.  When finished,
 │ move the cursor to "Apply" and then press 'ENTER' to continue.
 ╰──────────────────────────────────────────────────────────────╯
```

Figure 8-23.   Verification Screen

15. Select the packages as shown in Figure 8-23.

    Use the left ◀ and right ▶ arrows on your keyboard to move through the
    field selections. Use the down ▼ arrow to move to the next field.

16. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays another verification screen (Figure 8-24).

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                          Package Name       Install?
               ---------------------------    --------
   Programming with UNIX System Calls          Yes
       Network Programming Interface           Yes
                 NetWare Transports            Yes
     NetWare C Interface Programming           Yes
  Graphics User Interface Programming          Yes
         STREAMS Modules and Drivers           Yes
           Portable Device Interface           Yes
           Device Driver Programming           Yes


                    ┌─────────┐      ┌─────────┐
                    │  Apply  │      │  Reset  │
                    └─────────┘      └─────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-24.   Verification Screen

17. Select the packages as shown in Figure 8-24.

     Use the left ◄ and right ► arrows on your keyboard to move through the
     field selections. Use the down ▼ arrow to move to the next field.

18. Press the down ▼ arrow to move to the Apply field and press ENTER.

     The system displays another verification screen (Figure 8-25).

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                        Package Name      Install?
            ---------------------------   --------
 XWIN Screen Interface Specification        Yes
            Motif Programming Guide         Yes
                  Motif Style Guide         Yes
     Intro. to System Administration        Yes
              TCP/IP Administration         Yes
         NFS/RPC/NIS Administration         Yes
     Software Development Kit Update         Yes
             UnixWare Update 1.1.1          Yes

                         ┌─────────┐      ┌─────────┐
                         │  Apply  │      │  Reset  │
                         └─────────┘      └─────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-25.　Verification Screen

19. Select the packages as shown in Figure 8-25.

    Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

20. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays another verification screen (Figure 8-26).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
   Installing Base System Software

Page 8-28

```
The following packages are included in this set for this release.
Select "Yes"in the install column for the packages you wish to
install.

                      Package Name      Install?
            ----------------------------    --------
                 UnixWare Update 1.1.2       Yes
    VGA 256 Video Driver for UnixWare        Yes
          Ethernet Hardware Support          No
                Token Ring Hardware          No
                 CD-ROM File System          No

                         ┌─────────┐      ┌─────────┐
                         │ Apply   │      │ Reset   │
                         └─────────┘      └─────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-26. Verification Screen

21. Select the packages as shown in Figure 8-26.

   Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.

22. Press the down ▼ arrow to move to the Apply field and press ENTER.

   The system displays the Automatic Installation screen (Figure 8-27).

```
The following packages can be installed automatically using
default values.  If you select custom installation you will be
given the opportunity to change these values.  However, this
requires additional UNIX System knowledge.

                         Package Name      Options
           ---------------------------    ---------
              Network Support Utilities    AUTOMATIC
 Enhanced Application Compatibility        AUTOMATIC
                   Graphics Utilities      AUTOMATIC
                   Internet Utilities      AUTOMATIC
      C Optimized Compilation System       AUTOMATIC
                  Enhanced Debugger        AUTOMATIC

                    ┌──────────┐      ┌──────────┐
                    │  Apply   │      │  Reset   │
                    └──────────┘      └──────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-27.   Automatic Installation Screen

23. Select the packages as shown in Figure 8-27.

     Use the left ◄ and right ► arrows on your keyboard to move through the
     field selections. Use the down ▼ arrow to move to the next field.

24. Press the down ▼ arrow to move to the Apply field and press ENTER.

     The system displays the Assign Computer Name screen (Figure 8-28).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-30

```
Select a name for the computer.  This should be a short name that
will be used to identify your computer.  Please use only letters
or numbers in the name you type.  The name must be at least 3
characters long.

If you will be connecting your computer to a network of other UNIX
Systems, then it is important that the name specified here be
unique to your system.  See the Help facility or the Installation
Handbook for more information

Computer Name:



                    ┌─────────────┐      ┌─────────────┐
                    │   Apply     │      │   Reset     │
                    └─────────────┘      └─────────────┘


Press 'TAB' to move the cursor between fields.  When finished,
move the cursor to "Apply" and then press 'ENTER' to continue.
```

Figure 8-28.   Assign Computer Name Screen

25. Enter the name of your computer.

    The system displays the Build Font Binaries screen (Figure 8-29).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
 Installing Base System Software

Page 8-31

```
On this screen, you have the options to build your fonts for the X
Window system.  This takes the machine-independent format in which
the fonts are distributed and compiles them into a machine
readable format.

To use the X-Window system, the font binaries must be built.  This
takes a few minutes.  You can build them now or do it at a later
time by running the shell script, /usr/X/adm/bldfonts.

Do you want to build the font binaries now?



Your choices are

1. Build the font binaries now
2. Do not build the font binaries now

Type '1' or '2' and press Enter/Return to continue.
```

Figure 8-29. Build Font Binaries Screen

26. Enter **1**

    After approximately one to two hours the system displays the Re-Enter
    HBA Disk screen (Figure 8-30).

```
You must now insert the relevant HBA diskette(s) that you used
before.

Please insert the diskette labeled:
           Adaptec 7800 Family PCI SCSI IHV HBA
into the drive and press 'Enter'.










Press 'Enter' to continue.
```

Figure 8-30.   Re-Enter HBA Disk Screen

27. Remove the cartridge tape labeled "INTUITY CONVERSANT VIS V6.0 UnixWare for INTUITY" from the tape drive. See "Inserting and Removing Cartridge Tapes" in Chapter 3, "Common System Procedures", for the procedure.

28. Insert the diskette labeled "Pentium PCI HBA Floppy" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

29. Press (ENTER).

    After approximately 5 minutes the system displays the Remove HBA Disk screen (Figure 8-31).

```
Please remove the HBA diskette from the drive and press 'Enter' to
continue.

















Press 'Enter' to continue.
```

Figure 8-31.   Remove HBA Disk Screen

30. Remove the diskette labeled "Pentium PCI HBA Floppy" from the diskette
    drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common
    System Procedures", for the procedure.

31. Press ENTER.

    The system displays the following message:

    The UNIX System is now being rebuilt to reflect your
    software selections.

    This will take several minutes and will not require any
    user input.

    Please wait.

    After approximately 5 minutes the system displays the Installation
    Verification screen (Figure 8-32).

    > **NOTE:**
    > There are several Verification screens. These screens show the
    > status of all of the software packages you selected in Steps 5
    > through 22.

```
You selected to install these packages in this set. The status of
each package installation is to the left of its name.

    Status                 Package Name
   ---------               ---------------------------
   Succeeded               Base System
   Succeeded               Printer Support
   Succeeded               Network Support Utilities
   Succeeded               Enhanced Application Compatibility
   Succeeded               Graphics Utilities
   Succeeded               Adobe Type Manager (TM)
   Succeeded               Desktop Manager
   Succeeded               Advanced Commands




Press 'Enter' to continue.
```

Figure 8-32.   Installation Verification Screen

32. Make sure that all of the files you selected in Steps 5 through 22 are
     shown on the Verification screens as having been successfully loaded.

     ⇒ **NOTE:**
        If any packages failed to load successfully, contact your remote
        maintenance center.

33. Press (ENTER) to view the remaining verification screens

     After you have viewed the last Verification screen, the system displays the
     Application Server Installation Complete screen (Figure 8-33).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
 Installing Base System Software

Page 8-35

```
Installation of the UnixWare Application Server is complete.
Applications and other software sets can be installed using the
tools available after the computer is rebooted.  When you press
'Enter' the computer will be shutdown.  Make sure the boot floppy
drive is empty.

After the computer is rebooted, you can set up and try out your
mouse.  You will then be asked to create a user account for your
UNIX System.

Refer to the Installation Handbook for more information.




Press 'Enter' to continue.
```

Figure 8-33.   Application Server Installation Complete Screen

34. Continue with the next procedure, "Initializing the Mouse".

Initializing the Mouse

To initialize the mouse, do the following:

1. Starting at the Application Server Installation Complete screen (Figure 8-33), press (ENTER) to begin the automatic reboot of the system.

   The system displays the Select Mouse screen (Figure 8-34).

```
If you wish to use a mouse with UnixWare you must select the type
of mouse attached to your computer from the list below (or select
"No Mouse" if you do not wish to use a mouse).

If you are unsure of what type you have, refer to Help information
for this screen or the Installation Handbook for more information.




Your choices are:

1. Serial Mouse
2. Bus Mouse
3. PS/2 - Compatible Mouse
4. No Mouse



Press '1', '2', '3' or '4' followed by 'Enter'.
```

Figure 8-34.   Select Mouse Screen

2. If you are not installing a mouse, enter **4**

   Continue with the next procedure, *"Setting Up User Accounts"*.

   If you are installing a mouse, enter **1**

   The system displays the Serial Mouse Installation screen (Figure 8-35).

```
In order to use a serial mouse, you must tell the installation
program which serial port your mouse is connected to.  You must
also indicate the number of buttons that are on the mouse you will
be using.  See the Help Facility or the Installation Handbook for
more information.

Enter the following information about your serial mouse.

Serial port your mouse is connected to:
              Number of mouse buttons:




                    ┌─────────────┐      ┌─────────────┐
                    │    Apply    │      │    Reset    │
                    └─────────────┘      └─────────────┘


Press 'TAB' to move between fields.  Press 'ENTER' to apply
fields.
```

Figure 8-**35.**   **Serial Mouse Installation Screen**

3. Enter the appropriate data for the serial port your mouse is connected to
   as listed in Serial Mouse Installation Screen Entries (Table 8-3).

   Use the left ◄ and right ► arrows on your keyboard to move through the
   field selections. Use the down ▼ arrow to move to the next field.

Table 8-**3.**   **Serial Mouse Installation Screen Entries**

Serial Port Connection	Screen Entry
COM1 port	TTY00
COM2 port	TTY01

4. Enter the number of mouse buttons on your mouse.

5. Press the down ▼ arrow to move to the Apply field and press ENTER.

   The system displays the Mouse Test screen (Figure 8-36).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-38

```
Your mouse selection is ready to be tested.

After pressing 'Enter', you will have 15 seconds to test the
mouse. Make sure it moves as you expect, then press a mouse button
to end the test.  If you don't press a button within 15 seconds,
the test will appear to fail.












Press 'Enter' to start the mouse test.
```

Figure 8-36.   Mouse Test Screen

6. Press ENTER.

7. Move the mouse to test it.

8. Press a mouse button.

The system displays the Root Account Setup screen (Figure 8-37).

```
In addition to user accounts, UnixWare contains a special account
known as the "Root" account.  This account is the most powerful
account on a UNIX System.  You should now choose a password for
this account.

You will be asked to enter the root password twice after this
screen.  The text of the password will not appear on the screen
when you type it.




Press 'Enter' to continue.
```

Figure 8-37.   Root Account Setup Screen

9. Continue with the next procedure, "Setting Up User Accounts."

Setting Up User Accounts

To set up user accounts, do the following:

1. Starting at the Root Account Setup screen (Figure 8-37), press ENTER.

   The system displays the following message:

   New password:

2. Enter the root password.

   The system displays the following message:

   New password:
   Re-enter new password:

3. Re-enter the root password.

   The system displays the Sysadm Account Setup screen (Figure 8-38).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-40

```
You now need to choose a password to restrict access to the
account 'sysadm', for system administration.


You will be asked to enter the password after this screen.  The
text of the password as you type it will not appear on the screen.
You will then be prompted to type the same password again.  See
the help facility or the Installation Handbook for more
information.








Press 'Enter' (or Return) to continue.
```

Figure 8-38. Sysadm Account Setup Screen

4. Press (ENTER).

    The system displays the following message:

    New password:

5. Enter the sysadm password.

    The system displays the following message:

    New password:
    Re-enter new password:

6. Re-enter the sysadm password.

    The system displays the UnixWare Installation Complete screen (Figure 8-39).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-41

```
              UnixWare is now ready for use.

Applications and other software sets can be installed using the
tools available with UnixWare.

After you proceed from this screen you will be able to access your
computer.  Type a login ID at the "login:" prompt, followed by the
password associated with that login ID at the "password" prompt.
For your protection the password will not be visible on the screen
as you type it.

Refer to the Installation Handbook for more information.




Press 'Enter' to continue.
```

Figure 8-39.   UnixWare Installation Complete Screen

7. Press ENTER.

    The system displays the login screen.

8. Continue with the next procedure, *"Setting Up the Monitor"*.

Setting Up the Monitor

To set up the monitor, do the following:

1. Starting at the login screen (Figure 8-39), press ALT E.

    The system displays the following message:

    ```
    Welcome to USL UNIX System V Release 4.2 Version 1
    Console Login:
    ```

2. Enter **root**

3. Enter your root password.

    The system displays the system prompt #.

4. Enter **/usr/X/lib/display/setvgamode**

    The system displays a menu listing 38 different video chipset options.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
Installing Base System Software

Page 8-42

5. Enter the number corresponding to the video controller circuit card installed on your system.

    The system displays a menu listing monitor model numbers.

6. Enter the model number corresponding to the video controller circuit card installed on your system.

    The system displays the following message:

    ```
    Video RAM : 1024K
    ```

    ```
    Do you want to change this value ?(y/n) [n]:
    ```

7. Press (ENTER).

    The system displays the following message:

    ```
    Default Monitor Size, 17 inches(y/n) [y]:
    ```

8. Enter **n**

    The system displays the Monitor Size screen (Figure 8-40).

```
Monitor Size
============
12 inches
13 inches
14 inches
15 inches
16 inches
17 inches
19 inches
20 inches
21 inches
other




Enter Monitor Size =>
```

Figure 8-40. Monitor Size Screen

9. Enter **14**

    The system displays a screen similar to the Monitor Test screen (Figure 8-41).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
 Installing Base System Software

Page 8-43

```
You have selected the following:

VENDOR.......: Cirrus Logic - Generic
CHIPSET......: GD54xx
VIDEO RAM....: 1024K
MONITOR......: STDVGA
RESOLUTION...: 640x480
COLORS.......: 256




Do you want to test this mode ?(y/n) [y]:
```

Figure 8-41. Monitor Test Screen

10. Press ENTER.

The system displays the Test Pattern screen (Figure 8-42).

```
        A TEST PATTERN WILL BE DRAWN ON YOUR SCREEN.
        AFTER A FEW SECONDS, YOU WILL RETURN TO THIS
        SCREEN. IF THE PATTERN DOESN'T LOOK RIGHT, YOU
        CANNOT USE THIS MODE. YOU SHOULD TRY ANOTHER MODE.
        IF THE PATTERN IS NOT EVEN STABLE,
        PRESS 'DEL' IMMEDIATELY TO AVOID DAMAGE TO YOUR
        HARDWARE.




Do you want to continue ? (y/n) [y]:
```

Figure 8-42.   Test Pattern Screen

11. Press (ENTER).

    After the test pattern is drawn, the system displays the following message:

    `Do you want to try the test again ?(y/n) [n]:`

12. Press (ENTER) to stop the test.

    The system displays the following message:

    `Accept(y),  Quit(q), Try another mode(anykey):`

13. Enter **y** to accept the setup.

    The system displays the Current Selection screen (Figure 8-43).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance **585-310-192**

Issue 2.0
June 1997

8 Installing Base System Software
Installing the VERITAS Software Packages

Page 8-45

```
        Current Selection:

                ENTRY........: GD54XX
                RESOLUTION...: 640x480
                VISUAL.......: PseudoColor
                MONITOR......: STDVGA
```

Figure 8-43. **Current Selection Screen**

You have now installed all the required software for your UnixWare
operating system.

Installing the VERITAS Software Packages

The VERITAS software is comprised of two separate packages: VERITAS Volume
Manager and VERITAS Advanced File System. You must install the Volume
Manager software before installing the Advanced File System software.

Make sure you have the following software:

- 4 floppies labeled "VERITAS Volume Manager 1.2.1.1"

- 1 floppy labeled "VERITAS Advanced File System 1.1"

NOTE:
If you want further information on the VERITAS features, see

- *VERITAS Volume Manager Documentation*, 585-350-907

  — Installation Guide Release 1.2

  — Basic User's Guide Release 1.2

  — System Administrator's Guide Release 1.2

- *VERITAS File System, System Administrator's Guide*, 585-350-906

Installing the VERITAS Volume Manager Package

Perform the three procedures in this section sequentially.

1. At the system prompt, enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready.
       or [q] to quit:  (default:  go)
   ```

2. Insert the diskette labeled "VERITAS Volume Manager 1.2.1.1: 1 of 4" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

3. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress.  Do not remove the diskette.

   The following packages are available:

   1  vxvm  VERITAS Volume Manager
          (i386at) 1.2.11

   Select the package(s) you wish to process...
   ```

4. Enter **1**

   After several minutes, the system displays the following message:

   ```
   You have the Operations, Administration, and
   Maintenance package installed.

   Would you like to add the VXVM interface Forms and
   Menus? [y]
   ```

5. Press (ENTER).

   After several minutes, the system displays the following message:

   ```
   READY TO PROCESS:
    Package:VERITAS Volume Manager (vxvm)
     diskette 2 of 4
   Insert diskette 2 of 4 into floppy drive 1
   Type [go] when ready.
       or [q] to quit:  (default:  go)
   ```

6. Remove the diskette labeled "VERITAS Volume Manager 1.2.1.1: 1 of 4" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

7. Insert the diskette labeled "VERITAS Volume Manager 1.2.1.1: 2 of 4" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
Installing the VERITAS Software Packages

Page 8-47

8. Press ⌷ENTER⌷.

   After several minutes, the system displays the following message:

   ```
   READY TO PROCESS:
    Package:VERITAS Volume Manager (vxvm)
     diskette 3 of 4
   Insert diskette 3 of 4 into floppy drive 1
   Type [go] when ready.
       or [q] to quit:  (default:  go)
   ```

9. Remove the diskette labeled "VERITAS Volume Manager 1.2.1.1: 2 of 4" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

10. Insert the diskette labeled "VERITAS Volume Manager 1.2.1.1: 3 of 4" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

11. Press ⌷ENTER⌷.

    After several minutes, the system displays the following message:

    ```
    READY TO PROCESS:
     Package:VERITAS Volume Manager (vxvm)
      diskette 4 of 4
    Insert diskette 4 of 4 into floppy drive 1
    Type [go] when ready.
        or [q] to quit:  (default:  go)
    ```

12. Remove the diskette labeled "VERITAS Volume Manager 1.2.1.1: 3 of 4" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

13. Insert the diskette labeled "VERITAS Volume Manager 1.2.1.1: 4 of 4" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

14. Press ⌷ENTER⌷.

    When the packages on the last diskette are finished installing, the system displays the following message:

    ```
    Installation of VERITAS Volume Manager (vxvm) was
    successful.

    Insert diskette into Floppy Drive 1.
    Type [go] when ready.
        or [q] to quit:  (default:  go)
    ```

15. Enter **q**

    The system displays the system prompt #.

16. Remove the diskette from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

17. Continue with the next procedure, "Installing the VERITAS File System Administration Package".

Installing the VERITAS File System Administration Package

If you have not done so already, complete "Installing the VERITAS Volume Manager Package" above before continuing with this procedure.

1. At the system prompt, enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready.
       or [q] to quit:  (default:  go)
   ```

2. Insert the diskette labeled "VERITAS Advanced File System 1.1" into the diskette drive and press (ENTER). See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the diskette.

   The following packages are available:

   1  vxfs  VERITAS File System
           (AT386) 1.3 Advanced

   Select the package(s) you wish to process...
   ```

3. Enter **1**

   Once the package is finished installing, the system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready.
       or [q] to quit:  (default:  go)
   ```

4. Enter **q**

   The system responds with a message to say that if all desired packages are installed, the machine should be rebooted.

   ### ⚠ CAUTION:
   > *DO NOT reboot the system at this time.*

   The system displays the system prompt **#**.

5. Remove the diskette from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

6. Continue with the next procedure, "Activating the Volume Manager".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

8 Installing Base System Software
    Installing the VERITAS Software Packages

Page 8-49

Activating the Volume Manager

If you have not done so already, perform the following procedures before continuing with this procedure:

1. Installing the VERITAS Volume Manager Package

2. Installing the VERITAS File System Administration Package

To activate the Volume Manager, do the following:

1. At the system prompt, enter **volinstall**

    The system displays the Volume Manager Information screen (Figure 8-44).

```
The Volume Manager names disks on your system using the controller
and disk number of the disk, substituting them into the following
pattern.

          c<controller>t<disk>d0

      Some examples would be:

          c0t0d0 - first controller, first disk
          c1t0d0 - second controller, first disk
          c1t1d0 - second controller, second disk

The Volume Manager has detected the following disks on your
system.

          c0t0d0
          c0t1d0




Hit 'Return' to continue
```

Figure 8-44. Volume Manager Information Screen

2. Press (ENTER).

    The system responds with a screen asking you to choose the type of installation.

3. Enter **1** for Quick Installation.

    The system displays the following message:

    ```
    Enter disk name for c0t0d0 [<name>, q, ?]
    (default: disk01)
    ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
  Installing the VERITAS Software Packages

Page 8-50

4. Enter **disk00**

   The system displays the following message:

   `The c0t0d0 disk has been configured for encapsulation.`

   If you have a two-disk system, the system displays the following message:

   `Enter disk name for c0t1d0 [<name>, q, ?]`

5. Enter **disk01**

   The system displays the following message:

   `The c0t0d0 disk has been configured for encapsulation.`

   `The system should now be shut down and rebooted to continue with the installation process.`

   `Shut down and reboot now?[y, n, q, ?] (default: y)`

6. Press ⊏ENTER⊐.

   > **NOTE:**
   > If you have additional disks installed that have not yet been administered through software, the following message displays f*or each disk:*
   >
   > `prtvtoc [-a] [-e] [-p] [-f file] raw_device`
   >
   > `The c0t1d`*X*`disk does not appear to be prepared for this system.  Add as a new disk through the voldiskadm command.`
   > `Hit return to continue.`
   >
   > This message is normal; press ⊏ENTER⊐.
   >
   > If you are using the additional disk for mirroring, the disk is administered when you set up SCSI mirroring. After you have completed this procedure, see *"Establishing Mirroring"* in Chapter 6, *"Replacing the Hard Disk Drive"*.
   >
   > If you are not using the additional disk for mirroring, as in the case where the second disk is used for speech, see *"Adding Hard Disk Drive 1 to a System for Speech Storage"* in Chapter 6, *"Replacing the Hard Disk Drive"*.

7. The system reboots three times; each reboot takes approximately 5 minutes to complete. Press ⊏ENTER⊐ when you are prompted between each reboot.

   When the initialization of the Volume Manager is complete, the system displays the login screen.

   > **NOTE:**
   > If you are completing this procedure in conjunction with a system restoration from the mkimage tape, the system will not display the login screen. Skip Step 8 and continue with Step 9.

8. Press ⎡ALT⎤ ⎡E⎤.

    The system displays the following message:

    ```
    Welcome to USL UNIX System V Release 4.2 Version 1
    Console Login:
    ```

9. Enter **root**

10. Enter your root password.

    The system responds by displaying the system prompt #.

If Activating the Volume Manager Fails

Should the **volinstall** command fail because it cannot find the boot disk (c0t0d0), do the following:

1. Enter /**etc/conf/bin/idbuild -B** to rebuild the kernel.

2. Once the kernel rebuild is complete, enter **init 6** to reboot the system.

    When the system comes up, you may see Volume Manager errors (vxvm).

3. Perform the procedure, ''Activating the Volume Manager'', above again.

Installing the INTUNIX Patch and Enhancement Package

The INTUNIX set contains the update packages for Unixware 1.1.2.

To install the INTUNIX Patch and Enhancement Package, do the following:

1. Enter **pkgadd -d ctape1**

    The system displays the following message:

    ```
    Insert a cartridge into Tape Drive 1.
    Type [go] when ready
        or [q] to quit: (default: go)
    ```

2. Insert the INTUNIX tape into the cartridge tape drive. See ''Inserting and Removing Cartridge Tapes'' in Chapter 3, ''Common System Procedures'', for the procedure.

3. Press ⎡ENTER⎤.

    The system displays the following message:

    ```
    Installation in progress. Do not remove the cartridge.

    The following sets are available:
    1    INTUNIX  INTUITY UnixWare 1.1.2 Enhancement Set
                  (i486)
    ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

8 Installing Base System Software
Installing the INTUNIX Patch and Enhancement Package **Page 8-52**

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

4. Press ⌈ENTER⌉.

   The system displays the following message:

   ```
   Processing:
   Set: INTUITY UnixWare 1.1.2 Enhancement Set (INTUNIX)
   from <ctape1>.

   INTUITY UnixWare 1.1.2 Enhancement Set
   (i486)
   Using </> as the package base directory

   Installation of INTUNIX successful.

   The following packages are available:
        1    INTUNIX1
        2    installit
        3    memdrvr
        4    procdrvr

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

5. Press ⌈ENTER⌉.

   The system displays several status messages and then the following
   message:

   ```
   Installation of INTUITY UnixWare 1.1.2 Enhancement Set
   (INTUNIX) is completed.

   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
        or [q] to quit: (default: go)
   ```

6. Remove the INTUNIX tape from the cartridge tape drive. See "Inserting
   and Removing Cartridge Tapes" in Chapter 3, "Common System
   Procedures", for the procedure.

7. Enter **q**

8. Reboot the system. See "Rebooting the UNIX System" in Chapter 3,
   "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

9   Installing the INTUITY CONVERSANT System Software
Overview

Page 9-1

Installing the INTUITY CONVERSANT System Software

9

Overview

This chapter details installation procedures for the INTUITY™ CONVERSANT® system software.

Purpose

This purpose of this chapter is to provide the information necessary to reload the INTUITY CONVERSANT system after a disk failure. Use this chapter in conjunction with Appendix D, "Disaster Recovery Checklists".

Installing the INTUITY CONVERSANT Base Software Set

The INTUITY CONVERSANT base software set includes:

- INTUITY CONVERSANT Utilities Package

- INTUITY CONVERSANT Runtime Processing Package

- INTUITY CONVERSANT Maintenance Package

- INTUITY CONVERSANT Logger/Alerter Package

- INTUITY AUDIX Logger Package

- INTUITY CONVERSANT Base ORACLE RDBMS 7.0.12

- INTUITY CONVERSANT Extended ORACLE RDBMS 7.0.12

- INTUITY CONVERSANT ORACLE 7 Integration Package

- INTUITY CONVERSANT Administration Screens Package

- INTUITY CONVERSANT Transaction State Machine Package

- INTUITY CONVERSANT Switch Utilities Package

- INTUITY CONVERSANT License Modification Package

- INTUITY CONVERSANT Platform CONVERSANT Tuning

All of the packages included in the INTUITY CONVERSANT base software set are required for the operation of the INTUITY CONVERSANT system. All of the packages are contained on one cartridge tape.

To install the INTUITY CONVERSANT base software set, do the following:

> ⚠ **CAUTION:**
> *If you are using this procedure in conjunction with an upgrade, skip the first three steps and begin with Step 4.*

1. Log in as root.

2. Insert the cartridge tape labeled "INTUITY Platform CVIS 6.0 Set 1 of 1" into the cartridge tape drive. See "Inserting and Removing Cartridge Tapes" in Chapter 3, "Common System Procedures", for the procedure.

3. Enter **pkgadd -d ctape1**

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready,
           or [q] to quit:  (default:  go)
   ```

INTUITY CONVERSANT System Version 6.0　　　　　　　　　　　　　　　*Issue 2.0*
MAP/5P Maintenance *585-310-192*　　　　　　　　　　　　　　　　　　*June 1997*

9 Installing the INTUITY CONVERSANT System Software
Installing the INTUITY CONVERSANT Base Software Set　　　　　　　　　　**Page 9-3**

4. Press ⌈ENTER⌋.

   The system displays the following message:

   ```
   Installation in progress.  Do not remove the cartridge.
   ```

   ```
   The following packages are available:
   ```

   ```
    1. CVISet       INTUITY CONVERSANT VIS V6.0 Set
                    (i486)
   ```

   ```
   Select the package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press ⌈ENTER⌋.

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY CONVERSANT VIS V6.0 Set (CVISet) from
   <ctape1>
   ```

   ```
   INTUITY CONVERSANT VIS V6.0 Set
   (i486)
   Using </> as the package base directory.
   ```

   ```
   Do you want to run the default set installation?
   (default: y)
   ```

6. Answer the questions in Table 9-1 with a check mark for "yes" or "no."

Table 9-1.　Questions to Determine if the Default Installation is Appropriate

Number	Question	Yes	No
1	Do you want to turn off daylight savings time?		
2	Does your system have a remote maintenance circuit card? ⇒ **NOTE:** 　　If you answer yes to this question, you must answer yes to Question 3.		
3	Do you want to disable COM1?		
4	Do you want to disable COM2?		
5	Do you want to disable the parallel port?		
6	Is Interrupt Level 4 being used by anything other than COM1?		
7	Is Interrupt Level 3 being used by anything other than COM2?		
8	Is Interrupt Level 7 being used by anything other than the parallel port?		
9	Is your ORACLE database larger than 65 Mbyte		
10	Does your system have the Extended ORACLE feature package?		

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

9 Installing the INTUITY CONVERSANT System Software
Installing the INTUITY CONVERSANT Base Software Set

Page 9-4

7. If you answered **no** to all of the questions in Table 9-1, you can use the default installation; enter **y**

    If you answered **yes** to any of the questions in Table 9-1, you can not use the default installation, complete the following Steps a through q:

    a. Enter **n**

        The system displays the following message:

        ```
        Do you want the default installation for mtce?
        [y,n,?]
        ```

    b. If you answered **no** to Question 1 in Table 9-1, enter **y** and continue with Step d.

        If you answered **yes** to Question 1 in Table 9-1, enter **n**

        The system displays the following message:

        ```
        Is Daylight Savings Time ever used? [y,n,?]
        ```

    c. Enter **n**

        The system displays the following message:

        ```
        Do you want the default installation for vs?
        [y,n,?]
        ```

    d. If you answered **no** to all seven Questions 2, 3, 4, 5, 6, 7, and 8 in Table 9-1, enter **y** and continue with Step g.

        If you answered **yes** to Question 2, 3, 4, 5, 6, 7, or 8 in Table 9-1, enter **n**

        The system displays the following message:

        ```
        The first serial port uses interrupt level 4
        The second serial port uses interrupt level 3
        The parallel port uses interrupt level 7

        If you wish to reclaim some of these interrupts
        for other devices, you may disable one of these
        serial ports.  However, one serial port must be
        enabled.

        For serial ports would you like to:
        1.   Enable both
        2.   Enable first, disable second
        3.   Disable first, enable second

        Please enter your selection:
        ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

9 Installing the INTUITY CONVERSANT System Software
   Installing the INTUITY CONVERSANT Base Software Set

Page 9-5

e. If you answered **no** for Questions 2, 3, 4, 6, and 7 in Table 9-1, enter **1**

   If you answered **no** for Questions 2, 3, and 6 and **yes** for Question 4 or 7 in Table 9-1, enter **2**

   If you answered **yes** for Question 2, 3, or 6 and **no** for Questions 4 and 7 in Table 9-1, enter **3**

   ![NOTE icon] **NOTE:**
   > If you would like to disable both serial ports, enter **3**, complete the installation procedure, edit the **/etc/conf/sdevice.d/asyc** file, and reboot the system.

   The system displays the following message:

   ```
   For the parallel port (interrupt 7) would you like
   to:
   1.   Enable the parallel port
   2.   Disable the parallel port
   ```

 f. If you answered **no** for Questions 5 and 8 in Table 9-1, enter **1**

   If you answered **yes** for Question 5 or 8 in Table 9-1, enter **2**

   The system displays the following message:

   ```
   Do you want the default installation for maint?
   ```

g. Enter **n**

   ![NOTE icon] **NOTE:**
   > There is no difference between the default installation and a custom installation of the maint system.

   The system displays the following message:

   ```
   Do you want the default installation for machlog?
   [y,n,?]
   ```

h. If you answered **no** to Questions 2, 3, and 4 in Table 9-1, enter **y** and continue with Step j.

   If you answered **yes** to Question 2, 3, or 4 in Table 9-1, enter **n**

   The system displays the following message:

   ```
   The first serial port uses interrupt level 4
   The second serial port uses interrupt level 3

   If you wish to reclaim some of these interrupts
   for other devices, you may have to free some of
   these ports.  However, one serial port must be
   configured as the alarm port.
   ```

INTUITY CONVERSANT System Version 6.0　　　　　　　　　　　　　　*Issue 2.0*
MAP/5P Maintenance 585-310-192　　　　　　　　　　　　　　　　*June 1997*

9　Installing the INTUITY CONVERSANT System Software
　　Installing the INTUITY CONVERSANT Base Software Set　　　　　　　**Page 9-6**

```
For serial ports would you like to:
1.  Enable first serial port (COM1) as alarm port
2.  Enable second serial port (COM2) as alarm port

Please enter your selection:
```

i. If you answered **no** for Questions 2 and 3 and **yes** for Question 4 in Table 9-1, enter **1**

> **⇒ NOTE:**
> If your system has a remote maintenance circuit card, make sure COM1 is disabled in the CMOS settings. See "Motherboard Replacement" in Chapter 7, "Replacing Other Components", for the procedure to edit the CMOS settings.

If you answered yes to Questions 2 and 3 and no for Question 4 in Table 9-1, enter 1.

If you answered **yes** to Question 3 and **no** for Questions 2 and 4 in Table 9-1, enter **2**

The system displays the following message:

```
Serial port X has been configured as the alarm
port.

Do you want the default installation for ora7base?
[y,n,?]
```

> **⚠ CAUTION:**
> *If you choose the default installation for ORACLE the extended ORACLE package is not installed. You may install it when installation of the CVIS set is complete.*

j. If you answered **no** for Questions 9 and 10 in Table 9-1, enter **y** and continue with Step 8 below.

If you answered **yes** for Question 9 or 10 in Table 9-1, enter **n**

The system displays the following message:

```
The default name for the database file is dbsA.dbf
```

```
Enter a new name or strike ENTER to accept the
default.
```

k. Press (ENTER).

The system displays the following message:

```
The default name for the first redo log file is
log1A.dbf
```

```
Enter a new name or strike ENTER to accept the
default.
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

9 Installing the INTUITY CONVERSANT System Software
Installing the INTUITY CONVERSANT Base Software Set

Page 9-7

l. Press (ENTER).

The system displays the following message:

```
The default name for the second redo log file is
log2A.dbf
```

```
Enter a new name or strike ENTER to accept the
default.
```

m. Press (ENTER).

The system displays the following message:

```
How many blocks do you want in your database?
[default: 132,000].
```

n. Enter the number of blocks you want in your database.

⚠ CAUTION:
This number must be greater than 24,000.

The system displays the following message:

```
The default size for each of the redo log files is
800 [512 bytes] blocks.
```

```
How many blocks do you want in each of the redo log
files? [default: 800].
```

o. Enter the number of blocks you want in your redo log files.

The system displays the following message:

```
Do you want to install the ora7ext? [y,n,?]
```

p. If you want to install the extended oracle package enter **y**

If you do not want to install the extended oracle package enter **n**

The system displays the following message:

```
Do you want to install TSM? [y,n,?]
```

q. Enter **y**

The system displays the following message:

```
Lucent Technologies Inc.
```
Processing package information.
Processing system information.
Verifying disk space requirements.

Installing INTUITY CONVERSANT VIS V6.0 Set as <CVISet>

Executing preinstall script.
Executing the preinstall personality script for CVIStune.
Enter password for oracle:
New password:

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

9 Installing the INTUITY CONVERSANT System Software
Installing the INTUITY CONVERSANT Base Software Set

Page 9-8

> ⚠ **CAUTION:**
>
> *If you are using this procedure in conjunction with an upgrade, Stop here and return to INTUITY CONVERSANT System Version 6.0 Upgrade Procedures. Do not continue with Step 8.*

8. Type the new password.

9. Press (ENTER).

   The system displays the following message:

   ```
   Re-enter new password:
   ```

10. Re-type the new password.

11. Press (ENTER).

    The system displays a series of messages. After approximately one hour the system displays the following message:

    ```
    Processing of <INTUITY CONVERSANT VIS V6.0 Set> is
    completed.

    Insert a cartridge into Tape Drive 1.

    Type [go] when ready,
        or [q] to quit: (default: go)
    ```

12. Enter **q**

    The system displays the following message:

    ```
    ***IMPORTANT NOTICE***
        If installation of all desired packages is
        complete, the machine should be rebooted in order
        to ensure sane operation.  Execute the shutdown
        command with the appropriate options and wait for
        the "Console Login:" prompt.
    ```

13. Enter **shutdown -g0 -y**

    The system displays the following message:

    ```
    The system is down.
    Press CTRL-ALT-DEL to reboot your computer.
    ```

14. Press (CONTROL) (ALT) (DEL).

Installing the TCP/IP Packages

All of the UnixWare TCP/IP packages are installed during the installation of the operating system from the cartridge tape labeled "INTUITY CONVERSANT VIS V6.0 UnixWare for Intuity 1.1.2."

- ■ Distributed File System Utilities

- ■ Remote Procedure Calls Utilities

- ■ Internet Utilities

- ■ Commands Networking Extensions

- ■ Internet Reference

Use the **pkginfo** command to view the list of packages on your system. If these packages are not installed on your system, install them now.

To install the TCP/IP packages, do the following:

1. Enter **pkgadd -d ctape1**

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready,
           or [q] to quit:  (default:  go)
   ```

2. Insert the cartridge tape labeled "INTUITY CONVERSANT VIS V6.0 UnixWare for Intuity 1.1.2." See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

3. Press (ENTER).

   The system displays a list of packages from which you must specify yes or no.

4. Enter **yes** for the following 5 packages:

   - ■ Distributed File System Utilities

   - ■ Remote Procedure Calls Utilities

   - ■ Internet Utilities

   - ■ Commands Networking Extensions

   - ■ Internet Reference

   Enter **no** for all other packages.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

9   Installing the INTUITY CONVERSANT System Software
Installing the TCP/IP Packages   *Page 9-10*

5. Press (ENTER).

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
        or [q] to quit: (default: go)
   ```

6. Enter **q**

Installing the Optional Feature Software

10

Overview

This chapter describes the procedures to install all the software that was not included on the application software cartridge tape. This software is called *optional* software since it is not required for the basic system to function.

> **NOTE:**
> You will not necessarily install all of these packages nor will you install them in the order documented. Packages that are order-specific are identified as such.

This chapter also describes the general procedure for removing software packages.

> **NOTE:**
> Be sure that you have run the INTUITY™ CONVERSANT® Hardware Resource Allocator and indicate all hardware that is or will be on your system. The data generated by the program is crucial in assuring that you respond correctly to the prompts in this chapter. See ''Hardware Resource Allocator Operation'' in Appendix A, ''Configuring a System'', in your hardware installation book.

> **NOTE:**
> All of the procedures in this chapter must be performed with *root* permission.

Purpose

This purpose of this chapter is to provide the information necessary to reload the optional feature software after a disk failure.

Installing Software Packages Using the Unix Management Screens

If your system has been equipped the Unix Management Screens Package, software can be loaded using the INTUITY CONVERSANT system screens.

To load software a software package using the INTUITY CONVERSANT system screens do the following:

1. Start at the Voice System Administration menu (Figure 10-1).


```
        Voice System Administration

   Application Package Administration
   Backup/Restore
   Configuration Management
   Feature Packages
   Reports
   Script Builder Applications
   Switch Interfaces
   System Monitor
   Unix Management
   Exit
```
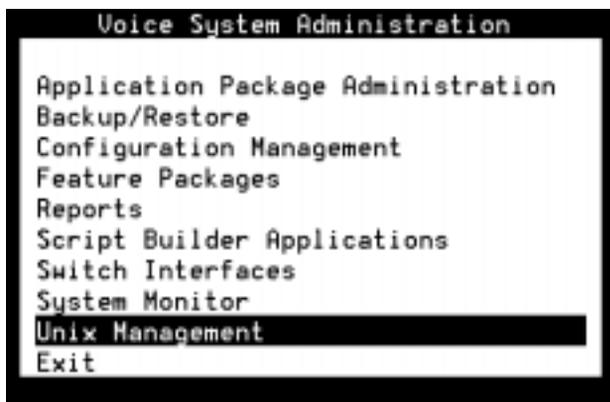
Figure 10-1.　Voice System Administration Menu

2. Select:

```
> UNIX Management

    >Software Install
```

The system displays the Software Install menu (Figure 10-2).
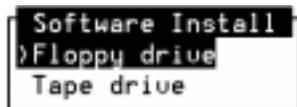
Figure 10-2.   Software Install Menu

3. Select the appropriate media.

4. Continue with the procedures listed for each package below.

Installing the Hardware Resource Allocator Package

➡️ **NOTE:**
   You must install and run the INTUITY CONVERSANT Hardware Resource
   Allocator before installing any of the INTUITY CONVERSANT System Version
   6.0 base or optional packages.

To install this feature package, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

    The system displays the following message:

    ```
    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

3. Insert the diskette labeled "Hardware Resource Allocator 1 of 1" into the
    diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3,
    "Common System Procedures", for the procedure.

4. Press (ENTER).

    The system displays the following message:

    ```
    Installation in progress -- do not remove the diskette.

    The following packages are available:
      1. config     INTUITY Hardware Resource Allocator
                    (i486)

    Select package(s) you wish to process (or 'all' to
    process all packages). (default: all) [?,??,q]:
    ```

5. Press (ENTER).

    The system displays the following message:

```
PROCESSING:
Set: INTUITY Hardware Resource Allocator (config) from
<diskette1>

INTUITY Hardware Resource Allocator
(i486)
Using </> as the package base directory.
```

The system displays several status messages and then the following
message:

```
Installation of INTUITY Hardware Resource Allocator
(config) was successful.

Insert diskette into Floppy Drive 1.
Type [go] when ready,
    or [q] to quit:  (default:  go)
```

6. Remove the diskette labeled "Hardware Resource Allocator 1 of 1" from
   the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
   "Common System Procedures", for the procedure.

7. Enter **q**

Run the INTUITY CONVERSANT Hardware Resource Allocator to obtain a current
configuration listing for your system. See "Hardware Resource Allocator
Operation" in Appendix A, "Configuring a System".

⚠ CAUTION:

*You must run the INTUITY CONVERSANT Hardware Resource Allocator and
obtain the output from it. The information is needed to install software
packages to correctly set addresses for interrupts, I/O, etc.*

Installing the Analog Switch Interface Package

To install this optional feature package, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

```
Insert diskette into Floppy Drive 1.
Type [go] when ready,
    or [q] to quit:  (default:  go)
```

3. Insert the diskette labeled "Analog Switch Interface - (*country*) 1 of 1" into
   the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
   "Common System Procedures", for the procedure.

4. Press [ENTER].

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. usswtch    INTUITY Analog Switch Interface Package
                      - US
                   (i486)
   ```

   ```
   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

   ⇒ **NOTE:**
   The analog switch interface package used in this example is for the
   United States (US). The name will change depending on the country
   chosen.

5. Press [ENTER].

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Analog Switch Interface Package - US
   (usswtch) from <diskette1>

   INTUITY Analog Switch Interface Package - US
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   Installation of INTUITY Analog Switch Interface Package
   - US (usswtch) was successful.

   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

6. Enter **q**

7. Remove the diskette labeled "Analog Switch Interface - (*country*) 1 of 1"
   from the diskette drive. See *"Inserting and Removing Diskettes"* in
   Chapter 3, *"Common System Procedures"*, for the procedure.

Installing the Backup/Restore Utility

To install the Backup/Restore Utility, do the following:

1. At the UNIX prompt, enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

2. Insert the diskette labeled "Backup/Restore Utility 1 of 1" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

3. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. backrest   INTUITY Backup/Restore Utiltity
                    (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

4. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Backup/Restore Utility (backrest) from
   <diskette1>

   INTUITY Backup/Restore Utility
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following message:

   ```
   Installation of INTUITY Backup/Restore Utility
   (backrest) was successful.

   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

5. Enter **q**

   The system displays the UNIX prompt.

6. Make sure that the light on the diskette drive is off and remove the diskette. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

10 Installing the Optional Feature Software
   Installing the Call Bridge Application Package

Page 10-7

For more information on this feature package, see "Backing Up the INTUITY CONVERSANT System" in Chapter 3, "Common System Procedures", for the procedure.

Installing the Call Bridge Application Package

To install this optional feature package, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "Call Bridge Application Package 1 of 1" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

4. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. xferdip    INTUITY Call Bridge Application Package
                   (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Call Bridge Application Package (xferdip)
   from <diskette1>

   INTUITY Call Bridge Application Package
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.

   After the installation, do you wish to activate
   bridging capability? (y/n)
   ```

6. Enter **y**

   The system displays several status messages and then the following
   message:

   ```
   Installation of INTUITY Call Bridge Application Package
   (xferdip) was successful.

   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

7. Enter **q**

8. Remove the diskette labeled "Call Bridge Application Package 1 of 1"
   from the diskette drive. See "Inserting and Removing Diskettes" in
   Chapter 3, "Common System Procedures", for the procedure.

Installing the Data Collection Toolkit

To install this optional feature package, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "Data Collection Toolkit 1 of 3" into the diskette
   drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common
   System Procedures", for the procedure.

4. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. dctoolkit  INTUITY Data Collection Toolkit
                   (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Installing the Data Collection Toolkit

Page 10-9

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Data Collection Toolkit (dctoolkit) from
   <diskette1>

   INTUITY Data Collection Toolkit
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.

   READY TO PROCESS:
       Package: INTUITY Data Collection Toolkit
               (dctoolkit) diskette 2 of 3

   Insert diskette 2 of 3 into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

6. Remove the diskette labeled "Data Collection Toolkit 1 of 3" from the
   diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
   "Common System Procedures", for the procedure.

7. Insert the diskette labeled "Data Collection Toolkit 2 of 3" into the diskette
   drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common
   System Procedures", for the procedure.

8. Press (ENTER).

   The system displays the following message:

   ```
   READY TO PROCESS:
       Package: INTUITY Data Collection Toolkit
               (dctoolkit) diskette 3 of 3

   Insert diskette 3 of 3 into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

9. Remove the diskette labeled "Data Collection Toolkit 2 of 3" from the
   diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
   "Common System Procedures", for the procedure.

10. Insert the diskette labeled "Data Collection Toolkit 3 of 3" into the diskette
    drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common
    System Procedures", for the procedure.

11. Press ⎡ENTER⎤.

    The system displays several status messages and then the following message:

    ```
    Installation of INTUITY Data Collection Toolkit
    (dctoolkit) was successful.

    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

12. Enter **q**

13. Remove the diskette labeled "Data Collection Toolkit 3 of 3" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

Installing the Enhanced Basic Speech Package

To install this optional feature package, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

    The system displays the following message:

    ```
    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

3. Insert the diskette labeled "Enhanced Basic Speech Package - (*language*) 1 of 1" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

    ⎅▶ **NOTE:**
    The enhanced basic speech package used in this example is for United States English (US English). The name will change depending on the language chosen.

4. Press ⎡ENTER⎤.

    The system displays the following message:

    ```
    Installation in progress -- do not remove the diskette.

    The following packages are available:
      1. ebspchUS   Enhanced Basic Speech - US English -
                    Female
                    (i486)
    ```

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]:
```

5. Press ⟨ENTER⟩.

    The system displays the following message:

    ```
    PROCESSING:
    Set: Enhanced Basic Speech - US English - Female
    (ebspchUS) from <diskette1>

    INTUITY Enhanced Basic Speech - US English - Female
    (i486)
    Using </> as the package base directory.
    Lucent Technologies Inc.

    Installation of Enhanced Basic Speech - US English -
    Female (ebspchUS) was successful.

    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

6. Enter **q**

7. Remove the diskette labeled "Enhanced Basic Speech Package - *Language* 1 of 1" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

8. Reboot the system. See "Rebooting the UNIX System" in Chapter 3, "Common System Procedures", for the procedure.

Installing the Feature Test Script Package

Use the following procedure to install this optional feature package *only after* all the other optional feature packages have been installed:

1. The voice system must be running. To see if the system is running, use the **who -r** command.

    The voice system is running if the run-level is 4. If the system is not running, enter **start_vs**

2. Enter **pkgadd -d diskette1**

    The system displays the following message:

    ```
    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

3. Insert the diskette labeled "Feature Test Script Package 1 of 3" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
  Installing the Feature Test Script Package

Page 10-12

4. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. ftst       INTUITY Feature Test Script Package
                    (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Feature Test Script Package (ftst) from
   <diskette1>

   INTUITY Feature Test Script Package
   (i486)

   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following message:

   ```
   Do you want to include the Simple CCA test? (y/n)
   ```

   ⇒ NOTE:
   If you answer **y** and that package has not been installed on your system, you are given an opportunity to cancel the installation. The following is an example for Full CCA:

   ```
    Displaypkg shows that Full CCA is not installed.
    You will not be able to test Full CCA with this
    script.
    Type q to quit or return to continue.
   ```

6. Enter **y**

   The system displays the following message:

   ```
   Do you want to include the Full CCA test? (y/n)
   ```

7. Enter **y**

   The system displays the following message:

   ```
   Do you want to include the Playback and Coding test?
   (y/n)
   ```

8. Enter **y**

   The system displays the following message:

   ```
   Do you want to include the Chantst test? (y/n)
   ```

9. Enter **y**

   The system displays the following message:

   ```
   Do you want to include the Transfer Test test? (y/n)
   ```

10. Enter **y**

    The system displays the following message:

    ```
    Do you want to include the Dial Pulse Recognition test?
    (y/n)
    ```

11. Enter **y**

    The system displays the following message:

    ```
    READY TO PROCESS:
        Package: INTUITY Feature Test Script Package (ftst)
    diskette 2 of 3

    Insert diskette 2 of 3 into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)

    Do you want to include the Speech Recognition test?
    (y/n)
    ```

12. Remove the diskette labeled "Feature Test Script Package 1 of 3" from the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, *"Common System Procedures"*, for the procedure.

13. Insert the diskette labeled "Feature Test Script Package 2 of 3" into the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, *"Common System Procedures"*, for the procedure.

14. Press (ENTER).

    The system displays several status messages and then the following message:

    ```
    READY TO PROCESS:
        Package: INTUITY Feature Test Script Package (ftst)
    diskette 3 of 3

    Insert diskette 3 of 3 into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

15. Remove the diskette labeled "Feature Test Script Package 2 of 3" from the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, *"Common System Procedures"*, for the procedure.

16. Insert the diskette labeled "Feature Test Script Package 3 of 3" into the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, *"Common System Procedures"*, for the procedure.

17. Press (ENTER).

    The system displays several status messages and then the following
    message:

    > The UNIX Operating System kernel will be rebuilt
    > to include your configuration changes during the
    > next system reboot.

    Installation of Adjunct/Switch Application Interface
    Package (asai) was successful.

    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit: (default: go)

18. Enter **q**

19. Remove the diskette labeled "Feature Test Script Package 3 of 3" from the
    diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
    "Common System Procedures", for the procedure.

Installing the LAN Adapter Setup Program

To install this optional feature package, do the following:

1. If you are not already logged in as **root**, do so now.

2. Enter **pkgadd -d diskette1**

    The system displays the following message:

    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit: (default: go)

3. Insert the diskette labeled "SMC LAN Adapter Setup Program 1 of 1" into
   the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
   "Common System Procedures", for the procedure.

4. Press (ENTER).

    The system displays the following message:

    Installation in progress -- do not remove the diskette.

    The following packages are available:
      1. ezsetup   SMC LAN Adapter Setup program
                    (i486)

    Select package(s) you wish to process (or 'all' to
    process all packages). (default: all) [?,??,q]:

5. Press ⎡ENTER⎤.

    The system displays the following message:

    ```
    PROCESSING:
    Set: SMC LAN Adapter Setup program (ezsetup) from
    <diskette1>
    ```

    ```
    SMC LAN Adapter Setup program
    (i386)
    Using </var/spool/pkg> as the package base directory.
    Lucent Technologies Inc.
    ```

    The system displays several status messages and then the following
    message:

    ```
    Installation of SMC LAN Adapter Setup program (ezsetup)
    was successful.
    ```

    ```
    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

6. Enter **q**

7. Remove the diskette labeled "SMC LAN Adapter Setup Program 1 of 1"
    from the diskette drive. See "Inserting and Removing Diskettes" in
    Chapter 3, "Common System Procedures", for the procedure.

Installing the ORACLE Development Packages

ORACLE provides many packages that are not required to support the INTUITY
CONVERSANT system operation. INTUITY CONVERSANT system refers to these
packages as *ORACLE add-on* packages.

This section describes the installation procedures for each add-on package. For
detailed installation and removal information, see the *ORACLE7 for Intel UNIX
SVR4 (iABI) Installation & Configuration Guide*.

The ORACLE add-on packages include the following:

■ Pro*C 1.6.4.2.0

■ SQL*FORMS 3.0.16.12.8

■ SQL*Menu 5.0.11.13.5

■ SQL*ReportWriter 1.1.14.11.1

⚠ CAUTION:

*The ORACLE Development tools cartridge tape contains more ORACLE
products than those listed. However, INTUITY CONVERSANT system
customers must NOT install products that are not listed. Some of the*

products are already included in the various INTUITY CONVERSANT system packages, while other products are not authorized to be used by the INTUITY CONVERSANT system customers. A violation of the recommendation may result into the corruption of the INTUITY CONVERSANT system software configuration and may be illegal usage of the ORACLE software.

Installation Requirements

The basic requirements for installing ORACLE add-on packages are as follows:

- INTUITY CONVERSANT Base ORACLE RDBMS 7.0.12 package is installed.

- INTUITY CONVERSANT V6.0 Extended ORACLE DBMS 7.0.12 package is installed.

- The voice system and ORACLE database are running during the installation. (You can start the database by entering **ior w**)

⇒ NOTE:
Extended ORACLE is the name created by INTUITY CONVERSANT to capture those packages that are not included with *Base ORACLE*. The term Extended ORACLE is *not* found in any of the ORACLE documentation.

Installing the ORACLE Add-on Packages

To install the ORACLE add-on packages, do the following:

1. Log in as oracle

2. Enter **cd /oracle/orainst**

3. Enter **./orainst**

   The system displays the following message:

   ```
   Enter the pathname for your ORACLE_HOME
   ```

4. Enter **/oracle**

   The system displays the following message:

   ```
   Enter the Installation Log File name
   ```

5. Enter **/oracle/orainst/install.log**

   The system displays the following message:

   ```
   Enter the name of the ORACLE owner
   ```

6. Enter **oracle**

   The system displays the following message:

   ```
   Select the desired Installer action
   ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
  Installing the ORACLE Development Packages

Page 10-17

7. Select `Install/Upgrade/Patch Software Only`.

   Use `TAB` to move through the selections.

   The system displays the following message:

   `Select the desired online help support:`

8. Select `For all products being installed`.

   Use `TAB` to move through the selections.

   The system displays the following message:

   `Select one of the following:`
   `...`

9. Select `D: Install Directly from Tape`

   The system displays the following message:

   `Select the operating system you are running:`

10. Select `Unixware 1.1`

    The system displays the following message:

    `Select the native language to be installed:`

11. Select `American/English`.

    The system displays the following message:

    `Would you like to relink Oracle product executables:`

12. Select `yes`.

    The system displays the following message:

    `The /oracle/orainst/root.sh file already exists. Select`
    `(Yes) if you wish to append additional root-related`
    `action to this file. Select (No) if you wish to create a`
    `new root.sh.`

13. Enter **yes**

    The system displays the following message:

    `The installation log will be written to`
    `/oracle/orainst/install.log.`

14. Press `ENTER`.

    The system displays the following message:

    `Enter the non-rewinding device name:`

15. Enter **/dev/rmt/ntape1**

    The system displays the following message:

    `Enter the rewinding device name:`

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
  Installing the ORACLE Development Packages

Page 10-18

16. Enter **/dev/rmt/ctape1**

    The system displays the following message:

    ```
    Insert tape number 1.
    ```

17. Insert the cartridge tape labeled "ORACLE 7.0.12 Development Tools" into
    the tape drive. See "Inserting and Removing Cartridge Tapes" in Chapter
    3, "Common System Procedures", for the procedure.

18. Press (ENTER).

    The system displays the following message:

    ```
    The currently running Installer (version 3.0.9.0.2)
    differs from the expected version (3.0.9.0.1). Select
    (Yes) to continue the installation. Select (No) to
    cancel the installation.
    ```

19. Press (TAB) to move the cursor. Select Yes.

    The system displays the following message:

    ```
    Working...
    ```

    The system is reading the tape at this time. After several minutes, the
    system displays the following message:

    ```
    Products available on /oracle/stage
    ```

20. Select each package:

    a. Use the arrow keys to move the cursor to package_name.

    b. Press (ENTER).

    Repeat Steps a and b for each of the following ORACLE add-on
    packages.

    - Pro*C 1.6.4.2.0

    - SQL*FORMS 3.0.16.12.8

    - SQL*Menu 5.0.11.13.5

    - SQL*ReportWriter 1.1.14.11.1

    ⚠️ **CAUTION:**
      *The ORACLE Development tools cartridge tape contains more
      ORACLE products than those listed. However, INTUITY
      CONVERSANT system customers must NOT install products
      that are not listed. Some of the products are already included
      in the various INTUITY CONVERSANT system packages, while
      other products are not authorized to be used by the INTUITY
      CONVERSANT system customers. A violation of the
      recommendation may result into the corruption of the INTUITY
      CONVERSANT system software configuration and may be
      illegal usage of the ORACLE software.*

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Installing the ORACLE Development Packages

Page 10-19

21. Press TAB to move the cursor. Select (Install...).

> **⚠ CAUTION:**
> *Do not select other items. If you do, you may corrupt the V6.0 environment setup.*

The system displays the following message:

```
Working...

Please select one of the following as a default
terminal type for SQL*Reportwriter:

srw_at386 - AT&T or ISC AT386 console
```

22. Select the appropriate terminal type from which you are going to run SQL*ReportWriter.

> **⇒ NOTE:**
> Use the default value if you plan to run SQL*ReportWriter from an AT386 terminal.

The system displays the following message:

```
Would you like to link the SQL*ReportWriter demo user
exits:
```

23. Enter **yes**

The system displays the following message:

```
Would you like to re-link SQL*Forms 3.0 with PL/SQL?
```

24. Enter **yes**

The system displays the following message:

```
Would you like to relink SQL*Plus with SQL*Forms 3.0?
```

25. Enter **yes**

The system displays the following message:

```
Would you like to relink SQL*Forms 3.0 with SQL*Menu
5.0?
```

26. Enter **yes**

The system displays the following message:

```
Working...

Completed loading ORACLE software into the staging area
(/oracle/stage). Select (OK) to continue.
```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Installing the ORACLE SQL*Net TCP/IP Package

Page 10-20

27. Press $\boxed{\text{ENTER}}$.

   The system displays the following message:

   ```
   Working...

   The requested action has been performed for selected
   products. You should examine the installation log for
   possible errors.

   Select (Help) for more details on what you can do next.
   Select (OK) to continue.
   ```

28. Press $\boxed{\text{ESC}}$ $\boxed{1}$.

29. Press $\boxed{\text{ENTER}}$.

30. Use the arrow keys to move the cursor to quit.

31. Press $\boxed{\text{ENTER}}$.

32. Remove the cartridge tape labeled "ORACLE 7.0.12 Development Tools"
   from the tape drive. See "Inserting and Removing Cartridge Tapes" in
   Chapter 3, "Common System Procedures", for the procedure.

$\Longrightarrow$ **NOTE:**
   The **displaypkg** command will not show ORACLE add-on packages on the
   screen. To determine the ORACLE add-on packages on your system, read
   the **/oracle/pkginst/unix.rgs** file. For each ORACLE product installed, a
   corresponding entry containing the ORACLE product name is created in
   this file.

Installing the ORACLE SQL*Net TCP/IP Package

To install this optional feature package, do the following:

1. If you are not already logged in as **root**, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "SQL*NET TCP/IP for ORACLE 7.1.3" into the
   diskette drive. See "Inserting and Removing Diskettes" in Chapter 3,
   "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Installing the ORACLE SQL*Net TCP/IP Package

Page 10-21

4. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.
   ```

   ```
   The following packages are available:
     1. ora7sql    INTUITY SQL*NET TCP/IP for ORACLE
                    7.1.3 (i486)
   ```

   ```
   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY SQL*NET TCP/IP for ORACLE 7.1.3 (ora7sql)
   from <diskette1>
   ```

   ```
   INTUITY SQL*NET TCP/IP for ORACLE 7.1.3
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   Installation of SQL*NET TCP/IP for ORACLE 7.1.3
   (ora7sql) was successful.
   ```

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

6. Enter **q**

7. Make sure that the light on the floppy disk drive is off and remove the
   diskette. See "Inserting and Removing Diskettes" in Chapter 3, "Common
   System Procedures", for the procedure.

For more information on this feature see *INTUITY™ CONVERSANT® Version 6.0
Communication Development*, 585-310-763.

Installing the Script Builder Package

To install this optional feature package, do the following:

1. If you are not already logged in as root, do so now.

2. Enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

3. Insert the diskette labeled "Script Builder 1 of 3" into the diskette drive.
   See "Inserting and Removing Diskettes" in Chapter 3, "Common System
   Procedures", for the procedure.

4. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. sb          INTUITY Script Builder
                     (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

5. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Script Builder (sb) from <diskette1>

   INTUITY Script Builder
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   READY TO PROCESS:
       Package: INTUITY Script Builder (sb)
               diskette 2 of 3

   Insert diskette 2 of 3 into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

6. Remove the diskette labeled "Script Builder 1 of 3" from the diskette drive.
   See "Inserting and Removing Diskettes" in Chapter 3, "Common System
   Procedures", for the procedure.

7. Insert the diskette labeled "Script Builder 2 of 3" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

8. Press (ENTER).

   The system displays several status messages and then the following message:

   ```
   READY TO PROCESS:
       Package: INTUITY Script Builder (sb)
               diskette 3 of 3

   Insert diskette 3 of 3 into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

9. Remove the diskette labeled "Script Builder 2 of 3" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

10. Insert the diskette labeled "Script Builder 3 of 3" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

11. Press (ENTER).

    The system displays several status messages and then the following message:

    ```
    Installation of Script Builder (sb) was successful.

    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

12. Enter **q**

13. Remove the diskette labeled "Script Builder 3 of 3" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

For more information on this feature, see *INTUITY™ CONVERSANT® System Version 6.0 Application Development with Script Builder*, 585-310-760.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Installing the Script Builder FAX Actions Package

Page 10-24

Installing the Script Builder FAX Actions Package

To install the Script Builder FAX Actions package, do the following:

1. At the UNIX prompt, enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

2. Insert the diskette labeled "Script Builder FAX Actions 1 of 6″ into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

3. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. sbfax       INTUITY Script Builder Fax Actions
                     (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

4. Press ENTER.

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Script Builder Fax Actions (sbfax) from
   <diskette1>

   INTUITY Script Builder Fax Actions
   (i486)
   Using </> as the package base directory.

   READY TO PROCESS:
       Package: INTUITY Script Builder Fax Actions
               (sbfax) diskette 2 of 6

   Insert diskette 2 of 6 into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit:  (default:  go)
   ```

5. Remove the diskette labeled "Script Builder Fax Actions 1 of 6″ from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

6. Insert the diskette labeled "Script Builder Fax Actions 2 of 6″ into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

7. Press (ENTER).

   The system displays the following message:

   ```
   READY TO PROCESS:
        Package: INTUITY Script Builder Fax Actions
                 (sbfax) diskette 3 of 6

   Insert diskette 3 of 6 into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

8. Remove the diskette labeled "Script Builder Fax Actions 2 of 6" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

9. Insert the diskette labeled "Script Builder Fax Actions 3 of 6" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

10. Press (ENTER).

    The system displays the following message:

    ```
    READY TO PROCESS:
         Package: INTUITY Script Builder Fax Actions
                  (sbfax) diskette 4 of 6

    Insert diskette 4 of 6 into Floppy Drive 1.
    Type [go] when ready,
         or [q] to quit:  (default:  go)
    ```

11. Remove the diskette labeled "Script Builder Fax Actions 3 of 6" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

12. Insert the diskette labeled "Script Builder Fax Actions 4 of 6" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

13. Press (ENTER).

    The system displays the following message:

    ```
    READY TO PROCESS:
         Package: INTUITY Script Builder Fax Actions
                  (sbfax) diskette 5 of 6

    Insert diskette 5 of 6 into Floppy Drive 1.
    Type [go] when ready,
         or [q] to quit:  (default:  go)
    ```

14. Remove the diskette labeled "Script Builder Fax Actions 4 of 6" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

10 Installing the Optional Feature Software
  Installing the Script Builder FAX Actions Package

Page 10-26

15. Insert the diskette labeled "Script Builder Fax Actions 5 of 6" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

16. Press ENTER.

    The system displays the following message:

    ```
    READY TO PROCESS:
        Package: INTUITY Script Builder Fax Actions
                (sbfax) diskette 6 of 6

    Insert diskette 6 of 6 into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

17. Remove the diskette labeled "Script Builder Fax Actions 5 of 6" from the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

18. Insert the diskette labeled "Script Builder Fax Actions 6 of 6" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

19. Press ENTER.

    The system displays the following message:

    ```
    Select the interrupt level for the FAX Circuit Card(s)
    from the following level:
            3
            4
            5
            6
            7
            9
            10
            11
            12
            14
            15
    enter choice:
    ```

20. Enter the interrupt level.

    The system displays the following message:

    ```
    Confirm.  Interrupt level X. (y/n)
    ```

21. Enter **y**

    The system displays the following message:

    ```
    REMEMBER to set the jumpers on the FAX circuit card(s)
    to use interrupt X. Otherwise, the system will not
    function properly.
    ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
  Installing the Script Builder FAX Actions Package

Page 10-27

> Enter the code of the country in which this system will
> operate. For a list of codes, consult your user
> documentation. If you decide at a later date to change
> this setting, simply use the SetPlace.sb utility (see
> your user documentation.)
>
> Enter choice:

22. Enter the appropriate country code from Table 10-1.

Table 10-**1.**   **Country Codes**

Country: Code	Country: Code	Country: Code	Country: Code
USA: 10	Canada: 11	Algeria: 2130	American Samoa: 6840
Andorra: 330	Argentina: 540	Australia: 610	Austria: 430
Barring: 9730	Belgium: 320	Belize: 5010	Bolivia: 5910
Brazil: 550	Cameroon: 2370	Chile: 560	Columbia: 570
Costa Rica: 5060	Cyprus: 3570	Czech Republic/Slovakia: 420	Denmark: 450
Ecuador: 5930	Egypt: 200	El Salvador: 5030	Ethiopia: 2510
Fiji: 6790	Finland: 3580	France: 330	French Antilles: 5960
French Antillis Guadeloupe: 5900	French Polynesia: 6890	Gabon: 2410	German Dem Rep: 370
German Fed Rep: 490	Greece: 300	Guam: 6710	Guantanamo Bay: 530
Guatemala: 5020	Guyana: 5920	Haiti: 5090	Honduras: 5040
Hong Kong: 8520	Hungary: 360	Iceland: 3540	India: 910
Indonesia: 620	Iran: 980	Iraq: 9640	Ireland: 3530
Israel: 9720	Italy (Co): 390	Italy (PBX): 391	Ivory Coast: 2250
Japan 10: 810 (10 pulse per second)	Japan 20: 811 (20 pulses per second)	Japan 10 DID: 812 (10 pulses per second)	Japan 2 DID: 813 (10 pulses per second)
Jordan: 9620	Kenya: 2540	Korea: 820	Kuwait: 9650
Liberia: 2310	Libya: 2180	Liechtenstein: 410	Luxembourg: 3520
Malawi: 2650	Malaysia: 600	Mexico: 520	Monaco: 330
Morocco: 2120	Namibia: 2640	Netherlands: 310	Netherlands Antilles: 5990
Netherlands Antilles Aruba: 2970	New Caledonia: 6870	New Zealand: 640	Nicaragua: 5050
Nigeria: 2340	Norway: 470	Norway X: 471	Oman: 9680

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

10 Installing the Optional Feature Software
   Installing the Script Builder FAX Actions Package

Page 10-28

Table 10-1.   Country Codes — *Continued*

Country: Code	Country: Code	Country: Code	Country: Code
Pakistan: 920	Panama: 5070	Papua New Guinea: 6750	Paraguay: 5950
Peru: 510	Philippines: 630	Poland: 480	Portugal: 3510
Qatar: 9740	Romania: 400	Saipan: 6700	San Marino: 390
Saudi Arabia: 9660	Senegal: 2210	Singapore: 650	South Africa: 270
Spain: 340	Sri Lanka: 940	Suriname: 5970	Sweden: 460
Switzerland: 410	Taiwan:8860	Thailand: 660	Tunisia: 2160
Turkey: 900	United Arab Emirates: 9710	U.K. (CO): 440	U.K. (PBX): 441
Uruguay: 5980	Vatican City: 390	Venezuela: 580	Yemen Arab Republic: 9670
Yugoslavia: 380			

The system displays the following message:

```
Confirm.  The country is X. (y/n)
```

23. Enter **y**

The system displays the following message:

```
Enter the number of faxingDips you want running on your
system. Your application will work fine regardless of
how many you choose. If you decide at a later date to
change this setting, simply use the SetFaxDip.sb
utility (see your user documentation.)
```

⚠ CAUTION:

*Using more than two faxingDips could cause your CPU idle time to
be reduced to 0%. This will result in SPIO001 alarm messages and
notification of the TSC.*

```
For light expected FAX traffic                    enter 1
For average expected FAX traffic                  enter 2
For moderately heavy expected FAX traffic         enter 3
For heavy expected FAX traffic                    enter 4

enter choice:
```

24. Enter **1** or **2** as appropriate.

    The system displays the following message:

    ```
    Confirm.  Number of faxingDips is X. (y/n)
    ```

25. Enter **y**

    The system displays the following message:

    ```
    If you currently have applications that use FAX
    Actions, re-verify and re-install them for best
    performance.

    Your system will have X running faxingDips

    The sbfax has been successfully installed. You must
    remove the last floppy disk.  The system will reboot
    shortly.

        The UNIX Operating System kernel will be rebuilt
        to include your configuration changes during the
        next system reboot.

    Installation of INTUITY Script Builder Fax Actions
    (sbfax) was successful.

    Insert diskette into Floppy Drive 1.
    Type [go] when ready,
        or [q] to quit:  (default:  go)
    ```

26. Enter **q**

27. Make sure that the light on the diskette drive is off and remove the
    diskette. See "Inserting and Removing Diskettes" in Chapter 3, "Common
    System Procedures", for the procedure.

28. Reboot the system. See "Rebooting the UNIX System" in Chapter 3,
    "Common System Procedures", for the procedure.

See the *INTUITY™ CONVERSANT® Version 6.0 Application Development with
Script Builder*, 585-310-760, for more information on using Script Builder FAX
Actions, as well as procedures to install the diskettes labeled "SBFAX_demo
Backup Speech" and "Transmissions."

Installing the Unix Management Screens Package

To install the Backup/Restore Utility, do the following:

1. At the UNIX prompt, enter **pkgadd -d diskette1**

   The system displays the following message:

   ```
   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

2. Insert the diskette labeled "Unix Management Screens Package 1 of 1"
   into the diskette drive. See <u>"Inserting and Removing Diskettes"</u> in <u>Chapter
   3, "Common System Procedures"</u>, for the procedure.

3. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress -- do not remove the diskette.

   The following packages are available:
     1. unixmgmt   INTUITY Unix Management Screens Package
                   (i486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]:
   ```

4. Press (ENTER).

   The system displays the following message:

   ```
   PROCESSING:
   Set: INTUITY Unix Management Screens Package (unixmgmt)
   from <diskette1>

   INTUITY Unix Management Screens Package
   (i486)
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several status messages and then the following
   message:

   ```
   Installation of INTUITY Unix Management Screens Package
   (unixmgmt) was successful.

   Insert diskette into Floppy Drive 1.
   Type [go] when ready,
        or [q] to quit:  (default:  go)
   ```

5. Enter **q**

   The system displays the UNIX prompt.

6. Make sure that the light on the diskette drive is off and remove the diskette. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

Removing Software Packages

Software packages can be removed using

- The command line
- The INTUITY CONVERSANT screens

Using the Command Line

Use the **pkgrm** command to remove a software package from your system. See Appendix A, "Summary of Commands" in *INTUITY™ CONVERSANT® Version 6.0 Administration*, 585-310-591, book for more information on these commands.

There are some *important* issues you need to be aware of when removing software from your system:

- Remove all services, functions, or card assignments before removing any software packages.

- When removing the Application software (installed in Chapter 10), you are asked if you want to remove speech file systems. Answer *no* to this prompt.

- During an initial installation of the Base ORACLE RDBMS package, a user called "oracle" is created. This user is NOT removed when the Base ORACLE RDBMS package is removed. Once all the base and add-on ORACLE packages have been removed, if you want to remove the "oracle" user, do so through **sysadm**. See Appendix A, "Summary of Commands" in *INTUITY™ CONVERSANT® Version 6.0 Administration*, 585-310-591.

To remove software packages, do the following:

1. Enter **pkginfo** at the system prompt #.

   The system displays all the packages installed on your system.

2. Once you have determined the packages to be removed, enter **pkgrm**

3. At the prompt, enter the number (as it appears on the screen) beside the package you want to remove.

Repeat Step 2 for each package you want to remove.

⚠ WARNING:

After you have removed packages from a UnixWare system, you MUST reboot the system before reinstalling packages. You can remove more than

one package before rebooting, but you must reboot before reinstalling any packages.

Using the INTUITY CONVERSANT Screens

⇒ **NOTE:**
   Your system must have the Unix Management Screens Package installed in order to use this procedure.

To remove software using the INTUITY CONVERSANT screens, do the following:

1. Starting at the Voice System Administration menu (Figure 10-1), select

```
> UNIX Management

   >Software Remove
```

The system displays the Software Remove screen (Figure 10-3). which lists the software installed on the system.

```
The following packages are available:
 1  CVISset       INTUITY CONVERSANT VIS V6.0 Set
                  (i486) i.2.0
 2  PerfBack      Perfect Backup and Restore
                  (SVR4.2-intel) 5.0.0
 3  TSM           INTUITY Transaction State Machine Package
                  (i486) i.2.0
 4  acp           Enhanced Application Compatibility
                  (386) 1
 5  as            UnixWare for Intuity
                  (386) 1
 6  asai          INTUITY Adjunct/Switch Application Interface Package
                  (i486) i.2.0
 7  asp           INTUITY ASP Driver Package
                  (i486) i.2.0
 8  atm           Adobe Type Manager(TM)
                  (386) 1
 9  atm13         ATM Basic Fonts
                  (386) 1
10  backrest      INTUITY Backup/Restore Utilities
                  (i486) 1.0

... 99 more menu choices to follow;
<RETURN> for more choices, (CTRL-D) to stop display:
```

Figure 10-**3.   Software Remove Screen**

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Removing Software Packages

Page 10-33

2. Locate the package you wish to remove.

3. Note the number of the package given in the first column.

4. Press (CONTROL) (D).

   The system displays the following message:

   ```
   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

5. Enter the number of the package.

   The system displays the name and version number for the package selected.

6. Enter **y**

   The system removes the package.

   ### ⇒ NOTE:
   If the system displays any messages warning of dependencies, enter **y** again to continue with the software removal.

7. Press (ENTER).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

10 Installing the Optional Feature Software
Removing Software Packages

Page 10-34

Configuring a System

A

Overview

This appendix describes the placement of components in the MAP/5P and the operation of the Hardware Resource Allocator.

Purpose

The purpose of this appendix is to enable the user to reconfigure the INTUITY™ CONVERSANT® when it is necessary to add or remove hardware.

System Configuration

The system configuration consists of

- Memory
- Component Assignments

Memory

The MAP/5P supports 64-Mbyte of memory packaged on two 32-Mbyte single
in-line memory modules (SIMMs). These modules are placed in sockets located
in the bottom right corner of the motherboard (Figure A-1).
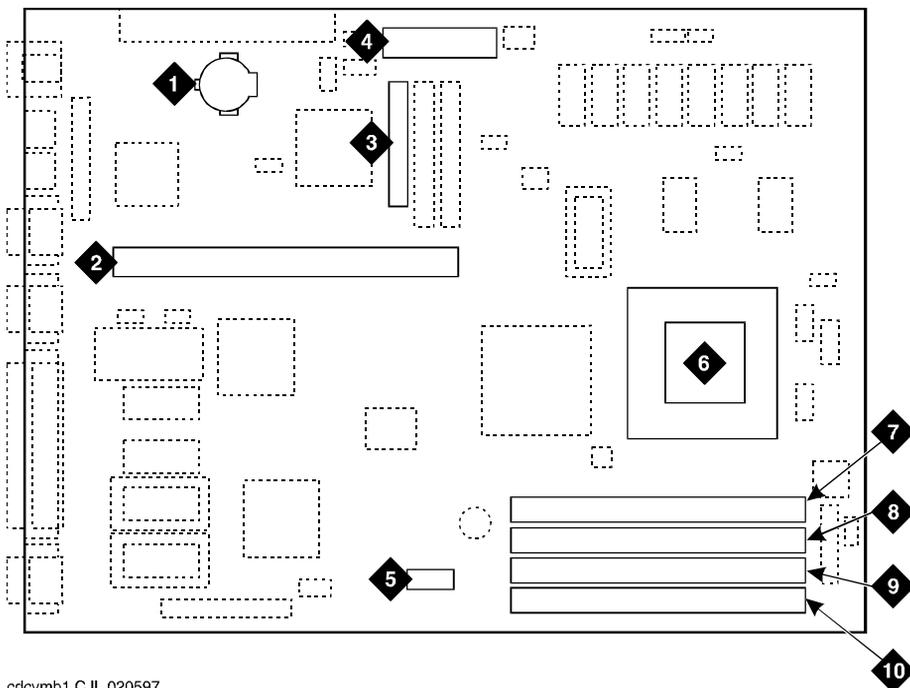
cdcvmb1 CJL 020597

1. CMOS battery   6.   CPU
2. Riser card connector   7.   SIMM4 socket (empty)
3. Diskette cable connector   8.   SIMM3 socket (empty)
4. Power supply connectors   9.   SIMM2 socket
5. Switches   10. SIMM1 socket

Figure A-1.   Motherboard

NOTE:
The INTUITY CONVERSANT system will not boot if there is an odd number of
SIMMs

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
System Configuration

Page A-3

Component Assignments

The components included in a system configuration are

- Circuit cards

- Operating hardware

Circuit Cards

Circuit cards are placed in the MAP/5P in locations called *slots.* Slots are numbered PCI 1 through PCI 3 and ISA 2 through ISA 6 from the top of the MAP/5P to the bottom. Slots are accessible from the back of the MAP/5P ().
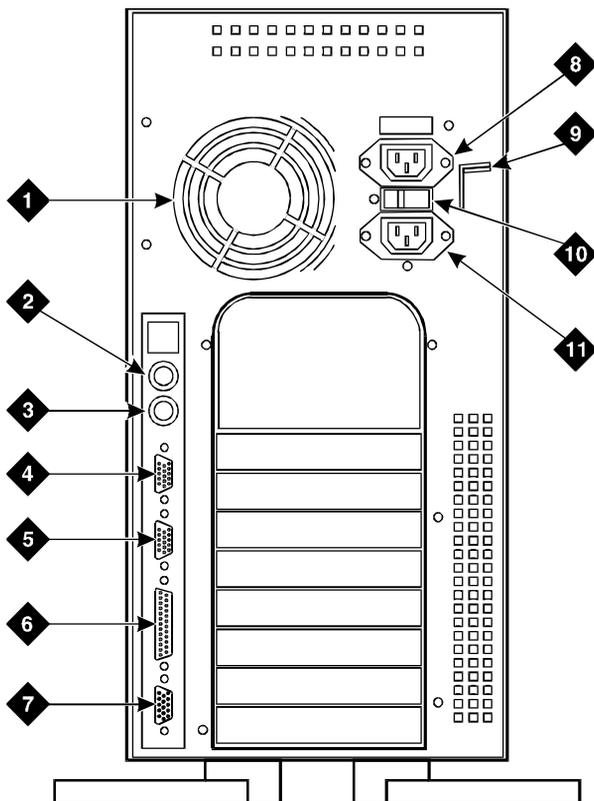
INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

A Configuring a System
System Configuration   *Page A-4*

1.   Power supply fan intake
2.   Keyboard connector
3.   Mouse connector
4.   COM1
5.   COM2
6.   Parallel port
7.   Video connector
8.   AC power supply outlet
9.   Dress cover lock
10.   AC voltage selector switch
11.   AC power inlet receptacle

Figure A-2.   Back View of the MAP/5P

Operating Hardware

Operating hardware is placed in the MAP/5P in locations called *bays*. Bays are numbered 1 through 7. Bays 1 through 5 are accessible from the front of the MAP/5P (Figure A-3). Bays 6 and 7 are accessible only after you remove the dress cover (Figure A-4).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
System Configuration

Page A-5

1.   INT drive indicator
2.   Speed indicator
3.   Power indicator
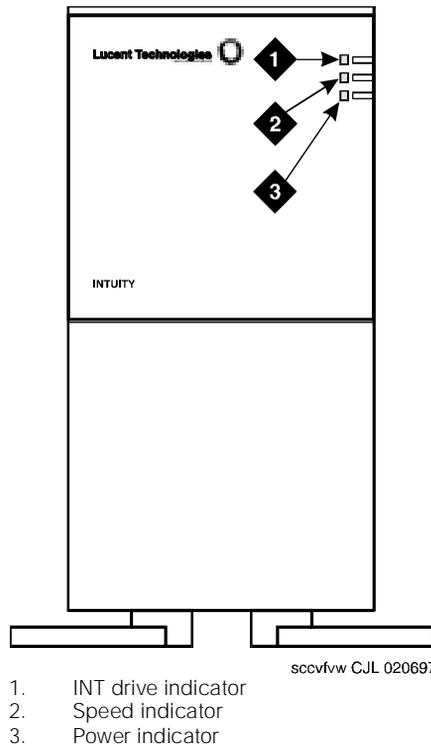
Figure A-3.   Front View of the MAP/5P
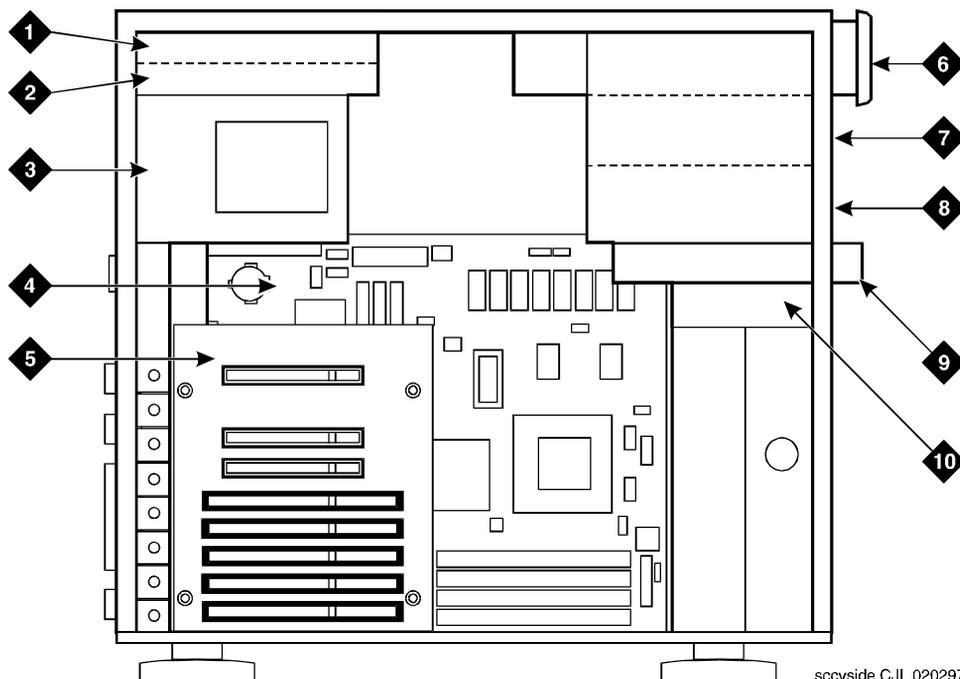
INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
System Configuration

Page A-6

1. Bay 6 - Hard Disk Drive 0
2. Bay 7 - Empty
3. Power supply
4. Motherboard
5. Riser card

6. Bay 1 - Cartridge tape drive
7. Bay 2 - Empty
8. Bay 3 - Empty
9. Bay 4 - Diskette drive
10. Bay 5 - Hard Disk Drive 1 (if used)

Figure A-4. MAP/5P Internal Layout

The following bay assignments are fixed in the MAP/5P:

- Bay 1 — Cartridge tape drive

- Bay 2 — Empty

- Bay 3 — Empty

- Bay 4 — Diskette drive

- Bay 5 — Hard Disk Drive 1 (if provided)

- Bay 6 — Hard Disk Drive 0

- Bay 7 — Empty

The following slot assignment is fixed in the MAP/5P:

- PCI Slot 1 — SCSI controller circuit card

Hardware Resource Allocator Operation

Operation of the Hardware Resource Allocator includes the following tasks:

- Saving a Configuration

- Viewing a Configuration

- Adding Hardware to an Existing Configuration

- Removing Hardware from an Existing Configuration

- Specifying a New Configuration

- Presetting Hardware Resources

Saving a Configuration

Save the system configuration whenever you add, remove, or change components. To save the system configuration, do the following:

1. Enter **save_config**

   The system displays the following message:

   ```
   This program copies the /vs/data/confData file for a
   given VIS machine to floppy disk.  This file represents
   the configuration of the machine.  The floppy must be
   kept in a safe place.  It will be required as input for
   the /vs/bin/util/configure program in the event of a
   hardware upgrade to this machine.

   Please insert the "CONFIGURATION DATA" floppy for this
   machine.

   Press <Enter> when ready to proceed...
   ```

2. Insert the diskette labeled "Configuration Data" into the diskette drive. See "Inserting and Removing Diskettes" in Chapter 3, "Common System Procedures", for the procedure.

3. Press (ENTER).

   The system displays the following message:

   ```
   Working.../vs/data/confData
   /vs/data/confData saved

   UNIX_SV#
   ```

4. Remove the diskette labeled "Configuration Data" from the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, *"Common System Procedures"*, for the procedure.

⚠ CAUTION:
Be sure you put the diskette in a safe place.

Viewing a Configuration

The show_config command allows you to view

- Successful configurations

- Unsuccessful configurations

- Dated configurations

Viewing a Successful Configuration

To view a successful system configuration, do the following:

1. Enter **show_config**

   The system displays the following message:

   ```
   Using /vs/data/confData as configuration data input
   file.  Output file is ./configuration
   ```

   ```
   A "./configuration" file already exists
   ```

   ```
   Overwrite? [y|n]
   ```

2. Enter **y**

   The system displays the following message:

   ```
   Configuration has been written to the "./configuration"
   ```

3. Enter **vi ./configuration**

   The system displays the System Configuration Table screen (Figure A-5).

4. Use the (▲) up arrow and (▼) down arrow keys to move through the screen.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation *Page A-9*

```
                      SYSTEM CONFIGURATION TABLE


PLATFORM

MAP/5P
Description:   MAP/5P platform w/ PCI backplane and Pentium 133MHz CPU
Backplane:    PCI
CPU:          Pentium 133



DEVICES

Device Name:          VIDEO_CONTROLLER
Device Description:   [S]VGA Video Card

LOCATION   TDM?    INTR   IOADDR    RAMADDR   DMA   PORT         SCSI ID
--------   ----    ----   --------  --------- ---   ----------   ----------
 ISA11                    3b0       a0000



Device Name:          RMB_M
Device Description:   Remote Maintenance Board with modem interface

LOCATION   TDM?    INTR   IOADDR    RAMADDR   DMA   PORT         SCSI ID
--------   ----    ----   --------  --------- ---   ----------   ----------
 ISA9              3       180      d1000
```

Figure A-5.   Partial System Configuration Table Screen

Viewing an Unsuccessful Configuration

To view an unsuccessful system configuration, do the following:

1. Enter **show_config fail**

   The system displays the following message:

   ```
   Using /vs/data/fail_data as configuration data input
   file.   Output file is ./failed_config
   ```

   Configuration has been written to the "./failed_config"

2. Enter **vi ./failed_config**

   The system displays a System Configuration Table screen similar to the one shown in Figure A-5. Asterisks (*) next to any field value indicate an unresolved resource conflict.

3. Use the ⬆ up arrow and ⬇ down arrow keys to move through the screen.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-10

Viewing a Dated Configuration

To view a dated system configuration, do the following:

1. Enter **show_config /vs/data/conf_MMDDYY**

   where *MMDDYY* is the month, day, and year of the configuration you want to view.

   The system displays the following message:

   ```
   Using /vs/data/conf_MMDDYY as configuration data input
   file.
   ```

   ```
   Please specify full path name of output file for this
   configuration:
   ```

2. Enter ***pathname/fn***

   where *pathname* is the file location and *fn* is the filename.

   The system displays the following message:

   ```
   Configuration has been written to the "pathname/fn"
   ```

3. Enter **vi *pathname/fn***

   where *pathname* is the file location and *fn* is the filename from the previous step.

   The system displays a System Configuration Table screen similar to the one shown in Figure A-5.   Asterisks (*) next to field value indicate an unresolved resource conflict.

4. Use the ▲ up arrow and ▼ down arrow keys to move through the screen.

Adding Hardware to an Existing Configuration

When you modify an existing configuration, you may have to change the current resource assignments:

- Differences in slot assignments or serial/parallel port assignments *will not* require switch settings and/or driver software changes. However, you may need to rearrange the circuit cards and/or cables to fit the new configuration output.

- Differences in INTR, DMAC, IOADDR, or RAMADDR assignments *will* in most cases require you to change switch settings and reinstall driver software for the affected circuit cards.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-11

To add hardware to an existing configuration, do the following:

1. Make a hard copy of the current configuration by printing the output of the **show_config** command. See <u>"Viewing a Configuration"</u> above for an explanation of the **show_config** command.

2. Enter **get_config**

   The system displays the following message:

   ```
   This program retrieves the /vs/data/confData file for a
   given VIS machine from floppy disk.  This file
   represents the configuration of the machine and is
   required in order for the /vs/bin/util/configure
   program to upgrade the machine with new or additional
   hardware.

   Please insert the "CONFIGURATION DATA" floppy for this
   machine.

   Press <Enter> when ready to proceed...
   ```

3. Insert the diskette labeled *Configuration Data* into the diskette drive. See <u>"Inserting and Removing Diskettes"</u> in <u>Chapter 3, "Common System Procedures"</u>, for the procedure.

4. Press ⌈ENTER⌉.

   The system displays the following message:

   ```
   Working.../vs/data/confData retrieved

   UNIX_SV#
   ```

5. Enter **configure**

   The system displays the following message:

   ```
   A configuration file, confData, exits.
   Do you wish to make changes to the previous
   configuration [y|n]?
   ```

6. Enter **y**

   The system displays the following message:

   ```
   Reading old configuration. Please wait...

   Successfully read MAP/5P Platform

   Adding device SCSIHD
   Adding device SCSITAPE

   Press any key to continue...
   ```

   > ➡ **NOTE:**
   > The above message may look different on your system.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-12

7. Press ⟨ENTER⟩.

   The system displays the Device Menu screen (Figure A-6).

8. Select the hardware item you want to add to the configuration file. Use the
   ⟨▲⟩ up arrow and ⟨▼⟩ down arrow keys to move through the screen.

9. Press ⟨ENTER⟩.

10. If the system displays the following message, enter the quantity of this
    hardware item you want to install in your system:

    ```
    Enter quantity to add (X max in multiples of 1):
    ```

    If the system does not display this message, continue with Step 11.

11. If the system displays the following message,

    - ■ If you want to preset the hardware see "Presetting Hardware
      Resources" below for the procedure.

    - ■ If you do not want to preset the hardware enter **n**

    ```
    Do you wish to preset hardware options for device
    XXXX [y|n]?
    ```

    If the system does not display this message, continue with Step 12.

12. When the system displays the following message, press ⟨ENTER⟩.

    ```
    1 XXXX device(s) added.
    ```

    ```
    Press Enter to continue...
    ```

    The system displays the Device Menu screen (Figure A-6).

```
                              Device Menu

1    SCSI_TAPE_DRIVE          8   IVC6                 15   FAX
2    SCSI_DISK                9   NGTR6                16   REMOTE_TERMINAL
3    PCI_SCSI_CONTROLLER     10   IVP6IA               17   EXTERNAL_MODEM
4    16MB_SIMM               11   TOKEN_RING           18   SERIAL_PRINTER
5    32MB_SIMM               12   FIFO_SIB             19   PARALLEL_PRINTER
6    RMB_M                   13   PCI_LAN              20   COLOR_CONSOLE
7    RMB_SP                  14   MEGA_8_PORT_SERIAL












Select Device #, r to remove, s to show, d when done, or q to quit

```
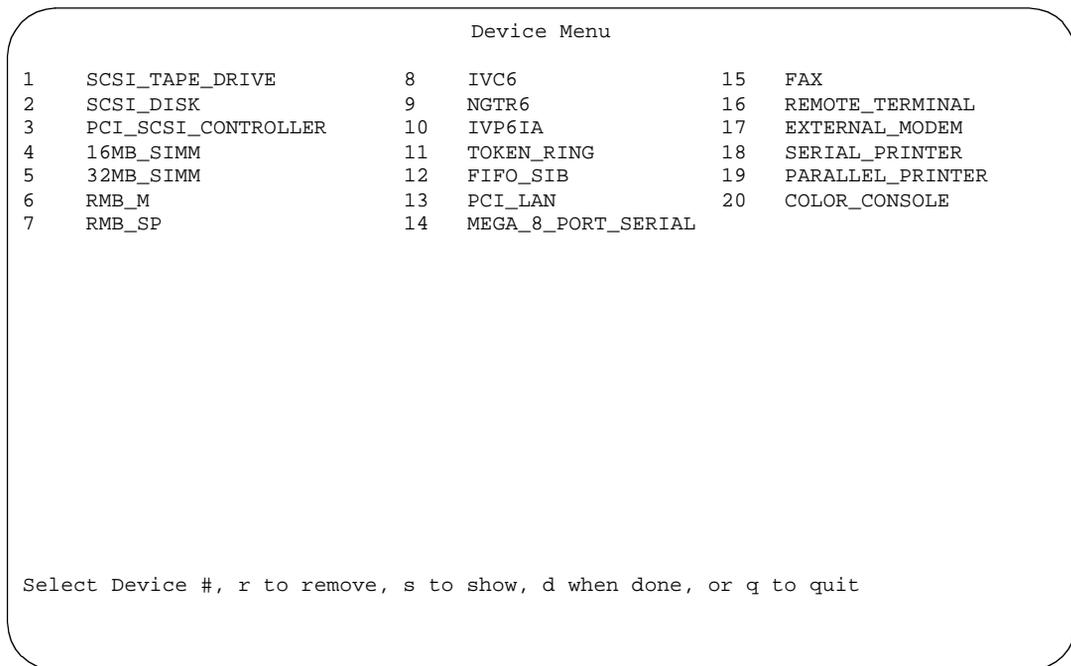
Figure A-6.   Device Menu Screen

13. When you are done adding hardware to the configuration press $\boxed{\text{D}}$

    The system displays the following message:

    ```
    Configuration complete and successful.
    Configuration data written to file: /vs/data/confData.
    ```

14. View the new configuration file to make sure you have added the correct hardware. See "Viewing a Configuration" above for the procedure.

15. Make the necessary adjustments on the installed hardware based on the new configuration.

16. Save the new configuration. See "Saving a Configuration" above for the procedure.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-14

Removing Hardware from an Existing Configuration

When you modify an existing configuration, you may have to change the current resource assignments:

- Differences in slot assignments or serial/parallel port assignments *will not* require switch settings and/or driver software changes. However, you may need to rearrange the circuit cards and/or cables to fit the new configuration output.

- Differences in INTR, DMAC, IOADDR, or RAMADDR assignments *will* in most cases require you to change switch settings and reinstall driver software for the affected circuit cards.

To remove hardware from an existing configuration, do the following:

1. Make a hard copy of the current configuration by printing the output of the **show_config** command. See *"Viewing a Configuration"* above for an explanation of the **show_config** command.

2. Enter **get_config**

   The system displays the following message:

   ```
   This program retrieves the /vs/data/confData file for a
   given VIS machine from floppy disk.  This file
   represents the configuration of the machine and is
   required in order for the /vs/bin/util/configure
   program to upgrade the machine with new or additional
   hardware.

   Please insert the "CONFIGURATION DATA" floppy for this
   machine.

   Press <Enter> when ready to proceed...
   ```

3. Insert the diskette labeled "Configuration Data" into the diskette drive. See *"Inserting and Removing Diskettes"* in Chapter 3, "Common System Procedures", for the procedure.

4. Press (ENTER).

   The system displays the following message:

   ```
   Working.../vs/data/confData retrieved

   UNIX_SV#
   ```

5. Enter **configure**

   The system displays the following message:

   ```
   A configuration file, confData, exits.
   Do you wish to make changes to the previous
   configuration [y|n]?
   ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-15

6. Enter **y**

   The system displays the following message:

   ```
   Reading old configuration. Please wait...

   Successfully read MAP/5P Platform

   Adding device SCSIHD
   Adding device SCSITAPE

   Press any key to continue...
   ```

   ![NOTE icon] **NOTE:**
   The above message may look different on your system.

7. Press (ENTER).

   The system displays the Device Menu screen (Figure A-6).

8. Press **r**

   The system displays the Currently Selected Devices screen (Figure A-7).

```
                      Currently Selected Devices

1    SCSI_TAPE_DRIVE         5    SCSI_TAPE_DRIVE     9    SP
2    VIDEO_CONTROLLER        6    16MB_SIMM           10   SP
3    RMB_M                   7    16MB_SIMM           11   IVP6
4    SCSI_DISK               8    COMPANION           12   ETHERNET

                 Select Device to remove, q to quit
```

Figure A-7. Currently Selected Devices Screen

![NOTE icon] **NOTE:**
The above screen is dependent on your system configuration and
may look different than the one shown.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-16

9. Place the cursor on the hardware item you want to remove from the configuration file. Use the ▲ up arrow and ▼ down arrow keys to move through the screen.

10. Press ENTER.

The system displays the following message:

```
You have currently selected 1 XX device(s)
How many do you wish to remove?
```

11. Enter the quantity of the hardware item you want to remove from your system.

The system displays the Currently Selected Devices screen (Figure A-7).

12. If you are done removing hardware from your system press Q.

The system displays the Device Menu screen (Figure A-6).

If you want to remove additional hardware from your system, repeat Steps 9 through 11.

13. Press D.

The system displays the following message:

```
Configuration complete and successful.
Configuration data written to file: /vs/data/confData.
```

14. View the new configuration file to make sure you have removed the correct hardware. See *"Viewing a Configuration"* above for the procedure.

15. Make the necessary adjustments on the installed hardware based on the new configuration.

16. Save the new configuration. See *"Saving a Configuration"* above for the procedure.

Specifying a New Configuration

If you want to remove one device from the system and add another device in its place. You must specify a new configuration for the system.

To specify a new configuration, do the following:

1. Enter **configure new**

The system displays the Platform Menu screen (Figure A-8).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-17

```
-------------------------------------------------------------------------------
                                Platform Menu
-------------------------------------------------------------------------------
    1    MAP/5P                              3    MAP/100
    2    MAP/40                              4    MAP/100C
-------------------------------------------------------------------------------
                              Select a Platform
```
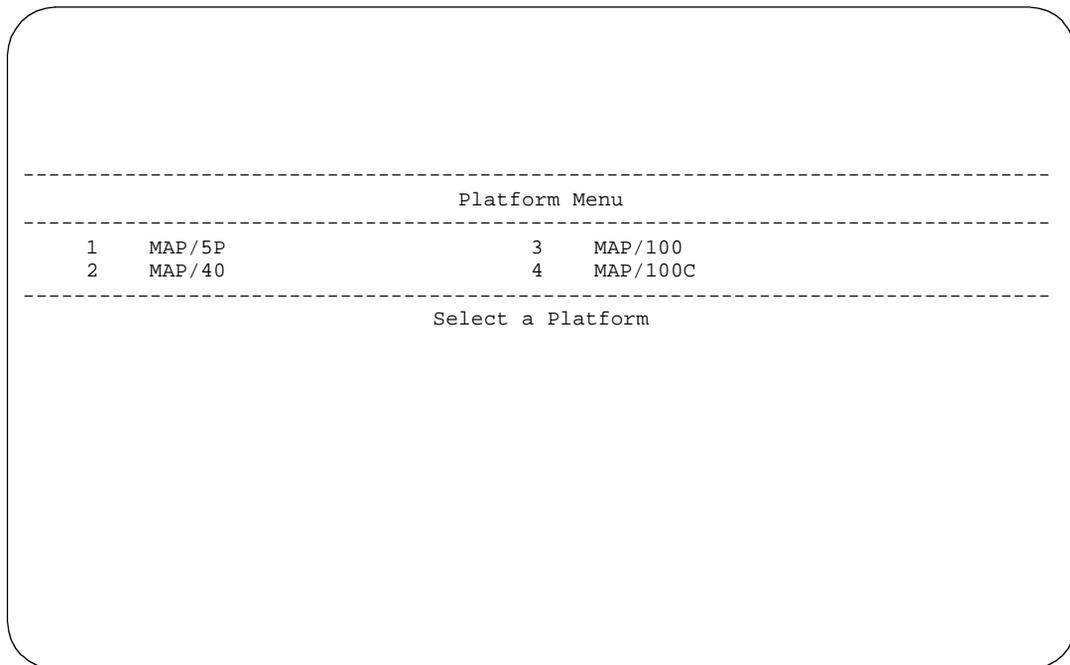
Figure A-8.   Platform Menu Screen

2. Place the cursor on MAP/5P.

3. Press (ENTER).

    The system displays the Backplane Menu screen (Figure A-9).

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-18

```
--------------------------------------------------------------------------------
                               Backplane Menu
--------------------------------------------------------------------------------
    1    PCI
--------------------------------------------------------------------------------
                         Select a Backplane for MAP/5P
```
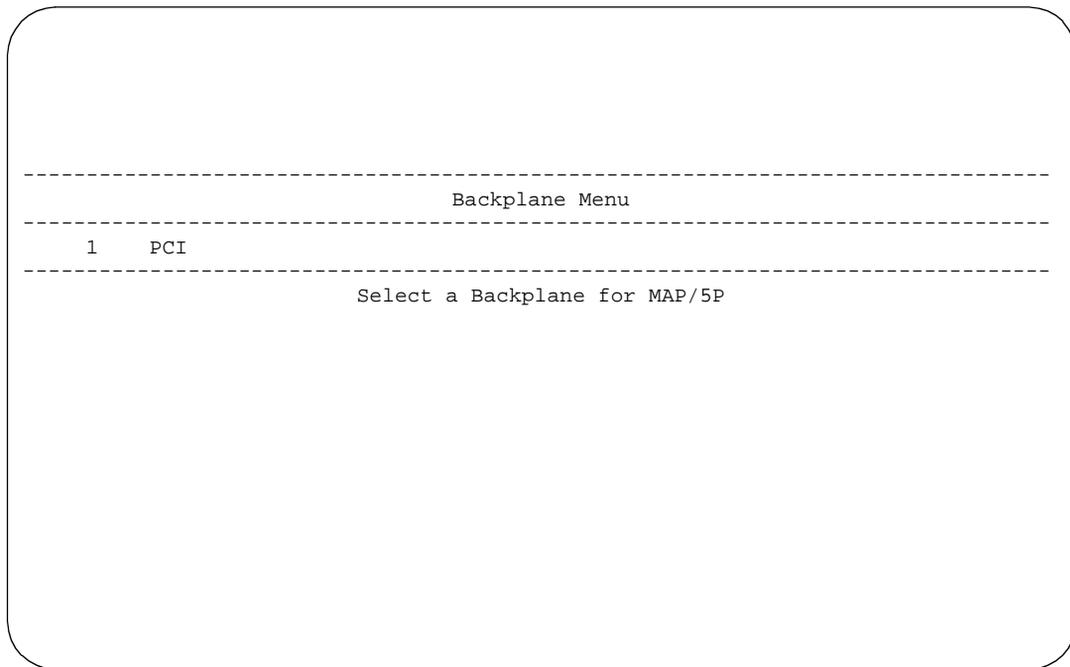
Figure A-9.   Backplane Menu Screen

4. Place the cursor on PCI.

5. Press (ENTER).

   The system displays the CPU Menu screen ().

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-19

```
--------------------------------------------------------------------------------
                                   CPU Menu
--------------------------------------------------------------------------------
    1    Pentium133
--------------------------------------------------------------------------------
                       Select a CPU for MAP/5P with PCI
```
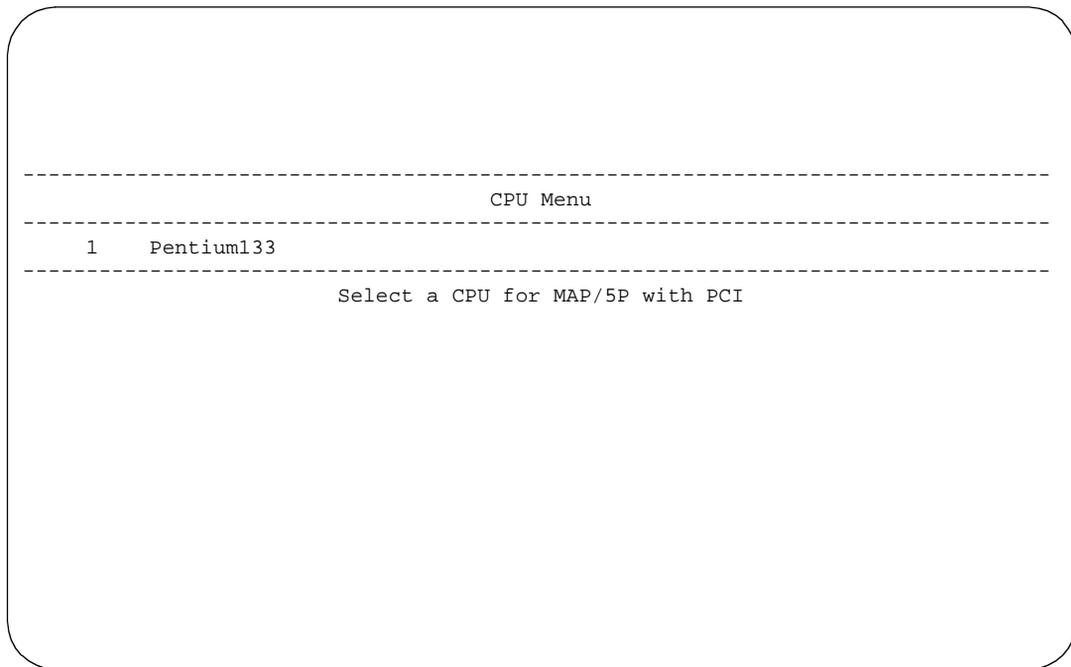
Figure A-10. CPU Menu Screen

6. Place the cursor on Pentium133.

7. Press (ENTER).

   The system displays the Device Menu screen (Figure A-6).

8. Place the cursor on the hardware item you want to add to the configuration
   file. Use the ▲ up arrow and ▼ down arrow keys to move through the
   screen.

9. Press (ENTER).

10. If the system displays the following message, enter the quantity of this
    hardware item you want to install in your system.

    `Enter quantity to add (X max in multiples of 1):`

    If the system does not display this message, continue with Step 11.

11. If the system displays the following message,

    `Do you wish to preset hardware options for device`
    `XXXX [y|n]?`

    Enter **n**

    If the system does not display this message, continue with Step 12.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-20

12. When the system displays the following message, press ENTER.

    ```
    1 XXXX device(s) added.
    ```

    ```
    Press Enter to continue...
    ```

    The system displays the Device Menu screen (Figure A-6).

13. When you are done adding hardware to the configuration press D.

    The system displays the following message:

    ```
    Configuration complete and successful.
    Configuration data written to file: /vs/data/confData.
    ```

14. View the new configuration file to make sure you have added the correct hardware. See *"Viewing a Configuration"* above for the procedure.

15. Make the necessary adjustments on the installed hardware based on the new configuration.

16. Save the new configuration. See *"Saving a Configuration"* above for the procedure.

Presetting Hardware Resources

The preset option allows you to preset the resources used for a particular circuit card. This makes the card compatible and interchangeable with any of your application setups and gives you the flexibility to use your hardware with more than one application. You may want to preset certain resources of a single new device being selected for a configuration, for example, to force the configure program to select interrupt 6 for a particular device being specified.

If you have preset hardware resources, the INTUITY CONVERSANT Hardware Resource Allocator attempts the initial pass at configuration.   If this pass is successful, the program terminates normally. If this pass is *not* successful, the system does not attempt a second pass at the configuration.

Use the following procedure to preset resources:

1. When you specify a single device, the system displays the following prompt:

   ```
   Do you wish to preset any hardware options of <device
   name>? [y|(n)]
   ```

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

A Configuring a System
Hardware Resource Allocator Operation

Page A-21

2. Press **y**

   The system asks you to select a value for the following parameters (where applicable):

   - IRQ

   - I/O address

   - RAM address

   - DMA address

   When you have entered all applicable presets, the system displays the following message:

   ```
   Press Enter to continue...
   ```

3. Press (ENTER).

   The system displays the following message:

   ```
   1 XXX device(s) added.
   ```

   ```
   Press Enter to continue...
   ```

4. Press (ENTER).

   The system displays the Device Menu screen (Figure A-6).

Configuration Device Data

The **deviceData** file stores the devices and the attributes for creating a configuration. In most cases, you will not work with this file. Your only option is the **show_devices** command. This command displays and prints to a file all devices and their attributes as represented in the **deviceData** file.

⚠ CAUTION:
Do not alter this file.

The show_devices Command

The **show_devices** command uncompresses the database of devices and their attributes contained in the **deviceData** file and displays the information on the screen. At the same time, it creates a **./devices** file so that you can send this information to a printer.

If a **./devices** file already exists, you are prompted as to whether it is acceptable to overwrite the existing file.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

A   Configuring a System
Hardware Resource Allocator Operation

Page A-22

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

B   Component Ordering Numbers
Overview   *Page B-1*

Component Ordering Numbers

B

Overview

This appendix provides the ordering numbers for replacement components used in the MAP/5P.

Purpose

This appendix enables you to order replacement components for your MAP/5P.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

B Component Ordering Numbers
Component Ordering Numbers

Page B-2

Component Ordering Numbers

Table B-1 lists the component ordering numbers for available replacement
components associated with the MAP/5P.

Table B-1.   Component Ordering Numbers

Basic Component Description	Order Number
Adapter, electrical, DCE female	407345776
Adapter, electrical, DCE male (wyse trm, prntrs)	407050111
Adapter, electrical, DTE female	407345768
Adapter, electrical, DTE male (modems)	407050095
Adapter, SCSI, 68-50 pin	407714526
Adapter, SPM port connector	105012645
Cable assembly, ACCX	407027564
Cable assembly, ACCX	601436124
Cable assembly, ACCX/DCP	601447170
Cable assembly, ACCX/DCP	601447188
Cable assembly, diskette drive	407714559
Cable assembly, port/line	601447014
Cable assembly, port/line	601447162
Cable assembly, SCSI, 68-pin	407714542
Cable assembly, telephone cord, 3-ft	601448632
Circuit card, fax, TR114+14L (US & Canada)	407433408
Circuit card, fax, TR114+14L (US & Canada)	407612126
Circuit card, SCSI controller	407711639
Circuit card, Tip/Ring (AYC10)	106406580
Circuit card, Tip/Ring, (AYC30)	107224586
Circuit card, remote maintenance	406969238
Cord, 6-pin modular, 14-ft	102937604
Cord, AC power, United States, 6-ft	407714773
Cord, AC power, Australia, 8-ft	407051630
Cord, AC power, Germany, 6-ft	407051648

Continued on next page

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

B   Component Ordering Numbers
Component Ordering Numbers

Page B-3

Table B-1.   Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
Cord, AC power, India, 8-ft	407406735
Cord, AC power, United Kingdom, 6-ft	406999243
Cord, power, monitor (PC style)	407714781
Cord, telephone, 25-ft	103623195
Cord, telephone, DW8A-SE, 25 ft	103848800
Cover, dress	407714609
Diskette drive, 1.44-Mbyte	407714765
Disk drive, hard, SCSI, 2.0-Gbyte	407711647
Door, front	407714617
Fan, card cage	407714807
Fan, CPU	407714815
Hardware, SID, Nor Telcom (Meridian)	407024702
Hardware, SID, Nor Telcom (SL-1)	407024694
Hardware, SID, Mitel	407024728
Hardware, SID, NEAX	407024710
Hardware, SID, Rolm	407024686
IC, 32-Mbyte SIMM	407711654
Interface unit, AYC22 cable	107221467
Interface unit, AYC22 cable	407020510
Keyboard	407681907
Monitor, color, VGA	406504571
Motherboard, 0-Mbytes memory	407711548
Power supply, AC	407711662
Riser card	407711621
Software, diagnostics diskette	407714799
Tape drive, SCSI streaming, 2-Gbyte	407329937

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

B Component Ordering Numbers
Component Ordering Numbers

Page B-4

How to Build a System Using This Book

C

Overview

This appendix provides the sequence of operation for building an INTUITY™ CONVERSANT ® system.

Purpose

This appendix is intended to assist customers and vendors in building INTUITY CONVERSANT systems on the MAP/5P.

Checklist for Building a System

The following checklist (Table C-1) assumes that you are starting with a MAP/5P shell which has only the power supply, motherboard, and riser card.

If your system does not have a power supply, motherboard, or riser card included, see Chapter 7, "Replacing Other Components", for installation procedures for these components.

Table C-1.   Checklist for Building a System

Task	Description	See	✔
1	Acquire all of the components necessary to build your system.	"Component Ordering Numbers" in Appendix B, "Component Ordering Numbers"	
2	Determine the slot and bay locations for the equipment.	"System Configuration" in Appendix A, "Configuring a System"	
3	Install the hard disk drive(s).	"Replacing a Hard Disk Drive" in Chapter 6, "Replacing the Hard Disk Drive"	
4	Install the tape drive.	"Cartridge Tape Drive Installation" in Chapter 7, "Replacing Other Components"	
5	Install the diskette drive.	"Diskette Drive Installation" in Chapter 7, "Replacing Other Components"	
6	Install the circuit cards.	"Circuit Card Settings" in Chapter 5, "Replacing or Installing Circuit Cards"	
7	Apply power to the unit.	"Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer"	

Continued on next page

Table C-1.   Checklist for Building a System — *Continued*

Task	Description	See	✔
8	Install the base system software.	"Installing Base System Software" in Chapter 8, "Installing Base System Software"	
9	Install the INTUITY CONVERSANT system software.	"Installing the INTUITY CONVERSANT Base Software Set" in Chapter 9, "Installing the INTUITY CONVERSANT System Software"	
10	Install the feature software.	Chapter 10, "Installing the Optional Feature Software"	

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

C How to Build a System Using This Book
Checklist for Building a System

Page C-4

Disaster Recovery Checklists

D

Overview

This appendix provides general task descriptions for disaster recovery.

Purpose

Use this checklist as a guide to the necessary procedures for completing a disaster recovery.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

D   Disaster Recovery Checklists
Disaster Recovery Checklists

Page D-2

Disaster Recovery Checklists

The following checklists are included in this section:

- Checklist for Software Reloading on Nonmirrored INTUITY™ CONVERSANT® Systems with Existing Hard Disk Drives

- Checklist for INTUITY CONVERSANT Systems with All New Hard Disk Drives

- Checklist for Nonmirrored INTUITY CONVERSANT Systems With a New Hard Disk Drive 0 and an Existing Hard Disk Drive 1

- Checklist for Nonmirrored INTUITY CONVERSANT Systems With an Existing Hard Disk Drive 0 and a New Hard Disk Drive 1

- Checklist for Mirrored INTUITY CONVERSANT Systems with a New Hard Disk Drive 0 and an Existing Hard Disk Drive 1

- Checklist for Mirrored INTUITY CONVERSANT Systems with an Existing Hard Disk Drive 0 and a New Hard Disk Drive 1

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

D Disaster Recovery Checklists
Disaster Recovery Checklists   *Page D-3*

Checklist for Software Reloading on a Nonmirrored INTUITY CONVERSANT System with Existing Hard Disk Drives

Complete the procedures in Table 1 when your INTUITY CONVERSANT system experiences a software disaster. Do not use this checklist if hard disk drives are being replaced.

Table D-1.   Checklist for Software Reloading for Nonmirrored INTUITY CONVERSANT Systems with Existing Hard Disk Drives

Task	Description	See	✔
1	Locate the most recent **mkimage** backup tape. You will also need to use any **spres** backup tape which has been created.		
2	Shutdown the INTUITY CONVERSANT system.	"Shutting Down the Operating System", in Chapter 3, "Common System Procedures""	
3	Leave all hard disks connected to the SCSI bus.		
4	Restore the system using the **mkimage** backup tape.	"Performing a System Restoration Using mkimage", in Chapter 3, "Common System Procedures""	
5	Restore any speech files using the **spres** backup tape.	*INTUITY™ CONVERSANT® Version 6 Speech Development, Processing, and Recognition, 535-310-762*	

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

D Disaster Recovery Checklists
  Disaster Recovery Checklists *Page D-4*

Checklist for a INTUITY CONVERSANT System with All New Hard Disk Drives

Complete the procedures in this checklist (Table 2) when you are replacing both hard disk drives on your INTUITY CONVERSANT system. There are no provisions in this checklist for recovering existing file systems. Therefore, do not use this checklist if either hard disk drive has been previously used in your INTUITY CONVERSANT system.

Table D-2.   Checklist for INTUITY CONVERSANT Systems with New Hard Disk Drives 0 and 1

Task	Description	See	✔
1	Locate the most recent **mkimage** backup tape. You will also need to use any **spres** backup tape which has been created.		
2	Replace the hard disk(s).	''Replacing a Hard Disk Drive'', in Chapter 6, "Replacing the Hard Disk Drive."	
3	Restore the system using the **mkimage** backup tape.	''Performing a System Restoration Using mkimage'', in Chapter 3, ''Common System Procedures''"	
4	Restore any speech files using the **spres** backup tape.	*INTUITY™ CONVERSANT® Version 6 Speech Development, Processing, and Recognition, 353-310-762*	

Checklist for a Nonmirrored INTUITY CONVERSANT System with a New Hard Disk Drive 0 and an Existing Hard Disk Drive 1

Complete the procedures in this checklist (Table 3) on a two disk nonmirrored INTUITY CONVERSANT system in which Hard Disk Drive 0 has failed. Do not use this checklist if Hard Disk Drive 1 has also failed.

Table D-3.　Checklist for Nonmirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and an Existing Hard Disk Drive 1

Task	Description	See	✔
1	Locate the most recent **mkimage** backup tape. You will also need to use any **spres** backup tape which has been created.		
2	Replace the hard disk drive.	"Replacing a Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive."	
3	Restore the system using the **mkimage** backup tape.	"Performing a System Restoration Using mkimage", in Chapter 3, "Common System Procedures""	
4	Restore any speech files using the **spres** backup tape.	*INTUITY™ CONVERSANT® Version 6 Speech Development, Processing, and Recognition, 353-310-762*	

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

D   Disaster Recovery Checklists
  Disaster Recovery Checklists   **Page D-6**

Checklist for a Nonmirrored INTUITY CONVERSANT System with an Existing Hard Disk Drive 0 and a New Hard Disk Drive 1

Complete the procedures in this checklist (Table 4) on a two disk nonmirrored INTUITY CONVERSANT system in which Hard Disk Drive 1 has failed. Do not use this checklist if Hard Disk Drive 0 has also failed.

Table D-4.   Checklist for Nonmirrored INTUITY CONVERSANT Systems with an Existing Hard Disk Drive 0 and a New Hard Disk Drive 1

Task	Description	See	✔
1	Locate the most recent **mkimage** backup tape. You will also need to use any **spres** backup tape which has been created.		
2	Replace the hard disk drive.	''Replacing a Hard Disk Drive'', in Chapter 6, "Replacing the Hard Disk Drive."	
3	Remove, for replacement, the old Hard Disk Drive 1 using the VERITAS screens.	''Recovering from a Hard Disk Drive 1 Failure (Nonmirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
4	Add the new Hard Disk Drive 1, using the VERITAS screens.	''Adding Hard Disk Drive 1 to a System for Speech Storage'', in Chapter 6, "Replacing the Hard Disk Drive."	
5	Initialize the new Hard Disk Drive 1 as a speech drive.	''Adding Hard Disk Drive 1 to a System for Speech Storage'', in Chapter 6, "Replacing the Hard Disk Drive."	
6	Exit the VERITAS screens.	''Adding Hard Disk Drive 1 to a System for Speech Storage'', in Chapter 6, "Replacing the Hard Disk Drive."	
7	Restore any speech files using the **spres** backup tape.	*INTUITY™ CONVERSANT® Version 6 Speech Development, Processing, and Recognition, 353-310-762*	

Checklist for a Mirrored INTUITY CONVERSANT System with a New Hard Disk Drive 0 and an Existing Hard Disk Drive 1

Complete the procedures in this checklist (Table 5) on a two disk mirrored INTUITY CONVERSANT system in which Hard Disk Drive 0 has failed. Do not use this checklist if Hard Disk Drive 1 has also failed.

Table D-5.   Checklist for Mirrored INTUITY CONVERSANT Systems with a New Hard Disk Drive 0 and an Existing Hard Disk Drive 1

Task	Description	See	✔
1	Locate the diskette labeled "VERITAS Boot Floppy 1 of 1."		
2	Replace the hard disk drive.	''Replacing Hard Disk Drive 0'', in Chapter 6, "Replacing the Hard Disk Drive."	
3	Reboot the system with the diskette labeled "VERITAS Boot Floppy 1 of 1" in the diskette drive.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
4	Remove, for replacement, the old Hard Disk Drive 0 using the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
5	Replace the old Hard Disk Drive 0 with the new Hard Disk Drive 0, using the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	

**Table D-5.   Checklist for Mirrored INTUITY CONVERSANT Systems with a New Hard
           Disk Drive 0 and an Existing Hard Disk Drive 1 — *Continued***

Task	Description	See	✔
6	Create a partition on Hard Disk Drive 0 using the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
7	Exit the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
8	Remove the diskette labeled "VERITAS Boot Floppy 1 of 1" from the diskette drive.	''Inserting and Removing Diskettes'', in Chapter 3, ''Common System Procedures''"	

Continued on next page

Checklist for a Mirrored INTUITY CONVERSANT System with an Existing Hard Disk Drive 0 and a New Hard Disk Drive 1

Complete the procedures in this checklist (Table 6) on a two disk mirrored INTUITY CONVERSANT system in which Hard Disk Drive 1 has failed. Do not use this checklist if Hard Disk Drive 0 has also failed.

Table D-6.   Checklist for Mirrored INTUITY CONVERSANT Systems with an Existing Hard Disk Drive 0 and a New Hard Disk Drive 1

Task	Description	See	✔
1	Replace the hard disk drive.	''Replacing Hard Disk Drive 1'', in Chapter 6, "Replacing the Hard Disk Drive."	
2	Remove, for replacement, the old Hard Disk Drive 1 using the VERITAS screens.	''Recovering from a Hard Disk Drive 1 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
3	Replace the old Hard Disk Drive 1 with the new Hard Disk Drive 1, using the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
4	Create a partition on Hard Disk Drive 1 using the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	
5	Exit the VERITAS screens.	''Recovering from a Hard Disk Drive 0 Failure (Mirrored System)'', in Chapter 6, "Replacing the Hard Disk Drive."	

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

D   Disaster Recovery Checklists
Disaster Recovery Checklists

Page D-10

MAP/5P Platform Alarms

E

Overview

This appendix contains alarms specific to the MAP/5P hardware platform. These
alarms appear on the console during a system reboot.

> **NOTE:**
> These alarms are not generated by the INTUITY™ CONVERSANT ® system
> and are not be documented in the INTUITY CONVERSANT alarm logs.

Purpose

The purpose of this appendix is to provide the service technician with information
relating to the platform alarms generated by the MAP/5P.

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

E MAP/5P Platform Alarms
Platform Alarms

Page E-2

Platform Alarms

Table E-1 lists the alarms associated with the MAP/5P as well as possible repair actions.

Table E-1. Platform Alarms

Alarm Message	Repair Action
CMOS Battery Error	Replace the battery. See "CMOS Battery Replacement" in Chapter 7, "Replacing Other Components".
CMOS Checksum Error	1. Replace the battery. See "CMOS Battery Replacement" in Chapter 7, "Replacing Other Components". 2. If Step 1 does not work, run setup by pressing **|** or **b+a+^**
Display Card Mismatch	Run setup by pressing **|** or **b+a+^**
Diskette Drive Controller Error or Not Installed	Check the diskette cable connections See "Diskette Drive Replacement" in Chapter 7, "Replacing Other Components".
Diskette Drive Error	Diskette may be defective. If the diskette is good, replace the diskette drive. See "Diskette Drive Replacement" in Chapter 7, "Replacing Other Components".
Diskette Drive A Type Mismatch	Run setup by pressing **|** or **b+a+^** and select the proper drive type.
Diskette Drive B Type Mismatch	Run setup by pressing **|** or **b+a+^** and select the proper drive type.
Equipment Configuration Error	Check the memory configuration.
Hard disk Controller Error	Run setup by pressing **|** or **b+a+^**
Hard disk 0 Error	Check all cable connections. Replace Hard Disk Drive 0. See "Recovering from a Hard Disk Drive 0 Failure" in Chapter 6, "Replacing the Hard Disk Drive".
Hard disk 1 Error	Check all cable connections. Replace Hard Disk Drive 1. See "Recovering from a Hard Disk Drive 1 Failure" in Chapter 6, "Replacing the Hard Disk Drive".
Keyboard Error or No Keyboard Connected	Check and connect the keyboard to the MAP/5P.

Continued on next page

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

E MAP/5P Platform Alarms
Platform Alarms

Page E-3

Table E-1.   **Platform Alarms** — *Continued*

Alarm Message	Repair Action
`Keyboard Interface Error`	Replace the keyboard.

`Memory Error at:`
`MMMM:SSSS:OOO`
`(W:XXXX, R:YYYY)`
 	
where:
M is Mbytes, S is Segment, O is Offset, and X/Y are write/read pattern
	Replace the SIMMs. See "Memory Replacement" in Chapter 7, "Replacing Other Components".

`CPU Clock Mismatch`	1. Run setup by pressing **|** or **b+a+^** and check the CPU clock setting. 2. If the clock setting is correct, reboot the system. 3. If the error persists, contact the remote maintenance service center.
`Onboard Serial Port 1 Conflict`	Run setup by pressing **|** or **b+a+^** and disable the port.
`Onboard Serial Port 2 Conflict`	Run setup by pressing **|** or **b+a+^** and disable the port.
`Onboard Parallel Port Conflict`	Run setup by pressing **|** or **b+a+^** and disable the port.
`Pointing Device Error`	Check the connections on the mouse.
`Pointing Device Interface error`	Replace the mouse.
`Press | key to continue or b+a+^` `for setup.`	Press **|** or **b+a+^** to enter setup
`Real Time Clock Error`	Replace the battery. See "CMOS Battery Replacement" in Chapter 7, "Replacing Other Components".

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

E   MAP/5P Platform Alarms
Platform Alarms   *Page E-4*

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-1

Index

Numerics

A

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Issue 2.0
June 1997

Index

Page IN-2

B

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-3

C

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-4

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-5

D

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-6

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-7

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-8

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Index

Issue 2.0
June 1997

Page IN-9

I

L

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-10

M

N

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance 585-310-192

Index

Issue 2.0
June 1997

Page IN-11

O

P

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-12

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-13

T

INTUITY CONVERSANT System Version 6.0
MAP/5P Maintenance *585-310-192*

Issue 2.0
June 1997

Index

Page IN-14