AVAYA

Avaya Interchange

Release 5.4
MAP/100P System 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. Avaya Inc. 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. Avaya Inc. will not be responsible for any charges that result from such unauthorized use.

Avaya Corporate Security

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

Avaya Inc. Fraud Intervention

If you *suspect that you are being victimized* by toll fraud and you need technical support or assistance, call the Avaya Inc. National Customer Care Center Toll Fraud Intervention Hotline at 1 800 643-2353.

Federal Communications Commission Statement

Part 15: Class A Statement. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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 Numérique 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."

Ordering Information

Call: Avaya Inc. Publications Center
        Voice 1 800 457-1235   International Voice 317 322-6791
        Fax 1 800 457-1764   International Fax 317 322-6699
Write: Avaya Inc. Publications Center
        2855 N. Franklin Road
        Indianapolis, IN 46219
Order: Document No. 585-313-809
        Comcode 700223803
        Issue 4, July 2000

You can be placed on a standing order list for this and other documents you may need. Standing order will enable you to automatically receive updated versions of individual documents or document sets, billed to account information that you provide. For more information on standing orders, or to be put on a list to receive future issues of this document, contact the Avaya Inc. Publications Center.

Warranty

Avaya Inc. 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

Avaya Inc. 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

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

Comments

To comment on this document, see the section titled "About This Book."

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Contents

iii

Contents

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Contents

vii

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Contents

viii

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Contents

xii

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

About This Book
Purpose xiii

About This Book

Purpose

This book, *Avaya Interchange Release 5.4 MAP 100/P System Maintenance*,
585-313-809, contains information for troubleshooting and diagnosing problems
associated with MAP/100P hardware. Component replacement procedures and
common system procedures are also included in the book. Installation procedures
for base system software, Avaya system software, UNIX multi-user software, and
RFUs are also included. Appendices contain a system configuration description
and a list of component ordering numbers.

Intended Audiences

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

- Field support — Technical Service Organization (TSO)

- Field support — Global Support Organization (GSO)

- Helpline personnel

We assume that the primary users of this book have completed the Avaya
MAP/100P hardware installation training course (see Related Resources).

Release History

This is the third release of this book.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

About This Book
How to Use This Book xiv

How to Use This Book

This book is designed to help you maintain your Avaya Interchange system. Use it as a quick reference to obtain specific information that you might need about 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/100P 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/100P are available in Chapter 4, New Installation and System Recovery Procedures in *Avaya Interchange Release 5.4 Installation and System Recovery*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

About This Book
Conventions Used in This Book xv

Conventions Used in This Book

This section describes the conventions used in this book.

Terminology

The following terms are used in this book:

- 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 terms "subscriber" and "user" are interchangeable terms that describe a person administered on the Interchange system. The term "subscriber" is the preferred term in the text and is the command word you must type at The Avaya Interchange system displays *screens*, *windows*, and *menus.* Screens make up the Interchange user interface through which you can enter data or commands or access windows or menus (Figure 1). Windows show and request system information (Figure 2). Menus present options from which you can choose to view another menu, screen or window (Figure 3).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

About This Book
Conventions Used in This Book   *xvi*

```
  ┌─── Networking Administration ────┐   ┌─ AMIS Analog Machine Administration ─┐
  │ Local Machine Administration     │   │                                      │
  │>Remote Machine Administration    │   │ Machine Name: ▌_____   │
  │ Networking Channel Administration│   │                                      │
  │ TCP/IP Administration            │   │ Dial Str: _____  │
  │ Remote Machine Information        │   │                                      │
  └──────────────────────────────────┘   └──────────────────────────────────────┘

     ┌──── Remote Machine Administration ────┐
     │ Remote Machines List                  │
     │ Audix Digital Network Machine Administration│
     │>AMIS Analog Machine Administration    │
     │ Octel Machine Administration          │
     └───────────────────────────────────────┘




  Enter Machine Name, use <CHOICES> for list

  ▌ HELP ▌ ▌CHOICES▌ ▌     ▌    ▌PREV-FRM▌ ▌NEXT-FRM▌   ▌CANCEL▌ ▌     ▌ ▌CHG-KEYS▌
```

Figure 1.   Example of an Avaya Interchange Screen

```
             ┌─────── Feature Options (Read Only) ───────┐
             │         Feature Option        Current   Maximum │
             │                                                 │
             │ Aria Digital Ports            0         16      │
             │ Call Detail Recording (CDR)   ON        N/A     │
             │ Enterprise Lists Administration ON      N/A     │
             │ High speed digital ports      1         12      │
             │ Low speed digital ports       0         12      │
             │ Max Number of Octel Nodes     0         500     │
             │ Maximum Number of AMIS Nodes  0         500     │
             │ Maximum Number of Digital Nodes 500     500     │
             │ SCSI Disk Mirroring           ON        N/A     │
             │ SNMP                          ON        N/A     │
             │ Serenade Digital Ports        0         16      │
             │ TCP/IP Administration         ON        N/A     │
             │ TCPIP digital ports           12        12      │
             │ Text-to-Speech Sessions       0         30      │
             │ VPIM Ports                    0         20      │
             │ hours_of_speech               285       289     │
             │ voice_ports                   0         12      │
             └─────────────────────────────────────────────────┘
```

Figure 2.   Example of an Avaya Interchange Window

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

About This Book
Conventions Used in This Book   xvii

```
┌─────────────────────────────────────────────┐
│ ┌─────────────────────────────────────────┐ │
│ │ AVAYA Interchange Administration        │ │
│ └─────────────────────────────────────────┘ │
│ ┌─────────────────────────────────────────┐ │
│ │ Subscriber Administration               │ │
│ └─────────────────────────────────────────┘ │
│                                              │
│   System Parameters                          │
│                                              │
│   Remote Machine Administration              │
│                                              │
│   Enterprise List Administration             │
│                                              │
│   Call Detail Recording                      │
│                                              │
│   Networking Traffic Reports                 │
│                                              │
└──────────────────────────────────────────────┘
```
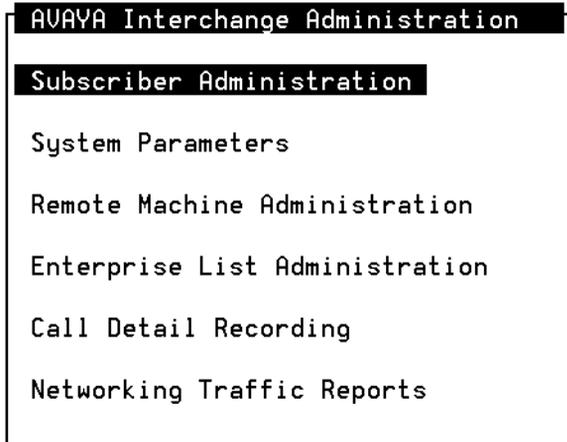
Figure 3.   Example of an Avaya Interchange Menu

Terminal Keys

The following list identifies actions you perform on the computer keyboard:

- Keys that you press on the computer *keyboard* are shown 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 the computer *keyboard* (that is, you hold down the first key while pressing the second and third keys) are shown 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).

- A combination keystroke is a series of keystrokes that combines two key functions plus a third key. You press and hold down the first key, press the second key, and then release those keys and press a third key. A combination keystroke is represented as an equation. For example, an instruction to press and hold while typing the letter "d" and then typing the number "1" is shown as

    Press (ALT– D) (1).

- Function keys on the computer keyboard or system screens, also known as *soft keys*, are shown as round boxes followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 2 is shown as

    Press (F2) (Choices).

■ Keys that you press on the *telephone keypad* are shown 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

■ The following list identifies formats used in Interchange screens:

■ 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.
```

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

Start at the Avaya Interchange Main Menu and select

```
> Customer/Services Administration
```

```
    > Alarm Management
```

In this example, you would access the Avaya Interchange Main Menu and select the Customer/Service Administration menu. From the Customer/Service Administration menu, you would then select the Alarm Management screen.

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

Other Typography

The following list identifies how bold and italic type are used:

■ 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.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

About This Book
Trademarks and Service Marks xix

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.

Trademarks and Service Marks

The following trademarked products are mentioned in books in the Interchange document set:

■ 5ESS is a registered trademark of Lucent Technologies.

■ AT is a trademark of Hayes Microcomputer Products, Inc.

■ AUDIX is a registered trademark of Avaya Inc.

■ cc:Mail is a registered trademark of cc:Mail, a subsidiary of Lotus Development Corporation.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

About This Book
Trademarks and Service Marks xx

- COMSPHERE is a registered trademark of Paradyne Corp.

- CONVERSANT is a registered trademark of Avaya Inc.

- DEFINITY is a registered trademark of Avaya Inc.

- DMS-100 is a trademark of Northern Telecom Limited.

- Dterm is a trademark of NEC Telephones, Inc.

- Equinox is a trademark of Equinox Systems, Inc.

- INTUITY is a registered trademark of Avaya Inc.

- Lotus Notes is a registered trademark of Lotus Development Corporation.

- Lucent is a trademark of Lucent Technologies.

- MEGAPORT is a trademark of Equinox Systems, Inc.

- MEGAPLEX is a trademark of Equinox Systems, Inc.

- Meridian is a trademark of Northern Telecom Limited.

- MERLIN LEGEND is a registered tradesman of Avaya Inc.

- Microcom Networking Protocol is a registered trademark of Microcom, Inc.

- Microsoft is a registered trademark of Microsoft Corporation.

- MS is a registered trademark of Microsoft Corporation.

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

- Mitel is a trademark of Mitel Corporation.

- Motorola is a registered trademark of Motorola, Inc.

- NEAX is a trademark of NEC Telephone, Inc.

- NEC is a registered trademark of NEC Telephone, Inc.

- Netware is a registered trademark of Novell, Inc.

- Netware Loadable Module is a trademark of Novell, Inc.

- Northern Telecom is a registered trademark of Northern Telecom Limited.

- Novell is a registered trademark of Novell, Inc.

- Paradyne is a registered trademark of Paradyne Corporation.

- Phillips is a registered trademark of Phillips Screw Company.

- SL-1 is a trademark of Northern Telecom Limited.

- softFAX is a registered trademark of VOXEM, Inc.

- SUPERSET is a trademark of Mitel Corporation.

- SX-100 is a trademark of Mitel Corporation.

- SX-200 is a trademark of Mitel Corporation.

- SX-2000 is a trademark of Mitel Corporation.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

About This Book
Related Resources   xxi

- ■ Telephony OneStop is a trademark of Lotus Development Corporation.

- ■ TMI is a trademark of Texas Micro Systems, Inc.

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

- ■ VB-PC is a trademark of Voice Technologies Group, Inc.

- ■ VoiceBridge is a registered trademark of Voice Technologies Group, Inc.

- ■ VOXEM is a registered tradesman of VOXEM, Inc.

- ■ VT100 is a trademark of Digital Equipment Corporation.

- ■ Windows is a trademark of Microsoft Corporation.

Related Resources

This section describes additional documentation and training available for you to learn more about installing the Avaya Interchange system.

Documentation

$\Longrightarrow$ NOTE:

Always refer to the appropriate book for specific information on planning, installing, administering, or maintaining an Avaya Interchange system.

It is suggested that you obtain and use the following books in conjunction with this maintenance book:

- ■ *Avaya Interchange Release 5.4 MAP/100P System Installation* for a detailed source of complete installation procedures

- ■ *Avaya Interchange Release 5.4 Installation and System Recovery* for a source of software installation procedures, including installing RFUs

It is recommended that you obtain and use the following book for information on security and toll fraud issues:

- ■ *Avaya Products Security Handbook*, 555-025-600

See the inside front cover for information on how to order Avaya Interchange documentation.

Training

For more information on Interchange training, call the Avaya University at one of the following numbers:

- ■ Organizations within Avaya: (904) 636-3261

- ■ Avaya customers and all others: (800) 255-8988

Technical Assistance

The following resources are available for technical assistance:

- ■ Within the United States:

    — Call 1-800-242-2121, extension 85474.

- ■ Within Canada:

    — For all systems, call 1-800-242-1234.

- ■ Within any other country:

    — For all systems, call your local distributor.

How to Comment on This Book

We are interested in your suggestions for improving this book. Please complete
and return the reader comment card located behind this page. If the reader
comment card has been removed, send your comments via the internet to
infodev@avaya.com or mail your comments to:

Avaya Inc.
Product Documentation
Room D1-B53
1300 W. 120th Avenue
Denver, Colorado 80234-2703 US

You may also fax your comments to the attention of the Avaya Interchange writing
team at (303) 538-9625.

Product Support

If you have questions about how to use Avaya Interchange, contact one of the
following resources:

- ■ Avaya Account Representative
- ■ Avaya Remote Support Center at + 800-242-2121

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Overview 1

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. All of the troubleshooting procedures can be performed with a **craft** login.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Modem Does Not Answer 2

Modem Does Not Answer

Table 1-1.   Modem Does Not Answer

Possible Cause	Check/See	Solution
There is no power to the modem.	Check the power source.	Apply power to the modem.
The modem is not connected.	Make sure that the modem is connected with a D25F cord through a 25-pin to a 9-pin adapter to COM2.	Connect the modem correctly.
The normal D4 conductor cord is not plugged in to the correct port.	Make sure that the normal D4 cord is plugged into the Dial port of the 3820 Modem. Make sure that this cord is not plugged into the Phone port.	Plug the normal D4 cord into the Dial port of the modem.

There is no continuity.	Check the Alarm Management window by doing the following:
	
	1. Start at the Avaya Interchange Main Menu and select
	
	> Customer/Serv. Admin
	
	    > Alarm Management
		Fill in the Alarm Screen.
		
		1. Enter the product ID in the `Product ID` field.
		
		   If the product ID is not known, enter **2200000000**.
		
		2. Enter a valid telephone number in the `Alarm Destination` field.
		
		3. Press F8 (Chg-Keys).
		
		4. Press F1 (Test_Alrm).
		
		5. If the product ID was not known in Step 1, call INADS for the correct number.
		
		⇒ **NOTE:**
		    The INADS number is available on your order form.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
The Tape Backup Alarm Is Activated Daily at 3:00 A.M.   3

The Tape Backup Alarm Is Activated Daily at 3:00 A.M.

Table 1-2.   The Tape Backup Alarm Is Activated Daily at 3:00 A.M.

Possible Cause	Check/See	Solution
The tape is not in the drive.	Check the position of the tape in the drive.	Position the tape correctly.
The tape is write protected.	Check the read/write dial on the tape.	Place the read/write dial in the Not Safe position. The small dial on the front of the tape needs to be in the horizontal position.
The tape is not compatible with the drive.	Check the type of tape in the drive. All tapes created in a 2-Gbyte tape drive can be read by a 525-Mbyte tape drive. The only tapes created in a 525-MB tape drive that can be read by a 2-GB tape drive are Avaya Interchange system backup tapes.	Replace the tape with a compatible tape.
The tape is not formatted.	Check the format status.	Format the tape. See Formatting Cartridge Tapes in Chapter 3, Common System Procedures, for the procedure.
The tape drive is not working correctly.	Check the operation of the tape drive during a backup. If the tape drive is spinning, but there is no processor time being allotted to the cpio process, the tape drive is not working correctly.	Replace the tape drive. See Replacing the Cartridge Tape Drive in Chapter 7, Replacing Other Components, for the procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Cannot Assign Voice Ports 4

Cannot Assign Voice Ports

Table 1-3. Cannot Assign Voice Ports

Possible Cause	Check/See	Solution
Additional port activation has not been purchased by the customer.	Verify number of ports purchased by the customer. Access Customer/Services Administration from the Avaya Interchange Main Menu. Access the Feature Options screen and refer to the `voice_ports` line.	Refer the customer to sales personnel.

System Does Not Boot

Table 1-4. System Does Not Boot

Possible Cause	Check/See	Solution
There is a diskette in the A drive.	Check the "A" drive.	Remove the diskette.
The external SCSI connector circuit card terminating module is not properly connected.	Check the terminating module connection.	Properly connect the terminating module.
There is an odd number of SIMMs installed on the P5 200 MHz CPU circuit card.	Check the number of SIMMs on the P5 200 MHz CPU circuit card.	Correct the SIMM configuration. See Memory Configuration in Appendix A, System Configuration, for the correct configuration.

(1 of 2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
System Does Not Boot 5

Table 1-4. **System Does Not Boot**

Possible Cause	Check/See	Solution
If the system displays the following message, the problem could be the diskette cable orientation: `BIOS Not Installed`	Check the diskette cable orientation on the P5 200 MHz CPU circuit card. Make sure that the tracer on the cable is on the right as you look at the P5 200 MHz CPU circuit card.	To fix the problem, do the following: 1. Access the circuit card cage. See Accessing the Circuit Card Cage in Chapter 4, Getting Inside the Computer for the procedure. 2. Fix the diskette cable orientation. 3. Close the circuit card cage. See Replacing the Side Dress Cover in Chapter 4, Getting Inside the Computer, for the procedure. 4. Restore power to the system. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for the procedure.

(2 of 2)

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
 Optional Features Are Not Working 6

Optional Features Are Not Working

Table 1-5. Optional Features Not Working

Possible Cause	Check/See	Solution
The Avaya Interchange version does not support the optional feature.	Check the Avaya Interchange version.	Refer customers to their sales representative concerning a migration or upgrade.
The optional feature is not activated.	Check the activated optional features: 1. Start at the Avaya Interchange Main Menu. 2. Access `Customer/Services Administration`. 3. Access `Feature Options`.	If customers have purchased the optional feature, activate the optional feature. If customers have not purchased the optional feature, refer them to their sales representative.

System Memory Test Fails

Table 1-6. System Memory Test Fails

Possible Cause	Check/See	Solution
There is a SIMM missing from the P5 200 MHz CPU circuit card.	Check the number of SIMMs on the P5 200 MHz CPU.	Correct the SIMM configuration. See Memory Configuration in Appendix A, System Configuration, for the correct configuration.
There is a a defective SIMM on the P5 200 MHz CPU circuit card.	Check the condition of the SIMMs on the P5 200 MHz CPU. See Identifying a Damaged SIMM in Chapter 7, Replacing Other Components, for the procedure.	Replace the defective SIMM. See Replacing the Memory Modules in Chapter 7, Replacing Other Components, for the procedure.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
 The Keyboard Is Not Operating 7

The Keyboard Is Not Operating

Table 1-7. The Keyboard Is Not Operating

Possible Cause	Check/See	Solution
The keyboard is not plugged in.	Check the keyboard connection.	Shut down the system and plug in the keyboard.
The keyboard is locked up (that is, frozen).	Check the keyboard connection.	Reboot the system.
The keyboard fuse or the CPU card is blown.	Verify fuse operation.	Replace fuse or CPU card.

Monitor Is Not Operating

Table 1-8. Monitor Is Not Operating

Possible Cause	Check/See	Solution
The video controller circuit card that has been installed is not compatible with the P5 200 MHz CPU circuit card.	Check the video controller circuit card. The following circuit cards are supported by the Avaya Interchange system: ■ STB Horizon ■ WDXLR831124 ■ WDXLR83160	Replace the video controller circuit card with a supported circuit card. See Video Controller Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for the procedure.
The monitor has not been turned on.	Check the monitor switch. Check for light on the monitor.	Turn on the monitor.
The monitor brightness has been turned down.	Check the monitor brightness knob.	Turn up the brightness.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

1 Troubleshooting
  Tip/Ring Circuit Card Is Not Recognized by the Avaya Interchange System   8

Tip/Ring Circuit Card Is Not Recognized by the Avaya Interchange System

Table 1-9.   Tip/Ring Circuit Card Is Not Recognized by the Avaya Interchange System

Possible Cause	Check/See	Solution
The Tip/Ring card has incorrect switch settings.	Check the switch settings on the Tip/Ring cards. See Tip/Ring Circuit Cards in Chapter 5, Replacing or Installing Circuit Cards, for the correct settings.	Correct the switch settings.

The Tip/Ring cards are incorrectly numbered.	There is nothing to check in this instance. If this is the suspected problem, continue with the solution.	Renumber the Tip/Ring circuit cards by doing the following:
		
		NOTE:
		This action starts and stops the voice system.
		
		1. Start at the Avaya Interchange Main Menu and select
		
		`> Voice System Admin.`
		
		`> Voice Equipment`
		
		2. Press F8 (Chg-Keys).
		
		3. Select `Renumber`.
		
		4. Press F2 (Renumber).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
The Printer Is Not Operating 9

The Printer Is Not Operating

Table 1-10.   The Printer Is Not Operating

Possible Cause	Check/See	Solution
The printer is not turned on.	Check the power indicator light.	Turn the printer on.
The printer cable is not connected correctly.	Check the printer connection.	Reconnect the printer.
The Avaya Interchange system has not been configured correctly.	Check the system configuration.	Reconfigure the system. See Chapter 4, Connecting Peripherals and Powering Up, in *Avaya Interchange Release 5.4 MAP/100P System Installation*.
The printer has not been configured correctly.	Check the printer configuration.	Reconfigure the printer. See Chapter 4, Connecting Peripherals and Powering Up, in *Avaya Interchange Release 5.4 MAP/100P System Installation*.
The printer is out of paper.	Check the paper supply.	Add paper.
The printer software is not assigned correctly.	Check the printer software.	Complete the following steps: 1. Remove the printer. 2. Reboot the system. 3. Reassign the printer software.
The printer is jammed.	Check the printer operating panel.	Remove the paper jam.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Hard Disk Drive Access Troubleshooting, 10

Hard Disk Drive Access Troubleshooting,

In the event of a SCSI Bus cable or hard disk drive failure the system stalls during the boot procedure. When the system stalls, it displays one of several messages.

The System Displays No Boot Device Available Message with Ident-Strings

If the system displays the following message along with one or more SCSI device ident-strings see the troubleshooting procedures in Table 1-11.

```
SCSI target 0 LUN 0 not found
Target-LUN x-0.....
....
Target-LUN y-0....

No boot device available
Strike F1 to retry boot, F2 for setup utility
```

Table 1-11. The System Displays No Boot Device Available Message with Ident-Strings

Possible Cause	Check/See	Solution
Insufficient power voltages.	Check the power supply output voltage.	Complete the following steps: 1. If the power voltage is not 5V, replace the power supply. 2. Reboot the system.
The power cable is not properly attached to Hard Disk Drive 0.	Check the Hard Disk Drive 0 power cable connection.	Complete the following steps: 1. Correct the power cable connection to Hard Disk Drive 0. 2. Reboot the system.
The SCSI Bus cable is not properly attached to Hard Disk Drive 0.	Check the Hard Disk Drive 0 SCSI Bus cable connection.	Complete the following steps: 1. Correct the SCSI Bus cable connection to Hard Disk Drive 0. 2. Reboot the system.

(1 of 2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

1 Troubleshooting
Hard Disk Drive Access Troubleshooting,   *11*

Table 1-11.   The System Displays No Boot Device Available Message with Ident-Strings

Possible Cause	Check/See	Solution
The SCSI Bus cable is defective.	Check the SCSI Bus cable.	Complete the following steps: 1. Replace the SCSI Bus cable. 2. Reboot the system.
A pin on the Hard Disk Drive 0 SCSI Bus cable connector is bent or broken.	Check the pins on Hard Disk Drive 0 by doing the following: 1. Remove the CSI Bus cable. 2. Check the pins on the hard disk drive	Complete the following steps: 1. If a pin is bent, straighten the pin. If a pin is broken, replace the hard disk drive. 2. Reboot the system.
A pin on the P5 CPU circuit card SCSI Bus cable connector is bent or broken.	Check the pins on the P5 200 MHz circuit card by doing the following: 1. Remove the SCSI Bus cable. 2. Check the pins on the circuit card.	Complete the following steps: 1. If a pin is bent, straighten the pin. If a pin is broken, replace the circuit card. 2. Reboot the system.
Hard Disk Drive 0 has been corrupted and the system cannot access the boot image.	Check the status of Hard Disk Drive 0.	Contact the remote service center for a file system check.

(2 of 2)

The System Displays SCSI Target 0 LUN 0 Not Found Message with Several Additional Messages

If the system displays the following series of messages, see the troubleshooting procedures in Table 1-12.

The system first displays this message:

```
Checking for SCSI target 0 LUN 0
```

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Hard Disk Drive Access Troubleshooting,

12

After several minutes, the system displays the following messages:

```
SCSI target 0 LUN 0 not found
Target-LUN x-0.....
....
Target-LUN y-0....

No boot device available
Strike F1 to retry boot, F2 for setup utility
```

Table 1-12.   The System Displays SCSI Target 0 LUN 0 Not Found Message with Several Additional Messages

Possible Cause	Check/See	Solution
Hard Disk Drive 0 has been corrupted, and the system cannot access the boot image.	Check the status of Hard Disk Drive 0.	Contact the remote service center for instructions on using the emergency boot floppy and for file system checks.

The System Displays SCSI Target 0 LUN 0 Not Found Message and Stalls

If the system displays the following message and stalls, see the troubleshooting procedures in Table 1-13.

```
SCSI target 0 LUN 0 not found
```

At this point, the system stalls.

NOTE:
If you press CONTROL ALT DELETE, the system displays the following message:

```
No boot device available
Strike F1 to retry boot, F2 for setup utility
```

Table 1-13.   The System Displays SCSI Target 0 LUN 0 Not Found Message and Stalls

Possible Cause	Check/See	Solution
Hard Disk Drive 0 is defective.	Check the status of Hard Disk Drive 0.	Replace Hard Disk Drive 0.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Hard Disk Drive Access Troubleshooting, 13

No Ident-Strings Are Displayed during Boot Procedure

If the system does not display ident-strings during the boot procedure, see the troubleshooting procedures in .

⟹ NOTE:

Once the system has tried to access the SCSI devices, it then tries to access Hard Disk Drive 0. If the system displays the UNIX logo, Hard Disk Drive 0 has been successfully accessed.

Table 1-14.   No Ident-Strings Are Displayed During Boot Procedure

Possible Cause	Check/See	Solution
The SCSI Bus cable is not connected properly to the P5 200 MHz CPU circuit card.	Check the SCSI cable connection to the circuit card.	Complete the following steps: 1. Correct the SCSI cable connection to the circuit card. 2. Reboot the system.
A pin on the SCSI Bus cable connection to the P5 200 MHz CPU circuit card is broken or bent.	Check the pins on the P5 200 MHz circuit card by doing the following: 1. Remove the SCSI Bus cable 2. Check the pins on the circuit card	Complete the following steps: 1. If a pin is bent, straighten the pin. If a pin is broken, replace the circuit card. 2. Reboot the system.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Hard Disk Drive Access Troubleshooting, 14

The System Displays Failure to Load MIP, SIP, or vfs_mount Message

If the system displays one of the following messages, see the troubleshooting procedures in Table 1-15:

➡ NOTE:

Once the system has tried to access the SCSI devices, it then tries to access Hard Disk Drive 0. If the system displays the UNIX logo, Hard Disk Drive 0 has been successfully accessed.

```
Can not load MIP

Can not load SIP

vfs_mount failed
```

⚠ WARNING:

A system panic may occur at this point.

Table 1-15. The System Displays Failure to Load MIP, SIP, or vfs_mount Message

Possible Cause	Check/See	Solution
The stand file system is corrupted.	Check the stand file status.	Complete the following steps:
		1. If the system is mirrored, boot from the backup hard disk drive.
		2. If the system is not mirrored, or if the problem persists, reload the system.
		3. Contact the remote service center for possible file system check or other procedures.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

1 Troubleshooting
Hard Disk Drive Access Troubleshooting, 15

A Working System Displays WARNING Disk Drive HA0 TC0 LUX — Check Condition Message

If the system displays the following message, see the troubleshooting procedures in Table 1-16:

```
WARNING:  Disk Drive HA0 TC0 LUx - Check Condition

where x is a small integer
```

Table 1-16.   A Working System Displays WARNING Disk Drive HA0 TC0 LUX — Check Condition Message

Possible Cause	Check/See	Solution
Hard Disk Drive 0 is defective.	Check the status of Hard Disk Drive 0.	Replace Hard Disk Drive 0.

The System Is Up But Not Fully Operational or Is Unpredictable

If the system is up, but it is not fully operational or it is unpredictable see the troubleshooting procedures in Table 1-17.

Table 1-17.   The System Is Up But Not Fully Operational or is Unpredictable

Possible Cause	Check/See	Solution
The input voltage is not correct.	Check the voltage on the line entering the power supply.	Complete the following steps: 1. Shut down the system. 2. Inform customer of the problem in their wiring.
The power supply output voltage is not correct.	Check the voltage on the power supply output cables.	Replace the power supply.
The file system is partially corrupted.	Check the system file system.	Complete the following steps: 1. If the system is mirrored, boot from the backup hard disk drive. Perform a file system check. 2. If the system is not mirrored, or if the problem persists, restore or reload the system.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

1 Troubleshooting
Troubleshooting Defective Blocks on Hard Disk Drives   *16*

System with Remote Maintenance Circuit Card Displays SCSI Disk Failure Message After POST

If, after completing the POST and memory test, the system stalls and displays messages indicating a remote maintenance circuit card and SCSI hard disk drive failure, see the troubleshooting procedures in Table 1-18.

Table 1-18. System with Remote Maintenance Circuit Card Displays SCSI Disk Failure Message After POST

Possible Cause	Check/See	Solution
The remote maintenance circuit card address is set to C000-CFFF.	Check the remote maintenance circuit card address.	Complete the following steps:
		1. Place the BEE selector switch in the off position.
		2. Shut down the system.
		3. Reboot the system.
		4. Set the remote maintenance circuit card address to DC000-DCFFF in BIOS settings.
		5. Place the BEE selector switch in the on position.
		6. Stop the voice system.
		7. Start the voice system.

Troubleshooting Defective Blocks on Hard Disk Drives

It is not always necessary to replace a hard disk drive with defective blocks. For example, replacement is not needed if the defective blocks do not affect the overall system performance. Monitor system performance prior to replacing a hard disk drive.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Overview 17

Diagnostics

2

Overview

This chapter describes:

- Conducting audits

- Diagnosing digital networking

- Diagnosing multi-port serial circuit cards

- Diagnosing switch integration

- Diagnosing TCP/IP

- Diagnosing voice ports

- Diagnosing Tip/Ring circuit cards

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 Avaya Interchange system.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Auditing Network Databases   18

Auditing Network Databases

The networking database consists of two parts: the networking administration database and the remote subscriber update status database. The networking administration database contains data relevant to the following areas:

- Connectivity to other Avaya Interchange systems, AMIS machines, and VPIM machines

- Local machine connectivity

- Channel configuration information

The remote subscriber update status database contains the information used by the Avaya Interchange system to request and send remote updates of subscriber information.

Interchange Audit

The Interchange audit consists of a series of internal checks that verify, for example, that files are not corrupted and that values within the files are within the proper ranges.

The Interchange audit is performed automatically nightly, before the nightly unattended backup. This audit occurs whenever the voice system is restarted or the UNIX system is rebooted. You might want to perform this audit on demand when directed to do so by alarm repair actions.

To perform this audit on demand, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1).

```
       Avaya Interchange Main Menu

 Customer/Services Administration
 Interchange Administration
 Interchange Upgrade
 Networking Administration
 SNMP Administration
 Switch Interface Administration
 Voice System Administration
```

Figure 2-1.   Avaya Interchange Main Menu

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Auditing Network Databases 19
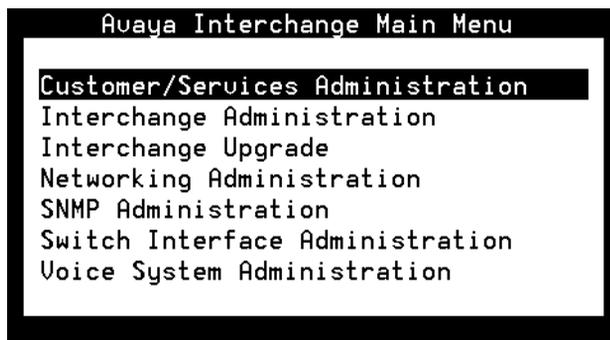
2. Select

> Customer/Services Administration

> Database Audits

The system displays the Database Audits menu (Figure 2-2).

Figure 2-2. Database Audit Menu

3. Make sure the cursor is on Interchange Audit.

4. Press F8 (Chg-Keys).

5. Press F1 (Run Audit).

The system displays a message confirming that the audit is running in the background.

6. Press **y**.

NOTE:
The audit takes approximately five minutes.

⚠ CAUTION:
Running an audit can slow system response or even cause a system failure if the audit is performed during peak usage times.

7. Press F8 (Chg-Keys).

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 20

8. Press F4 (View_Res).

    If the audit is successful the system displays the following message:

    `Interchange Audit completed successfully.`

    If the audit fails, the system displays the following message:

    `Interchange Audit failed.`

    If a failure message appears, look for related alarms. Follow the repair
    actions for any active alarms as appropriate. See Chapter 1, Getting
    Started, in *Avaya Interchange Release 5.4 Alarm and Log Messages* for
    the procedure.

Conducting Diagnostics

You can diagnose:

- ■ Avaya Interchange Digital Networking

- ■ TCP/IP

- ■ Voice circuit cards

- ■ Voice ports

This section also contains a procedure to perform a network snapshot.

Avaya Interchange Digital Networking Diagnostics

Avaya Interchange Digital Networking diagnostics allow you to check all aspects
of the networking feature including hardware connections, remote and local
machine administration, and basic functions of Avaya Interchange Digital
Networking. The Avaya Interchange Digital Networking diagnostics include the
following tests:

- ■ Remote connection

- ■ Channel internal loop-around

- ■ Modem loop-around

- ■ Networking board reset

- ■ Busy out digital networking channels

- ■ Release digital networking channels

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 21

Remote Connection Test

The remote connection test checks the transmission path from the local machine to the remote machine. You can perform a remote connection test for each remote machine with which voice messages are exchanged. The test assumes that all components of the network, from the ACCX card to the remote machine administration, are operating and complete. If the remote connection test fails, see Network Connections Test.

Requirements

The following requirements are necessary to perform a remote connection test:

- The remote machine name is needed.
- The channel can be DCP or RS-232.
- The channel must be equipped.

Procedure

To perform a remote connection test, do the following:

NOTE:
Perform the Channel Internal Loop-Around Test before performing this procedure. If the internal channel loop-around test fails, the circuit card is defective.

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > Diagnostics

        > Networking Diagnostics
```

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 22

The system displays the Networking Diagnostics window (Figure 2-3).

```
                        Networking Diagnostics
   CHANNEL        TYPE        RATE    STATUS          MACHINE      ACTIVITY
   -------        ----        ----    ------          -------      --------
      1           DCP                 NOT EQUIPPED
      2           DCP                 NOT EQUIPPED
      3           DCP                 NOT EQUIPPED
      4           DCP                 NOT EQUIPPED
      5           DCP                 NOT EQUIPPED
      6           DCP                 NOT EQUIPPED
      7           DCP                 NOT EQUIPPED
      8           DCP                 NOT EQUIPPED
      9           DCP                 NOT EQUIPPED
     10           DCP                 NOT EQUIPPED
     11           DCP                 NOT EQUIPPED
     12           DCP                 NOT EQUIPPED
```

Figure 2-3.   Networking Diagnostics Window

2. Press [F8] (Chg-Keys).

3. Press [F4] (Diagnose).

    The system displays the Networking Diagnostics menu (Figure 2-4).

```
                Diagnostics
      >Remote Connection Test
       Channel Internal Loop Around Test
       Modem Loop Around Test
       Network Loop Around Test
       Networking Board Reset
```

Figure 2-4.   Networking Diagnostics Menu

4. Select

```
    > Remote Connection Test
```

    The system displays the Remote Connection Test window (Figure 2-5).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 23

```
┌─Remote Connection Test─┐
│                        ║
│ Machine Name: _____ ║
│                        ║
│ Channel No. : ___      ║
└────────────────────────┘
```

Figure 2-5. Remote Connection Test Window

5. Enter the name of the remote machine to be tested.

    If you do not know the remote machine name, press F2 (Choices) to access a menu of remote machines. Select from the menu by moving the selection bar over a machine name and pressing ENTER.

6. If you are testing a dedicated RS-232 connection, enter the number of the dedicated channel.

    The system displays the message working... and attempts to connect with the remote machine.

    When the process is complete, the system displays the Test Results window (Figure 2-6).
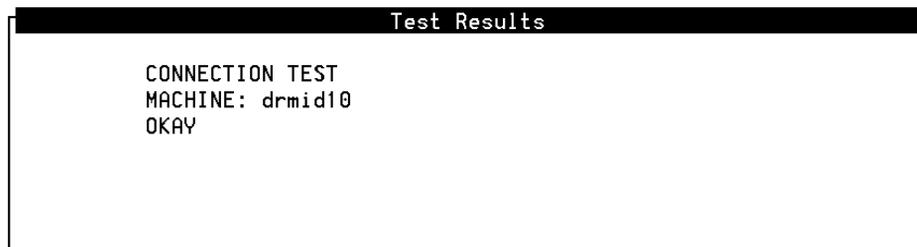
```
┌──────────────────Test Results──────────────────┐
│                                                 │
│    CONNECTION TEST                              │
│    MACHINE: drmid10                             ║
│    OKAY                                         ║
│                                                 │
│                                                 │
│                                                 │
└─────────────────────────────────────────────────┘
```

Figure 2-6. Test Results Screen for a Remote Connection Test

7. If the screen contains a message stating that the test was completed successfully, continue with Step 8.

    If the screen contains a message stating that the test failed, press F6 (Cancel) to exit the screen and return to the Networking Diagnostics menu (Figure 2-4). See Network Connections Test for the procedure to determine the reason for the remote connection test failure.

8. Press F6 (Cancel) to exit the screen and return to the Networking Diagnostics window (Figure 2-3).

9. Repeat Step 2 through Step 8 for each remote machine to be tested.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 24

The network's abilities to exchange voice messages can also be tested. *INTUITY AUDIX Digital Networking Administration,* 585-310-533, contains instructions for exchanging voice messages with test remote subscribers on each remote machine in the digital network after completing a remote connection test.

Network Connections Test

Use the instructions in this section to test each component of the digital network. Perform the following tests when a remote connection test fails or when voice messages cannot be exchanged with remote subscribers:

- Channel internal loop-around

- Modem loop-around (if applicable)

- Network loop-around

One other test can be performed to test or reset the network: the networking board reset. Do not perform this procedure unless instructed to do so by the remote service center.

Channel Internal Loop-Around Test

The channel internal loop-around test checks the operation of an individual channel on the ACCX board. Perform this test first to make sure the board is operating correctly. If the board does not operate properly, the other acceptance tests then fails.

Requirements. The following requirements are necessary to perform a channel internal loop-around test:

- The channel can be DCP or RS-232.

- The channel must be equipped.

Procedure. To perform a channel internal loop-around test, do the following:

1. Start at the Avaya Interchange Main Menu ([Figure 2-1](#)) and select

```
> Customer/Services Administration

   > Diagnostics

      > Networking Diagnostics
```

The system displays the Networking Diagnostics window ([Figure 2-3](#)).

2. Press F8 (Chg-Keys).

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002
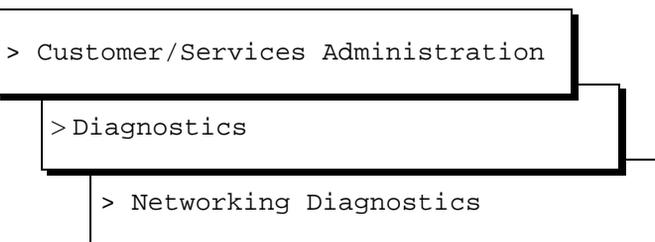
2 Diagnostics
   Conducting Diagnostics   25

3. Press F4 (Diagnose).

    The system displays the Networking Diagnostics menu (Figure 2-4).

4. Select

    ```
    > Channel Internal Loop-Around Test
    ```
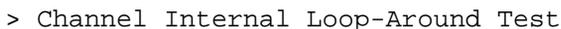
    The system displays the Channel Internal Loop-Around Test window
    (Figure 2-7).

    ```
    Channel Internal Loop Around Test

        Channel: ___
    ```

Figure 2-7.   Channel Internal Loop-Around Test Window

5. Enter the channel number to be tested.

    The system displays the message `working...` in the upper right corner
    of the screen and begins the test on the ACCX board channel.

    When the process is complete, the system displays the Test Results
    window (Figure 2-8).
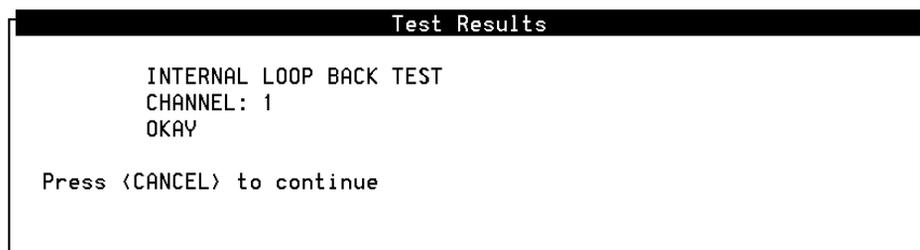
    ```
                            Test Results

            INTERNAL LOOP BACK TEST
            CHANNEL: 1
            OKAY

     Press <CANCEL> to continue
    ```

Figure 2-8.   Test Results Window for a Channel Internal Loop-Around Test

6. If the screen contains a message stating the test completed successfully,
    continue with Step 7.

    If the screen shows that the test failed, access the Alarm Log, enter **NW** as
    the application, and look for alarms related to the networking board. See
    See Chapter 1, Getting Started, in *Avaya Interchange Release 5.4 Alarm
    and Log Messages* for the procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics   26

7. Press F6 (Cancel) until the system displays the Networking Diagnostics window (Figure 2-3).

8. Repeat Step 2 through Step 7 for each equipped channel on the ACCX board.

Modem Loop-Around Test

> ⮞ **NOTE:**
> This test does not function with all modems. Before conducting the test, contact the remote service center and verify that the test works for the modem.

The modem loop-around test checks the connectivity between the ACCX board and the modem through a channel configured as RS-232. The test sends a signal from the ACCX board to the modem and back. Perform this test to make sure the board and the modem are communicating and that the modem is configured correctly.

Requirements. The following requirements are necessary to perform a modem loop-around test:

■   The channel state must be in a busyout. Check the status of the channel on the Networking Diagnostics screen. If the channel is not in a busyout state, see Busy Out and Release Networking Channels in this chapter.

■   The channel must be RS-232 with a modem.

■   The channel must be equipped.

Procedure. To perform a modem loop-around test, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > Diagnostics

      > Networking Diagnostics
```

The system displays the Networking Diagnostics window (Figure 2-3).

2. Press F8 (Chg-Keys).

3. Press F4 (Diagnose).

The system displays the Networking Diagnostics menu (Figure 2-4).

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics   27

4. Select

```
> Modem Loop-Around Test
```

The system displays the Modem Loop-Around Test window (Figure 2-9).
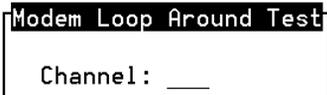
```
Modem Loop Around Test

  Channel: ___
```

Figure 2-9. Modem Loop-Around Test Window

5. Enter the channel number to be tested. The channel must be RS-232 and have a modem connected.

    The system displays the message `working...` in the upper right corner of the screen. The system begins the test on the channel with the modem connected. When the process completes, the system displays the Test Results screen (Figure 2-8).

6. If the screen contains a message stating the test completed successfully, proceed to Step 7.

    If the screen shows that the test failed, see Chapters 3 and 4 of *INTUITY AUDIX Digital Networking Administration,* 585-310-533, for information on modem settings and cabling.

    In addition, access the Alarm Log, enter **NW** as the application, and look for alarms related to networking modems. See Chapter 1, Getting Started, in *Avaya Interchange Release 5.4 Alarm and Log Messages* for the procedure.

7. Press F6 (Cancel) to exit the screen and return to the Networking Diagnostics screen (Figure 2-3).

8. Repeat Step 2 through Step 7 for each equipped channel that is RS-232 and has a modem connected.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 28

Network Loop-Around Test

The network loop-around test checks the data transmission path that connects the local Avaya Interchange machine with the service office (SO) and the public network. When a channel is in loop-around mode, the channel cannot exchange information with remote machines.

Requirements. This test can be performed only on DCP channels. Coordinate this test with the local SO.

Operation. The test operates in the following manner:

- To perform the test, specify the channel number and data rate and start the channel in network loop-around mode.

- Notify the SO to send information to the channel to be tested.

- The SO sends a message that loops through the INTUITY AUDIX Digital Network and returns to the SO.

- The SO checks the message to verify that the same information sent was returned by Avaya Interchange.

Procedure. To perform a network loop-around test, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> Customer/Services Administration

> Diagnostics

> Networking Diagnostics

The system displays the Networking Diagnostics window (Figure 2-3).

2. Press F8 (Chg-Keys).

3. Press F4 (Diagnose).

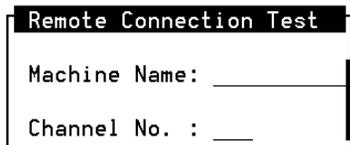The system displays the Networking Diagnostics menu (Figure 2-4).

4. Select

> Network Loop-Around Test

> Start Test

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2   Diagnostics
Conducting Diagnostics   29

The system displays the Start Network Loop-Around Test window
(Figure 2-10).

```
┌Start Network Loop Around Test┐
│                              │
│     Speed: ▐___              │█
│                              │█
│     Channel: ___             │█
│                              │
└──────────────────────────────┘
```
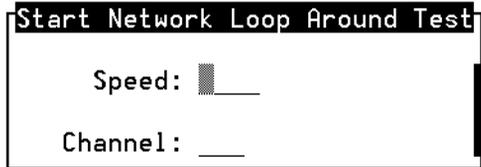
Figure 2-10.   Start Network Loop-Around Test Window

5. Enter **High** or **Low** in the `Speed:` field:

   ■ High speed refers to channels configured as 64 Kbps DCP.

   ■ Low speed refers to channels configured as 56 Kbps DCP.

6. Enter the channel number to be tested.

   Make sure the channel number corresponds to the channel data rate
   entered in the previous step.

7. Press F3 (Save).

   The system displays the message `working...` in the upper right corner
   of the screen, places the channel in loop-around mode, and displays a Test
   Results window (Figure 2-11).

```
┌                    Test Results                        ┐
│ Network Loop Around Test Started on Channel 1          │
│ Press <CANCEL> to continue                             │
│                                                        │█
│                                                        │█
│                                                        │
│                                                        │
└────────────────────────────────────────────────────────┘
```
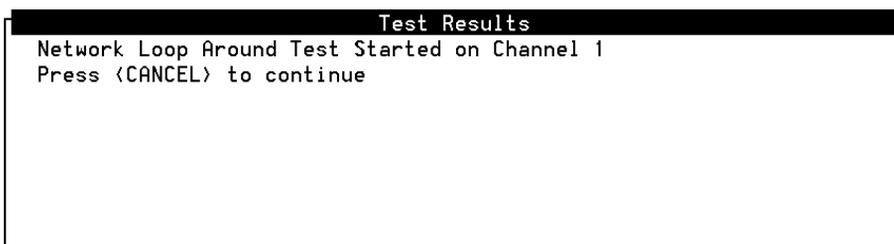
Figure 2-11.   Start Test Results Window for a Network Loop-Around Test

8. Press F6 (Cancel) to exit the screen and return to the Networking
   Diagnostics menu (Figure 2-4).

9. Contact the local telephone SO and instruct the office to place a call to the
   telephone number assigned to the channel placed in the loop-around
   mode. If the test is successful, any data sent by the SO passes through the
   Avaya Interchange channel and returns to the SO.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
 Conducting Diagnostics 30

10. Stop the test and remove the channel from the loop-around mode by
     completing the following Step a through Step c:

    a. Select

```
> Network Loop-Around Test
```

```
> Stop Test
```

The system displays the Stop Network Loop-Around Test window
(Figure 2-12).

```
┌Stop Network Loop Around Test┐
│                             │
│   Channel: ▓__              │
│                             │
└─────────────────────────────┘
```

Figure 2-12.   Stop Network Loop-Around Test Window

    b. To stop testing the channel, enter the appropriated channel number
        in the `Channel`: field. This is the same channel number entered in
        Step 6.

        The system displays the message `working...` in the upper right
        corner of the screen, removes the channel from loop-around mode,
        and displays the Test Results window (Figure 2-13).

```
┌─────────────────────────────────────────────────────────┐
│                      Test Results                        │
│  Network Loop Around test stopped on Channel 1           │
│  Press ⟨CANCEL⟩ to continue                              │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
└─────────────────────────────────────────────────────────┘
```
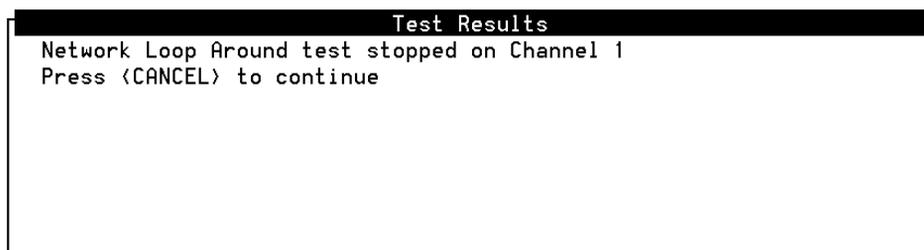
Figure 2-13.   Stop Test Results Window for a Network Loop-Around Test

11. Press F6 (Cancel) to exit the screen and return to the Networking
     Diagnostics menu (Figure 2-4).

12. Repeat Step 2 through Step 11 for each channel to be tested.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics   31

Networking Board Reset

This section provides instructions for resetting the ACCX card.

Requirements

The card might need to be reset after other networking diagnostic tests have been performed. In addition, the card might need to be reset as part of an alarm repair procedure.

Procedure

To reset the networking card, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> Customer/Services Administration

> Diagnostics

> Networking Diagnostics

The system displays the Networking Diagnostics window (Figure 2-3).

2. Press F8 (Chg-Keys).

3. Press F4 (Diagnose).

The system displays the Networking Diagnostics menu (Figure 2-4).

4. Select

> Networking Board Reset

The system displays the Networking Board Reset window (Figure 2-14).

```
Networking Board Reset

 Board No.: __
```

Figure 2-14.   Networking Board Reset Window

5. Enter the number of the ACCX card to be reset.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
 Conducting Diagnostics 32

The Avaya Interchange system resets the networking card. The process takes several minutes. When the process completes, the system displays the Test Results window (Figure 2-15).

```
                         Test Results
 Networking Board 1 has been reset
 Press <CANCEL> to continue
```
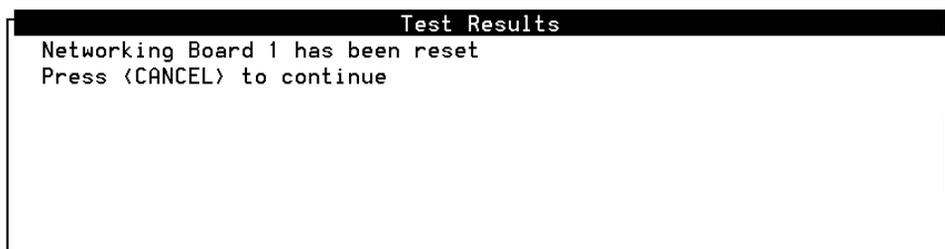
Figure 2-15. Networking Board Reset Results Screen

6. Press F6 (Cancel) to exit the screen and return to the Networking Diagnostics menu (Figure 2-4).

7. Repeat Step 2 through Step 6 for each ACCX card to be reset.

Busy Out and Release Networking Channels

⚠ CAUTION:

Do not perform this procedure unless instructed to do so.

Busying out a channel refers to the process of taking a channel out of service so that no data is sent to the channel. *Releasing* a channel refers to the process of making the channel active again and changing the state from *busyout* to *idle*.

Busy Out Networking Channels

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > Diagnostics

        > Networking Diagnostics
```

The system displays the Networking Diagnostics window (Figure 2-3).

2. Press F8 (Chg-Keys).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002
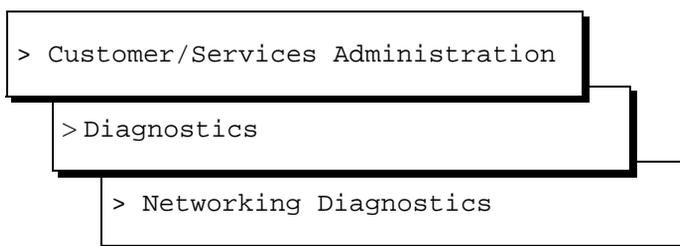
2 Diagnostics
Conducting Diagnostics 33

3. Press F2 (Busyout).

    The system displays the Busyout Networking Channel window
    ([Figure 2-16](#)).

```
┌Busyout Networking Channel┐
│                          │
│    Channel: ___          │
│                          │
└──────────────────────────┘
```

Figure 2-16.   Busyout Networking Channel Window

4. Enter the number of the channel to be busied out.

    The system displays the message working... in the upper right corner
    of the screen. When the process completes, the Status field on the
    Networking Diagnostics window ([Figure 2-3](#)) updates and shows busyout
    for the channel entered.

5. Repeat [Step 2](#) through [Step 4](#) for each channel to be busied out.

Release Networking Channels

1. Start at the Avaya Interchange Main Menu ([Figure 2-1](#)) and select

```
> Customer/Services Administration

    > Diagnostics

        > Networking Diagnostics
```
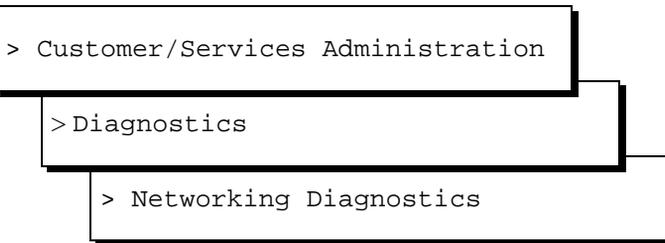
The system displays the Networking Diagnostics window ([Figure 2-3](#)).

2. Press F8 (Chg-Keys).

3. Press F2 (Release).

    The system displays the Release Networking Channel window
    ([Figure 2-17](#)).

```
┌Release Networking Channel┐
│                          │
│    Channel: ___          │
│                          │
└──────────────────────────┘
```

Figure 2-17.   Release Networking Channel Window

4. Enter the number of the channel to be released.

The system displays the message `working...` in the upper right corner of the screen. When the process is complete, the Status field on the Networking Diagnostics window () updates and shows `idle` for the channel entered.

5. Repeat Step 2 through Step 4 for each channel to be released.

Performing a Network Snapshot

To perform a network snapshot, start at the Avaya Interchange Main Menu (), and select

> `> Networking Administration`
>
> `> Network Snapshot`

The system displays the Network Snapshot window ().

```
                             Network Snapshot
 LOG START DATE: 03/25                          LOG END DATE: 05/02
 -------------------------------------------------------------------
                 OUTGOING CONNECTIONS          INCOMING CONNECTIONS
 MACHINE    LAST CONN.   STATUS      RETRY      LAST CONN.    STATUS
 drmid10
 a123456789
 drbig12
 lztiny1    04/30  03:20  success               04/28  11:12  success
 lzccs21    04/24  10:45  success               04/24  10:42  success
 lzintuit
 lzbig2
 test1
 scott_ss
 lzccs30    04/12  01:10  success               04/04  04:33  success
 lzmid2     04/30  03:35  success               04/28  20:27  success
 lzmid3
```

Figure 2-18.   Network Snapshot Window

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 35

TCP/IP Diagnostics

Use the TCP/IP diagnostics screens when subscribers are experiencing problems with:

- INTUITY Message Manager

- Internet Messaging for INTUITY AUDIX

- Digital Networking using TCP/IP

- HiCap

Data on these screens can help diagnose TCP/IP problems and can determine if the Avaya Interchange system is communicating properly with other machines.

You can use the TCP/IP diagnostics screens to do the following:

- Test the Avaya Interchange system's TCP/IP software.

- Test the connection between the Avaya Interchange system and a subscriber's PC.

- View the statistics for the LAN card.

For the two tests, test data (packets) are sent back and forth from the Avaya Interchange system to a networked machine. If no problems exist, the data is returned exactly as it was sent.

Testing the TCP/IP Software

If subscribers are experiencing difficulties, first ensure that the problem is not with the Avaya Interchange system's UNIX TCP/IP software. For this procedure, run the diagnostic on the Avaya Interchange system itself. This test does *not* involve the LAN card or the network.

Procedure

To test the TCP/IP software, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration
    > Diagnostics
        > TCP/IP Diagnostics
            >Send & Receive Test Packets
```

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics 36
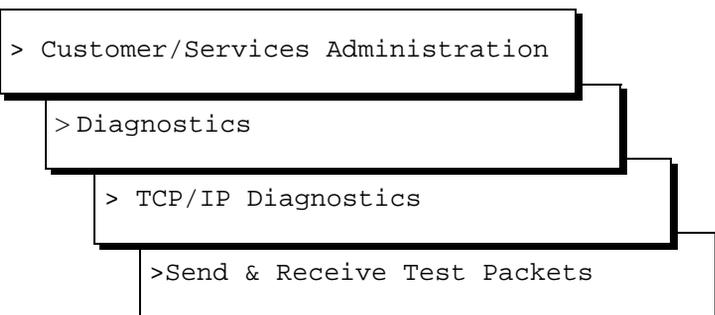
The system displays the Send & Receive Test Packets From window (Figure 2-19).
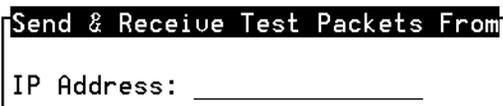
```
┌Send & Receive Test Packets From┐
│                                 │
│IP Address: _____      │
│                                 │
└                                 ┘
```

Figure 2-19.   Send and Receive Test Packets Window

2. Enter the Internet Protocol (IP) address of the Avaya Interchange system (*not* a PC address).

    For this information, see the TCP/IP Administration screen.

3. Press F3 (Save).

    The system displays the message working... in the upper right corner of the screen. While the cursor flashes, the system is performing the test.

    When the test is finished, the system displays the Test Packets Results window (Figure 2-20). This screen shows the results of sending 10 test packets from the Avaya Interchange system to itself.

```
                     Test Packets Results
  72 bytes from XXX.XX.XX.XX: icmp_seq=0. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=1. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=2. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=3. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=4. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=5. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=6. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=7. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=8. time=0. ms
  72 bytes from XXX.XX.XX.XX: icmp_seq=9. time=0. ms

  ---- XXX.XX.XX.XX PING Statistics----
  10 packets transmitted, 10 packets received, 0% packet loss
  round-trip (ms)  min/avg/max = 0/0/0

  Note: High packet loss, long round-trip time, or packets received out
  of order (icmp_seq) may indicate a network problem.

  Press <HELP> for more information, <CANCEL> to continue.
```

Figure 2-20.   Sample Test Packets Results Window

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics   37

Results

Examine the packet loss field in the PING Statistics displayed on the Test Packets Results screen. The value for this field is either 0% or 100%. The meanings of these values are as follows:

- If 0% packet loss is reported, the test is successful. This result indicates that the problem is *not* with the Avaya Interchange system's TCP/IP software; however, the problem could be with the LAN card or the network. To further isolate the problem, test the connection between the Avaya Interchange system and the troubled subscriber's PC. See Testing the Connection Between the Avaya Interchange System and a Subscriber's PC for the procedure.

- If 100% packet loss is reported, the test failed. Check with your LAN administrator to ensure that you used the correct IP address for the system. This result could indicate a problem with the Avaya Interchange system's UNIX TCP/IP software. Reboot the system and repeat this test. If the test still fails, contact your remote services center. See Rebooting the System in Chapter 3, Common System Procedures, for the procedure.

Testing the Connection Between the Avaya Interchange System and a Subscriber's PC

Once it has been determined that the Avaya Interchange system TCP/IP software is functioning correctly (see the previous section, Testing the TCP/IP Software), it needs to be determined that the Avaya Interchange system can properly communicate with the troubled subscriber's PC.

Procedure

To test the LAN card and the network, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

  > Diagnostics

    > TCP/IP Diagnostics

      >Send & Receive Test Packets
```
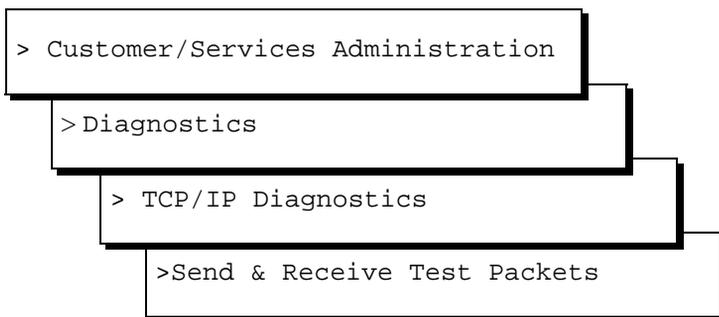
The system displays the Send & Receive Test Packets From window (Figure 2-19).

2. Enter the Internet Protocol (IP) address for the PC to which you want to have test packets sent and received.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
 Conducting Diagnostics   *38*

3. Press F3 (Save).

The system displays working and a flashing cursor at the upper right corner of the screen. While the cursor flashes, the system is performing the test.

The system displays the Sample Test Packets Results window (Figure 2-20) when the test is finished.

Results

The meaning of the results for the LAN test are described as follows:

- ■ *icmp_seq*. The sequence identifier of the packet. The packets are numbered from 0 to 9, in the order that they were sent, and are displayed on the screen in the order that they were returned. If one or two packets are returned out of sequence, the condition is acceptable to the Avaya Interchange system. However, if more than two packets are out of sequence (for example, 0, 2, 5, 3, 1...), inform the LAN or system administrator. Out-of-sequence packets could indicate network congestion or misrouting.

- ■ *time*. The roundtrip transmission time, in milliseconds (ms), of the packet. Roundtrip delays greater than 10,000 ms could indicate a network problem.

- ■ *packet loss*. The percentage of packets that were not returned during the test. The number of lost packets varies from network to network. Percentage of loss depends upon the number of users, the number of machines, and the distance between machines.

  — Consider the test successful if the Avaya Interchange system reports a packet loss percentage between 0 and 49%. Do, however, inform the LAN or system administrator if the loss is above 10%. Slow response time could be the result of such a loss.

  — Consider the test a failure if the Avaya Interchange system reports a packet loss percentage between 50% and 99%. In this range, Avaya INTUITY Message Manager performance is extremely slow or completely fails.

  — A 100% packet loss indicates that the Avaya Interchange system has not established communication to the test machine address. The test does not report if packets are being sent to an incorrect or non-existent machine. Verify that you used the correct IP address for the PC. To further isolate the problem, repeat the test for a PC *not* experiencing problems with Avaya INTUITY Message Manager. If this test succeeds, the problem is with the first test PC. If this test fails, the problem is likely with the Avaya Interchange system LAN card or the network connection to the Avaya Interchange system.

Viewing LAN Circuit Card Packet Statistics

The Packet Statistics screen displays data concerning traffic on the LAN card.
Use this screen to identify problems occurring with the LAN card and the network.

Procedure

To view the packet statistics, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    >Diagnostics

      > TCP/IP Diagnostics

        >View Packet Statistics
```
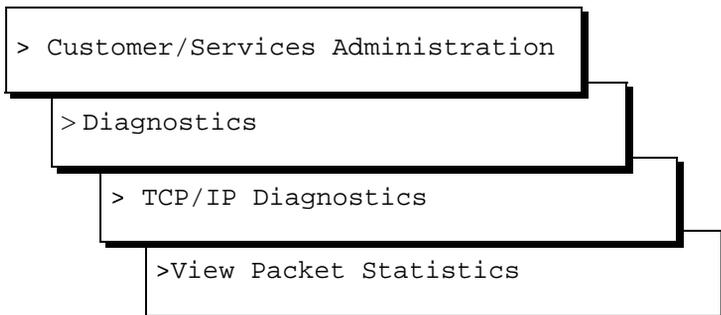
The system displays the Packet Statistics window (Figure 2-21).

```
                         Packet Statistics

 Name    Mtu    Network      Address       Ipkts    Ierrs Opkts    Oerrs Collis
 lo0     8256   127          127.0.0.1     10661201 0     10661201 0     0
 sme0    1500   135.9.181    135.9.181.76  0        0     22185759 77962 0

 Note: The Ethernet board is named sme00.  Abnormally high values
 in the "Ierrs", "Oerrs", or "Collis" columns may indicate a network
 problem.

 Press <HELP> for more information, <CANCEL> to continue.
```

Figure 2-21.   Packet Statistics Window

Interpreting the Packet Statistics Window

Table 2-1 explains each field on the Packet Statistics window. Once the system is
turned on, packets (data) are sent over the network as interactions occur.

To see the statistics for the LAN card, examine the data for the line beginning with
`sme00`. When the data on this screen indicates problems with the network,
contact your LAN administrator.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics *40*

Table 2-1.   Fields on Packet Statistics Screen

Field	Description
Name	The name of the interface. The LAN card is `sme00`. An asterisk (*) in the field indicates that the interface is not enabled.
Mtu	The maximum transmission unit in bytes. This field indicates the longest packet that can be transmitted without needing to be split.
Network	The network to which the interface provides access. For the LAN card (`sme00`), the value for this field is always `none`.
Address	The IP address assigned to this interface. For the LAN card (`sme00`), the value for this field is always `none`.
Ipkts	The number of packets received over the network since the Avaya Interchange system was turned on.
Ierrs	The number of damaged packets received. A value for this field greater than 10% of the packets received (Ipkts) indicates that the network is too busy and performance is slow.
Opkts	The number of packets sent over the network since the Avaya Interchange system was turned on.
Oerrs	The number of packets damaged while being sent. A value for this field greater than 10% of the packets sent (Opkts) indicates that the network is too busy and performance is slow.
Collis	The number of collisions occurring on the network. A collision occurs when two machines on the network attempt to transmit a packet at the same time. Packets are then sent again; however, too many collisions can slow down the network. A value for this field greater than 10% of the packets sent (Opkts) indicates that the network is too busy and performance is slow.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
 Conducting Diagnostics

41

Voice Port Diagnostics

To diagnose a voice port without removing the voice card from service, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> \> Customer/Services Administration
>
>   \> Diagnostics
>
>   \> Voice Port Loop Around Test

The system displays the Voice Port Loop Around Test window (Figure 2-22).

```
              Voice Port Loop Around Test

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

Figure 2-22.   Voice Port Loop Around Test Window

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

    The dialing channel is the channel that sends the signal used to diagnose the target 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 test can be run on the voice port:

    - `all`

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

    If you enter **yes** in this field, the diagnosis is then performed immediately regardless of the current state of the dialing channel.

6. Press F3 (Save).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics *42*

The system completes the diagnostics and displays the Voice Port Loop Around Test Results screen (Figure 2-23).

```
              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 2-23.   Voice Port Loop Around Test Results Screen

7. Press ENTER.

    The system displays the Voice Port Loop Around Test window
    (Figure 2-22).

Tip/Ring Circuit Card Diagnostics

To determine which Tip/Ring circuit card is having a problem, look at the alarm
log. See Chapter 1, Getting Started, in *Avaya Interchange Release 5.4 Alarm and
Log Messages* for more information about the alarm log.

Procedure

To diagnose one or more Tip/Ring circuit cards, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics   43

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Voice Board Diagnostics
```

```
> Diagnose
```
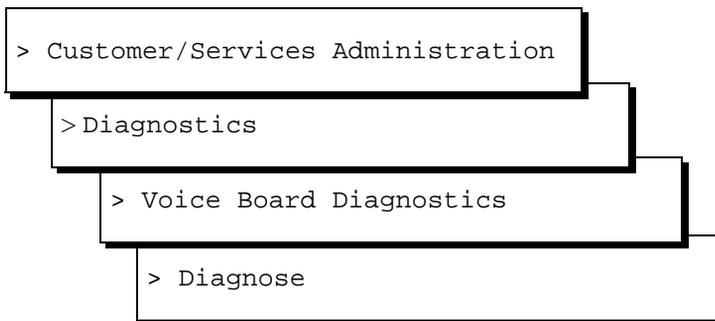
The system displays the Diagnose Equipment window (Figure 2-24).

```
                    Diagnose Equipment

      Equipment to diagnose:
            Equipment Number:
          Immediate diagnosis?
```
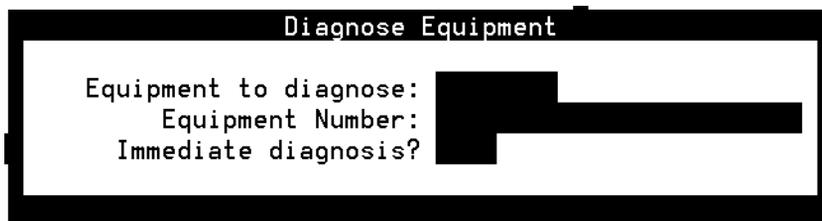
Figure 2-24.   Diagnose Equipment Window

Each voice card has a number (0 through 2) that is determined by the card address set by dip switches. A card number is shown on the first line of its display.

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

3. Enter the number of the card(s) you want to diagnose in the `Equipment Number:` field.

! CAUTION:

Do not diagnose all of the voice cards at once. This could leave no channels available on the system to accept incoming calls.

You can enter card numbers in several forms:

- A single card number (for example, 1)

- A range of card numbers (for example: 0–2)

- A list of single card numbers (for example, 0,1,2)

- A list of single cards and ranges (for example, 0–2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

2 Diagnostics
Conducting Diagnostics   44

4. Enter **n** in the `Immediate Diagnosis?` field so that the card is
    diagnosed when it is free of calls.

> ⚠️ **CAUTION:**
>
> *Diagnosing voice cards immediately by entering **y** in the `Immediate`
> `Diagnosis?` field disconnects calls in progress. Do not enter **y**
> unless call traffic is extremely low. Diagnosing voice cards only when
> they are free of calls might take longer, but no calls are disconnected.*

5. Press F3 (Save).

    Depending on the number of cards selected, diagnosis can take several
    minutes. When the diagnosis is complete, the system displays the following
    message:

    ```
    Request to diagnose Tip/Ring card <number> is
    completed.
    ```

    ```
    Press Enter to continue.
    ```

6. Press ENTER.

Results

The voice card diagnostics progress through three main steps.

- Each channel (and as a result the entire card) is taken out of service by
  changing its state to MANOOS (manually out of service).

- Each channel is checked for loop current. Loop current is present on a
  channel when a live telephone line is physically connected between the
  IVC6 port and a properly administered switch port.

- Each channel (and as a result the entire card) is put back into service by
  changing its state to INSERV (in-service).

If a card and all of its channels pass diagnostics, each channel is returned to its
previous state (prior to the diagnostic), and the following message is shown in the
Diagnose Equipment Results screen:

```
Diag TR number, Passed.
```

The following messages are normal outputs of the diagnostic process and do not
affect the operation of the card:

- `Diag TR `*`number`*`, Not attempting dial tone training`
  `(/vs/switch/analog/noDTtrain exists)`

  For some switches, dial tone training is turned off because if the Avaya
  Interchange system tries to get dial tone from many switch ports at one
  time, failures can occur on the switch side.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
 Conducting Diagnostics   45

- `Found Loop current on channel` *number*

    This message indicates that there is a working telephone line attached to the voice port.

- `Request to diagnose Tip/Ring` *number* `completed`

    This message indicates that all requested tests have been completed.

The following list shows messages printed in the Diagnose Equipment Results screen that could signal problems.

- `No loop current on channel` *number*

    OR

    `Channel number changed to state FOOS`

    The Avaya Interchange system does not detect a working telephone line connected to the voice port. If this occurs, do the following:

    1. Verify that the telephone line is securely connected to the voice card and the switch.

    2. Verify that the analog line is set up properly on the switch. See the switch integration document included with your Avaya system documentation set for more information.

    3. Verify that the switch port has a dial tone, by removing the analog line, plugging in an analog telephone, and listening with the handset for dial tone. If there is dial tone, the voice card is likely the problem. If there is no dial tone, the problem is on the switch side. Verify switch wiring and administration.

- `Diag TR` *number*`: No dial tone frequencies set`

    The Avaya Interchange system did not detect dial tone, but it did detect loop current (phone line is attached). This could be a result of excessive load on the switch circuit pack. If this occurs, do the following:

    1. Verify that Avaya Interchange system analog lines are distributed over several switch circuit packs.

    2. Verify that the switch administration for the ports is valid.

- `Channel number changed to state BROKEN`

    OR

- `Card number changed to state BROKEN`

    The channel or card is not working. Replace the Tip/Ring circuit card. See Tip/Ring Circuit Cards in Chapter 5, Replacing or Installing Circuit Cards.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
 Conducting Diagnostics 46

Busying out a Tip/Ring Circuit Card

Busying out a Tip/Ring circuit card takes all channels on that card out of service (MANOOS or manually out of service state) so that calls are not forwarded to those channels. You can also busy out one or more individual channels.

To busy out a Tip/Ring circuit card, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> Customer/Services Administration

> Diagnostics

> Voice Board Diagnostics

> Busy Out

The system displays the Busyout of Voice Equipment window (Figure 2-25).


```
             Busyout of Voice Equipment

               New State: manoos
               Equipment:
        Equipment Number:
       Change Immediately?
```

Figure 2-25.   Busyout of Voice Equipment Window

The New State: field displays manoos. This is the state to which the cards or channels selected are to be changed. This field cannot be changed.

2. Enter **card** or **channel** in the Equipment: field.

3. Enter the number of the card(s) or channel(s) you want to busy out in the Equipment Number: field.

⚠ CAUTION:

Do not busy out all of the voice cards at once. This might leave no channels available on the system to accept incoming calls.

Card numbers range from 0 through 2; channel numbers range from 0 through 17. You can enter card and channel numbers in several forms:

- A single card number (for example, 1)

- A range of card numbers (for example, 0–2)

- A list of single card numbers (for example, 0,1,2)

- A list of single cards and ranges (for example, 0–2)

4. Enter **n** in the Change Immediately? field so that the card or channel busies out when it is free of calls.

⚠ **CAUTION:**

*Busying out voice cards or channels immediately by entering **y** in the* Change Immediately? *field disconnects calls in progress. Do not enter **y** unless call traffic is extremely low. If **n** is entered, the voice cards or channels busy out when they are free of calls. Busying out voice cards and channels only when they are free of calls might take longer, but no calls are disconnected.*

5. Press F3 (Save).

When the state change is complete, the system displays a Command Output screen.

Releasing a Tip/Ring Circuit Card

Releasing a Tip/Ring circuit card puts all channels on that card in service (INSERV) so that they can accept and process calls. You can also release one or more individual channels.

To release a Tip/Ring circuit card or channels, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > Diagnostics

      > Voice Board Diagnostics

         > Release
```
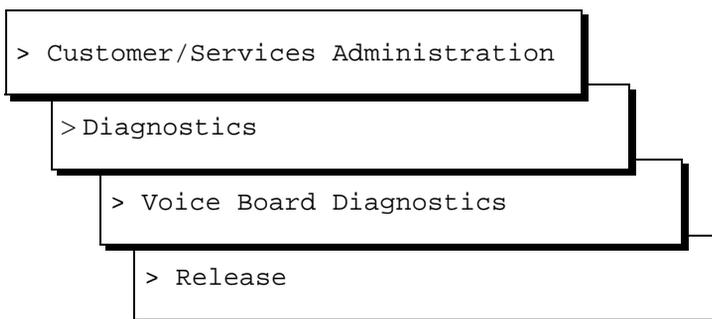
The system displays the Release of Voice Equipment window (Figure 2-26).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

2 Diagnostics
  Conducting Diagnostics

48

```
                    ┌─────────────────────────────────────────┐
                    │        Release of Voice Equipment        │
                    │                                          │
                    │        New State: inserv                 │
                    │        Equipment: ███████████            │
                    │   Equipment Number: ██████████████████   │
                    │  Change Immediately? ████                │
                    │                                          │
                    └─────────────────────────────────────────┘
```
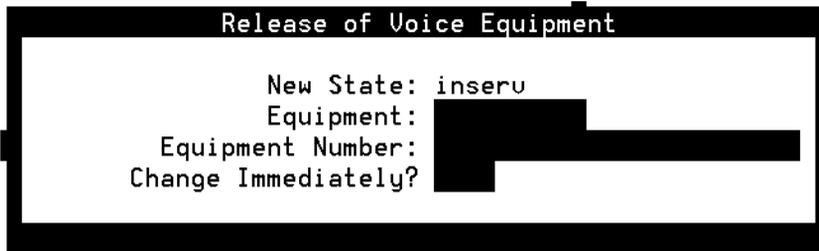
Figure 2-26.   Release of Voice Equipment Window

The New State: field displays inserv (in service). This is the state to
which the cards or channels selected are to be changed. This field cannot
be changed.

2. Enter **card** or **channel** in the Equipment: field.

3. Enter the number of the card(s) or channel(s) you want to release in the
Equipment Number: field.

Card numbers range from 0 through 1;, channel numbers range from 0
through 63. The card and channel numbers can be entered in several
forms:

- A single card number (for example, 1)

- A range of card numbers (for example, 0–2)

- A list of single card numbers (for example, 0,1,2)

- A list of single cards and ranges (for example, 0–2)

4. Enter **y** in the Change Immediately? field so that the card or channel is
released immediately.

5. Press F3 (Save).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Overview   *49*

Common System Procedures

3

Overview

This chapter describes:

- Cartridge tape and diskette drive operating procedures

- Backup and restore procedures

- Voice system administration procedures

Purpose

The purpose of this chapter is to provide the procedures necessary to perform the most common procedures associated with the Avaya Interchange system.

Accessing the Product ID

The product ID is a 10-digit number used to identify each Avaya Interchange system. You must have the product ID when contacting your remote maintenance service center.

To access the product ID, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> > Customer/Services Administration
>
> > > Alarm Management

The system displays the Alarm Management window (Figure 3-1).

```
                    Alarm  Management
Product ID                          2999999999

Alarm Destination                   916148606427

Alarm Origination                   ACTIVE

Alarm Level                         MINOR

Alarm Suppression                   ACTIVE

Clear Alarm Notification            ACTIVE
```

Figure 3-1.　Alarm Management Window

2. Record the product ID for use with the remote maintenance center.

About Cartridge Drives and Tapes

Cartridge tapes provide for the storage of information used by the Avaya Interchange system. The MAP/100P reads information from and writes information to cartridge tapes through the tape drive. The tape drive is located in Peripheral Bay 3.

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.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
About Cartridge Drives and Tapes 51

Inserting Cartridge Tapes

To insert a cartridge tape, do the following:

1. Locate the tape drive on the front of the MAP/100P (Figure 3-2).
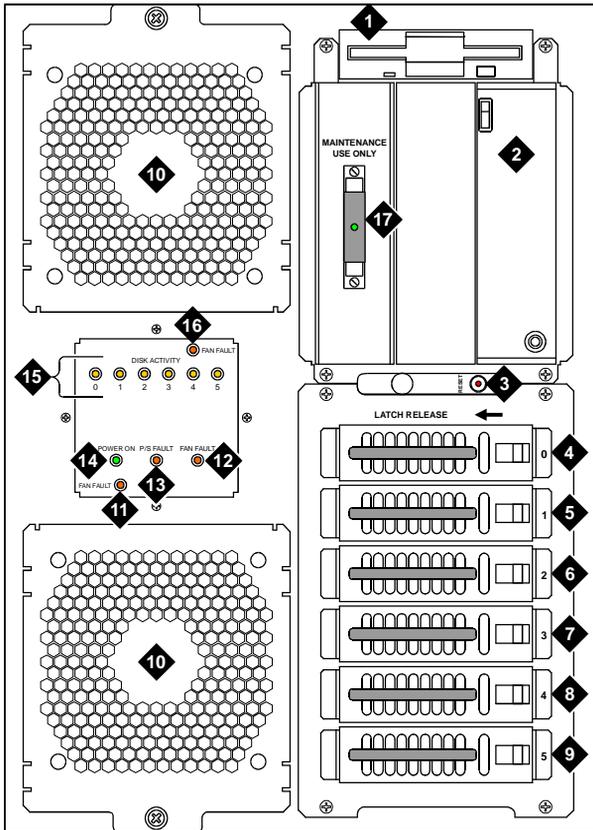
scinp002 klc 011198

1.	Diskette drive	10.	Circuit card cage fan
2.	Cartridge tape drive	11.	Fan fault LED
3.	Reset push button	12.	Fan fault LED
4.	Hard Disk Drive 0	13.	Power supply fault LED
5.	Hard Disk Drive 1	14.	Power On LED
6.	Hard Disk Drive 2	15.	Hard disk drive activity LEDs
7	Hard Disk Drive 3	16.	Fan fault LED
8.	Hard Disk Drive 4	17.	SCSI terminator
9.	Hard Disk Drive 5		

Figure 3-2.   Front View of the MAP/100P

2. Check the Read/Write dial to make sure that the tape is not write-protected. Ensure that the small dial on the front of the tape is in the horizontal position.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
About Cartridge Drives and Tapes 52

3. Complete Step a through Step 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 3-3).

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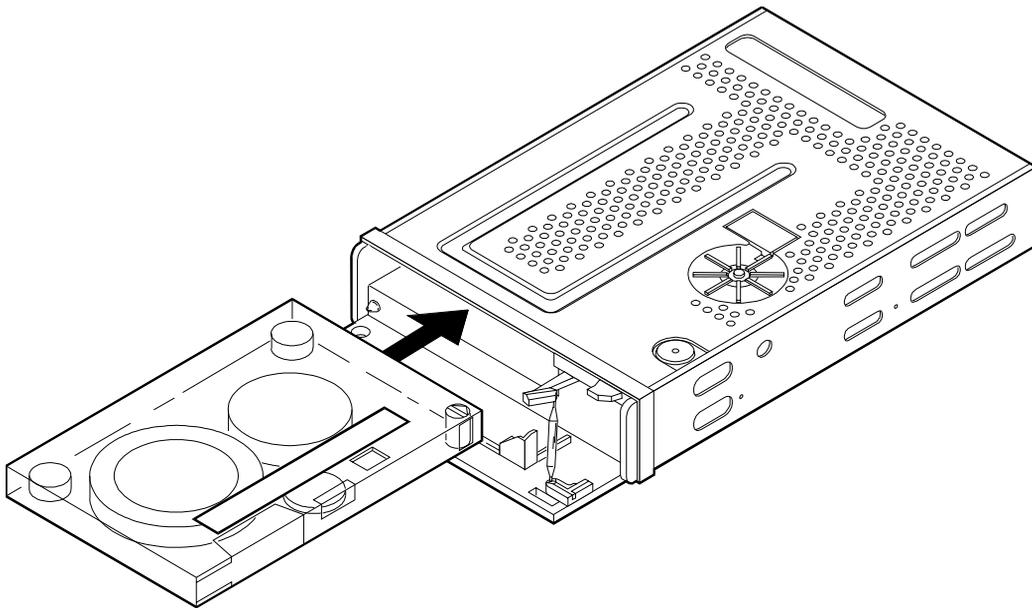
Figure 3-3.   Tape Insertion with a 2-GB Tape Drive

> **NOTE:**
> The light on the 2-GB drive blinks 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, do the following:

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

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

3 Common System Procedures
About Cartridge Drives and Tapes 53

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

2. Pull out the tape.

Formatting Cartridge Tapes

Formatting prepares a cartridge tape to receive data. To format a cartridge tape, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> Customer/Services Administration

> System Management

> UNIX Management

>Format UNIX Floppy/Tape

The system displays the Format UNIX Floppy/Tape menu (Figure 3-4).

```
                  Format UNIX Floppy/Tape
>Format 3.5 inch 1.44 Mbyte (High Density)
 Format 3.5 inch 720 Kbyte (Low Density)
 Format Cartridge Tape
```

Figure 3-4.   Format UNIX Floppy/Tape Menu

2. Select Format Cartridge Tape.

3. Verify that the tape is not write-protected and insert the tape into the tape drive. See Inserting Cartridge Tapes later 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 ENTER to continue.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

3 Common System Procedures
About Diskette Drives and Diskettes   54

About Diskette Drives and Diskettes

Floppy disks can provide for the storage of information used by the Avaya Interchange system. If information must be transferred from an Avaya Interchange system without a LAN card, floppy disks must be used.

➡️ NOTE:

In the past, disks made of a soft pliable material were used, and hence were called "floppy" disks and their drives "floppy" drives. Diskettes are used exclusively now, but "floppy disks" is a term that continues to be used in the field to refer to diskettes.

Types of Diskettes

The Avaya Interchange 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-MB)

- Low density (720-KB)

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/100P (Figure 3-2).

2. Check the Read/Write switch to make sure that the diskette is not write-protected. Ensure that the small dial on the front of the tape is in the horizontal position.

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.

⚠️ CAUTION:

You can remove the diskette only when the drive is idle, that is, when the light is not on.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Backing Up (Unattended) 55

Formatting Diskettes

Formatting prepares a diskette to receive data. To format a diskette, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Format UNIX Floppy/Tape
```

The system displays the Format UNIX Floppy/Tape menu (Figure 3-4).

2. Select `Format 3.5 inch 1.44 Mbyte (High Density)` or `Format 3.5 inch 720 Kbyte (Low Density)` depending on the type of diskette being used.

3. Verify that the diskette is not write-protected and insert the tape into the tape drive. See Inserting the Diskette for more information.

4. Press **y**.

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

5. Remove the diskette from the diskette drive.

6. Press ENTER to continue.

Backing Up (Unattended)

The unattended backup contains all of the information necessary to bring the system back to an operational state after a service-affecting event. However, the unattended backup alone cannot completely restore the system to its previous state. The unattended backup can only bring the system back to an operational state. Employ the disaster recovery procedures outlined in Chapter 4, New Installation and System Recovery Procedures, in *Avaya Interchange Release 5.4 Installation and System Recovery* to restore a system to the previous state.

Unattended backups do not require supervision and occur automatically. However, for the backup to be successful, you must ensure that a cartridge tape is in the tape drive.

Unattended backups occur nightly at 3:00 a.m. and can take up to four hours. Unattended backups do not degrade service.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

3 Common System Procedures
Backing Up (Unattended)   56

After verifying that the unattended backup was successful, remove the tape. Label it (with the date and backup data type, for example, System Data), and store it. Then insert a second tape into the tape drive.   See later for backup verification procedures.

How to Manage Tapes

⚠ CAUTION:

Do not leave the same tape in the tape drive day after day. Once the unattended backup begins, the previous day's data is overwritten and unretrievable. If today's unattended backup fails, neither today's nor yesterday's data is available.

To better manage the backed-up data, it is recommended that two tapes be used.

These two tapes can be alternated daily, or additional tapes can be used to implement a longer cycle (for example, seven tapes, each labeled with the days of the week).

What Data Is Backed Up

An unattended backup saves:

- Detailed system data on shared memory, speech file system pointers, and so on

- Alarm management information

- A list of enabled features

- A list of installed software

- Digital Networking connectivity and communication information

- Hard disk configuration

Verifying the Unattended Backup

The system administrator must check the administrator's log daily to ensure that a successful unattended backup occurred. Use the Log Administration menu to check the log.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Backing Up (Unattended) 57

Successful Backup Verification with the Log Administration Menu

To verify a successful unattended backup from the Log Administration menu, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > Log Administration

        > Administrator's Log
```
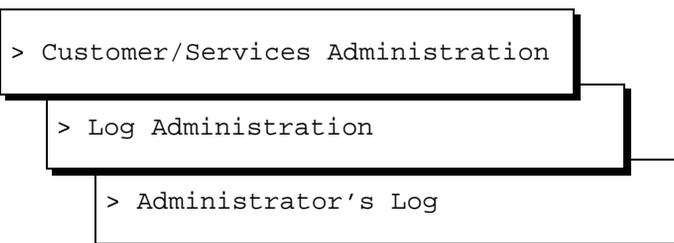
The system displays the Administrator's Log Display Selection window (Figure 3-5).

```
              Administrator's Log Display Selection

                        Administrator's Log


The following options control which entries will be displayed.



   Start Date: 9 /28/95          Time: 12:41:59

  Application: __             Event ID: _____

Search String:


__
```
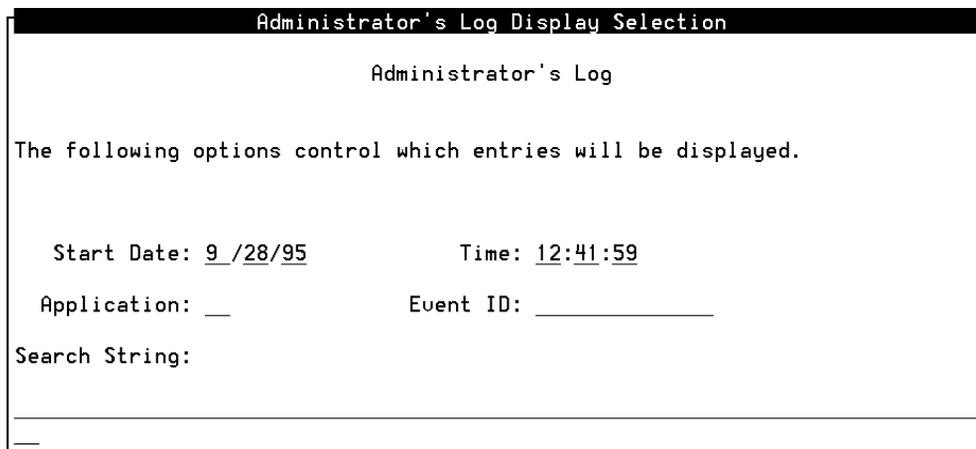
Figure 3-5.   Administrator's Log Display Selection Window

2. Place the cursor in the `Event ID` field.

3. Enter **BKRST001**.

4. Press F3 (Save).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Backing Up (Attended) 58

The system displays the Administrator's Log window (Figure 3-6).
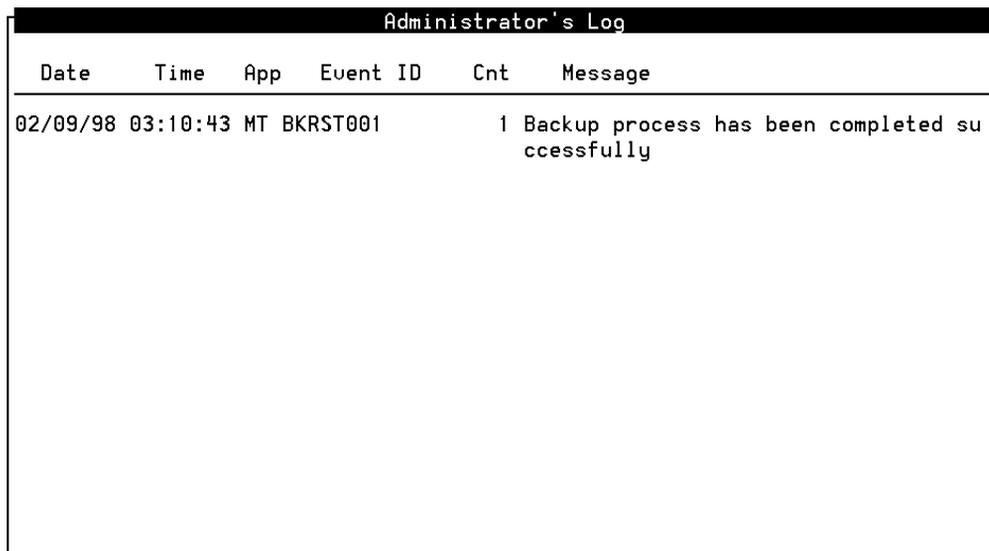
```
                          Administrator's Log
  Date     Time    App   Event ID    Cnt    Message

02/09/98 03:10:43 MT BKRST001          1  Backup process has been completed su
                                          ccessfully
```

Figure 3-6. Administrator's Log Window

5. Verify that there is an entry with today's date and the following text:

   `Backup process has been completed successfully.`

   If an entry with today's date does not exist, the unattended backup was not successful.

Backing Up (Attended)

Unattended backups do not save everything; therefore, you might want to copy other types of information for security and recovery purposes. The attended backup does not cause a degradation in service. However, for best results, perform these backups at a time when the Avaya Interchange system experiences low usage.

Data Types

You can manually back up any combination of the following data types at any time.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Backing Up (Attended)   59

System Data

System data is automatically backed up nightly through the unattended backup commands. See Backing Up (Unattended) for a list of the items included in system data. In addition to performing the unattended backup, also back up the system data manually whenever you make extensive changes to the subscriber profiles.

Voiced Names

The voiced names data type contains voiced subscriber names. After additional subscriber names have been recorded, conduct an attended backup of this file system.

Attended Backup

To perform an attended backup, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration
    > Backup/Restore
        > Backup
```
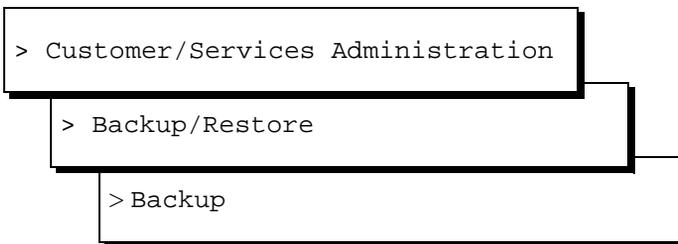
The system displays the Backup window (Figure 3-7).

Figure 3-7.   Backup Window

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

3 Common System Procedures
Backing Up (Attended)   60
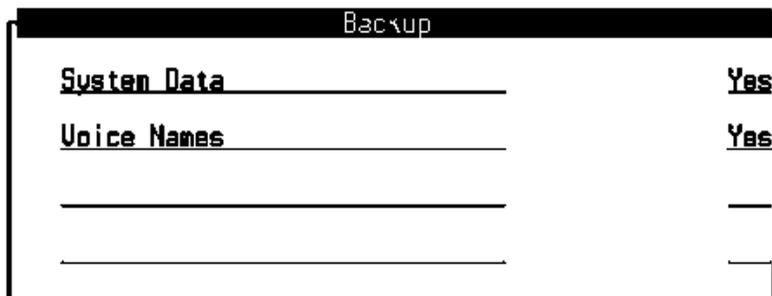
2. Enter **y** in the fields to be backed up.

   ⟹ **NOTE:**
   > The fields displayed on the Backup window are based on the system configuration. Therefore, the window you see could look different from the one shown here.

3. Enter **n** in all of the other fields.

4. Press F3 (Save).

   The system displays the following message.

   ```
   backup started
   calculating approximate number of tape(s) required
   please wait

   the backup will need approximately:
   x yyy MB cartridge tape(s)
   ```

5. Make sure that there are enough cartridge tapes to accommodate the backup.

   The system displays the following message:

   ```
   Verify whole backup tape(s) will double the amount of
   backup time.
   Do you really want to verify tape(s)?
   (Strike y or n)
   ```

6. The Avaya Interchange system verifies a backup tape by reading back the entire set of data it has just written on the tape.

   ⟹ **NOTE:**
   > Verifying the backup tape increases the total time for backup from 1-1/2 hours to 3 hours. Verification is not necessary to ensure a good backup tape.

   To verify the backup tape, press **y**. If you do not want to verify the backup tape, press **n**.

   The system displays the following message:

   ```
   please insert a tape into the tape drive to back up
   tape 1
   press <Enter> when tape is inserted
   press <Esc> key to terminate the backup
   ```

7. Insert the first cartridge tape in the tape drive. See Inserting Cartridge Tapes for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

3 Common System Procedures
Restoring Backups   61

8. Press $\boxed{\text{ENTER}}$ when the tape drive is idle.

    The system displays a series of messages indicating what is being stored on the backup tape.

    > **NOTE:**
    > The light on the 2-GB drive blinks when the drive is in use. If the light is not blinking, the tape drive is idle. The light on the 525-MB tape drive is on when the drive is in use. If the light is not on, the tape drive is idle.

9. If another tape is necessary, do the following:

    a. Remove the current tape.   See Inserting Cartridge Tapes for this procedure.

    b. Label the tape with the current date and backup data type(s).

    c. Insert the next tape.   See Inserting Cartridge Tapes for this procedure.

    If another tape is not necessary, continue with Step 10.

    When the backup is complete, the system displays the following message:

    ```
    backup process has been completed successfully
    press any key to continue
    ```

10. Press $\boxed{\text{ENTER}}$.

11. Press $\boxed{\text{CANCEL}}$ three times to return to the Avaya Interchange Main Menu (Figure 2-1).

Restoring Backups

The information stored on cartridge tapes during the unattended and attended backup procedures is used to restore the system to an operational state.

When to Do a Restore

If a system problem or failure occurs, backups can be invaluable in returning the system to an operational state. It is likely that you will restore backups only when directed to do so by an alarm repair action.

When to Reinstall Software

Depending on the severity of the situation, Avaya Interchange software might have to be reinstalled before you can restore any backups. See Chapter 4, New Installation and System Recovery Procedures, in *Avaya Interchange Release 5.4 Installation and System Recovery* for software installation procedures.

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

3 Common System Procedures
Restoring Backups 62

How to Do a Restore

➡ NOTE:

It takes approximately two hours to restore one tape.
This procedure works for both attended and unattended backups.

1. Stop the voice system. See Stopping the Voice System for more information.

2. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> ```
> > Customer/Services Administration
> ```
> ```
>     > Backup/Restore
> ```
> ```
>         > Restore
> ```

The system displays the following message.

```
please insert a tape into the tape drive to restore
press <Enter> when tape is inserted
press <Esc> key to terminate the restore
```

3. Insert the cartridge tape that contains the data to be restored into the tape drive. See Inserting Cartridge Tapes for this procedure.

4. Press ENTER to continue.

The system displays the header information for the tape. That information includes:

- Tape label

- Date

- List of packages (with release and version) installed on the machine when the tape was made

- Data types

The following is an example of tape header information:

```
PRODUCT_id=2299999999

DATE=09/11/93 09:51

PKG=VM:0:R1.1

PKG=mtce:1.0:1.0-4

PKG=netw:0:1.0-4.3

PKG=vs:1.0:1.0-4
```

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Restoring Backups 63

```
TYPE=System Data:

Press <Enter> to select data type.
Press <Esc> to terminate the restore.
```

5. Check the data types listed under `TYPE=System Data` to verify that this tape contains the appropriate data.

   If it does not, do the following:

   a. Press `ESC`.

   b. Return to Step 3.

   c. Try another tape.

   If it does, continue with Step 6.

6. Press `ENTER` to continue.

   The system displays the Restore window.

7. Enter **y** in the fields that display the data types you want to restore.

   > **NOTE:**
   > The fields displayed on the Restore window are based on the data stored on the tape.

8. Enter **n** in all of the other fields.

9. Press `F3` (Save) to restore the data types selected.

10. Insert subsequent tapes if prompted.

11. Press `ENTER` when the restore is complete and the system displays the following message:

    ```
    restore process has been completed successfully
    press any key to continue
    ```

    If the restore fails, the system displays the following message:

    ```
    Restore Failed.
    ```

    Do the following:

    a. Rewind the tape by removing it from the tape drive and then reinserting it.

    b. Return to Step 4 and attempt the restore again.

    c. If the restore fails a second time, access the alarm log. See Chapter 1, Getting Started in *Avaya Interchange Release 5.4 Alarm and Log Messages* and follow associated repair actions for any active alarms in the log.

12. Reboot the system. See Shutting Down and Rebooting the Avaya Interchange System for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Administering Interchange 64

Administering Interchange

The voice system is the Avaya Interchange system's base voice processing software.

Starting the Voice System

To start the voice system, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > System Management

      > System Control

         >Start Voice System
```

The system displays the following message:

The Voice System is starting.

The Voice System is initializing cards.

Startup of the Voice System is complete.

Hit acknowledge key to continue.

2. Press F1 (Acknowledge).

The system displays the System Control menu (Figure 3-8).

```
              System Control

Shutdown System
Start Voice System
Stop Voice System
```

Figure 3-8.   System Control Menu

You have completed this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Administering Interchange 65

Stopping the Voice System

To stop the voice system, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > System Management

        > System Control

            >Stop Voice System
```

The system displays the Wait Time window (Figure 3-9).

```
         Wait Time

      Seconds: ██
```
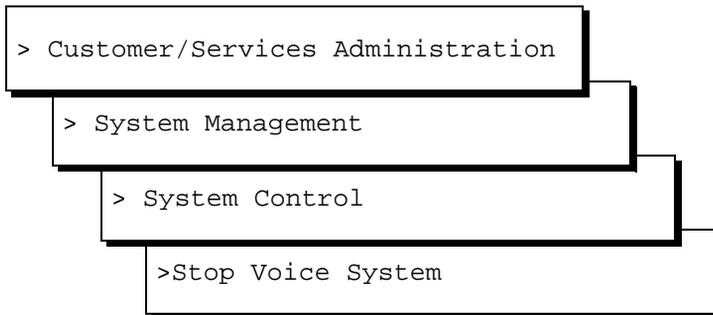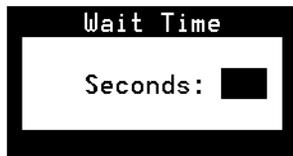
Figure 3-9.   Wait Time Window

2. Enter a number between 60 and 600 to designate how long the system is to wait for calls in progress to finish before stopping the voice system.

3. Press F3 (Save).

The system displays the following message:

```
The Voice System is now stopping.

Initiating request to clear all calls in the next 60
seconds.

Orderly idling of the system succeeded.

After the Voice System has completely stopped, select
the "Start Voice System" choice from the System Control
menu to restart the Voice System.
```

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Shutting Down and Rebooting the Avaya Interchange System 66

```
       The Voice System has stopped.

       Press Enter to Continue.
```

4. Press ENTER.

Shutting Down and Rebooting the Avaya Interchange System

You must shut down the Avaya Interchange system before you perform a reboot. This section describes both procedures.

Shutting Down the System

1. Stop the voice system. See Stopping the Voice System for this procedure.

2. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > System Management

      > System Control

         >Shutdown System
```

The system displays the Wait Time window (Figure 3-9).

3. Enter a number between 0 and 60 to designate how long the system will wait for users to log off.

4. Press F3 (Save).

The system displays the following message:

```
Shutdown started.
```

When the system is completely shut down, it displays the following message:

```
The system is down.
Press Ctrl-Alt-Del to reboot your computer.
```

5. Continue with the next procedure, Rebooting the System.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Shutting Down and Rebooting the Avaya Interchange System 67

Rebooting the System

Rebooting the system can be done in one of two ways:

- A *warm reboot* (performed while the computer is on)

- A *cold reboot* (turning the computer off, then back on again)

Performing a Warm Reboot

To perform a warm reboot:

1. Make sure that there is no diskette in the diskette drive or tape in the tape drive.

2. Press Ctrl-Alt-Del .

   The system performs a power-on self-test (POST). The screen lists various hardware components and the status of the tests performed on those components.

   ### ➡ NOTE:
   If the system displays the following message, ignore it.

   ```
   WARNING ixfs:UX_unmounted root file system is busy
   and cannot be unmounted cleanly
   ```

   The reboot continues normally.

   When the reboot is complete, the system displays the following prompt:

   ```
   Startup of the Voice System is complete.
   Console Login:
   ```

3. If FAIL appears in the status column for any component, do the following:

   a. Record the component name.

   b. Access the alarm log to begin troubleshooting. See Chapter 1, Getting Started in *Avaya Interchange Release 5.4 Alarm and Log Messages* for this procedure.

Performing a Cold Reboot

To perform a cold reboot:

1. Make sure that there is no diskette in the diskette drive.

2. Turn on the MAP/100P off by pressing the power button located on the rear of the unit (Figure 3-10).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Shutting Down and Rebooting the Avaya Interchange System 68

scinp003 KLC 011398
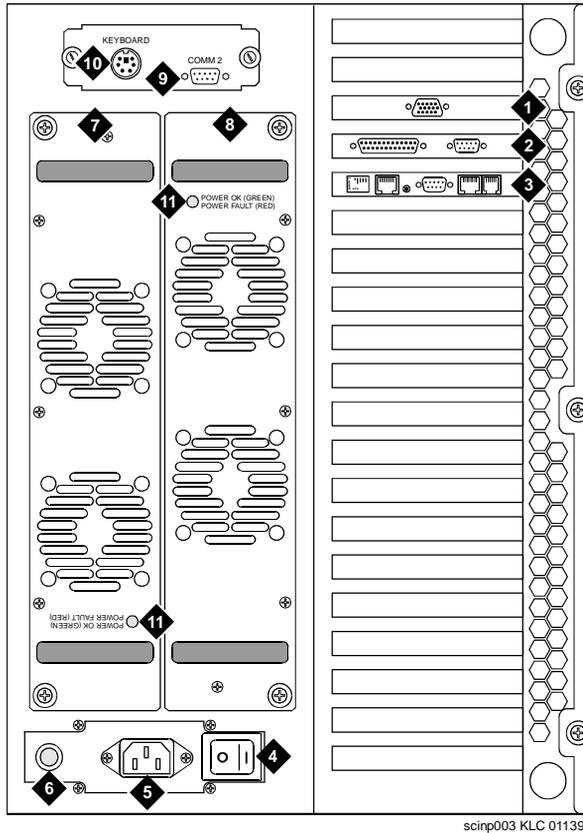
1.	Video circuit card	7.	Power Supply 1
2.	P5 200 MHz CPU	8.	Power Supply 2
3.	Remote maintenance card	9.	COM2 port
4.	ON/OFF power switch	10.	Keyboard port
5.	AC power input	11.	Power supply LED
6.	Fuse		

Figure 3-10.   Rear View of the MAP/100P

3. Wait 30 seconds to allow the drives to come to a complete stop.

4. Turn the power on by pressing the power button located on the rear of the
MAP/100P (Figure 3-10).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Verifying the Date and Time 69

Verifying the Date and Time

This section details:

- Checking the UNIX Date and Time window

- Changing the UNIX Date and Time window

Checking the UNIX Date and Time Window

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select
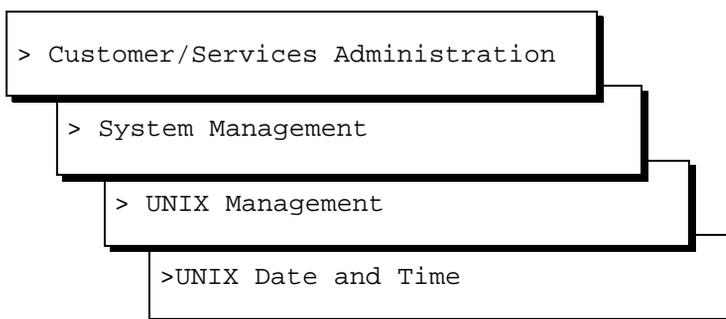
```
> Customer/Services Administration

   > System Management

      > UNIX Management

         >UNIX Date and Time
```

The system displays the UNIX Date and Time window (Figure 3-11).

```
┌──────────────────────────────────────────────┐
│             UNIX Date and Time                 │
│                                                │
│                                                │
│ Date:                          October    16, 1995 │
│                                                │
│ Time:                          10:51           │
│                                                │
│ AM/PM:                         AM              │
│                                                │
│ Timezone:                      Eastern         │
│                                                │
│ Is Daylight Savings Time used?: YES            │
└──────────────────────────────────────────────┘
```
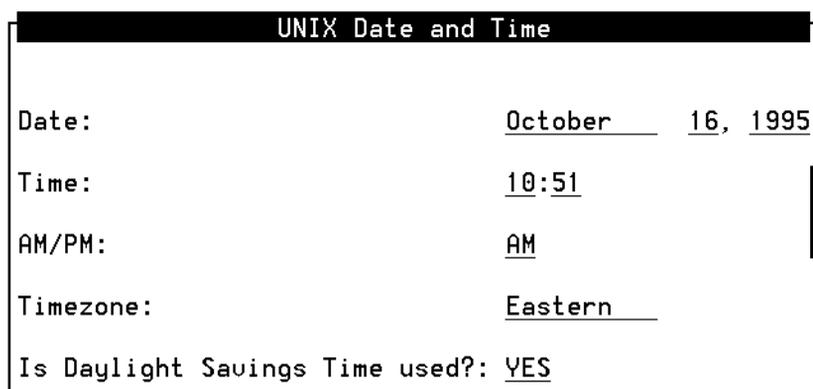
Figure 3-11. UNIX Date and Time Window

2. Check each of the fields under UNIX Date and Time.

   If all of the fields are correct, press F6 (Cancel).

   If a field contains incorrect information, continue with the next procedure, Changing the UNIX Date and Time Window.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Verifying the Date and Time 70

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 in the Month field in the UNIX Date and Time window.

2. If the month shown is not correct, complete Step a through Step c:

   a. Press F2 (Choices) to display the months of the year ([Figure 3-12]).


```
┌─Month────┐
│ January  │
│ February │
│ March    │
│ April    │
│ May      │
│ June     │
│ July     │
│ August   │
│ September│
│>October  │
│ November │
│ December │
└──────────┘
```

Figure 3-12.   UNIX Month Choices Menu

   b. Use the Up ▲ and Down ▼ arrow keys 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**.

   d. Continue with the next procedure, [Changing the Day].

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

3 Common System Procedures
Verifying the Date and Time   71

If the month shown is correct, press ⎡ENTER⎤ for no change and continue with the next procedure, .

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, .

If the day of the month shown is correct, press ⎡ENTER⎤ for no change and continue with the next procedure, .

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 .

If the year shown is correct, press ⎡ENTER⎤ for no change and continue with the next procedure, .

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, .

➡ 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

If AM/PM is not correct as shown, type **a** for a.m. or **p** for p.m. and continue with the next procedure, .

If AM/PM is correct as shown, press ⎡ENTER⎤ for no change and continue with the next procedure, .

Changing the Time Zone Field

If the time zone shown is not correct, complete Step 1 through Step 3 and continue with the next procedure, .

1. Press ⎡F2⎤ (Choices) to display the list of time zones ().

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Verifying the Date and Time 72
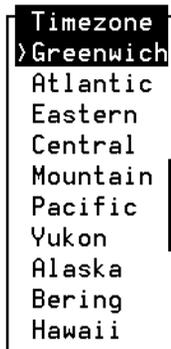
Figure 3-13.   UNIX Time Zone Choices Menu

2. Use the Up ⓐ and Down ⓥ arrow keys 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

To change 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 F3 (Save) 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, you must ensure that the system recognizes the new information. To acknowledge the new information, do the following:

1. Reboot the Avaya Interchange system. See Shutting Down and Rebooting the Avaya Interchange System for this procedure.

   At this time, the date and time changes take affect.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
Verifying the Date and Time 73

2. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >UNIX Date and Time
```
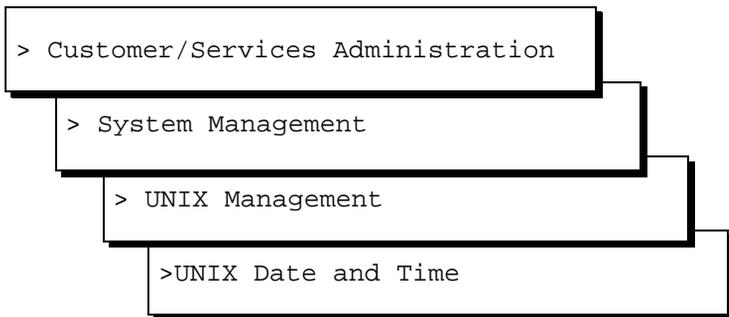
The system displays the UNIX Date and Time window (Figure 3-13).

3. Check each of the fields under UNIX Date and Time to ensure that the changes have been recorded.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

3 Common System Procedures
   Verifying the Date and Time   *74*

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4 Getting Inside the Computer
Overview

75

Getting Inside the Computer

4

Overview

This chapter describes:

- Proper electrostatic discharge protection procedures

- Power removal and restoration procedures

- Computer chassis access procedures

Purpose

The purpose of this chapter is to provide the correct procedures for accessing the internal components of the MAP/100P.

Protecting Against Damage from Electrostatic Discharge

⚠ **CAUTION:**

*Read this section before unpacking the MAP/100P. 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]).

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

4 Getting Inside the Computer
Protecting Against Damage from Electrostatic Discharge 76

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 the 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).
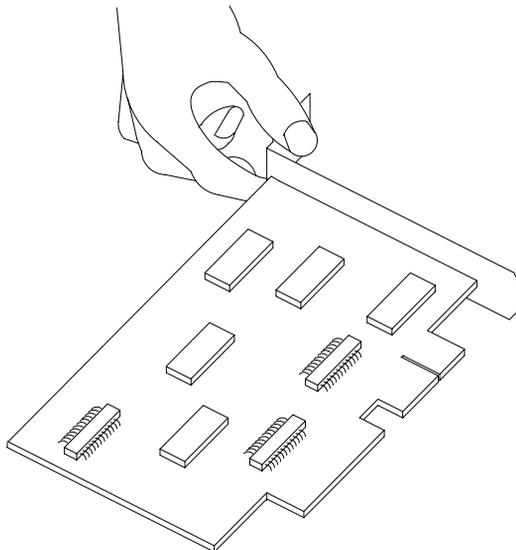
Figure 4-2.   How to Hold a Small Circuit Card

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4 Getting Inside the Computer
Protecting Against Damage from Electrostatic Discharge 77
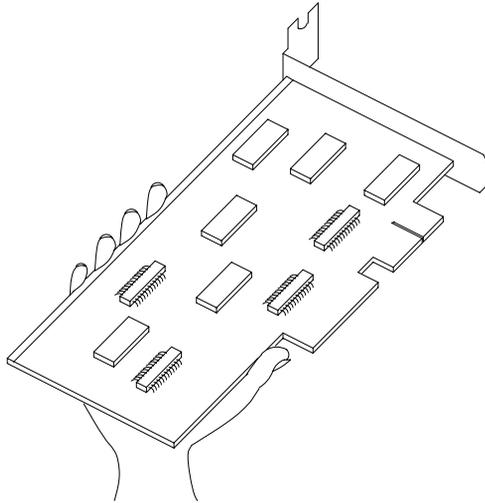
Figure 4-3. How to Hold a Large Circuit Card

> ⚠️ **CAUTION:**
> *Ensure that your palm is not in contact with the noncomponent side of the board.*

- 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 hard disks, floppy drives, or streaming tapes in the same manner as large circuit cards. The ESD-sensitive area of these components is located on their bottom surface (Figure 4-4).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4 Getting Inside the Computer
Protecting Against Damage from Electrostatic Discharge 78
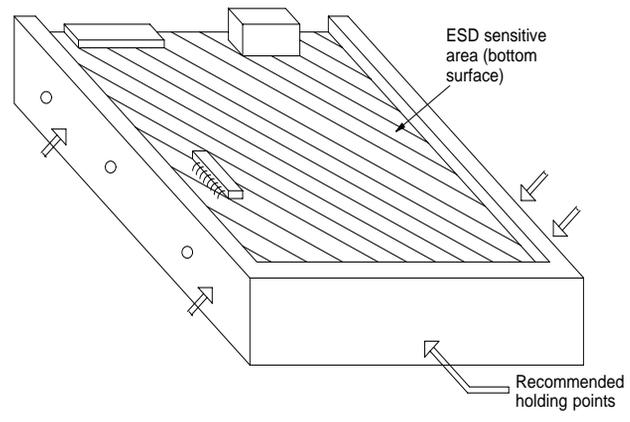
Figure 4-4. **ESD-Sensitive Area of an Electronic Component**

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4   Getting Inside the Computer
Removing Power from the MAP/100P   79

Removing Power from the MAP/100P

The MAP/100P requires a dedicated power line. The power cord connects to the rear of the MAP/100P at the point labeled AC power input receptacle (Figure 4-5). Before you begin any work in the MAP/100P, you must disconnect the incoming power.
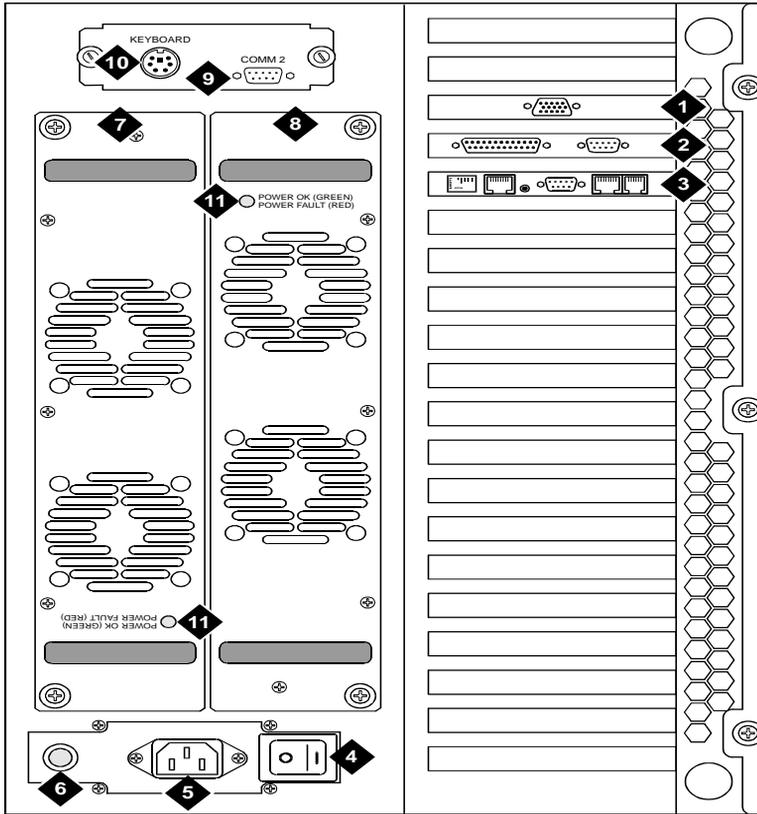
scinp003 KLC 011398

1.	Video circuit card	7.	Power Supply 1
2.	P5 200 MHz CPU	8.	Power Supply 2
3.	Remote Maintenance card	9.	COM2 port
4.	ON/OFF power switch	10.	Keyboard port
5.	AC power input	11.	Power supply LEDs
6.	Fuse		

Figure 4-5.   MAP/100P Rear View

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4 Getting Inside the Computer
Accessing the Circuit Card Cage 80

To remove power from the MAP/100P, do the following:

1. Shut down the voice system. See <u>Shutting Down the System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

2. Turn off the monitor power switch.

   The green or amber lamp on the front bottom of the monitor must be off.

3. Turn off the power switch on the back of the MAP/100P (<u>Figure 4-5</u>).

4. Unplug the MAP/100P from the power outlet.

Accessing the Circuit Card Cage

A dress cover provides protection for the internal components of the MAP/100P. You must remove the side dress cover to access the circuit card cage.

> ⚠ **DANGER:**
> *Shut power off before removing the dress cover. See <u>Removing Power from the MAP/100P</u> for this procedure.*

To remove the side dress cover, do the following:

1. Loosen the three thumbscrews in the back of the unit (<u>Figure 4-6</u>).

   ⇒ **NOTE:**
   These are captive screws.

2. Slide the side dress cover toward the back of the MAP/100P.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4 Getting Inside the Computer
Replacing the Side Dress Cover 81
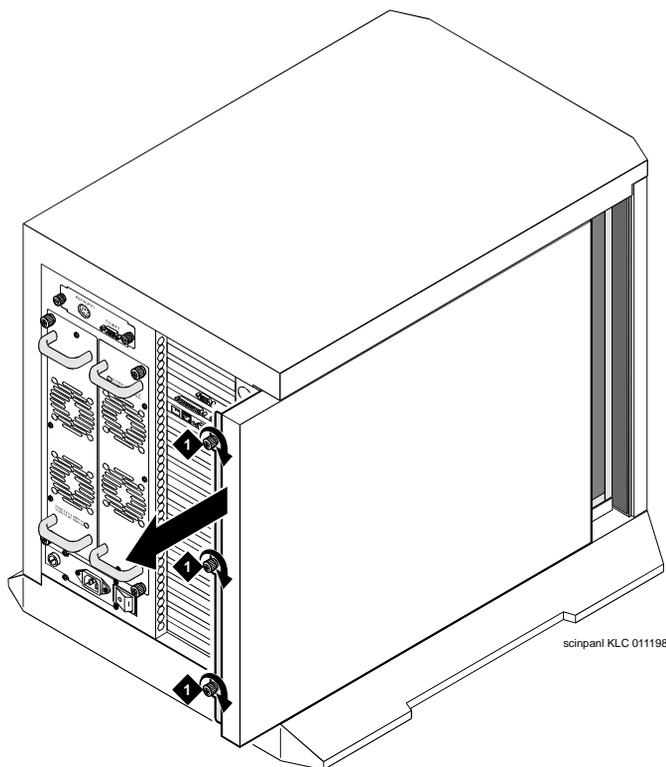
1.   Retaining thumbscrew

Figure 4-6.   Accessing the Circuit Card Cage

Replacing the Side Dress Cover

To replace the side dress cover, do the following:

1. Align the side dress cover with the MAP/100P chassis.

2. Slide the side dress cover back until it locks in place.

   ⇒ NOTE:
   Make sure the tab on the front of the dress cover slides under the lip
   of the chassis.

3. Tighten the thumbscrews on the back of the MAP/100P.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

4   Getting Inside the Computer
Restoring Power to the MAP/100P   *82*

Restoring Power to the MAP/100P

To restore power to the MAP/100P, do the following:

1. Plug the MAP/100P power cord into the designated power outlet.

2. Turn on the power switch on the lower rear of the MAP/100P (Figure 4-5).

3. Turn on the monitor power switch.

    The green or amber lamp on the front bottom of the monitor must be lit.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Overview

83

Replacing or Installing Circuit Cards

5

Overview

This chapter describes:

- Configuring circuit cards in the MAP/100P

- Types of circuit cards

- General steps for circuit card installation

- Specific procedures for installation of standard and optional MAP/100P 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.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
 General Procedures   84

General Procedures

The general procedures include:

- Removing a circuit card

- Installing a circuit card

Removing a Circuit Card

⚠ WARNING:

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, for detailed electrostatic discharge precautions.

To remove a circuit card, do the following:

1. Verify that the replacement equipment is on-site and appears to be in usable condition, with no obvious shipping damage.

   ### ⇨ NOTE:

   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.

2. If the system is in service, complete the following steps:

   a. Stop the voice system. See Stopping the Voice System in Chapter 3, Common System Procedures, for voice system administration.

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for voice system administration.

3. Remove power from the MAP/100P. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for power removal procedures.

4. Remove the dress cover. See Accessing the Circuit Card Cage in Chapter 4, Getting Inside the Computer, for component removal procedures.

5. Locate the card to be replaced within the card cage. Disconnect any attached cables. Note the connectivity of each cable.

6. If there are ribbon cables attached to other cards that would impede the removal of the card, disconnect them and place them to the side. Note the connectivity of each cable.

7. Remove the retaining screw from the circuit card faceplate and save it.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
 General Procedures

85

8. Remove the circuit card from the backplane slot by gently pulling on each corner of the card.

   ### NOTE:

   The backplane connector slots are labeled from 1 through 20. Make sure to install the replacement card in the same backplane slot.

9. Remove the circuit card from the MAP/100P chassis.

Installing a Circuit Card

⚠️ WARNING:

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, *for detailed electrostatic discharge precautions.*

To install a 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. If you must return a card for repair, reuse of the replacement unit packaging is necessary 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 being installed then continue with Step 3.

3. 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, refer to Appendix A, System Configuration, to determine the correct slot in which to place the card.

4. Apply even pressure to both corners of the circuit card until it is locked into the backplane.

5. Secure the circuit card faceplate into position by replacing the retaining screw.

6. Replace all cables on the new card. Make sure these cables are attached to their proper terminations.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
 General Procedures 86

7. Replace all cables removed from other cards. Make sure these cables are attached to their proper terminations.

8. Replace the dress cover. See Replacing the Side Dress Cover in Chapter 4, Getting Inside the Computer, for component replacement procedures.

9. Apply power to the unit. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for instructions on restoring power.

10. Reboot the voice system. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

11. Verify the installation of the circuit card by doing the following:

   ⇒ **NOTE:**
   This procedure verifies only the installation of Tip/Ring and ACCX circuit cards.

   a. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

   ```
   > Customer/Services Administration

      > System Verification

         > View Installed Hardware
   ```

   The system displays the first page of the View Installed Hardware window (Figure 5-1).

   ⇒ **NOTE:**
   It can take several seconds for this window to appear. This window consists of multiple pages. Figure 5-2 shows an example of a second page of this window.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
General Procedures

87

```
                     View Installed Hardware
Installed hardware of asp


 CARD 2 STATE: Inserv CLASS: Signal_Processor(SSP) O.S.INDEX: 8
   NAME: AYC43  OPTIONS: slave,tdm1
   FUNCTION: play+code

 CARD 3 STATE: Inserv CLASS: Signal_Processor(SSP) O.S.INDEX: 9
   NAME: AYC43  OPTIONS: slave,tdm1
   FUNCTION: play+code

Installed hardware of mtce
```

Figure 5-1.   View Installed Hardware Window, Page 1

      b. Press F3 (NextPage) to scroll down. Press F2 (PrevPage) to scroll
         up.

```
                     View Installed Hardware
Installed hardware of mtce

MAP/100P chassis configured as a Model 100 with:
 o 95 megabytes of memory installed
 o 2047 megabyte hard drive installed at SCSI id 0
 o 2047 megabyte hard drive installed at SCSI id 1
 o 2047 megabyte hard drive installed at SCSI id 2
 o 2047 megabyte hard drive installed at SCSI id 3
 o 2047 megabyte hard drive installed at SCSI id 4
 o 2047 megabyte hard drive installed at SCSI id 5
Remote Maintenance Board Version 2 installed
```

Figure 5-2.   View Installed Hardware Window, Page 2

      c. Verify that the system has identified the new circuit card.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards   *88*

Settings for Optional Circuit Cards

The following sections list the specific jumper and switch settings for optional circuit cards.

⚠ **WARNING:**

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, for detailed electrostatic discharge precautions.

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.

ACCX (AYC22) Circuit Card

The Avaya Interchange system supports up to eight networking channels on the MAP/100P via digital and analog remote connections using DCP and RS-232 links respectively from the ACCX circuit card (Figure 5-3). An ACCX circuit card terminates four data channels in one of the following combinations:

- Two DCP lines, each providing two I-channels for data. Depending on the version of the switch you are connecting to, you might be able to use only one of the two I-channels of each DCP circuit as shown in the following list:

  — System 75 R1V3, DEFINITY G1 R1V4, and DEFINITY G3i, G3s, or G3vs Version 1 support only one I-channel.

  — DEFINITY G3i, G3s, and G3vs Version 2 can use both I-channels. The option must be purchased, installed, and administered on the switch before system administration is performed.

- Four RS-232 ports.

- One DCP line (two I-channels) and two RS-232 ports.

You can install a maximum of three ACCX cards in the MAP/100P.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards

89

Switch
(see ACCX
switch setting
figure)

72 pin
D-Sub
connector

Figure 5-3.   ACCX Networking Circuit Card

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
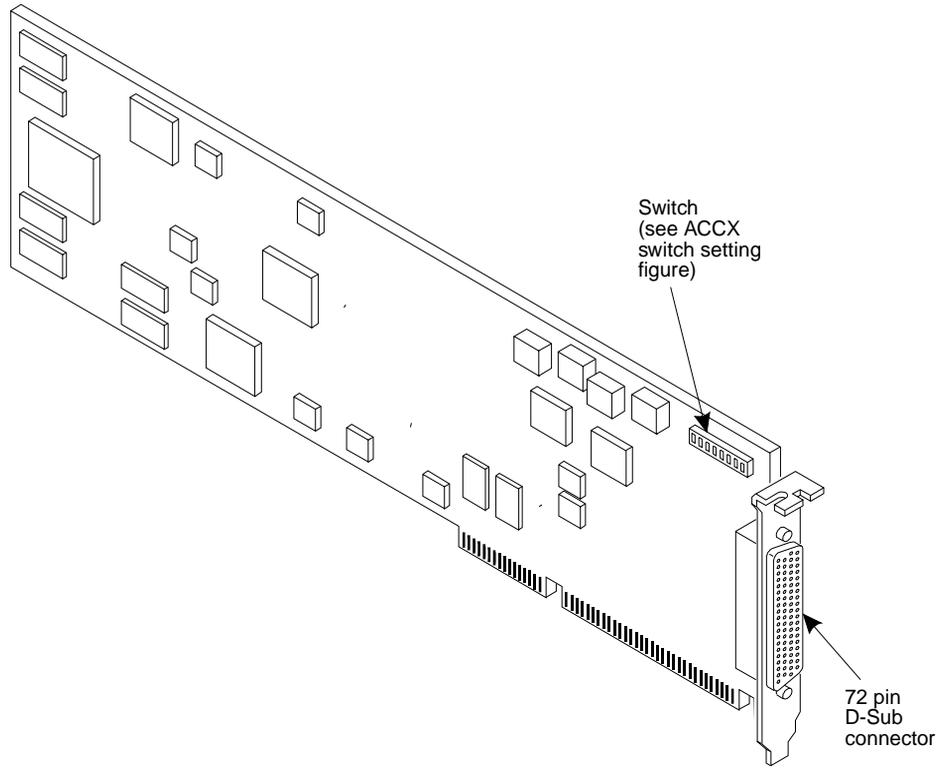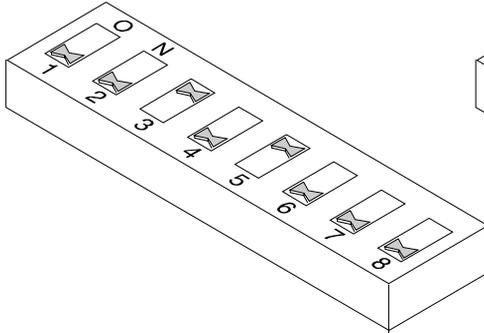*Settings for Optional Circuit Cards* *90*

Setting the Resource Options

Each ACCX card includes eight dip switches. These switches represent SA4 through SA11 on the ISA Bus and are used to set the address of the card (Figure 5-4).

Base I/O address = 140 hex
ACCX (AYC22) Card #1

Base I/O address = 340 hex
ACCX (AYC22) Card #2
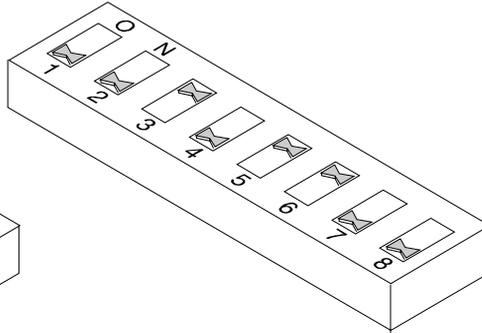
Base I/O address = 540 hex
ACCX (AYC22) Card #3
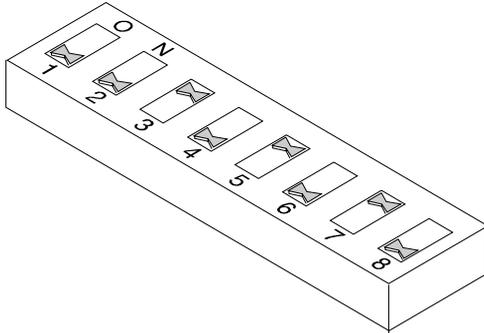
Figure 5-4.   Switch Settings for the MAP/100P ACCX Card

Placing the ACCX Circuit Card in the MAP/100P

See General Procedures for the ACCX circuit card installation procedure.

Ethernet LAN Circuit Cards

There are two versions of the Ethernet LAN circuit card supported by the Avaya Interchange system. Both versions allow you to connect the Avaya Interchange system to your local area network (LAN).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards *91*

Version 1

Version 1 of the Ethernet LAN circuit card is shown in Figure 5-5.

Figure 5-5.   Ethernet LAN Circuit Card — Version 1

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards 92

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 5-6). This position configures the card to be software programmable beginning at the default settings.
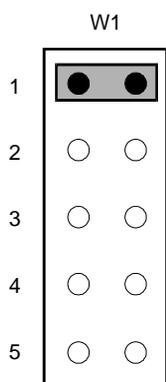
**Figure 5-6.   Ethernet LAN Circuit Card Software Programmable Jumper
        Setting**

There are no switches to set on the Ethernet LAN circuit card.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5   Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards   93

Version 2

Version 2 of the Ethernet LAN circuit card is shown in .

ethrlan1 CJL 072396

Link LED

Transmit/
Receive
LED

RJ-45
modular jack
(UTP port)

15-pin
D-connector
(AUI port)

BNC
connector
(BNC port)

Figure 5-7.   Ethernet LAN Circuit Card — Version 2

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
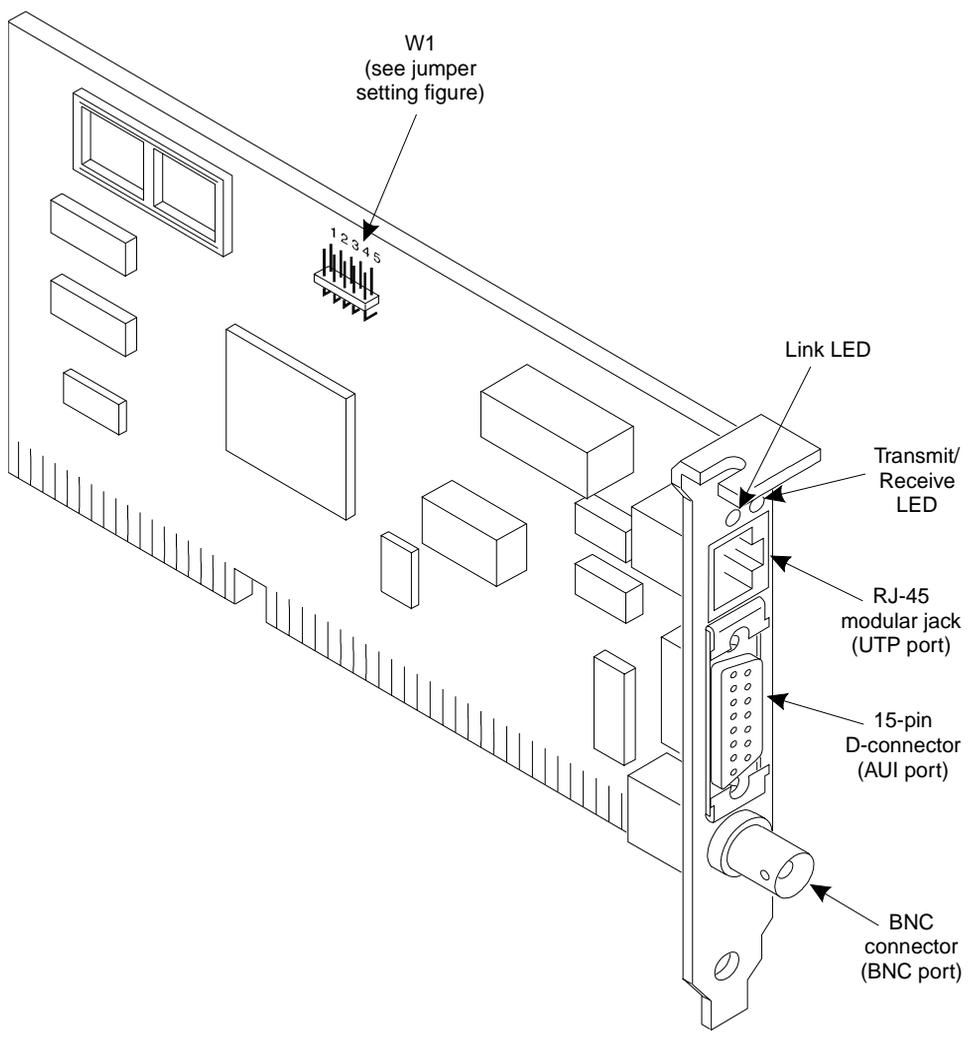*Settings for Optional Circuit Cards*   94

The default software configuration is as follows:

- IRQ — 10

- I/O base address — 280

- RAM base address — D8000

There are no jumpers or switches associated with Version 2 of the Ethernet LAN circuit card.
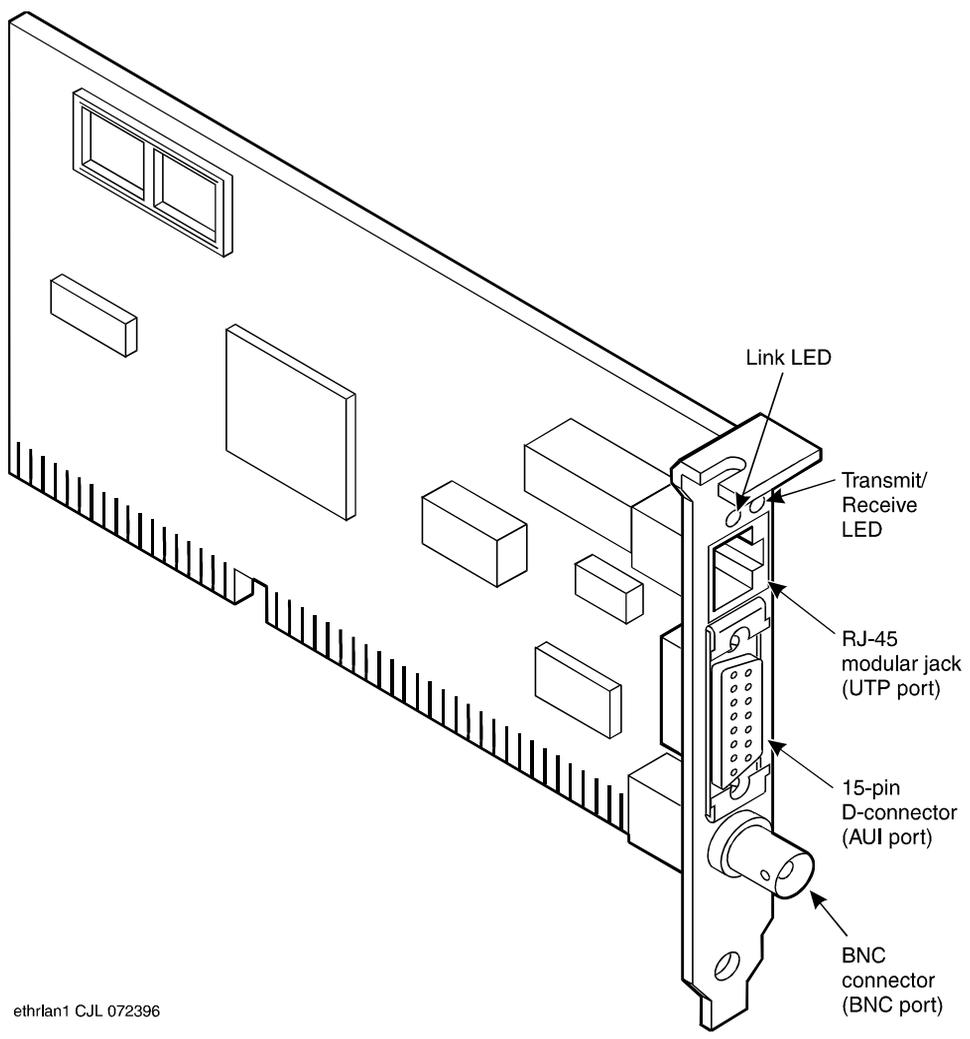
Placing the Ethernet LAN Circuit Card in the MAP/100P

See General Procedures for the Ethernet LAN circuit card installation procedure.

⚠ CAUTION:

Do NOT cable the LAN circuit card until after the system has been powered up and TCP/IP administration has been completed. This will ensure that the customer's LAN is not disrupted. See Chapter 6, Initial Administration and Test for TCP/IP LAN Connectivity, in Avaya Interchange Release 5.4 MAP/100P System Installation *for more information on cabling and TCP/IP administration.*

Installation of the Ethernet LAN circuit card must include the following sequence of operation.

1. Install the Ethernet LAN circuit card in the MAP/100P.

2. Restore power to the system. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

3. Administer the TCP/IP. See Chapter 6, Initial Administration and Test for TCP/IP LAN Connectivity, in *Avaya Interchange Release 5.4 MAP/100P System Installation* for more information on TCP/IP administration.

4. Shut down the system. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

5. Cable the Ethernet LAN circuit card. See the *EtherCard Elite Ultra Adapters Users Guide* packaged with the Ethernet LAN circuit card for cabling procedures.

6. Reboot the system. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards *95*

Configuring the LAN Circuit Card

To configure the LAN circuit card, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

> > Networking Administration
>
> > TCP/IP Administration

The system displays the TCP/IP Administration window (Figure 5-8).

```
          TCP/IP Administration

     UNIX Machine Name: cbdoc2_____

            IP Address: 135.7.13.112

           Subnet Mask: 255.255.0.0

Default Gateway IP Address: _____
```

Figure 5-8.   TCP/IP Administration Window

2. Press F8 (Change Keys).

3. Press F2 (Board Configuration).

   The system displays the Ethernet Board Configuration window (Figure 5-9).

```
            Ethernet Board Configuration

Network Interface Type: AUI or 10BASE-T_____
```

Figure 5-9.   Ethernet Board Configuration Window

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards 96

4. Press ⟨F3⟩ (Save).

    The system displays the Ethernet Board Configuration Results window
    ([Figure 5-10]).

```
              Ethernet Board Configuration Results
  SMC LAN Adapter Setup Program -- Version 1.21


  Board Type:     8216C
  Node Address:   0000C09ABDB1

                    Old                 New soft
                    Setup               Setup

  I/O Base Address   280                 280
  IRQ                10                  10
  RAM Size           16 K                16 K
  WIN Size           16 K                16 K
  RAM Base Address   0D8000              0D8000
  Add Wait States    Yes                 Yes
  Network Connection AutoDetect          AUI or 10BaseT
  Link Integrity     Enabled             Enabled

  ROM Size           Disabled            Disabled
```

Figure 5-10.   Ethernet Board Configuration Results Window

5. Make sure the values displayed are the same as those shown in Table 5-1.

Table 5-1.   Ethernet LAN Circuit Card Configuration

Parameter	Setting
I/O Base Address	280
IRQ	10
RAM Size	8 K
RAM Base Address	0D8000
Add Wait States	Yes
Network Connection	TwPr - No Link
Link Integrity	Disabled
ROM Size	Disabled
ROM Base Address	Disabled
Pnpboot	Disabled

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards 97

6. If the parameters are not the same as those shown in Table 5-1, contact your remote maintenance service center.

Speech and Signal Processor (AYC43W) Circuit Card

The SSP circuit card (Figure 5-11) contains switches and jumpers that you must set before you install the circuit card in the MAP/100P. The MAP/100P requires two SSP cards.
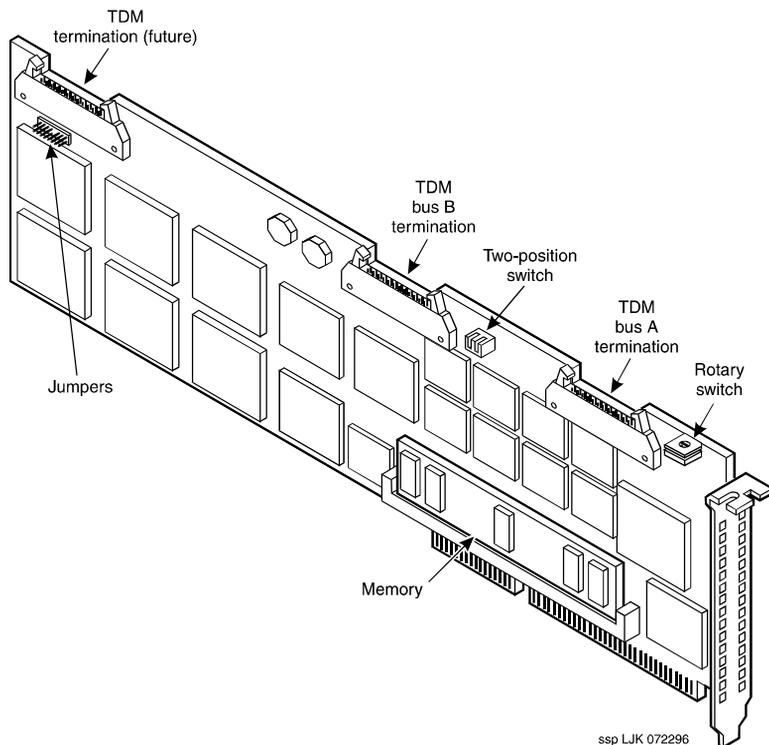

Figure 5-11.   Speech and Signal Processor Circuit Card

Jumper Settings

Figure 5-11 shows the location of the SSP circuit card jumpers. Ensure that there are no jumpers installed on the SSP circuit card.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards 98

Switch Settings

There are two types of switches on the SSP circuit card:

- Two-position switches
- Rotary switch

Two-Position Switch Settings

Figure 5-12 shows the location of the SSP circuit card two-position switches. If the SSP circuit card is not located at the end of the TDM bus, ensure that both switches are set to open. Set the switches to closed if the SSP circuit card is located at the end of the bus.
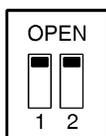
Figure 5-12.   SSP Circuit Card Two-Position Switches

Rotary Switch Settings

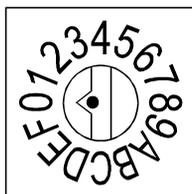Figure 5-13 shows the rotary switch that must be set at zero.

Figure 5-13.   SSP Circuit Card Rotary Switch

Memory

The SSP circuit card is equipped with 16 MB of memory contained on a dual in-line memory module (DIMM). The DIMM is located in the lower portion of the SSP circuit card (Figure 5-11).

⚠ CAUTION:
The DIMM is not field serviceable.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards   99

Replacing a Defective SSP Circuit Card

To replace a defective SSP circuit card, complete the procedures listed in <u>General Procedures</u>.

Adding an SSP Circuit Card

![warning] **CAUTION:**

Use this procedure when adding an SSP circuit card to a system that is not currently equipped with one. Do not use this procedure when replacing a defective circuit card.

➡ **NOTE:**

The Avaya Interchange system supports only one SSP circuit card.

To add an SSP circuit card to a Avaya Interchange system, do the following:

1. Make sure you have a TDM bus cable.

   The TDM bus cable connects all of the Tip/Ring circuit cards as well as the SSP circuit card.

2. Remove the Tip/Ring circuit card from Slot 1. See <u>Removing a Circuit Card</u> for this procedure.

3. Verify that the TDM bus terminator SIPs have been installed on the Tip/Ring circuit card. See <u>Replacing a Terminator SIP</u> in <u>Chapter 7, Replacing Other Components</u>.

4. Replace the Tip/Ring circuit card in Slot 1. See <u>Installing a Circuit Card</u> for this procedure.

5. Remove the remaining Tip/Ring circuit cards. See <u>Removing a Circuit Card</u> for this procedure.

6. Remove the TDM bus terminator SIPs from the Tip/Ring circuit cards. See <u>Replacing a Terminator SIP</u> in <u>Chapter 7, Replacing Other Components</u>.

7. Replace the remaining Tip/Ring circuit cards. See <u>Installing a Circuit Card</u> for this procedure.

8. Verify that the two-position selector switches on the SSP circuit card are set as shown in <u>Figure 5-12</u>.

9. Install the SSP circuit card in Slot 12. See <u>Installing a Circuit Card</u> for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards   *100*

10. Install the TDM bus cable.

Attach the TDM bus cable to the SSP circuit card or AYC30 Tip/Ring circuit cards by using the TDM Bus A termination (Figure 5-11 and Figure 5-14). Attach the TDM bus cable to AYC10 Tip/Ring circuit cards by using the only TDM bus termination point (Figure 5-15).
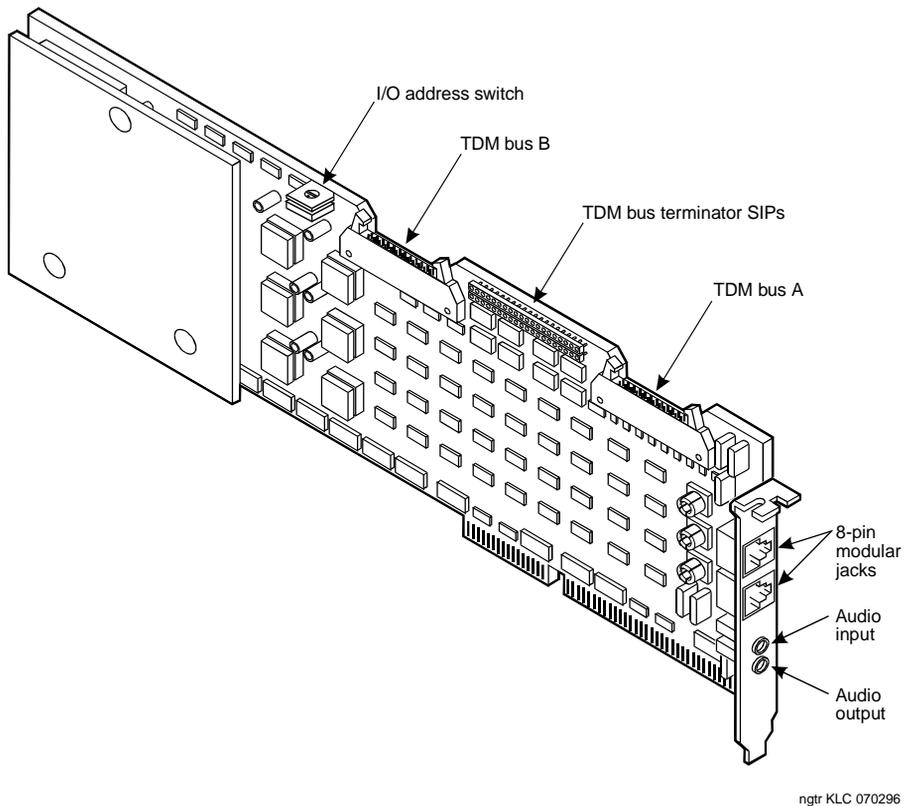
Figure 5-14.   AYC30 Tip/Ring Circuit Card

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Optional Circuit Cards   101

Figure 5-15.   AYC10 Tip/Ring Circuit Card

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
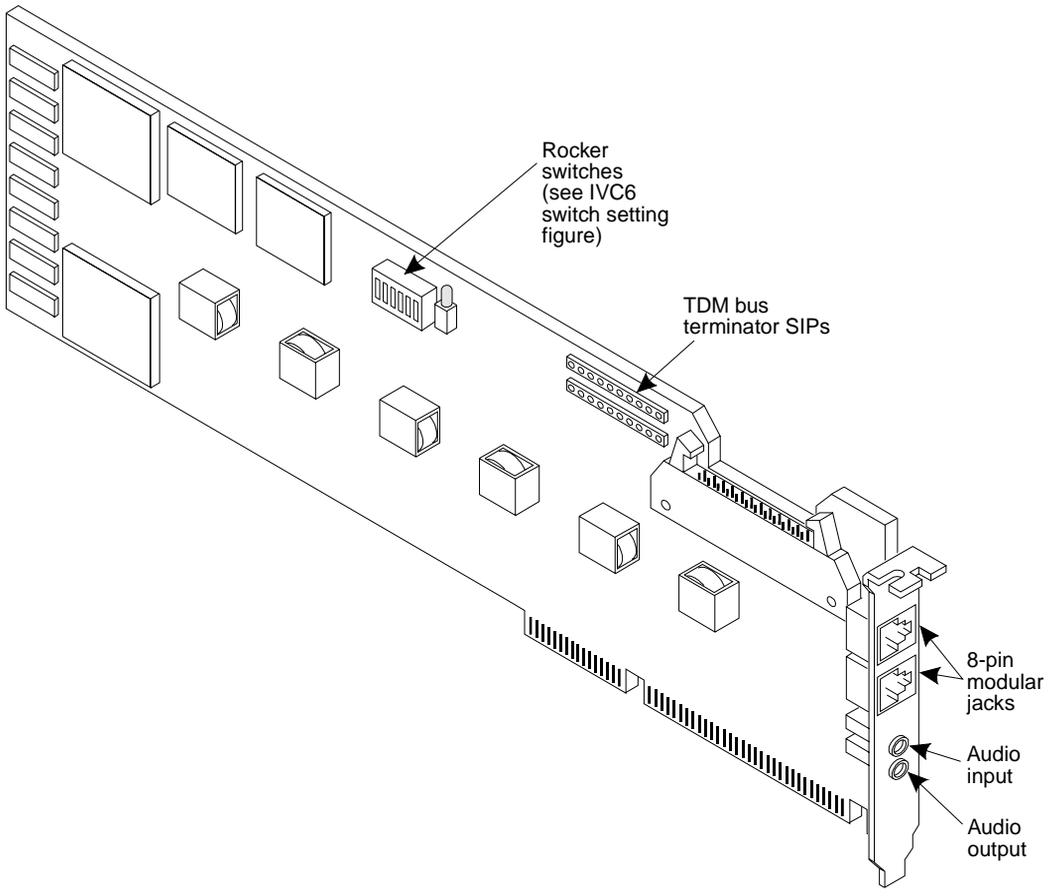*Settings for Standard Circuit Cards*   *102*

Settings for Standard Circuit Cards

> ## ⚠ WARNING:
>
> *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, for electrostatic discharge precautions.*

This section provides the following information on the standard circuit cards that are included with every MAP/100P:

- Switch and jumper settings

- Other installation requirements that are specific to the particular circuit card you are installing

Tip/Ring Circuit Cards

The Tip/Ring circuit cards provide the channels that are used by the Avaya Interchange system. There are six channels on each Tip/Ring circuit card. The MAP/100P accommodates up to eleven Tip/Ring circuit cards. You need to install one of the following Tip/Ring circuit cards:

- AYC10 (IVC6) (Figure 5-15)

- AYC29 (IVC6IA)

- AYC30 (NGTR) (Figure 5-14)

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 103

AYC10 (IVC6) Tip/Ring Circuit Card

Each of the possible eleven AYC10 Tip/Ring circuit cards in the MAP/100P has a
unique address. The addresses are set on the card switch bank (Figure 5-16).
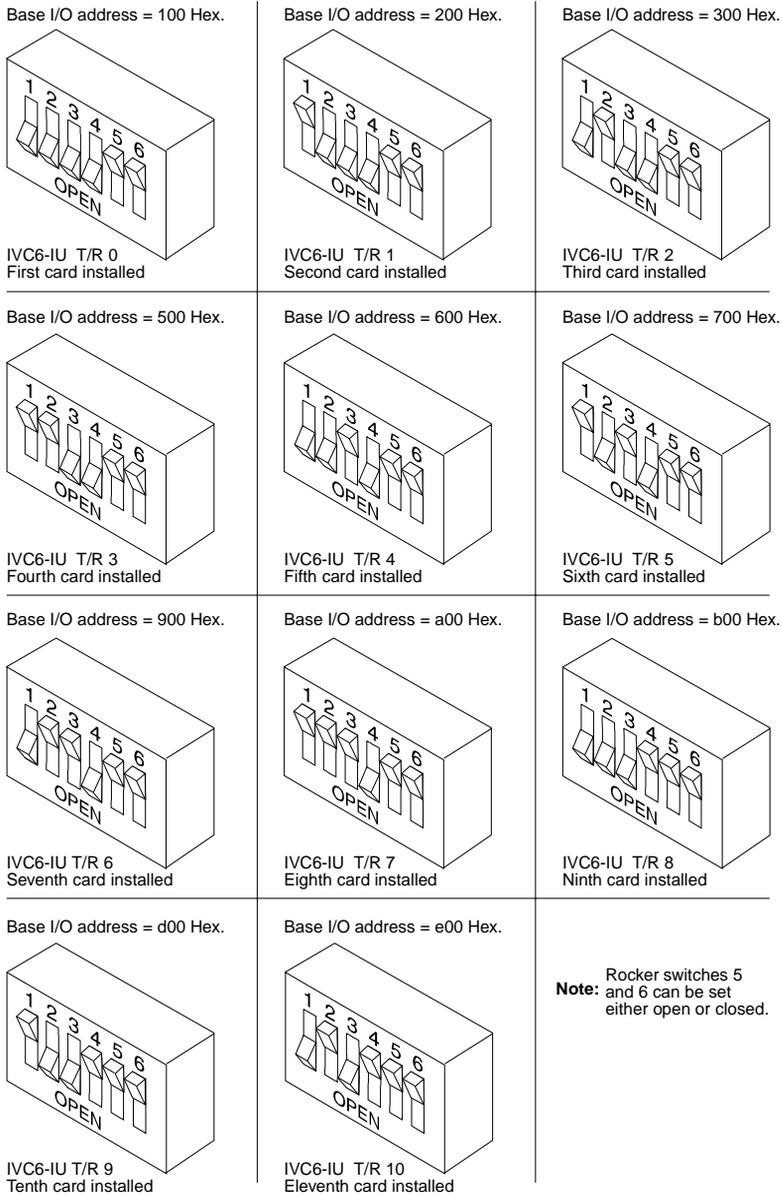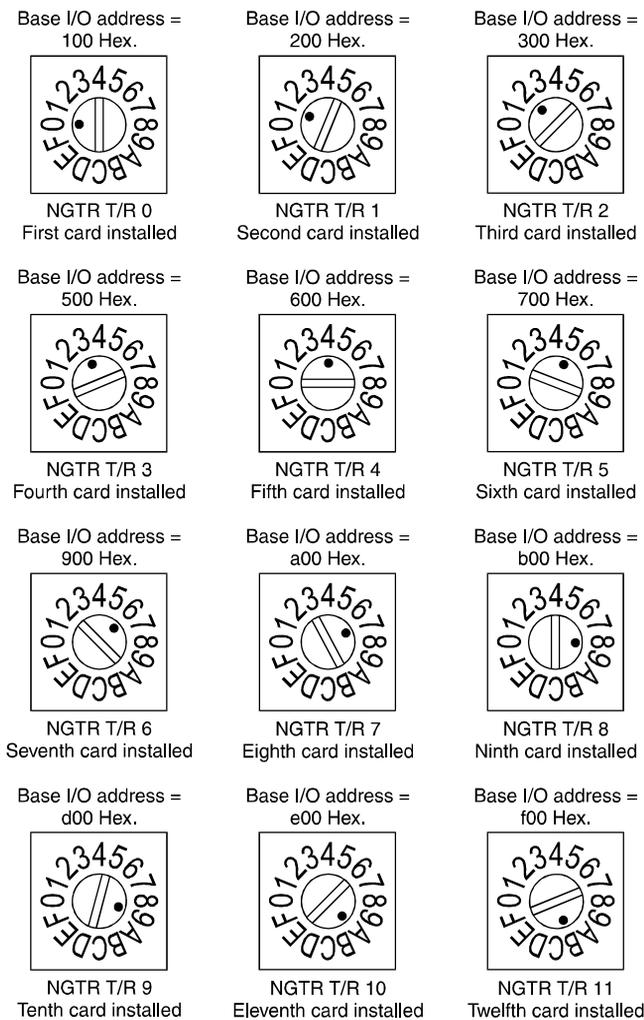There are no jumpers to set on the AYC10 Tip/Ring circuit card.

Base I/O address = 100 Hex.

IVC6-IU T/R 0
First card installed

Base I/O address = 200 Hex.

IVC6-IU T/R 1
Second card installed

Base I/O address = 300 Hex.

IVC6-IU T/R 2
Third card installed

Base I/O address = 500 Hex.

IVC6-IU T/R 3
Fourth card installed

Base I/O address = 600 Hex.

IVC6-IU T/R 4
Fifth card installed

Base I/O address = 700 Hex.

IVC6-IU T/R 5
Sixth card installed

Base I/O address = 900 Hex.

IVC6-IU T/R 6
Seventh card installed

Base I/O address = a00 Hex.

IVC6-IU T/R 7
Eighth card installed

Base I/O address = b00 Hex.

IVC6-IU T/R 8
Ninth card installed

Base I/O address = d00 Hex.

IVC6-IU T/R 9
Tenth card installed

Base I/O address = e00 Hex.

IVC6-IU T/R 10
Eleventh card installed

Note: Rocker switches 5 and 6 can be set either open or closed.

Figure 5-16.   IVC6 (AYC10) Tip/Ring Switch Settings

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809
Issue 4
January 2002
5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 104

AYC29 (IVC6IA) Tip/Ring Circuit Card

The AYC29 Tip/Ring circuit card is the Australian version of the AYC10 Tip/Ring circuit card. See AYC10 (IVC6) Tip/Ring Circuit Card for jumper information.

AYC30 (NGTR) Tip/Ring Circuit Card

Each of the possible 11 AYC30 Tip/Ring circuit cards in the MAP/100P has a unique address. The addresses are set on the card switch bank (Figure 5-17). There are no jumpers to set on the AYC30 Tip/Ring circuit card.

Base I/O address = 100 Hex.
NGTR T/R 0
First card installed

Base I/O address = 200 Hex.
NGTR T/R 1
Second card installed

Base I/O address = 300 Hex.
NGTR T/R 2
Third card installed

Base I/O address = 500 Hex.
NGTR T/R 3
Fourth card installed

Base I/O address = 600 Hex.
NGTR T/R 4
Fifth card installed

Base I/O address = 700 Hex.
NGTR T/R 5
Sixth card installed

Base I/O address = 900 Hex.
NGTR T/R 6
Seventh card installed

Base I/O address = a00 Hex.
NGTR T/R 7
Eighth card installed

Base I/O address = b00 Hex.
NGTR T/R 8
Ninth card installed

Base I/O address = d00 Hex.
NGTR T/R 9
Tenth card installed

Base I/O address = e00 Hex.
NGTR T/R 10
Eleventh card installed

Base I/O address = f00 Hex.
NGTR T/R 11
Twelfth card installed

swcvng3 KLC 091796

Figure 5-17.   AYC30 Tip/Ring Circuit Card Switch Settings

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 105

Placing the Tip/Ring Circuit Card in the MAP/100P

See General Procedures for the Tip/Ring circuit card installation procedure.

P5 200 MHz CPU Circuit Card

The P5 200 MHz CPU is packaged on a single PC/AT-compatible circuit card (Figure 5-18) that plugs into the backplane. There is one P5 200 MHz CPU circuit card installed in the MAP/100P.

cdinpent RPY 011597

1.	SCSI cable connector	4.	PS2 mouse cable connector
2.	Diskette cable connector	5.	Keyboard cable connector
3.	COM2 cable connector		
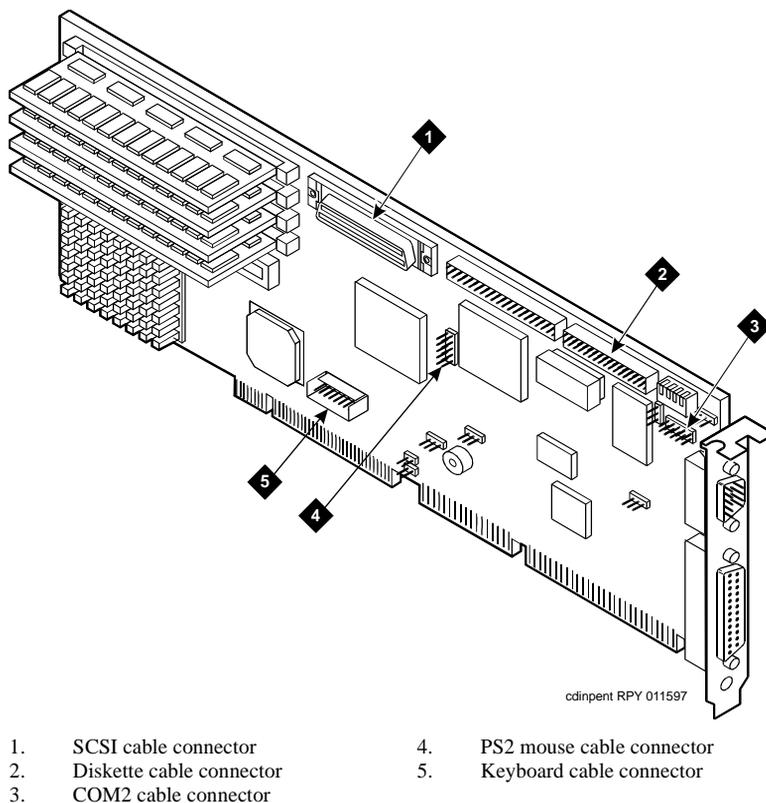
Figure 5-18.   P5 200 MHz CPU Circuit Card and Jumper Locations

Setting the Resource Options

The resource options for the P5 200 MHz CPU circuit card are set by jumpers and switches.

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 106

Jumper Settings

The P5 200 MHz CPU card has jumpers that you must verify before you install the circuit card (Figure 5-19).

jpinpent RPY 011698
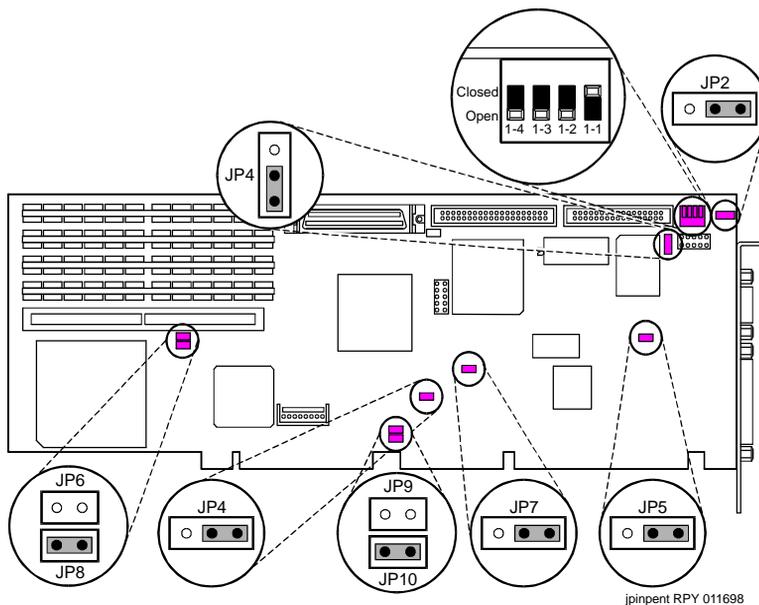
Figure 5-19.   P5 200 MHz CPU Circuit Card Jumper and Switch Settings

Switch Settings

The P5 200 MHz CPU card has switches that you must set before you install the circuit card (Figure 5-19).

Placing the P5 200 MHz CPU Circuit Card in the MAP/100P

To place the P5 200 MHz CPU circuit card in the MAP/100P, do the following:

1. Remove the incoming power. See Removing Power from the MAP/100P, in Chapter 4, Getting Inside the Computer, for this procedure.

2. Access the circuit card cage. See Accessing the Circuit Card Cage, in Chapter 4, Getting Inside the Computer, for this procedure.

3. Remove the video controller card from PCI Slot 1. See Removing a Circuit Card for this procedure.

➡ **NOTE:**
PCI Slot 1 is the 18th slot from the bottom of the MAP/100P.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 107

4. Attach the SCSI cable adapter to the P5 200 MHz CPU circuit card
   ([Figure 5-20](#)).

| 1. | SCSI cable adapter | 2. | SCSI cable connector |
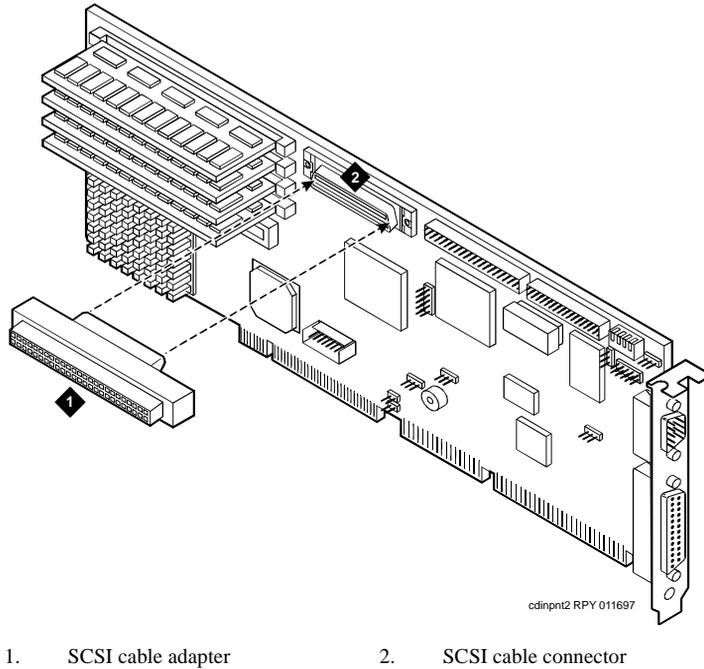
Figure 5-20.   Attaching the SCSI Cable Adapter

5. Complete Step 1 and Step 2 in [Installing a Circuit Card](#).

6. Attach the keyboard cable to the keyboard pins on the P5 200 MHz CPU
   circuit card.

7. Complete Step 3 in [Installing a Circuit Card](#).

   > **NOTE:**
   > Place the P5 200 MHz CPU circuit card in Slot 17.

8. Attach the SCSI cable to the SCSI cable adapter on the P5 200 MHz CPU
   circuit card.

   > **NOTE:**
   > The SCSI cable has a label that contains the following message:
   >
   > H600-449 6() ISS. ()
   > MAP/100P SCSI CA
   > (SCSI/( ) -P5/100)

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 108

NOTE:
The SCSI cable is routed over top of the disk activity cable.

9. Attach the COM2 cable to the P5 200 MHz CPU circuit card.

10. Attach the diskette drive cable to the diskette drive cable pins on the P5 200 MHz CPU circuit card.

    NOTE:
    The diskette drive cable has a label that contains the following message:

    H600-449 6() ISS. ()
    MAP/100 Floppy CA
    (Floppy/( ) -P5/100)

11. Replace the video controller circuit card in PCI Slot 1. See Installing a Circuit Card for this procedure.

    NOTE:
    PCI Slot 1 is the 18th slot from the bottom of the MAP/100P.

12. Complete Step 4 through Step 11 in Installing a Circuit Card.

Verifying the Parameter Settings

P5 200 MHz CPU circuit card parameter settings are preloaded into each card. To verify these settings, do the following.

Host Adapter Parameter Settings

⚠ CAUTION:
Do not change the settings if there is a mismatch. Contact your remote maintenance center for assistance.

1. Reboot the system. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

2. After the power-on self-test (POST), but before the system boots, press CONTROL + A when prompted.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 109

The system displays the Host Adapter Configuration screen
(Figure 5-21).

```
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 5-21. Host Adapter Configuration Screen

3. Place the cursor on `Configure/View Host Adapter`
    `Settings`. Use the Up ▲ and Down ▼ arrow keys to move the
    cursor.

4. Press ENTER.

5. Compare the settings shown on the screen with the parameters
    listed in Table 5-2

➤ **NOTE:**
    These settings are shown for Version 1.2 only.

Table 5-2.   SCSI Bus Interface Definitions

Option	Setting
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	Low ON/High ON

6. Place the cursor on `Boot Device Options`. Use the Up ▲ and
    Down ▼ arrow keys to move the cursor.

7. Press ENTER.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

110

Compare the settings shown on the screen with the correct parameters listed in Table 5-3.

Table 5-3.   Boot Device Options

Option	Setting
Boot Target ID	0
Boot Lun Number	0

8. Press ESC.

The system displays the SCSI bus interface definitions screen.

9. Place the cursor on SCSI Device Configuration. Use the Up
    ▲ and Down ▼ arrow keys to move the cursor.

10. Press ENTER.

Compare the settings shown on the screen with the correct parameters listed in Table 5-4.

⇒ **NOTE:**
These settings must be applied to all SCSI IDs (0 – 15) shown.

Table 5-4.   SCSI Device Configuration

Option	Setting
Initiate Sync Negotiation	Yes
Maximum Sync Transfer Rate	20.0
Enable Disconnection	Yes
Initiate Wide Negotiation	Yes
Send Start Unit Command	No

11. Press ESC.

The system displays the SCSI bus interface definitions screen.

12. Place the cursor on Advanced Configuration Options. Use
    the Up ▲ and Down ▼ arrow keys to move the cursor.

13. Press ENTER.

Compare the settings shown on the screen with the correct parameters listed in Table 5-5.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards   *111*

Table 5-5.   Advanced Configuration Options

Option	Setting
Host Adapter BIOS	Enabled
Support Removable Disks	Boot Only
Extended BIOS Translation	Disabled
Display <Ctrl-A> Message	Enabled
Multiple Lun Support	Disabled
BIOS Support for More	Enabled

14. Press ESC.

    The system displays the SCSI bus interface definitions screen.

15. Press ESC.

    The system displays the following message:

    ```
    Exit Utilities
         Yes
         No
    ```

16. Place the cursor on Yes. Use the Up ▲ and Down ▼ arrow keys to move the cursor.

17. Press ENTER.

    The system displays the following message:

    ```
    Please press any key to reboot.
    ```

18. Press ENTER.

    The system reboots and responds with the UNIX prompt (#).

You have completed verifying the Host Adapter settings.

CMOS Parameter Settings

⚠ CAUTION:

Do not change the settings if there is a mismatch. Contact your local technical support representative for assistance.

1. Perform a hard reboot of the system. See Rebooting the System in Chapter 3, Common System Procedures, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

112

➡ **NOTE:**
You must perform a hard reboot to access the CMOS
parameter settings.

2. During the POST, press F2.

The system displays the following message:

```
Please standby for SETUP Utility...
```

After the system has installed the BIOS, it displays the CMOS Basic
Options Setup menu.

3. Compare the P5 200 MHz CPU circuit card settings in the Setup
menu with the default parameters listed in .

➡ **NOTE:**
The settings shown are for BIOS Version 4.05a.2.2 only.

➡ **NOTE:**
The settings in can differ from the default
parameters because of the presence of other equipped feature
circuit cards in your system.

Table 5-6.   CMOS Basic Option Settings for the P5 200 MHz CPU Circuit Card

Option	Setting
Time and Date	
Set the time and date to the current time and date.	
Floppy Disks	
Floppy Controller	Enabled
Select Drive A: Type	3.5 Inch, 1.44 MB
Select Drive B: Type	Not Installed
Floppy Seek during POST	Enabled
Fixed Disks	
IDE Controller Setup	Disabled
Auto Detect IDE Drives	Enabled
Large Disk DOS Compatible	Disabled
Keyboard	
Keyboard Typematic Sound	Enabled
Keyboard Typematic Delay	500 msec
Keyboard Typematic Rate	15 chars/sec

(1 of 2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 113

Table 5-6. **CMOS Basic Option Settings for the P5 200 MHz CPU Circuit Card**

Option	Setting
Shadow RAM	
Shadow Select C000:0 32K	AVAILABLE
Shadow Select C800:0 14K	SHADOW
Shadow Select CC00:0	AVAILABLE
Shadow Select D000:0	AVAILABLE
Shadow Select D400:0 2K	ROM ▶ **NOTE:** This line must be set to ROM if the system is equipped with a remote maintenance circuit card otherwise this line will appear as AVAILABLE.
Shadow Select D800:0	AVAILABLE
Shadow Select DC00:0	AVAILABLE
Shadow Select E000:0 64K	SHADOW
Shadow Select F000:0 64K	SHADOW
Boot Options	
101-Key Keyboard Numlock at Boot	Enabled
Set Boot Drive Sequence	Diskette, Hard, CD-ROM Drives
Report POST Errors	Enabled
Report Option ROM Errors	Disabled
Show F2 Message for Setup	Enabled
Quiet Boot Enable/Disable	Enabled
Password Edit	
Password Options	Disabled

(2 of 2)

4. To change the parameter settings, complete Step a through Step d:

   a. Place the cursor on the appropriate heading. Use the Up ▲ and Down ▼ arrow keys to move the cursor.

   b. Press ENTER.

   c. Change the parameters. Use the Up ▲ and Down ▼ arrow keys to move the cursor.

   d. Press ENTER.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards   114

5. Place the cursor on `Advanced Options`.

6. Press ‾ENTER‾.

   The system displays the CMOS Advanced Options Setup menu.

7. Compare the P5 200 MHz CPU circuit card settings in the Setup menu with the default parameters listed in Table 5-7.

   ⟹ NOTE:
   The settings in Table 5-7 can differ from the default parameters because of the presence of other equipped feature circuit cards in your system.

Table 5-7.   CMOS Advanced Option Settings for the P5 200 MHz CPU Circuit Card

Option	Setting
Serial Ports	
`16550 Compatible UART 1:`	`03F8h, IRQ4`
`16550 Compatible UART 2:`	`02F8h, IRQ3` **⟹ NOTE:** Disable this port if the remote maintenance circuit card is installed.
Parallel Ports	
`Select Parallel Port Address:`	`0378h IRQ 7`
`Parallel Port Mode`	`AT Compatible`
Redirection	
`Select Redirection Destination`	`Disabled`
Memory Cache	
`External Cache`	`Enabled`
Advanced Chipset	
`DRAM Speed`	`70ns`
`DMA Alias`	`Disabled`
`ECC/Parity Configuration`	`ECC`
`Memory Gap Block Size`	`Disabled`
I/O Recovery	
`8 bit I/O Recovery Time`	`6.5 SYSCLK`
`16 bit I/O Recovery Time`	`6.5 SYSCLK`
`ISA Guaranteed Access Time`	`Disabled`

(1 of 2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards   115

Table 5-7.   CMOS Advanced Option Settings for the P5 200 MHz CPU Circuit Card

Option	Setting
`Delayed Transactions`	`Enabled`
Bus Speed	
`ISA Bus Speed`	`8.25 MHz`
Miscellaneous	
`SPEAKER Configuration`	`Enabled`
`Watchdog Timer Delay:`	`1.2 sec`
`Allocate USB Resources`	`Disabled`
PS2 Mouse	
`PS2MOUSE Configuration`	`Disabled`

(2 of 2)

8. To change parameter settings, complete the Step a through Step d:

    a. Place the cursor on the appropriate heading. Use the Up ▲
        and Down ▼ arrow keys to move the cursor.

    b. Press `ENTER`.

    c. Change the parameters. Use the Up ▲ and Down ▼ arrow
        keys to move the cursor.

    d. Press `ENTER`.

9. Place the cursor on `PCI Options`.

10. Press `ENTER`.

    The system displays the CMOS PCI Options Setup menu.

11. Compare the P5 200 MHz CPU circuit card settings in the Setup
    menu with the default parameters listed in Table 5-8.

    ⇒ **NOTE:**
      The settings in Table 5-8 can differ from the default
      parameters because of the presence of other equipped feature
      circuit cards in your system.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

116

Table 5-8.   CMOS PCI Option Settings for the P5 200 MHz CPU Circuit Card

Option	Setting
IRQs Setup	
`PCI IRQ Line1`	`IRQ14`
`PCI IRQ Line2`	`IRQ14`
`PCI IRQ Line3`	`IRQ10`
`PCI IRQ Line4`	`IRQ10`
PCI Devices	
`0x8086/0x1250 Bridge-Host`	`No IRQ`
`0x9004/0x7078 MassStorage-SCSI`	`INTA->IRQ14`
`0x8086/0x7000 Bridge-ISA`	`No IRQ`
`0x8086/0x7010 MassStorage-IDE`	`No IRQ`
`0x5333/0x8A01 Display-VGA`	`INTA->IRQ14`
PCI Performance	
`Delay for PCI Configuration`	`Disabled`
`PCI Latency for Bus 0 Device 13`	`Auto`
`PCI Latency for Bus 0 Device 14`	`Auto`
`PCI Latency for Bus 0 Device 15`	`Auto`
`PCI Latency for Bus 0 Device 16`	`Auto`
`PCI Latency for Bus 0 Device 17`	`Auto`
`PCI Latency for Bus 0 Device 18`	`Auto`
`PCI Latency for Bus 0 Device 19`	`Auto`
`PCI Latency for Bus 0 Device 20`	`Auto`
`PCI Cache Line Size`	`Auto`
Onboard SCSI	
`Onboard PCI SCSI`	`Enabled`

12. Place the cursor on `Basic Options`.

13. Press ENTER.

    The system displays the CMOS Basic Options Setup menu.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 117

14. If you have changed any option from the options indicated in Table 5-6, Table 5-7, and Table 5-8, press (ESC).

Pressing the Escape key reboots the system using the values you entered without creating a Flash It! backup. If you have entered incorrect values, you can still return to the original CMOS settings.

If you are certain that the CMOS settings are correct and that the system will operate properly, place the cursor on Flash It! and press (ENTER).

The system displays the following message.

```
Ready to Flash, Press the ESC key to Exit or ENTER
to flash.
```

15. Press (ENTER).

The system displays the following message.

```
Erasing CPU BIOS
Flash It Reset in progress.
```

After approximately three minutes, the system reboots and displays the UNIX prompt (#).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards *118*

Video Controller Circuit Card

The video controller circuit card allows the MAP/100P to interface with a monitor. There is one video controller card installed on the system. Figure 5-22 shows the PCI video controller circuit card.

cdinpvid RPY 071697
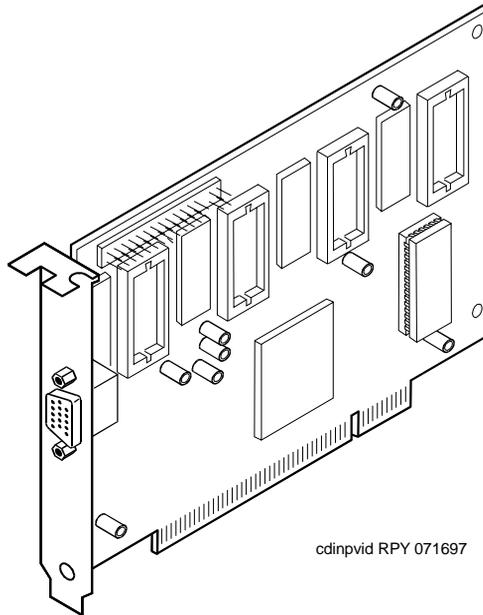
Figure 5-22.   PCI Video Controller Circuit Card

There are no jumpers to set on the PCI video circuit card.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards *119*

Remote Maintenance Circuit Cards

The remote maintenance circuit card provides remote diagnostics of basic components (Figure 5-23). There is one remote maintenance circuit card installed on the system.

cdr2rmb LJK 043097
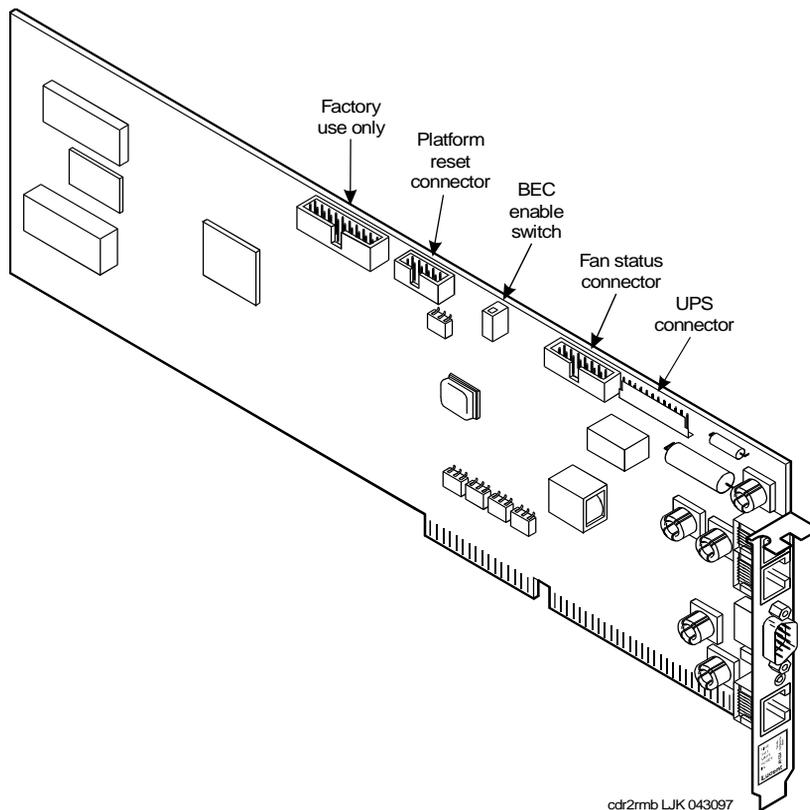
Figure 5-23. **Remote Maintenance Circuit Card**

Types of Remote Maintenance Circuit Cards

The Avaya Interchange system supports remote maintenance circuit cards:

- With an internal modem (AYC54)
- Without an internal modem (AYC55)

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

120

You can determine the type of remote maintenance circuit card installed on your system by viewing the faceplate. Figure 5-24 shows the faceplate of a remote maintenance circuit card with an internal modem (AYC54).

➤ **NOTE:**
   The AYC54 remote maintenance circuit card can be connected to an external modem.

Lock-down screws

RJ-11 tip-ring connector (line in)

User-definable output

UART DB9S connector

RMB reset switch

User-definable input (external UPS)

RMB AYC54 label

fpr2rmb2 LJK 041597
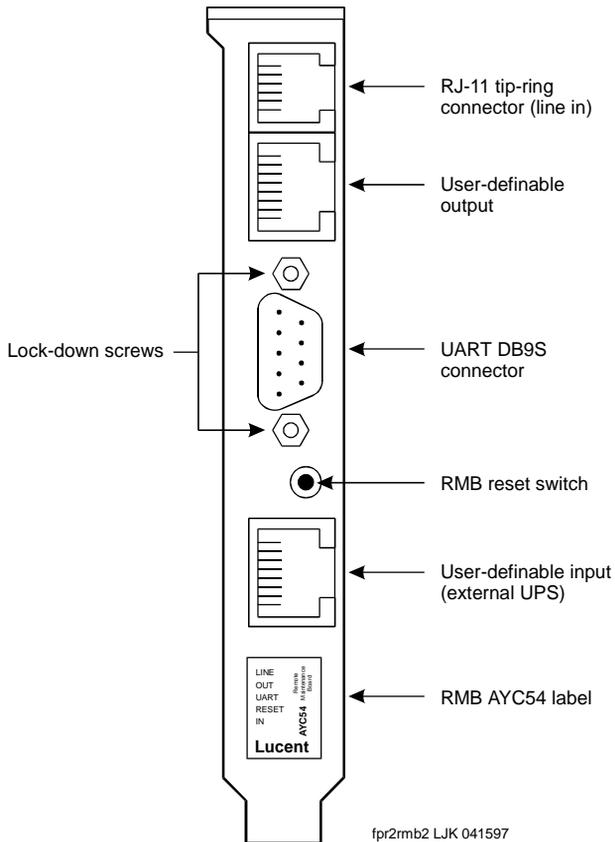
Figure 5-24.   AYC54 Remote Maintenance Circuit Card Faceplate

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

121

Figure 5-25 shows the faceplate of a remote maintenance circuit card without an internal modem (AYC55).
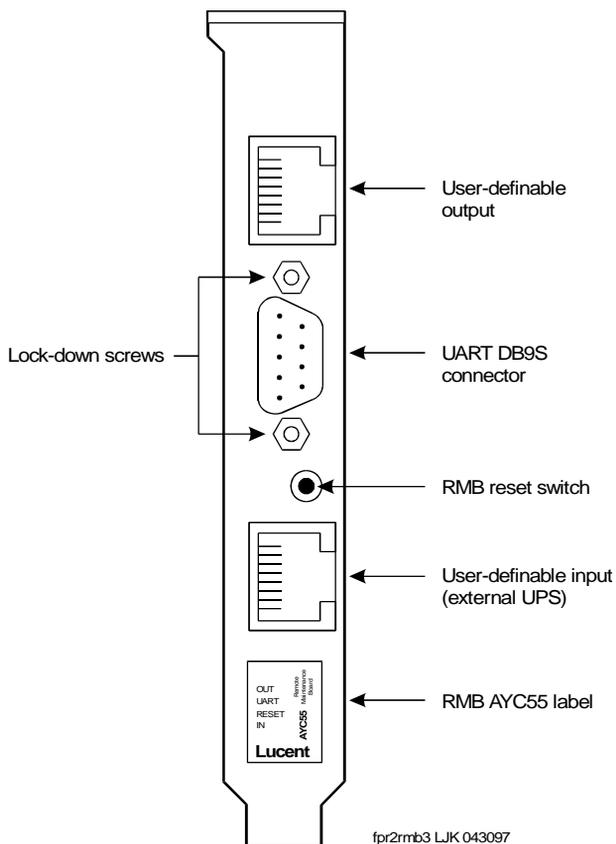
Figure 5-25.   AYC55 Remote Maintenance Circuit Card Faceplate

Setting the Resource Options

The remote maintenance circuit card is equipped with a BEC enable switch (Figure 5-23). Ensure that this switch is set to the ON position (Figure 5-26).
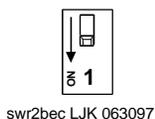
Figure 5-26.   BEC Enable Switch

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5   Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards   *122*

Installing the Remote Maintenance Circuit Card Software Package

To install the remote maintenance circuit card software package, do the following:

1. Stop the voice system.

2. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Software Install
```

The system displays the Software Install menu (Figure 5-27).

```
  Software Install
>Floppy drive
 Tape drive
```

Figure 5-27.   Software Install Menu

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

123

3. Select `Tape drive`.

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready,
       or [q] to quit: (default:go)
   ```

4. Insert the tape labeled "RMB Software Set" in the tape drive.

5. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the cartridge
   tape.

   The following sets are available:
       1    RMBset    INTUITY RMB V2 set
                      (i486) i.2.2

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

6. Press ENTER.

   The system displays the following message:

   ```
   Processing:

   Set: RMB Software Set R2.0 (RMBset) from <ctape1>.

   Intuity RMB Software Set R2.0
   (i486)
   Using </> as the package base directory.

   Please select the country code:
   ```

       01 - United States
       02 - International

   Country code [01]:

7. Enter the appropriate code.

   The system displays the following message:

   ```
   Please select the location of the UPS:
   ```

       0 – MAP/100C with –48V central office power
       1 – Only MAP/100 with old internal supply
       2 – Any other configuration

   ```
   UPS Location [2]:
   ```

8. Enter **2**.

9. Remove the cartridge tape.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 124

10. Reboot the voice system. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

⚠ CAUTION:

The voice system must be rebooted twice before the system will recognize the remote maintenance circuit card.

11. Reboot the voice system a second time. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

12. After the memory check, access CMOS Setup.

13. Confirm the time and date fields.

   This setting is located in the CMOS basic option settings for the CPU.

14. Disable COM2 by changing the `Serial Ports 16550 Compatible UART 2` to `DISABLED`.

   This setting is located in the CMOS advanced option settings for the CPU.

15. Exit CMOS Setup.

   The system then begins booting. The UNIX kernel will be rebuilt to include the remote maintenance circuit card changes.

16. Make sure the system has returned to service.

17. Call the remote maintenance center and inform them that you have installed the remote maintenance circuit card.

   The remote maintenance center will log in through the remote maintenance circuit card and:

   - Set the passwords

   - Verify the product ID

   - Verify the alarm destination

   - Configure the parameters as defined by the Services Organization.

Replacing a Defective Remote Maintenance Circuit Card

To replace a defective remote maintenance circuit card, you must:

- Remove the defective remote maintenance circuit card.

- Install the new remote maintenance circuit card.

- Attach external cables to the remote maintenance circuit card.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 125

Removing the Defective Remote Maintenance Circuit Card

To remove the defective remote maintenance circuit card, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

   ⮕ **NOTE:**
   > Note all symptoms of failure and include this information with the remote maintenance circuit card when it is returned.

2. If the system is in service, complete the following steps.

   a. Stop the voice system.

   b. Shut down the voice system.

3. Remove power from the computer.

4. Access the circuit card cage.

5. Locate the remote maintenance circuit card.

6. If there are ribbon cables attached to other cards that could impede the removal of the card, disconnect them and place them to the side. Note the connectivity of each cable.

7. Remove the retaining screw from the circuit card faceplate and save it.

8. Remove the circuit card from the backplane slot by gently pulling on each corner of the card.

   ⮕ **NOTE:**
   > Make sure to install the replacement remote maintenance circuit card in the same backplane slot.

9. Remove the circuit card from the chassis.

   ⚠ **CAUTION:**
   > *Hold the circuit card carefully by the edges and place it on a grounded mat.*

Installing the New Remote Maintenance Circuit Card

To install the new remote maintenance circuit card, you must:

- Insert the circuit card.

- Attach cables to the circuit card.

- Restore the system.

- Verify the installation.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards 126

Inserting the Circuit Card. To insert the new remote maintenance 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. If you must return a card for repair, reuse of the replacement unit packaging is necessary to meet the manufacturer's warranty.

2. Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position (Figure 5-26).

3. Holding the circuit card by its upper corners, slide the card into Slot 16.

4. Apply even pressure to both corners of the circuit card until it is locked into the backplane.

5. Secure the circuit card faceplate into position by replacing the retaining screw.

Attaching Cables to the Circuit Card. Figure 5-28 and Figure 5-29 show the cable connectors on the remote maintenance circuit card.

To connect the remote maintenance circuit card to the other MAP/100P circuit cards, see Replacing the Remote Maintenance Circuit Card Interface Cable in Chapter 7, Replacing Other Components.
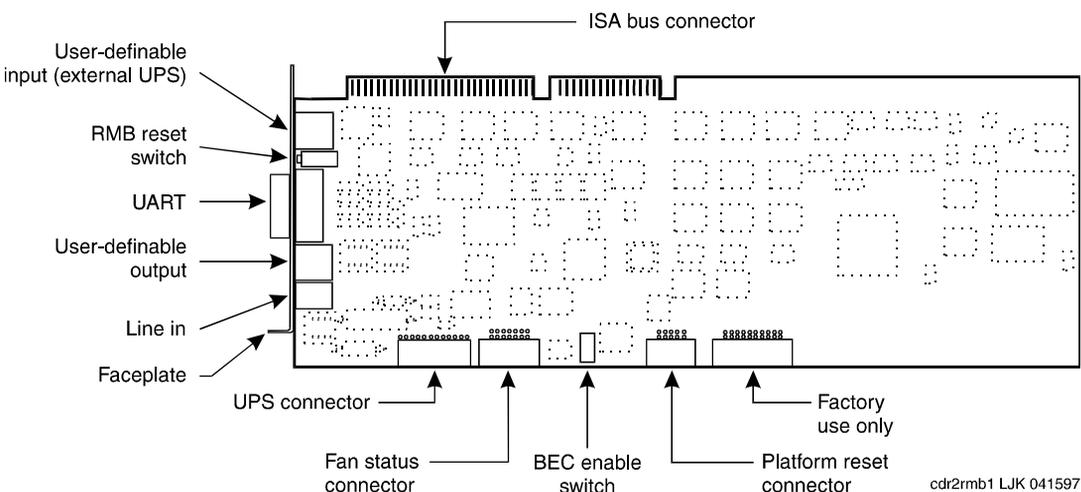
Figure 5-28. Remote Maintenance Circuit Card Connectors (Side View) (AYC54 Shown)

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards

127

UPS
connector

Fan status
connector

BEC
enable
switch

Platform
reset
connector

Factory
use only

cdr2edg LJK 041597
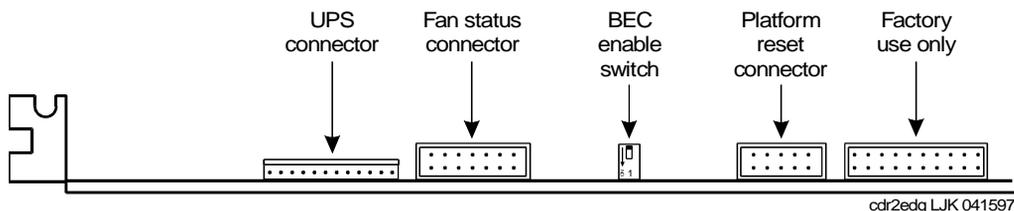
Figure 5-29. Remote Maintenance Circuit Card Connectors (Top View)

Restoring the System. To restore the system, do the following:

1. Replace all cables removed from other cards. Make sure these cables are attached to their proper terminations.

2. Close the computer.

3. Reboot the voice system. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

⚠ CAUTION:

The voice system must be rebooted twice before the system can recognize the remote maintenance circuit card.

4. Reboot the voice system a second time. See Shutting Down and Rebooting the Avaya Interchange System in Chapter 3, Common System Procedures, for this procedure.

Verifying the Installation. To verify the installation of the circuit card, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > System Verification

        > View Installed Hardware
```

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

5 Replacing or Installing Circuit Cards
Settings for Standard Circuit Cards *128*

The system displays the View Installed Hardware window
(Figure 5-1 and Figure 5-2).

2. Verify that the system has identified the new circuit card.

Attaching External Cables to the Remote Maintenance Circuit Card. To connect
the remote maintenance circuit card, do the following:

1. If an external modem is used, connect the UART cable.

2. If an internal modem is used, connect the phone line to the RJ11 Line In
   connector.

3. If an external UPS is used, connect applicable connections to the User
   Definable Input connector.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Overview

129

Replacing the Hard Disk Drive

6

Overview

This chapter describes:

- Identifying a failed hard disk drive

- Software procedures for preparing the system for a new hard disk drive

- Hardware procedures for replacing a 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 Avaya Interchange systems.

Hard Disk Drive Contents

To determine which hard disk drive has failed, it is necessary to know the type of information that is stored on each drive. Table 6-1 shows the information contained on each hard disk drive in a mirrored system.

Table 6-1.　Mirrored Hard Disk Drive Contents

Disk Identity	Information Contained on Disk
Hard Disk Drive 0 SCSI ID 0 Bay 0	UNIX operating system, all Avaya Interchange software, system data, and speech/voice storage
Hard Disk Drive 1 SCSI ID 1 Bay 1	Identical copy of Hard Disk Drive 0 information
Hard Disk Drive 2 SCSI ID 2 Bay 2	Identical copy of Hard Disk Drive 3 (audfs disk) information
Hard Disk Drive 3 audfs disk SCSI ID 3 Bay 3	Oracle
Hard Disk Drive 4 SCSI ID 4 Bay 4	Speech/voice storage
Hard Disk Drive 5 SCSI ID 5 Bay 5	Identical copy of Hard Disk Drive 4 information

Identifying a Hard Disk Drive Failure in a Mirrored System

In a mirrored system, every hard disk drive is paired with another hard disk drive that contains 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. You can identify a hard disk drive failure by checking the maintenance log.

If Hard Disk Drive 0 has failed, see Recovering from a Hard Disk Drive 0 Failure for the replacement procedure.

If Hard Disk Drive 1 has failed, see Recovering from a Secondary Hard Disk Drive Failure for the replacement procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Replacing a Hard Disk Drive   *131*

Replacing a Hard Disk Drive

The following procedures detail removing and installing a hard disk drive in the MAP/100P. Figure 6-1 shows the positions of the hard disk drives.

⚠ WARNING:

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, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Replacing a Hard Disk Drive 132

scinp002 klc 011198

1.	Diskette drive	10.	Circuit card cage fan
2.	Cartridge tape drive	11.	Fan fault LED
3.	Reset push button	12.	Fan fault LED
4.	Hard Disk Drive 0	13.	Power supply fault LED
5.	Hard Disk Drive 1	14.	Power On LED
6.	Hard Disk Drive 2	15.	Hard disk drive activity LEDs
7	Hard Disk Drive 3	16.	Fan fault LED
8.	Hard Disk Drive 4	17.	SCSI active bus terminator
9.	Hard Disk Drive 5		

Figure 6-1.   Front View of the MAP/100P

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Replacing a Hard Disk Drive *133*

Removing a Hard Disk Drive

To remove a hard disk drive, 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. If the system is in service, complete the Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove power from the MAP/100P. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door of the MAP/100P (Figure 6-2).

prinfltr KLC 011098
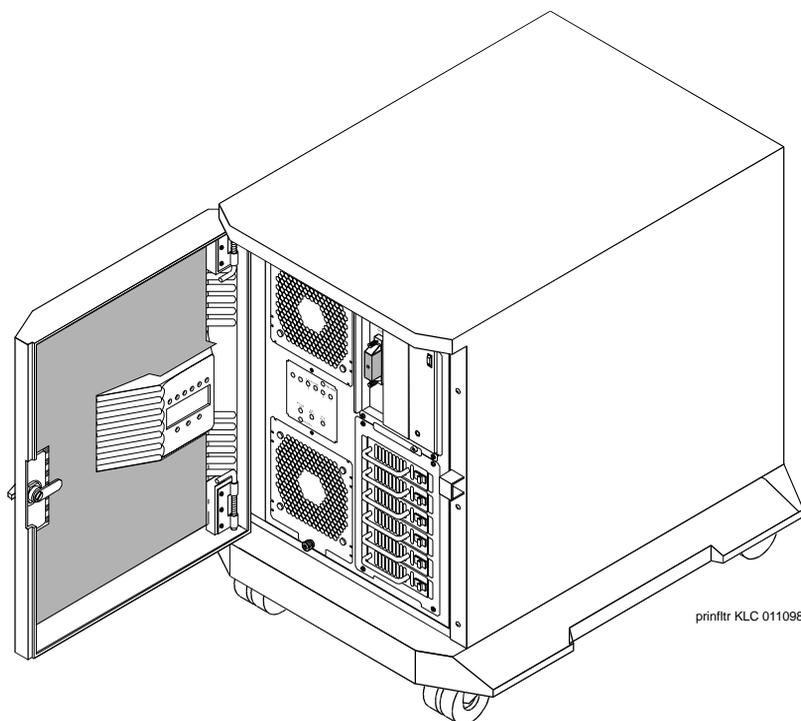
Figure 6-2.   MAP/100P with Front Door Open

5. Remove the appropriate hard disk drive assembly by pressing the thumb tab toward the handle and pulling the assembly out.

   See Table 6-1 for the location of the hard disk drives.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

6 Replacing the Hard Disk Drive
 Replacing a Hard Disk Drive 134

6. Remove the hard disk drive from the assembly bracket (Figure 6-3).

| 1, | Hard disk drive | 2. | Assembly bracket |
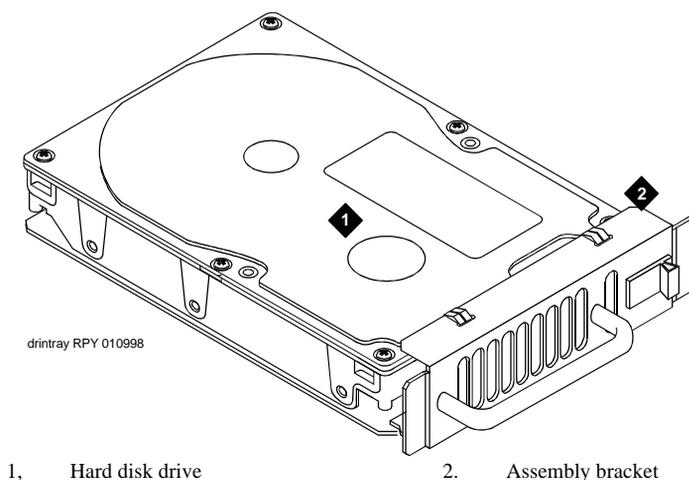
Figure 6-3. Hard Disk Drive Assembly

7. Remove the four screws that hold the hard disk drive to the assembly bracket.

8. Remove the hard disk drive from the assembly bracket.

9. Place the defective hard disk drive upside down, with the circuit board facing up, on an ESD-protected surface.

Installing a Hard Disk Drive in the MAP/100P

To mount the hard disk drive in the MAP/100P, do the following:

⚠ CAUTION:
Use only flat head screws to attach the hard disk drive to the drive assembly. The assembly does not fit in the MAP/100P using any other type of screw.

1. Attach the new hard disk drive to the assembly bracket by using the four screws provided with the drive (Figure 6-3).

2. Align the hard disk drive assembly with the appropriate slot in the MAP/100P.

➡ NOTE:
Place the Hard Disk Drive in the same slot from which it was removed.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
   Recovering from a Hard Disk Drive 0 Failure   135

3. Press the thumb tab on the assembly bracket toward the bracket handle.

4. Slide the hard disk drive assembly in the MAP/100P.

5. Release the thumb tab.

6. Close the front door of the MAP/100P.

7. Apply power to the unit. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Recovering from a Hard Disk Drive 0 Failure

This section contains the procedure for recovering from a Hard Disk Drive 0 failure in a mirrored system.

The system is still up and running even if Hard Disk Drive 0 fails on a mirrored system. 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.

Performing an Attended Backup

See Backing Up (Attended) in Chapter 3, Common System Procedures, for the attended backup procedure. Continue with the next procedure, Activating Alarm Suppression.

Activating Alarm Suppression

⇒ NOTE:
If your system has alarm origination, perform this procedure before continuing with the next procedure. See Activating Alarm Origination in Chapter 7, Cut-to-Service Procedures, in *Avaya Interchange Release 5.4 MAP/100P System Installation*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Hard Disk Drive 0 Failure 136

To activate alarm suppression, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > Alarm Management
```

The system displays the Alarm Management window (Figure 6-4).

```
                    Alarm  Management

Product ID                         2999999999

Alarm Destination                  916148606427

Alarm Origination                  ACTIVE

Alarm Level                        MINOR

Alarm Suppression                  ACTIVE

Clear Alarm Notification           ACTIVE
```

Figure 6-4.   Alarm Management Window

2. Move the cursor to the Alarm Suppression field and type **active**.

3. Press F3 (Save).

The system displays the Information window (Figure 6-5).

```
                 Information
 Alarm Form Update was successful

 Press <Enter> to continue.
```

Figure 6-5.   Information Window

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Hard Disk Drive 0 Failure   137

4. Press ⎡ENTER⎤.

   The system displays the Alarm Management window (Figure 6-4).

5. Continue with the next procedure, Replacing a Hard Disk Drive"

Replacing Hard Disk Drive 0

To replace Hard Disk Drive 0, do the following:

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

2. Remove Hard Disk Drive 0 from the MAP/100P. See Replacing a Hard Disk Drive for this procedure.

   ⇒ **NOTE:**
   Hard Disk Drive 0 is located in Hard Disk Drive Bay 0 (Figure 6-1).

3. Remove the hard disk drive from the mounting bracket. See Replacing a Hard Disk Drive for this procedure.

4. Place the replacement hard disk drive on the mounting bracket. See Replacing a Hard Disk Drive for this procedure.

   ⚠ **CAUTION:**
   Do not remove Hard Disk Drive 1 from the mounting bracket.

5. Remove Hard Disk Drive 1 from the MAP/100P. See Replacing a Hard Disk Drive for this procedure.

   ⇒ **NOTE:**
   Hard Disk Drive 1 is located in Hard Disk Drive Bay 1 (Figure 6-1).

6. Place Hard Disk Drive 1 in Hard Disk Drive Bay 0 (Figure 6-1).

   ⇒ **NOTE:**
   This is the hard disk drive bay from which you removed Hard Disk Drive 0 in Step 2 in this procedure.

7. Place the new hard disk drive in Hard Disk Drive Bay 1. See Replacing a Hard Disk Drive for this procedure.

8. Reboot the system.

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Hard Disk Drive 0 Failure 138

Initializing the Hard Disk Drive

A hard disk drive that contains data cannot be initialized until the data is removed and the drive is cleaned. If the drive you are installing is not brand new, you must clean it before you can continue. See Cleaning a Hard Disk Drive for this procedure. If you do not clean the drive now, you are then prompted to do so when you attempt to initialize the drive.

To initialize the hard disk drive, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > System Management

      > Disk Management

         >Replace Disk
```
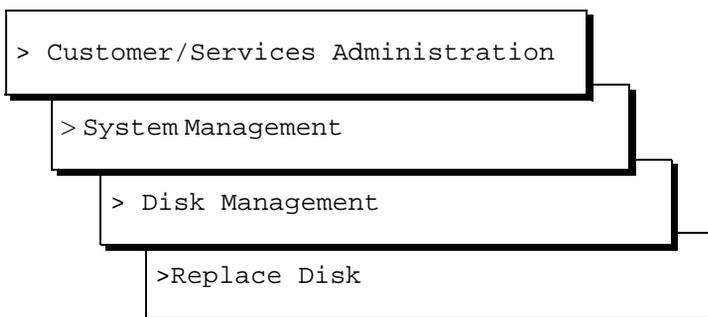
The system displays the Replace Disk window (Figure 6-6).

```
                        Replace Disk


 Enter the logical name of disk:          _____


 Enter jumper id of the disk being replaced (0-7): _
```
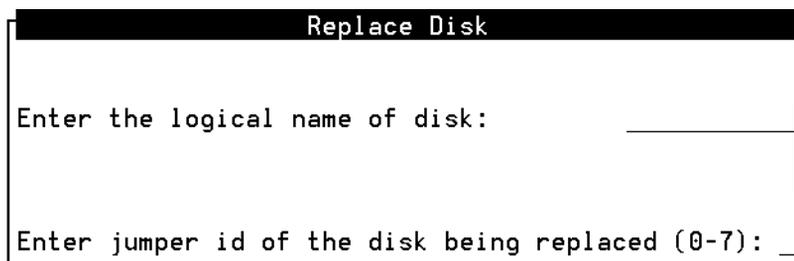
Figure 6-6. **Replace Disk Window**

2. Enter the disk name at the following prompt:

    ```
    Enter the logical name of the disk:
    ```

    The disk name is the name you copied from the Maintenance Log window.

3. Enter the jumper ID at the following prompt:

    ```
    Enter jumper id of the disk being added (0-1):
    ```

    The disk jumper ID is the ID you copied from the Maintenance Log window.

4.　Press F3 (Save).

- If the disk name and jumper ID you entered match those of the failed disk drive, the system displays the following message:

```
This operation will require approximately 10
minutes per gig to complete.
```

Continue with Step 5.

- If you entered a disk name and/or jumper ID that does not exist on the system, the system displays the following message.

```
Error: disk at selected jumper id not found.
Make sure disk is physically installed properly.
Hit Enter to continue.
```

```
The disk name you enter must be the same as the old
(failed) disk's name.  The jumper id must match
the jumper settings on the disk with the above
specified name.  Therefore, you entered either the
disk name and/or jumper id incorrectly on the
Replace Disk screen, or you incorrectly set the
jumpers  on the disk.
Press [ENTER], return to the appropriate step in
this procedure, and correct the mismatch.
```

Verify that the hard disk drive installation was done correctly.

- If you entered a disk name and jumper ID for a disk other than the one being replaced, the system displays the following message:

```
The selected disk appears to be ok.  Make sure
correct disk name and jumper id were entered on
the disk replace screen.
Hit Enter to continue.
```

```
The disk name you enter must be the same as the old
(failed) disk's name.  The jumper id must match
the jumper settings on the disk with the above
specified name.  Therefore, you incorrectly
entered the disk name and/or jumper id on the
Replace Disk screen.
Press [ENTER], return to the appropriate step in
this procedure, and correct the mismatch.
```

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Hard Disk Drive 0 Failure   140

■ If you entered the correct disk name and jumper ID, but the disk that was installed is not brand new, the system displays the following message:

```
The disk being installed at the selected jumper id
has been installed previously.  It is recommended
that only new disks from the factory be installed
on this system.  Any existing data on this disk
will be lost if you continue.
Do you wish to continue hit [y/n], and then hit
Enter.
```

Complete Step a through Step c:

a. Press **y**.

The system displays the following message:

```
Option to auto clean disk not supported
in this version.
You must run the shell command fdisk
/dev/rdsk/c0t1d0s0 and delete any active
partitions.
Hit Enter to continue.
```

⇒ NOTE:

If you were referred to this procedure from a procedure for a disk other than Disk Drive 0, the disk name in the fdisk command is different.

b. Press ENTER.

c. Clean the hard disk drive. See Cleaning a Hard Disk Drive for this procedure.

d. Return to Step 1.

5. Press ENTER when the system displays the following message:

```
Disk replace was successful
Hit Enter to continue.
```

Inactivating Alarm Suppression

To inactivate alarm suppression, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration
```

```
> Alarm Management
```

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Hard Disk Drive 0 Failure 141

The system displays the Alarm Management window (Figure 6-4).

2. Move the cursor to the `Alarm Suppression` field and type **inactive**.

3. Press F3 (Save).

The system displays the Information window (Figure 6-5).

4. Press ENTER.

Restoring the Avaya Interchange System from the Backup Tapes

To restore the Avaya Interchange system from the backup tape, do the following:

■ Restore all backups (attended and unattended), beginning with the oldest first. The last backup restored needs to be the previous night's automatic unattended backup. See Restoring Backups in Chapter 3, Common System Procedures, for this procedure.

Inactivating Alarm Suppression

➡ NOTE:

This procedure applies only to systems with alarm origination. If your system does not have alarm origination, you have completed the procedure for replacing Hard Disk Drive 3.

To inactivate the alarm origination, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > Alarm Management
```

The system displays the Alarm Management window (Figure 6-4).

2. Move the cursor to the `Alarm Suppression` field and type **inactive**.

3. Press F3 (Save).

The system displays the Information window (Figure 6-5).

4. Press ENTER.

You have completed the procedure for replacing Hard Disk Drive 3.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Secondary Hard Disk Drive Failure   142

Recovering from a Secondary Hard Disk Drive Failure

The following procedure explains how to replace a hard disk drive on an existing Avaya Interchange system.

This procedure applies to:

- Hard Disk Drive 1

- Hard Disk Drive 2

- Hard Disk Drive 3

- Hard Disk Drive 4

- Hard Disk Drive 5

To replace Hard Disk Drive 0, see Recovering from a Hard Disk Drive 0 Failure

Performing an Attended Backup

See Backing Up (Attended) in Chapter 3, Common System Procedures, for the attended back-up procedure. Continue with the next procedure Activating Alarm Suppression.

Activating Alarm Suppression

NOTE:
If your system has alarm origination, perform this procedure before continuing with the next procedure. See Activating Alarm Origination in Chapter 7, Cut-to-Service Procedures, in *Avaya Interchange Release 5.4 MAP/100P System Installation*.

To activate alarm suppression, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

   > Alarm Management
```

The system displays the Alarm Management window (Figure 6-4).

2. Move the cursor to the `Alarm Suppression` field and type **active**.

3. Press F3 (Save).

The system displays the Information window (Figure 6-5).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Recovering from a Secondary Hard Disk Drive Failure 143

4. Press ENTER.

The system displays the Alarm Management window (Figure 6-4).

5. Continue with the next procedure, Replacing the Hard Disk Drive"

Replacing the Hard Disk Drive

See Replacing a Hard Disk Drive for this procedure. Continue with the next procedure, Initializing the New Hard Disk Drive.

Initializing the New Hard Disk Drive

See Initializing the Hard Disk Drive in Recovering from a Hard Disk Drive 0 Failure for this procedure. Continue with the next procedure, Inactivating Alarm Suppression.

Inactivating Alarm Suppression

To inactivate the alarm origination, do the following:

1. Start at the Avaya Interchange Main Menu (Figure 2-1) and select

```
> Customer/Services Administration

    > Alarm Management
```

The system displays the Alarm Management window (Figure 6-4).

2. Move the cursor to the Alarm Suppression field and type **inactive**.

3. Press F3 (Save).

The system displays the Information window (Figure 6-5).

4. Press ENTER.

For mirrored systems, the Avaya Interchange system automatically replenishes the data on the new disk once the disk is successfully replaced. No further action is necessary.

You have completed the procedure for replacing a hard disk drive.

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Cleaning a Hard Disk Drive 144

Cleaning a Hard Disk Drive

A hard disk drive that contains data cannot be installed in a Avaya Interchange system. The hard disk drive must be cleaned before use. The hard disk drives can be cleaned in one of the following ways:

- Using the **fdisk** command
- Performing a low-level format

Using the fdisk Command

To clean a hard disk drive by using the **fdisk** command, 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. Make sure you type a space after you type "fdisk."

The system displays the Disk Cleaning screen (Figure 6-7).

```
        Total disk size is 2048 cylinders (2048.0MB)
```

Partition	Status	Type	Start	End	Length	%	Approx MB
1	Active	UNIX System	0	2047	2048	100	2048.0

```
        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 6-7. **Disk Cleaning Screen**

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Cleaning a Hard Disk Drive 145

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 6-7, 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").
```

Enter **y**.

5. The system displays the following message:

```
Partition X has been deleted.
```

The system displays the Disk Cleaning screen (Figure 6-7).

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 partition, run the DOS
format command. Changes limited to the "Active" status
field require no additional action.
```

You have completed the procedure for cleaning a hard disk drive.

Performing a Low-level Format

To low-level format a hard disk drive, do the following:

1. Reboot the system. See Rebooting the System in Chapter 3, Common System Procedures.

2. Press (CONTROL)-(A) when prompted.

The system displays the Host Adapter Configuration screen (Figure 6-8).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

6 Replacing the Hard Disk Drive
 Cleaning a Hard Disk Drive   *146*

```
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 6-8.   Host Adapter Configuration Screen

3. Place the cursor on SCSI Disk Utilities. Use the Up ▲ and Down
   ▼ arrow keys to move the cursor.

4. Press ENTER.

   The system displays the SCSI Disk Utilities screen (Figure 6-9).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

6 Replacing the Hard Disk Drive
 Cleaning a Hard Disk Drive 147

```
          Select SCSI Disk and press <Enter>.

          SCSI ID #0     IBM DORS-32160
          SCSI ID #1     No Device
          SCSI ID #2     No Device
          SCSI ID #3     No Device
          SCSI ID #4     No Device
          SCSI ID #5     No Device
          SCSI ID #6     TANDBERG TDC4200
          SCSI ID #7     No Device
```

Figure 6-9.   SCSI Disk Utilities Screen

5. Place the cursor on the SCSI Disk to be formatted. Use the Up ▲ and Down ▼ arrow keys to move the cursor.

6. Press ENTER.

   The system displays the Configure/Format Disk screen (Figure 6-10).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

6 Replacing the Hard Disk Drive
Cleaning a Hard Disk Drive 148

```
Configure Disk
Format Disk
```

Figure 6-10.   Configure/Format Disk Screen

7. Place the cursor on the Format Disk. Use the Up ▲ and Down ▼ arrow keys to move the cursor.

8. Press ENTER.

   The system asks you to confirm that the disk is to be formatted.

9. Enter **y**.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Overview 149

Replacing Other Components

7

Overview

This chapter describes the procedures for replacing the:

- Backplanes
- Cables
- Cartridge tape drive
- Console alarm panel
- Diskette drive
- Fans
- Fan filter
- Fuse
- Hard disk drive carriage
- Memory modules
- Power supplies
- Remote maintenance circuit card interface board
- Terminator SIPs
- Tip/Ring distribution hardware

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Purpose 150

Purpose

The purpose of this chapter is to provide the procedures to replace the internal components of the MAP/100P. This chapter also provides information on the correct configuration and settings for the individual components.

Replacing Backplanes

This section details the replacement procedures for the following backplanes:

- Circuit card backplane

- Power supply backplane

- Hard disk drive carriage backplane

Replacing the Circuit Card Backplane

The circuit card backplane (Figure 7-1) is located in the back of the circuit card cage.

bpin100p KLC 123197
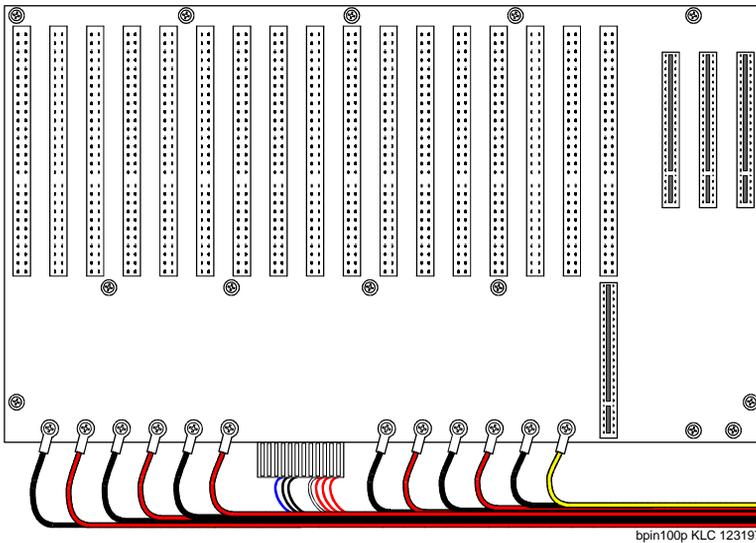
Figure 7-1.   Circuit Card Backplane

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Backplanes 151

Removing the Circuit Card Backplane

⚠️ **WARNING:**

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 the circuit card backplane, 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. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Access the circuit card cage. See Accessing the Circuit Card Cage in Chapter 4, Getting Inside the Computer, for this procedure.

5. Remove the circuit cards. See Removing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

6. Remove the 12 screws that hold the power supply wires to the circuit card backplane (Figure 7-1).

7. Remove the two power supply wire slide connectors from the circuit card backplane (Figure 7-1).

8. Remove the 13 screws that secure the circuit card backplane to the MAP/100P (Figure 7-1).

9. Remove the circuit card backplane.

Installing the Circuit Card Backplane

⚠️ **WARNING:**

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.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7   Replacing Other Components
Replacing Backplanes   152

To install the circuit card backplane, do the following:

1. Place the circuit card backplane in the MAP/100P.

2. Secure the circuit card backplane using the 13 screws removed in Step 8 of Removing the Circuit Card Backplane.

3. Attach the two power supply wire slide connectors to the circuit card backplane (Figure 7-1).

4. Attach the 12 power supply wires to the circuit card backplane using the screws you removed in Step 6 of Removing the Circuit Card Backplane.

5. Replace the circuit cards. See Installing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

6. Replace the side dress cover. See Replacing the Side Dress Cover in Chapter 4, Getting Inside the Computer, for this procedure.

7. Restore the incoming power. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Power Supply Backplane

The power supply backplane (Figure 7-2 and Figure 7-3) is located between the power supply bay and the peripheral bay.

bpinpsp2 KLC 010998
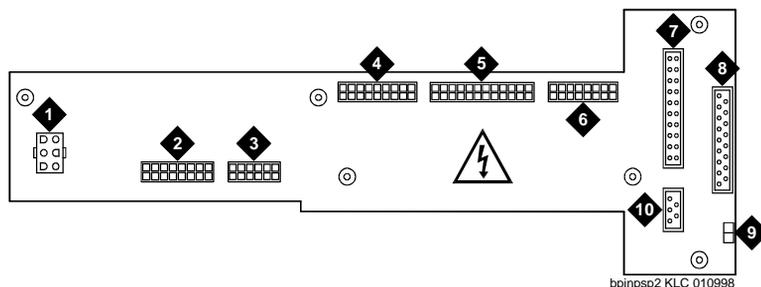
1. J1 — Power ON/OFF switch cable connection
2. J2 — Hard disk drive power cable connection
3. J3 — Circuit card backplane power cable connection
4. J4 — Future
5. J5 — Circuit card backplane power cable connection
6. J6 — Cartridge tape and diskette drive power supply cable connection
7. J8 — Console alarm cable connection
8. J9 — Remote maintenance circuit card interface cable connection
9. J10 — Reset cable connection
10. J7 — SCSI ID cable connection

Figure 7-2.   Power Supply Backplane (showing peripheral bay connections)

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing Backplanes 153

1. Remote maintenance circuit card interface board connection
2. Power supply connection
3. Power supply connection
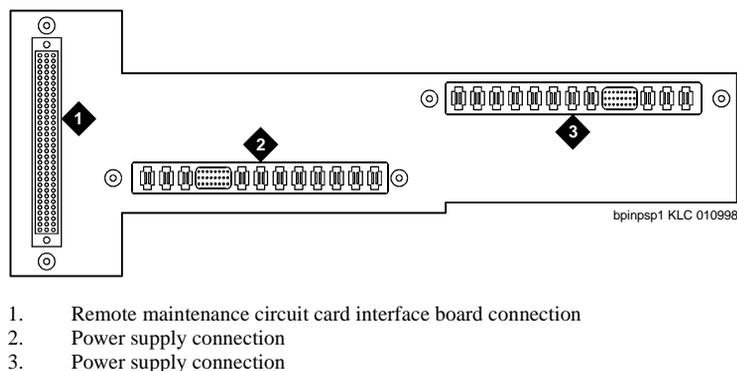
Figure 7-3. Power Supply Backplane (showing power supply connections)

Removing the Power Supply Backplane

⚠️ WARNING:

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 the power supply backplane, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Remove the power supplies. See Removing a Power Supply for this procedure.

5. Remove the remote maintenance circuit card interface board. See Removing the Remote Maintenance Circuit Card Interface Board for this procedure.

6. Open the front door.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing Backplanes 154

7. Remove the hard disk drive carriage. See Removing the Hard Disk Drive Carriage for this procedure.

8. Disconnect the following cables (Figure 7-2).

   - Power ON/OFF switch cable connection

   - Hard disk drive power cable connection

   - Circuit card backplane power cable connection

   - Diskette and tape drive power cable connection

   - Console alarm cable connection

   - SCSI cable connection

   - Reset cable connection

   - Hard disk drive SCSI ID cable connection

9. Remove the six screws that secure the power supply backplane to the MAP/100P.

10. Pull the power supply backplane from the MAP/100P.

Installing the Power Supply Backplane

To install the power supply backplane, do the following:

1. Place the power supply backplane in the MAP/100P.

2. Secure the power supply backplane with the six screws you removed in Step 9 of Removing the Power Supply Backplane.

3. Connect the following cables (Figure 7-2):

   - Power ON/OFF switch cable connection

   - Hard disk drive power cable connection

   - Circuit card backplane power cable connection

   - Diskette and tape drive power cable connection

   - Console alarm cable connection

   - SCSI cable connection

   - Reset cable connection

   - Hard disk drive SCSI ID cable connection

4. Replace the hard disk drive carriage. See Installing the Hard Disk Drive Carriage for this procedure.

5. Replace the remote maintenance circuit card interface board. See Installing the Remote Maintenance Circuit Card Interface Board for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Backplanes 155

6. Replace the power supplies. See Installing a Power Supply for this procedure.

7. Close the front door.

8. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.
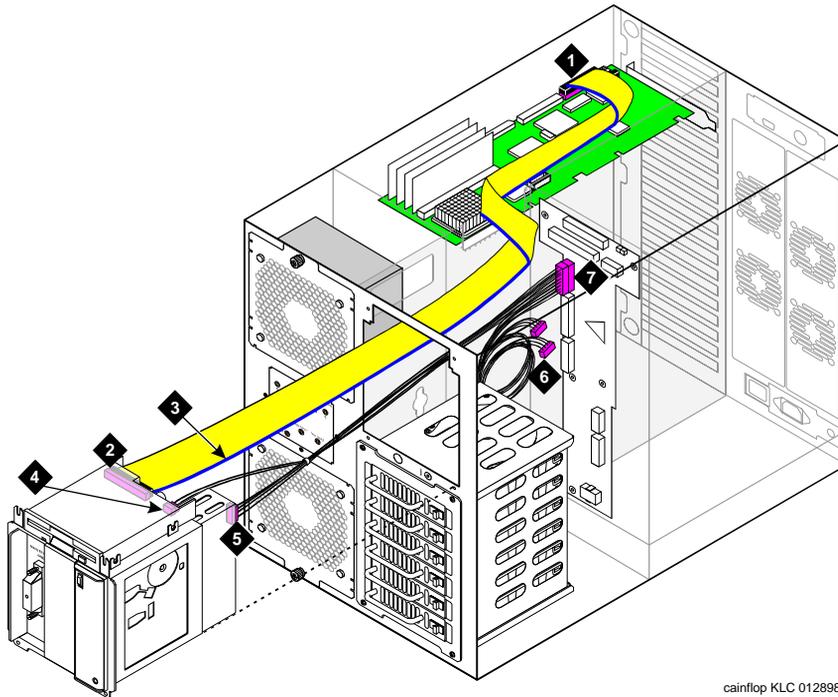
Replacing the Hard Disk Drive Carriage Backplane

The hard disk drive carriage backplane (Figure 7-4) is located in the back of the hard disk drive carriage (Figure 7-5).

bpinhdp1 KLC 011198
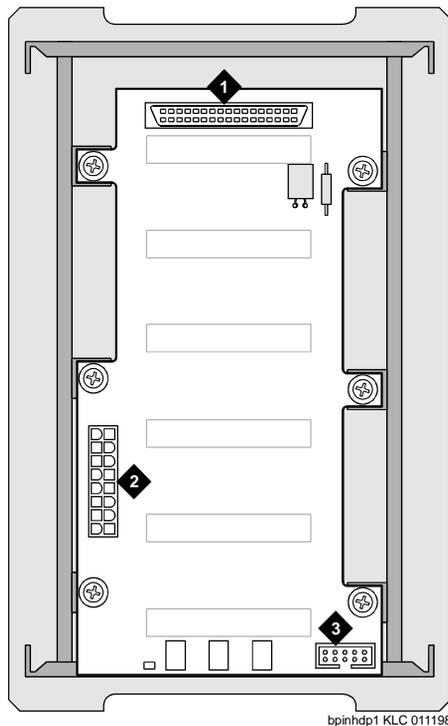
1. SCSI bus cable connection
2. Hard disk drive power cable connection
3. SCSI ID cable connection

Figure 7-4. Hard Disk Drive Carriage Backplane

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Backplanes 156

prinrmhd KLC 012198
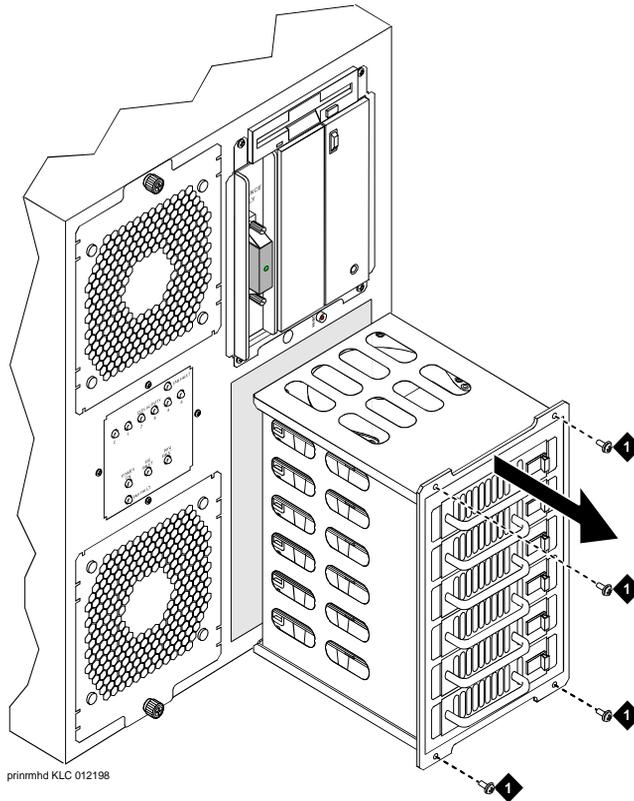
1.   Hard disk drive carriage retaining screw

Figure 7-5.   Hard Disk Drive Carriage

Removing the Hard Disk Drive Carriage Backplane

⚠ WARNING:

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 the hard disk drive carriage backplane, do the following:

1. Verify that the replacement equipment is on-site and appears to be in usable condition with no obvious shipping damage.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing Backplanes   157

2. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the hard disk drive carriage. See Removing the Hard Disk Drive Carriage for this procedure.

6. Remove the hard disk drive power cable from the hard disk drive carriage backplane (Figure 7-4).

7. Remove the SCSI bus cable from the hard disk drive carriage backplane (Figure 7-4).

8. Remove the SCSI ID cable from the hard disk drive carriage backplane (Figure 7-4).

9. Remove the six screws that secure the hard disk drive backplane to the hard disk drive carriage.

10. Remove the hard disk drive carriage backplane.

Installing the Hard Disk Drive Carriage Backplane

To install the hard disk drive carriage backplane, do the following:

1. Place the hard disk drive carriage backplane on the hard disk drive carriage.

2. Secure the hard disk drive backplane with the six screws you removed in Step 9 of Removing the Hard Disk Drive Carriage Backplane.

3. Connect the hard disk drive power cable to the hard disk drive carriage backplane (Figure 7-4).

4. Connect the SCSI bus cable to the hard disk drive carriage backplane (Figure 7-4).

5. Connect the SCSI ID cable to the hard disk drive carriage backplane (Figure 7-4).

6. Replace the hard disk drive carriage. See Installing the Hard Disk Drive Carriage for this procedure.

7. Close the front door.

8. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 158

Replacing Cables

This section provides the procedures for replacing the following cables:

- Diskette

- Console alarm

- Power

- Remote maintenance circuit card interface

- Reset

- SCSI

- SCSI ID

Replacing the Diskette Cable

The diskette cable connects the diskette drive to the P5 200 MHz CPU circuit card ().

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 159

cainflop KLC 012898

1. Diskette cable attachment to P5 200 MHz CPU circuit card
2. Diskette cable attachment to diskette drive
3. Pin 1 tracer
4. Power cable attachment to diskette drive
5. Power cable attachment to the cartridge tape drive
6. Extra power cable attachments (future)

Figure 7-6.   Diskette and Power Supply Cables

Removing the Diskette Cable

To remove the diskette cable, 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. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Remove the diskette cable from the back of the diskette drive (Figure 7-6).

7. Access the circuit card cage. See Accessing the Circuit Card Cage in Chapter 4, Getting Inside the Computer, for this procedure.

8. Remove the diskette cable from the P5 200 MHz CPU circuit card (Figure 7-6).

9. Gently feed the diskette cable through the MAP/100P chassis and out through the peripheral carriage hole.

Installing the Diskette Cable

To install the diskette cable, do the following:

1. Feed the diskette cable through the MAP/100P chassis with one end in the peripheral carriage area and the other end near the P5 200 MHz CPU circuit card (Figure 7-6).

2. Attach the diskette cable to the P5 200 MHz CPU circuit card (Figure 7-6).

3. Attach the diskette cable to the diskette drive (Figure 7-6).

4. Slide the peripheral carriage into the MAP/100P.

5. Secure the peripheral carriage the four screws removed in Step 5 of Removing the Diskette Cable.

6. Close the front door.

7. Close the circuit card cage. See Replacing the Side Dress Cover in Chapter 4, Getting Inside the Computer, for this procedure.

8. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Console Alarm Cable

The console alarm cable connects the remote maintenance circuit card interface board with the console alarm panel (Figure 7-7).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 161
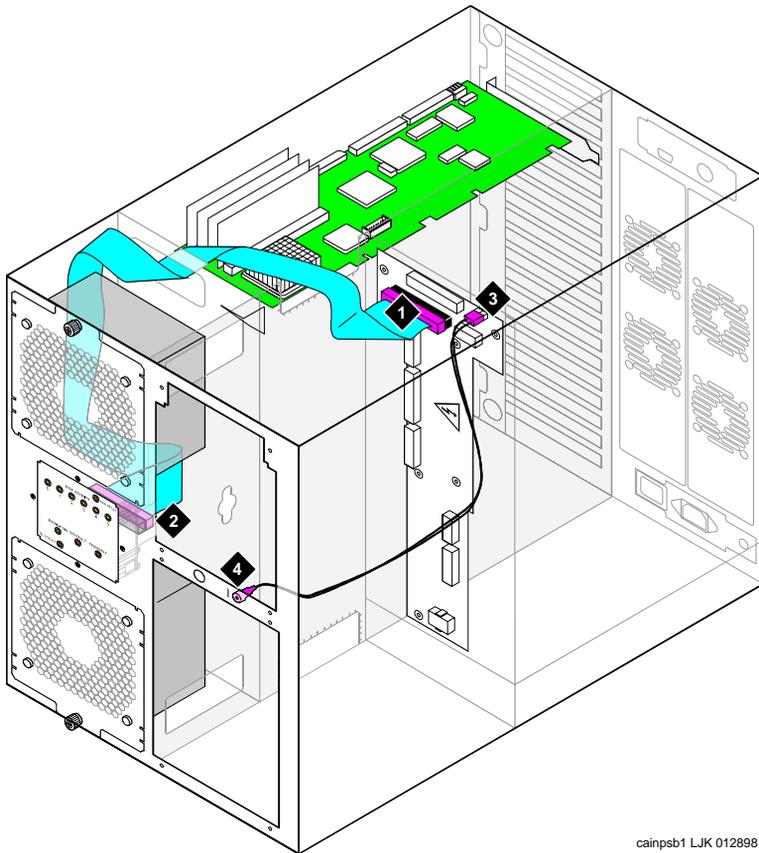
cainpsb1 LJK 012898

1. Console alarm cable attachment to the power supply backplane
2. Console alarm cable attachment to the console alarm panel
3. Reset cable attachment to the power supply backplane
4. Reset cable attachment to the reset switch

Figure 7-7. **Console Alarm and Reset Cables**

Removing the Console Alarm Cable

To remove the console alarm cable, 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. If the system is in service, complete Step a and Step b:

   a. Stop the voice system. See <u>Stopping the Voice System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

   b. Shut down the voice system. See <u>Shutting Down the System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 162

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Remove the console alarm cable from the power supply backplane.

   The console alarm cable attaches to connection point J8 on the power supply backplane (Figure 7-2).

7. Remove the console alarm panel. See Removing the Console Alarm Panel for this procedure.

8. Disconnect the console alarm cable from the back of the console alarm panel. See Removing the Console Alarm Panel for this procedure.

9. Remove the console alarm cable from the MAP/100P.

Installing the Console Alarm Cable

To install the console alarm cable, do the following:

1. Feed the console alarm cable through the MAP/100P chassis with one end in the peripheral carriage area and the other end near the console alarm panel.

2. Attach the console alarm cable to the console alarm panel (Figure 7-7).

3. Attach the console alarm cable to the power supply backplane (Figure 7-2).

4. Slide the peripheral carriage into the MAP/100P.

5. Secure the peripheral carriage the four screws removed in Step 5 of Removing the Console Alarm Cable.

6. Replace the console alarm panel. See Installing the Console Alarm Panel for this procedure.

7. Close the front door.

8. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Power Cables

The MAP/100P has cables that supply power to the:

- Cartridge tape and diskette drive
- Hard disk drive carriage backplane
- Circuit card backplane

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables   163

Replacing the Cartridge Tape and Diskette Drive Power Supply Cable

The cartridge tape and diskette drive power supply cable connects the power supply backplane and both the cartridge tape and diskette drives (Figure 7-6).

Removing the Cartridge Tape and Diskette Drive Power Supply Cable

To remove the cartridge tape and diskette drive power supply cable, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Remove the cartridge tape drive power supply cable from the back of the cartridge tape drive (Figure 7-6).

7. Remove the diskette drive mini-power supply cable from the diskette drive (Figure 7-6).

8. Remove the cartridge tape and diskette drive power supply cable from the power supply backplane.

   The cartridge tape and diskette drive power supply cable attaches to connection point J6 on the power supply backplane (Figure 7-2).

9. Remove the cartridge tape and diskette drive power supply cable from the MAP/100P.

Installing the Cartridge Tape and Diskette Drive Power Supply Cable

To install the cartridge tape and diskette drive power supply, do the following:

1. Attach the cartridge tape drive power supply cable to the back of the cartridge tape drive (Figure 7-6).

2. Attach the diskette drive mini-power supply cable to the diskette drive (Figure 7-6).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables   *164*

3. Attach the cartridge tape and diskette drive power supply cable to the power supply backplane.

   The cartridge tape and diskette drive power supply cable attaches to connection point J6 on the power supply backplane (Figure 7-2).

4. Slide the peripheral carriage into the MAP/100P.

5. Secure the peripheral carriage the four screws removed in Step 5 of Removing the Console Alarm Cable.

6. Close the front door.

7. Apply power to the MAP/100P. See Restoring Power to the MAP/100P, in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Hard Disk Drive Carriage Backplane Power Supply Cable

The hard disk drive power supply cable connects the power supply backplane and the hard disk drive carriage backplane (Figure 7-8). This is the cable that supplies power to all six hard disk drives.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 165

cainscs2 KLC 012898
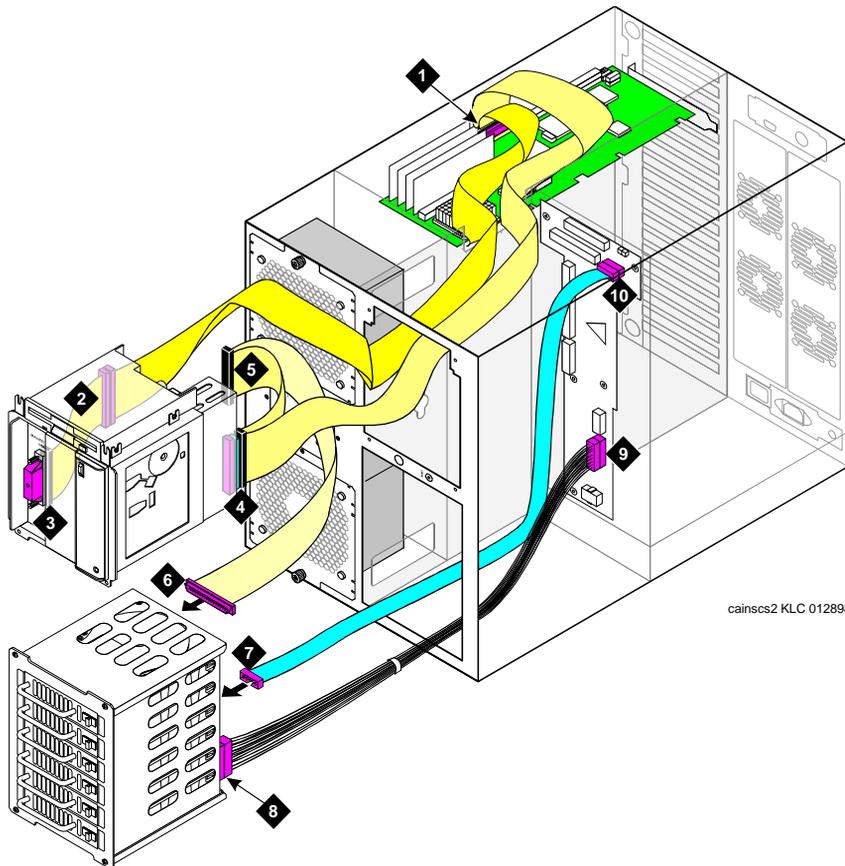
1. SCSI cable connection to P5 200 MHz CPU circuit card
2. SCSI cable connection to the mini-SCSI cable extension
3. Mini SCSI cable extension connection to the external terminator
4. SCSI cable connection to the cartridge tape drive
5. Future SCSI connection
6. SCSI cable connection to the hard disk drive carriage backplane
7. SCSI ID cable connection to the hard disk drive carriage backplane
8. Power supply cable connection to the hard disk drive carriage backplane
9. Hard disk drive power supply cable connection to the power supply backplane
10. SCSI ID cable connection to the power supply backplane

Figure 7-8.   SCSI and Hard Disk Drive Carriage Cables

Removing the Hard Disk Drive Carriage Power Supply Cable

To remove the hard disk drive carriage power supply cable, do the following:

1. Verify that the replacement equipment is on-site and appears to be in usable condition, with no obvious shipping damage.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 166

2. If the system is in service, complete Step a and Step b:

   a. Stop the voice system. See <u>Stopping the Voice System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

   b. Shut down the voice system. See <u>Shutting Down the System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

3. Remove the incoming power. See <u>Removing Power from the MAP/100P</u> in <u>Chapter 4, Getting Inside the Computer</u>, for this procedure.

4. Open the front door.

5. Remove the hard disk drive carriage. See <u>Removing the Hard Disk Drive Carriage</u> for this procedure.

6. Remove the hard disk drive carriage power supply cable from the hard disk drive carriage (<u>Figure 7-8</u>).

7. Remove the hard disk drive carriage power supply cable from the power supply backplane (<u>Figure 7-8</u>).

8. Remove the hard disk drive carriage power supply cable from the MAP/100P.

Installing the Hard Disk Drive Carriage Power Supply Cable

To install the hard disk drive carriage power supply cable, do the following:

1. Attach the hard disk drive carriage power supply cable to the hard disk drive carriage backplane (<u>Figure 7-4</u>).

2. Attach the hard disk drive carriage power supply cable to the power supply backplane.

   The hard disk drive carriage power supply cable attaches to connection point J2 on the power supply backplane (<u>Figure 7-2</u>).

3. Install the hard disk drive carriage. See <u>Installing the Hard Disk Drive Carriage</u> for this procedure.

4. Close the front door.

5. Apply power to the MAP/100P. See <u>Restoring Power to the MAP/100P</u> in <u>Chapter 4, Getting Inside the Computer</u>, for this procedure.

Replacing the Circuit Card Backplane Power Supply Cable

The circuit card backplane power supply cable connects the power supply backplane and the circuit card backplane (<u>Figure 7-9</u>).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 167
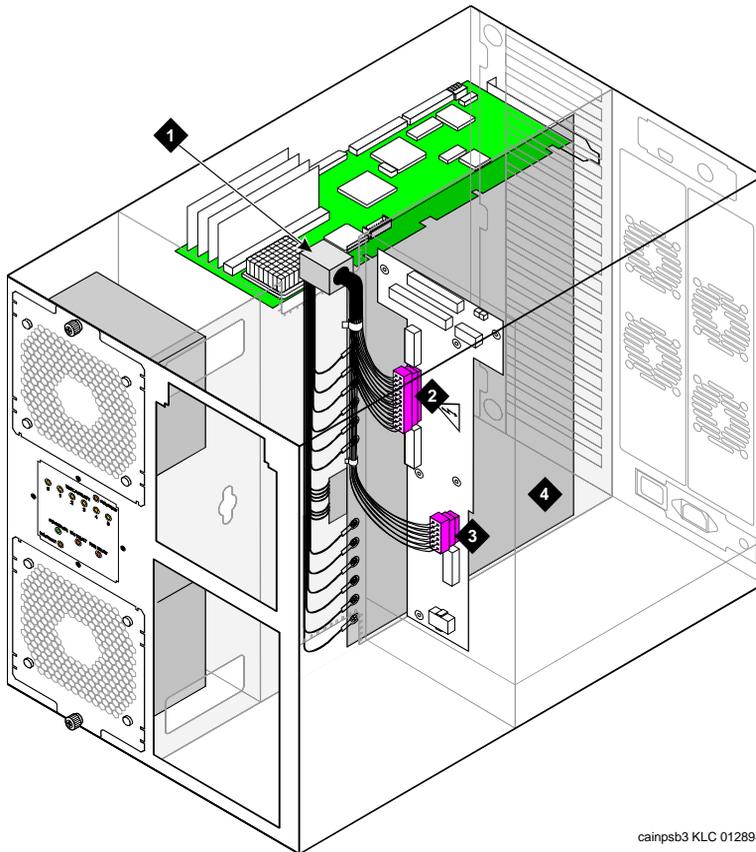
cainpsb3 KLC 012898

1. Toroid
2. Circuit card backplane power supply connection
3. Circuit card backplane power supply connection
4. Circuit card backplane

Figure 7-9.   Circuit Card Backplane Power Supply Cables

Removing the Circuit Card Backplane Power Supply Cable

To remove the circuit card backplane power supply cable, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 168

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Remove the hard disk drive carriage. See Removing the Hard Disk Drive Carriage for this procedure.

7. Remove the circuit card backplane power supply cable from the power supply backplane (Figure 7-9).

8. Remove all of the circuit cards. See Removing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

9. Remove the circuit card backplane power supply cable from the circuit card backplane (Figure 7-1).

10. Remove the circuit card backplane power supply cable from the MAP/100P.

Installing the Circuit Card Backplane Power Supply Cable

To install the circuit card backplane power supply cable, do the following:

1. Attach the circuit card backplane power supply cable to the power supply backplane.

   The circuit card backplane power supply cable attaches to connection points J3 and J5 on the power supply backplane (Figure 7-2).

2. Attach the circuit card backplane power cable to the circuit card backplane (Figure 7-1).

3. Replace all of the circuit cards. See Installing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

4. Install the hard disk drive carriage. See Installing the Hard Disk Drive Carriage for this procedure.

5. Secure the peripheral carriage with the four screws removed in Step 5 of Removing the Circuit Card Backplane Power Supply Cable.

6. Close the front door.

7. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7   Replacing Other Components
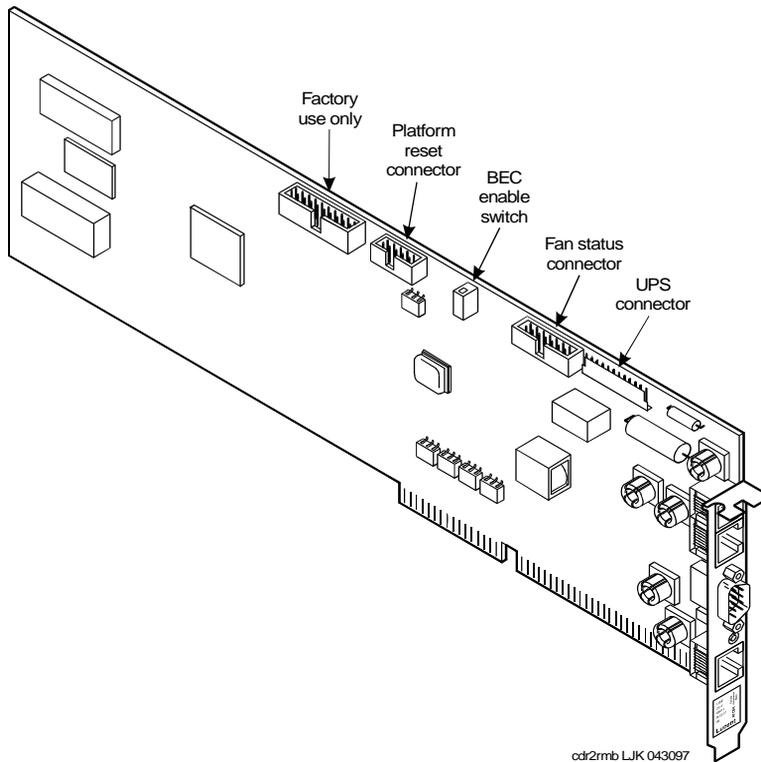*Replacing Cables*   *169*

Replacing the Remote Maintenance Circuit
Card Interface Cable

The remote maintenance circuit card interface cable ([Figure 7-10](#)) connects the:

- Remote maintenance circuit card

- Remote maintenance circuit card interface board

- P5 200 MHz CPU circuit card
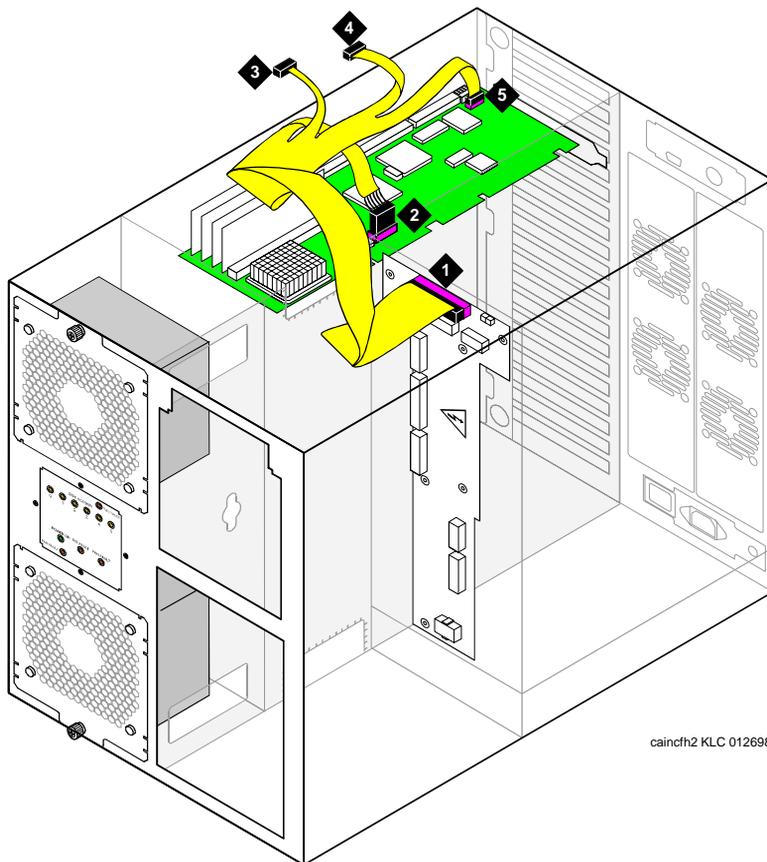
caincfh2 KLC 012698

1.   Connection to the power supply backplane
2.   Connection to the keyboard port on the P5 200 MHz CPU circuit card
3.   Connection to the platform reset port on the remote maintenance circuit
     card
4.   Connection to the fan status port on the remote maintenance circuit card
5.   Connection to the COM2 port on the P5 200 MHz CPU circuit card

Figure 7-10.   Remote Maintenance Circuit Card Interface Cable

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
 Replacing Cables 170

Removing the Remote Maintenance Circuit Card Interface Cable

To remove the remote maintenance circuit card interface cable, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Disconnect the remote maintenance circuit card interface cable from the power supply backplane (Figure 7-10).

7. Disconnect the remote maintenance circuit card interface cable from the remote maintenance circuit card platform reset connection (Figure 7-10).

8. Disconnect the remote maintenance circuit card interface cable from the remote maintenance circuit card fan status connection (Figure 7-10).

9. Disconnect the remote maintenance circuit card interface cable from the P5 200 MHz CPU circuit card keyboard connection (Figure 7-10).

10. Disconnect the remote maintenance circuit card interface cable from the P5 200 MHz CPU circuit card COM2 port connection (Figure 7-10).

11. Remove the reset cable from the MAP/100P chassis.

Installing the Remote Maintenance Circuit Card Interface Cable

To install the remote maintenance circuit card interface cable, do the following:

1. Connect the remote maintenance circuit card interface cable to the power supply backplane (Figure 7-10).

   The remote maintenance circuit card interface cable attaches to connection point J9 on the power supply backplane (Figure 7-2).

2. Connect the remote maintenance circuit card interface cable to the P5 200 MHz CPU circuit card keyboard connection (Figure 7-11).

   $\Longrightarrow$ **NOTE:**
   The P5 200 MHz CPU circuit card must be pulled partially out of the MAP/100P before the cable can be connected to the keyboard port.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 171
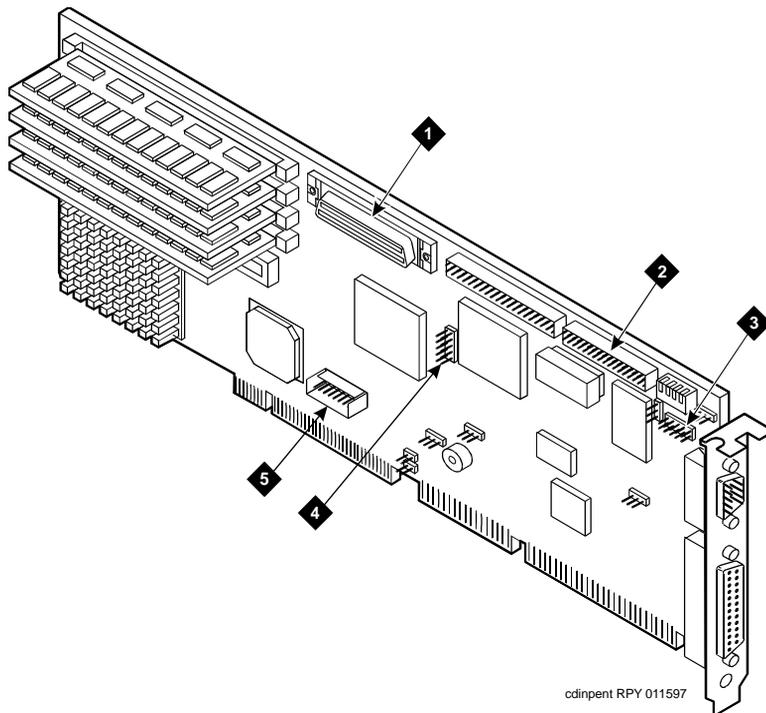
1. SCSI cable connector
2. Diskette cable connector
3. COM2 cable connector
4. COM2 connector
5. Keyboard cable connector

Figure 7-11.   P5 200 MHz CPU Circuit Card

3. Connect the remote maintenance circuit card interface cable to the P5 200 MHz CPU circuit card COM2 port connection (Figure 7-11).

4. Connect the remote maintenance circuit card interface cable to the remote maintenance circuit card platform reset connection (Figure 7-12).

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables   172

Figure 7-12.   Remote Maintenance Circuit Card

5. Connect the remote maintenance circuit card interface cable to the remote maintenance circuit card fan status connection (Figure 7-12).

6. Slide the peripheral carriage into the MAP/100P.

7. Secure the peripheral carriage the four screws removed in Step 5 of Removing the Remote Maintenance Circuit Card Interface Cable.

8. Close the front door.

9. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Reset Cable

The reset cable connects the reset switch on the front of the MAP/100P to the power supply backplane (Figure 7-7).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 173

Removing the Reset Cable

To remove the reset cable, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Disconnect the reset cable from the reset switch (Figure 7-7).

7. Disconnect the reset cable from the power supply backplane (Figure 7-7).

8. Remove the reset cable from the MAP/100P chassis.

Installing the Reset Cable

To install the reset cable, do the following:

1. Place the reset cable in the MAP/100P chassis peripheral carriage area.

2. Attach the reset cable to the reset switch (Figure 7-7).

3. Attach the reset cable to the power supply backplane (Figure 7-7).

   The reset cable attaches to connection point J10 on the power supply backplane (Figure 7-2).

4. Slide the peripheral carriage into the MAP/100P.

5. Secure the peripheral carriage the four screws removed in Step 5 of Removing the Reset Cable.

6. Close the front door.

7. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 174

Installing the SCSI Cable

The SCSI cable (Figure 7-8) connects the:

- External SCSI terminator

    ⇒ **NOTE:**
    The SCSI cable connects to external SCSI terminator through a
    mini-SCSI extension cable (Figure 7-8).

- P5 200 MHz CPU circuit card

- Cartridge tape drive

- Hard disk drive carriage backplane

Removing the SCSI Cable

To remove the SCSI cable, 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. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in
       Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in
   Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it
   to the MAP/100P chassis (Figure 7-6).

6. Remove the hard disk drive carriage. See Removing the Hard Disk Drive
   Carriage for this procedure.

7. Remove the SCSI cable from the mini-SCSI extension cable (Figure 7-8).

    ⇒ **NOTE:**
    If the mini-SCSI extension cable is to be replaced, remove it by
    loosening the two screws on the external SCSI connector.

8. Remove the SCSI cable from the cartridge tape drive (Figure 7-8).

    ⇒ **NOTE:**
    The cartridge tape drive has an adapter attached to it that allows it to
    be connected to the SCSI cable. Make sure the adapter remains
    attached to the cartridge tape drive.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing Cables 175

9. Remove the SCSI cable from the P5 200 MHz CPU circuit card (Figure 7-11).

10. Remove the SCSI cable from the hard disk drive carriage backplane (Figure 7-4).

11. Remove the SCSI cable from the MAP/100P.

Installing the SCSI Cable

To install the SCSI cable, do the following:

1. Attach one end of the SCSI cable to the external SCSI terminator (Figure 7-8).

2. Attach the SCSI cable to the cartridge tape drive (Figure 7-8).

   $\Longrightarrow$ **NOTE:**
   The cartridge tape drive has an adapter attached to it that allows it to be connected to the SCSI cable. Make sure the adapter remains attached to the cartridge tape drive.

3. Attach the SCSI cable to the P5 200 MHz CPU circuit card (Figure 7-11).

4. Attach the SCSI cable to the hard disk drive carriage backplane (Figure 7-4).

5. Slide the peripheral carriage into the MAP/100P.

6. Secure the peripheral carriage the four screws removed in Step 5 of Removing the SCSI Cable.

7. Install the hard disk drive carriage. See Installing the Hard Disk Drive Carriage for this procedure.

8. Close the front door.

9. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Installing the SCSI ID Cable

The SCSI cable connects the power supply backplane and the hard disk drive carriage backplane (Figure 7-8). This cable sets the SCSI IDs on all six hard disk drives.

Removing the SCSI ID Cable

To remove the SCSI cable, do the following:

1. Verify that the replacement equipment is on-site and appears to be in usable condition, with no obvious shipping damage.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Cartridge Tape Drive   176

2. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the hard disk drive carriage. See Removing the Hard Disk Drive Carriage for this procedure.

6. Remove the SCSI ID cable from the hard disk drive carriage (Figure 7-8).

7. Remove the SCSI ID cable from the power supply backplane (Figure 7-8).

8. Remove the SCSI ID cable from the MAP/100P.

Installing the SCSI ID Cable

To install the SCSI ID cable, do the following:

1. Attach the SCSI ID cable to the hard disk drive carriage backplane (Figure 7-4).

2. Attach the SCSI ID cable to the power supply backplane.

   The SCSI ID cable attaches to connection point J7 on the power supply backplane (Figure 7-2).

3. Install the hard disk drive carriage. See Installing the Hard Disk Drive Carriage for this procedure.

4. Close the front door.

5. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Cartridge Tape Drive

The cartridge tape drive is located in Peripheral Bay 3 (Figure 7-13). The following procedures detail removal and installation of the cartridge tape drive for the MAP/100P.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Cartridge Tape Drive   177

scinp002 klc 011198

1.	Diskette drive
2.	Cartridge tape drive
3.	Reset push button
4.	Hard Disk Drive 0
5.	Hard Disk Drive 1
6.	Hard Disk Drive 2
7	Hard Disk Drive 3
8.	Hard Disk Drive 4
9.	Hard Disk Drive 5

10.	Circuit card cage fan
11.	Fan fault LED
12.	Fan fault LED
13.	Power supply fault LED
14.	Power On LED
15.	Hard disk drive activity LEDs
16.	Fan fault LED
17.	SCSI terminator

Figure 7-13. Front View of the MAP/100P

⚠ WARNING:

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.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing the Cartridge Tape Drive   178

Removing a Cartridge Tape Drive

To remove a cartridge tape drive, 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. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-6).

6. Remove the power cord connector from the back of the cartridge tape drive.

7. Remove the SCSI cable assembly connection from the back of the cartridge tape drive. Move it to the side.

    ⇒ **NOTE:**
    The SCSI cable has an adapter attached to it that allows it to be connected to the cartridge tape drive. Make sure the adapter remains attached to the SCSI cable.

8. Remove the four screws securing the cartridge tape drive to the peripheral carriage (Figure 7-14).

9. Remove the cartridge tape drive from the peripheral carriage.

drinperf KLC 011198

1.	Diskette drive	4.	Peripheral carriage
2.	Cartridge tape drive	5.	SCSI cable
3.	SCSI terminator		
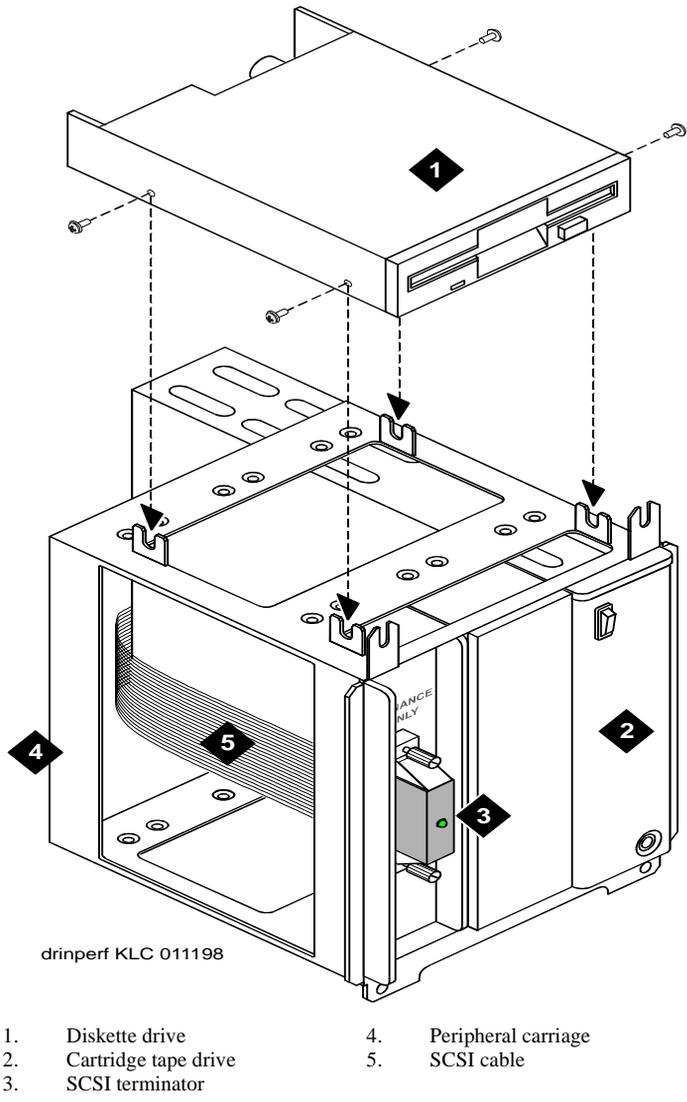
Figure 7-14.   Peripheral Carriage

⚠ CAUTION:

Keep these four screws separate. These screws are metric. The use of any of the other screws associated with the MAP/100P will damage the threads in the diskette drive mounting hardware.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Cartridge Tape Drive 180

Installing a Cartridge Tape Drive

To install a 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 to return the
    defective unit. Reuse of the original replacement unit packaging is
    necessary to meet the manufacturer's warranty.

2. Verify that these settings are correct (Figure 7-15).
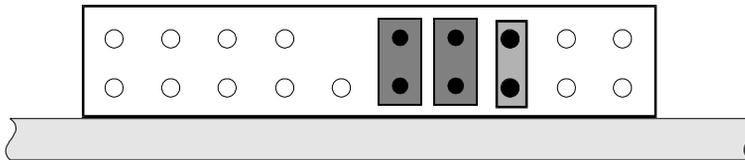
Figure 7-15.   Jumper Settings for the Cartridge Tape Drive, SCSI ID = 6

3. Remove the three terminating resistors (Figure 7-16).

drcvtpe1 CJL 020597

| 1. | Jumpers | 2. | Terminating resistors |
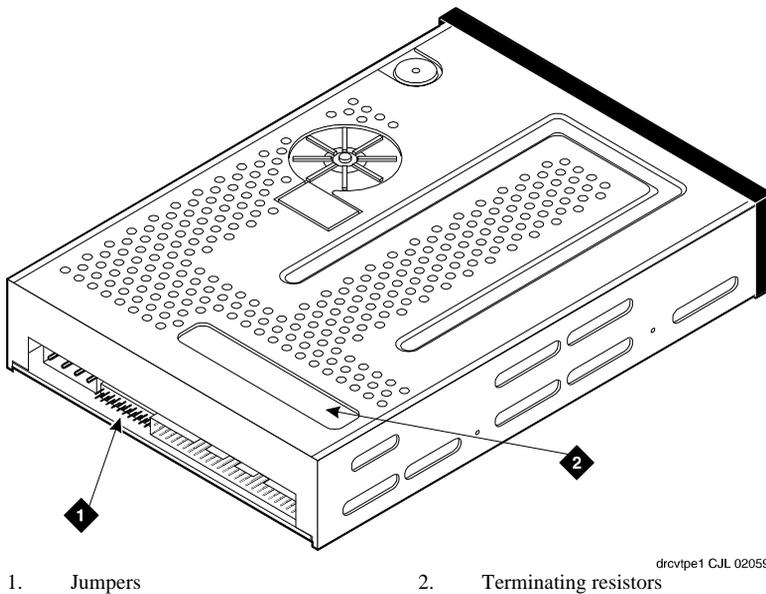
Figure 7-16.   Cartridge Tape Drive

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Console Alarm Panel 181

4. Secure the cartridge tape drive to the peripheral carriage using the four screws removed in Step 8 of Removing a Cartridge Tape Drive.

5. Attach the SCSI bus cable assembly.

6. Attach the power cable assembly.

7. Slide the peripheral carriage into the MAP/100P.

8. Secure the peripheral carriage with the four screws removed in Step 5 of Removing a Cartridge Tape Drive.

9. Close the front door.

10. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Console Alarm Panel

The console alarm panel (Figure 7-17) displays the status of the MAP/100P. The console alarm panel is located on the front of the MAP/100P (Figure 7-13).
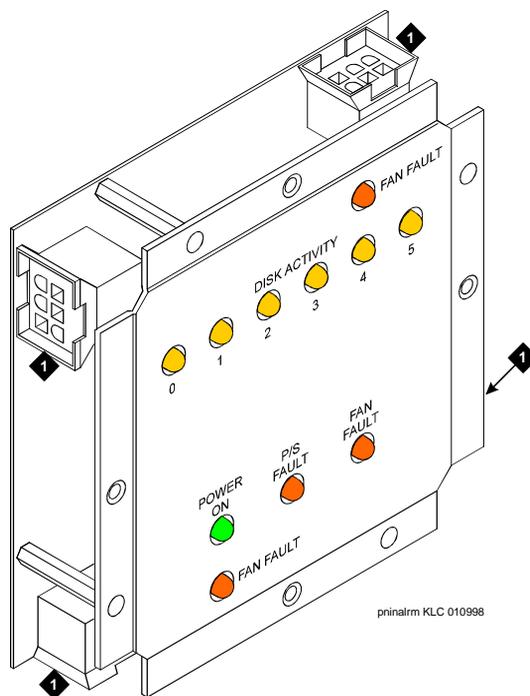
1.) Circuit card cage fan connection

Figure 7-17.   Console Alarm Panel

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Console Alarm Panel 182

Removing the Console Alarm Panel

To remove the console alarm panel, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Remove both card cage fans. See Removing a Fan for this procedure.

6. Remove the four screws that secure the console alarm panel to the MAP/100P (Figure 7-13).

7. Pull the console alarm panel gently out of the MAP/100P.

8. Remove the cable connected to the back of the console alarm panel (Figure 7-18).
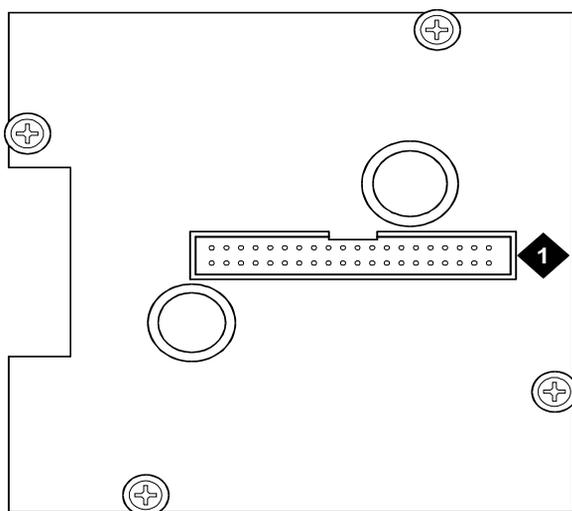
cdinapnl KLC 010998

1.) Alarm cable connection

Figure 7-18.   Back View of the Console Alarm Panel

Avaya Interchange Release 5.4
MAP/100P System Maintenance **585-313-809**

Issue 4
January 2002

7 Replacing Other Components
Replacing the Diskette Drive

183

Installing the Console Alarm Panel

To install the console alarm panel, do the following:

1. Attach the alarm cable to the connection on the back of the console alarm panel (Figure 7-18).

2. Align the console alarm panel so that the display is oriented correctly.

3. Slide the console alarm panel into the MAP/100P.

4. Secure the console alarm panel with the four screws you removed in Step 6 of Removing the Console Alarm Panel.

5. Replace the fans. See Installing a Fan for this procedure.

6. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

7. Verify the correct operation of the console alarm panel.

8. Close the front door.

Replacing the Diskette Drive

The 1.44-MB, 3.5-inch diskette drive is assembled by the manufacturer with a mounting kit. The diskette drive is located in Peripheral Bay 4, as shown in Figure 7-13.

⚠️ WARNING:

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.

Removing the Diskette Drive

To remove the diskette drive, 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. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7   Replacing Other Components
  Replacing the Diskette Drive   *184*

4. Open the front door.

5. Remove the peripheral carriage by removing the four screws that secure it to the MAP/100P chassis (Figure 7-13).

6. Remove the mini power cord connector from the back of the diskette drive.

7. Remove the diskette cable assembly connection from the back of the diskette drive. Move it to the side.

    $\Longrightarrow$ **NOTE:**

    Make sure to note the position of the ribbon cable pin 1 indicator.

8. Remove the four screws securing the diskette drive to the peripheral carriage (Figure 7-14).

    ⚠ **CAUTION:**

    Keep these four screws separate. These screws are metric. The use of any of the other screws associated with the MAP/100P will damage the threads in the diskette drive mounting hardware.

9. Lift the diskette drive off of the peripheral carriage.

    ⚠ **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.

10. Place the diskette drive upside down, with the printed circuit board facing up, on an ESD-protected surface.

Installing a Diskette Drive

To install a diskette drive, do the following:

1. Remove the new diskette drive unit from its ESD-protective wrapping.

    $\Longrightarrow$ **NOTE:**

    Keep the package and all ESD-protective wrapping to return the defective unit. Reuse of the original replacement unit packaging is necessary to meet the manufacturer's warranty.

2. The MAP/100P supports six versions of the diskette drive:

    ■ FD-235HF-201

    ■ FD-235HF-3201

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Diskette Drive 185

- ■ FD-235HF-4429

- ■ FD-235F-5429

- ■ FD-235HF-6429

- ■ FD-235HF-6529

- ■ FD-235HF-7529

Identify the diskette drive you are installing.

3. Verify that the jumpers are set as shown in Figure 7-19 and Figure 7-20.
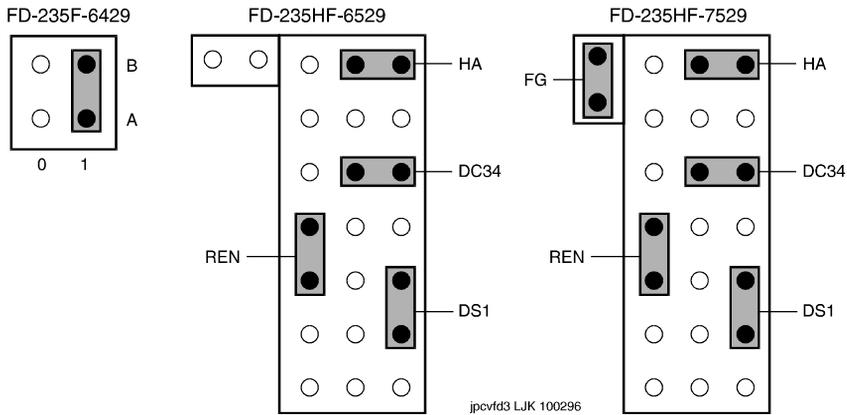
Figure 7-19. **Diskette Drive Jumper Connections (6429 and 6529)**

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing the Diskette Drive   186
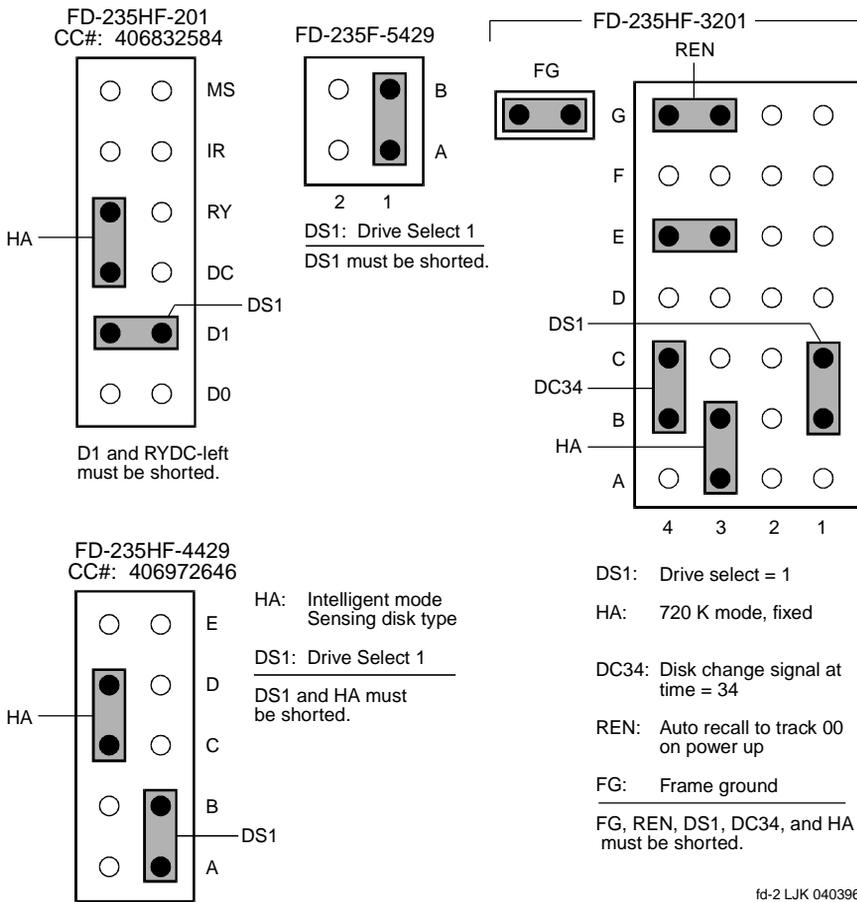
Figure 7-20. Diskette Drive Jumper Connections (201, 3201, 4429, and 5429)

4. Secure the diskette drive to the peripheral carriage using the four screws removed in Step 8 of Removing the Diskette Drive.

5. Attach the diskette drive cable assembly.

    Ensure that the diskette cable pin 1 indicator is facing toward the diskette drive spiral motor.

6. Attach the mini-power cable assembly.

7. Slide the peripheral carriage into the MAP/100P.

8. Secure the peripheral carriage the four screws removed in Step 5 of Removing the Diskette Drive.

9. Close the front door.

10. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing a Fan 187

Replacing a Fan

The MAP/100P contains five fans that provide forced-air cooling for the unit. There are four circuit card cage fans and one power supply fan. The circuit card cage fans are serviceable. The power supply fan is *not* serviceable, and repairs must *never* be attempted.

The circuit card cage fans are located behind the front door (Figure 7-13). The circuit card cage fans are attached to assemblies in matched pairs. If a fan is defective, the associated Fan Fault LED is lit (Figure 7-17).

Removing a Fan

To remove a circuit card cage fan, do the following:

1. Locate the defective fan.

2. If the system is in service, complete Step a and Step b:

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

    b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Open the front door.

5. Loosen the thumbscrew on the front of the circuit card cage fan assembly (Figure 7-21).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing a Fan 188

| 1. | Thumbscrew | 2. | Power connector |
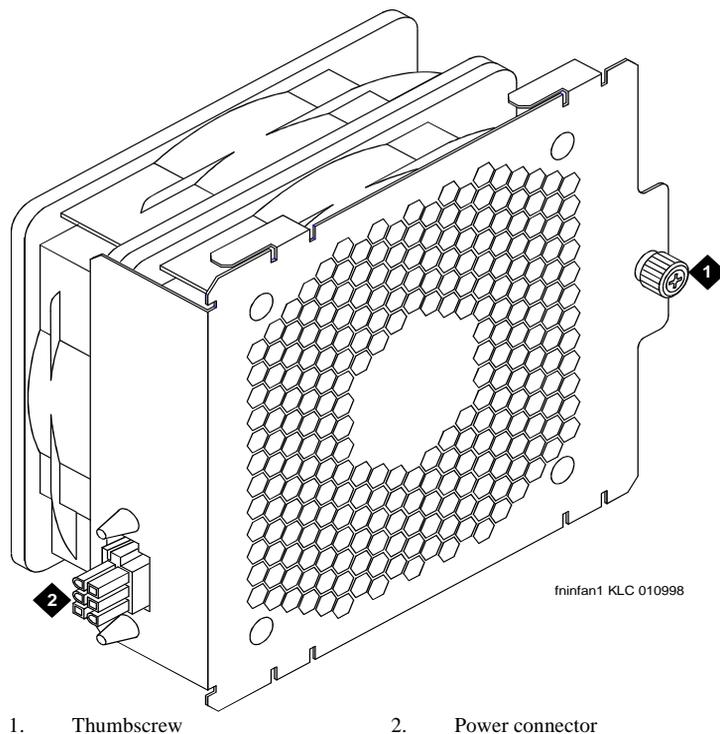
Figure 7-21.   Circuit Card Cage Fan Assembly

6. Slide the circuit card cage fan assembly away from the console alarm panel in the center of the MAP/100P.

Installing a Fan

To install a fan assembly, do the following:

1. Place the circuit card cage fan assembly in the MAP/100P.

2. Slide the circuit card cage fan assembly toward the console alarm panel until the power connector is mated with the console alarm panel connection.

3. Tighten the locking thumbscrew.

4. Close the front door.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Fan Filter 189

5. Apply power to the MAP/100. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

⚠ CAUTION:

Do not leave the MAP/100P powered up for any length of time until the circuit card cage fans are fully operational.

6. Verify that the fan is working by observing the MAP/100P console alarm panel (Figure 7-17).

Replacing the Fan Filter

The MAP/100P is equipped with a fan filter located behind the front door. Check the fan filter on a regular basis to determine the condition and cleaned if necessary.

Removing Fan Filters

The filters can be removed by opening the front doors and detaching the filter material (Figure 7-22).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Fan Filter 190
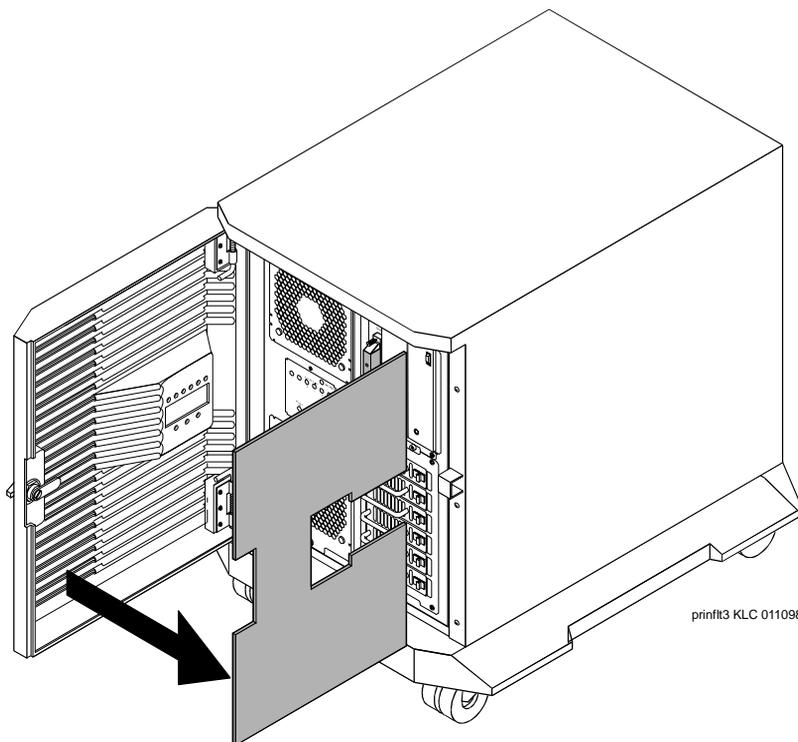
Figure 7-22. Removing the Fan Filter

Cleaning the Fan Filter

Clean the fan filter with mild soap and water. Allow the fan filter to thoroughly air dry before replacement.

⚠ **CAUTION:**
Do not use heat to dry the filter and do not place a wet or damp filter into the MAP/100P.

Installing Fan Filters

To install a filter, position it behind the doors and press it into place.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Fuse *191*

Replacing the Fuse

The fuse is located in the lower rear portion of the MAP/100P ().

1.	Video circuit card	6.	Fuse
2.	P5 200 MHz CPU	7.	Power supply 1
3.	Remote maintenance card	8.	Power supply 2
4.	Power ON/OFF switch	9.	COM2 port
5.	AC power input	10.	Keyboard connection

Figure 7-23. Rear View of the MAP/100P

The MAP/100P is equipped with either a domestic fuse or an international fuse, depending on the location ().

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7   Replacing Other Components
Replacing the Fuse   *192*

1.   Domestic fuse and holder
2.   International fuse and holder
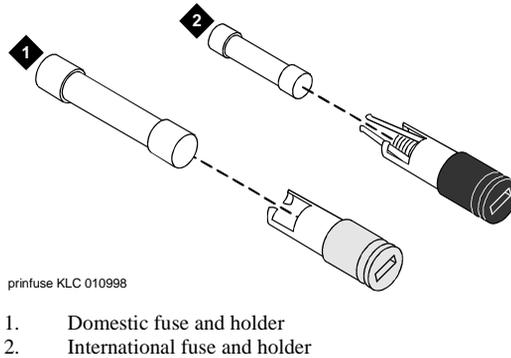
Figure 7-24.   Fuse Types

Removing the Fuse

To remove the fuse, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

⚠ CAUTION:

Do not turn the fuse holder more than 1/8-turn in any direction.

4. Using a screw driver, gently turn the fuse holder 1/8-turn counterclockwise (Figure 7-25).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Fuse 193
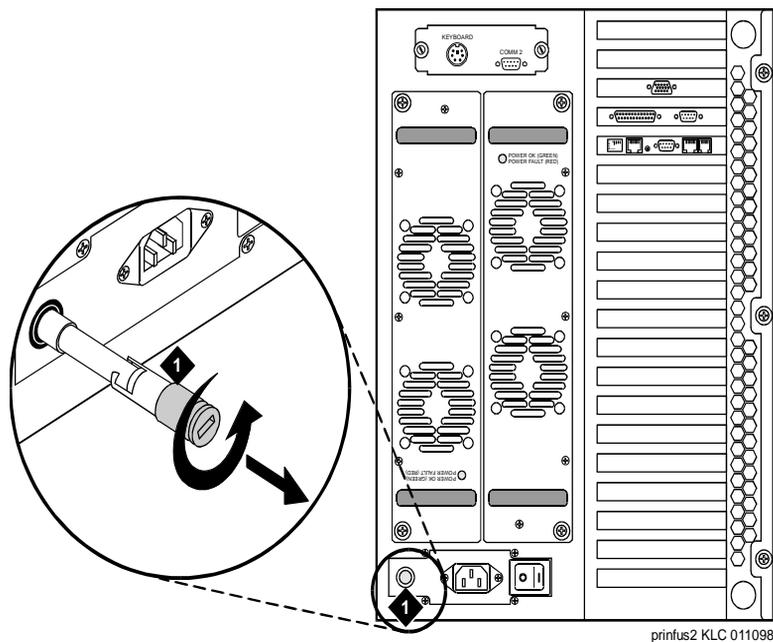
1. Fuse

Figure 7-25. Removing a Fuse

    5. Remove the fuse from the fuse holder ().

Installing the Fuse

⚠ CAUTION:

Make sure to replace the defective fuse with a fuse of identical type and rating. The type and rating are displayed on the fuse endcap.

To install the fuse, do the following:

    1. Place the fuse in the holder.

    2. Place the fuse and holder in the MAP/100P.

    3. Push the fuse in gently until you feel it make contact with the rear of the fuse slot.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Hard Disk Drive Carriage 194

⚠ **CAUTION:**
Do not turn the fuse holder more than 1/8-turn in any direction.

4. Gently turn the fuse holder 1/8-turn clockwise.

5. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Hard Disk Drive Carriage

The hard disk drive carriage (Figure 7-5) holds the individual hard disk drive bracket assemblies in the MAP/100P.

➡ **NOTE:**
This is not a replaceable part.

Removing the Hard Disk Drive Carriage

To remove the hard disk drive carriage, do the following:

1. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

2. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

3. Open the front door.

4. Remove the four hard disk drive carriage retaining screws (Figure 7-5).

5. Gently pull the hard disk drive carriage from the MAP/100P.

6. Remove the hard disk drive power cable from the hard disk drive carriage backplane (Figure 7-4).

7. Remove the SCSI bus cable from the hard disk drive carriage backplane (Figure 7-4).

8. Remove the SCSI ID cable from the hard disk drive carriage backplane (Figure 7-4).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Memory Modules 195

Installing the Hard Disk Drive Carriage

To install the hard disk drive carriage, do the following:

1. Connect the hard disk drive power cable to the hard disk drive carriage backplane (Figure 7-4).

2. Connect the SCSI bus cable to the hard disk drive carriage backplane (Figure 7-4).

3. Connect the SCSI ID cable to the hard disk drive carriage backplane (Figure 7-4).

4. Place the hard disk drive carriage in the MAP/100P.

5. Secure the hard disk drive carriage with the four screws you removed in Step 4 of Removing the Hard Disk Drive Carriage.

6. Close the front door.

7. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing the Memory Modules

This section describes:

- The memory available with the MAP/100P

- How to determine if the memory modules are damaged

- How to replace the memory

⚠ WARNING:

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.

Memory and SIMM Description

The MAP/100P supports 96 MB of memory for the P5 200 MHz CPU circuit card. The memory is packaged on single in-line memory modules (SIMM). These modules are placed in sockets located in the top left corner of the CPU circuit card (Figure 7-26).
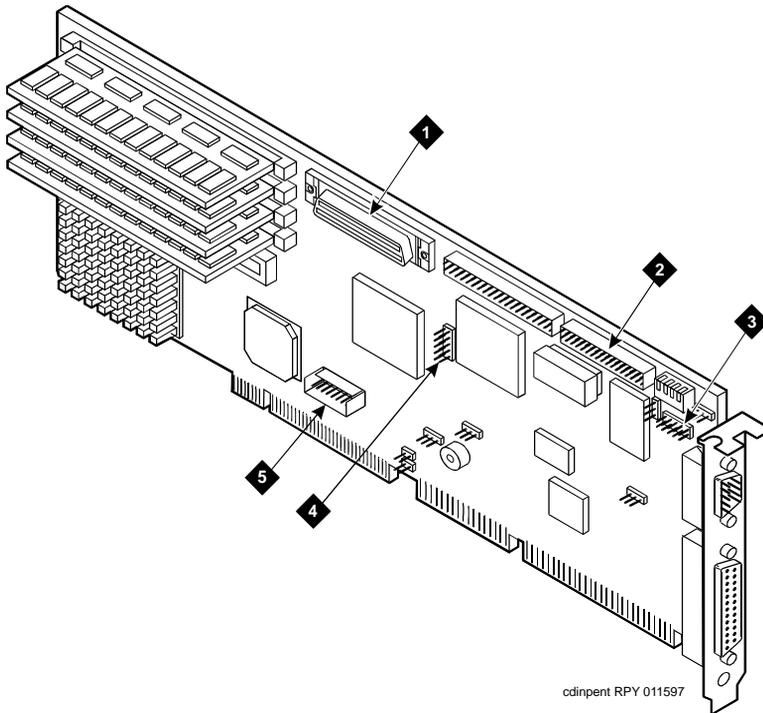
Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Memory Modules 196

1.	SCSI cable connector	4.	PS2 mouse cable connector
2.	Diskette cable connector	5.	Keyboard cable connector
3.	COM2 cable connector		

Figure 7-26.   CPU Circuit Card SIMM Location

The SIMMs must be installed on the CPU using the following rules:

■ All SIMMs must be either –6, 60nS or –7, 70nS speed rating.

■ SIMMs must be in matched pairs.

The SIMMs must be in the following configuration:

■ 96 MB consisting of two identical 32-MB SIMMs located in the SIMM1 and SIMM2 sockets and two identical 16-MB SIMMs located in the SIMM3 and SIMM4 sockets.

➤ **NOTE:**
The Avaya Interchange system does not boot if there is an odd number of SIMMs populated.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing the Memory Modules   197

Identifying a Damaged SIMM

To determine which of the SIMMs is defective, you must test each pair. Remove a pair of SIMMs and then reboot the system using the remaining SIMMS to obtain a reading on the amount of memory available.

Checking for Proper SIMM Seating

To check for proper SIMM seating, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Access the circuit card cage. See Accessing the Circuit Card Cage in Chapter 4, Getting Inside the Computer, for this procedure.

5. Carefully remove the CPU circuit card. See Removing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

6. Verify that all SIMMs are properly seated in their slots. If all are properly seated, continue with the next procedure, Checking for Defective SIMMs.

   $\Longrightarrow$ **NOTE:**
   A properly seated SIMM is snapped into the socket with the small plastic tab through the hole in each end of the SIMM strip.

   If one or more of the SIMMs are not properly installed or seated, do the following:

   a. Properly seat the SIMM.

   b. Replace the CPU circuit card. See Removing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

   c. Reboot the system. See Rebooting the System in Chapter 3, Common System Procedures, for this procedure.

      If the system shows an amount of memory equal to that installed on the card, the problem has been corrected.

      If the system shows an amount of memory less than that installed on the card, continue with the next procedure, Checking for Defective SIMMs.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Memory Modules

198

Checking for Defective SIMMs

To check for defective SIMMs, do the following:

1. Remove one pair of the SIMMs. See Removing SIMMs for more information on removing the SIMMs.

   If the CPU circuit card is equipped with only one pair of SIMMS the pair must be replaced. See Installing SIMMs for more information on installing the new pair of SIMMs.

2. Reinstall the CPU circuit card. See Installing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

3. Restore power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Reboot the system. See Rebooting the System in Chapter 3, Common System Procedures, for this procedure.

5. Verify the amount of memory as the system reboots.

6. If the amount of memory shown by the system is not equal to the amount of memory still installed on the card, one of the remaining SIMMS is defective. Complete Step a through Step c. If the memory is not correct, continue with Step 7.

   a. Remove power from the MAP/100P. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

   b. Replace the SIMMs which were removed in Step 1. See Installing SIMMs for more information on replacing the SIMM.

   c. Return to Step 1 and continue, removing the second pair of SIMMs.

7. If the amount of memory shown by the system equals the amount of memory still installed on the card, one of the SIMMs you removed is defective. Replace the pair with a new pair of SIMMs. See Installing SIMMs for more information.

8. Reinstall the CPU circuit card. See Installing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

9. Replace the dress covers. See Replacing the Side Dress Cover in Chapter 4, Getting Inside the Computer, for this procedure.

10. Apply power to the unit. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Removing SIMMs

To remove a SIMM, do the following:

1. Verify that the new and/or replacement SIMMs are on-site and appear to be in usable condition.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Memory Modules 199

2. Shut down the voice system. See <u>Shutting Down the System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

3. Remove the incoming power. See <u>Removing Power from the MAP/100P</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

4. Access the circuit card cage. See <u>Accessing the Circuit Card Cage</u> in <u>Chapter 4, Getting Inside the Computer</u>, for this procedure.

5. Remove the CPU circuit card. See <u>Removing a Circuit Card</u> in <u>Chapter 5, Replacing or Installing Circuit Cards</u>, for this procedure.

6. Lay the CPU circuit card on a flat, clean, ESD-protected surface.

7. Release the metal snap locks gently at the edge of the SIMM connectors.

8. Rotate the SIMM back and downward to approximately a 60-degree angle.

9. Remove the SIMM.

Installing SIMMs

To install a SIMM, do the following:

1. Shut down the voice system. See <u>Shutting Down the System</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

2. Remove the incoming power. See <u>Removing Power from the MAP/100P</u> in <u>Chapter 3, Common System Procedures</u>, for this procedure.

3. Access the circuit card cage. See <u>Accessing the Circuit Card Cage</u> in <u>Chapter 4, Getting Inside the Computer</u>, for this procedure.

4. Remove the CPU circuit card. See <u>Removing a Circuit Card</u> in <u>Chapter 5, Replacing or Installing Circuit Cards</u>, for this procedure.

5. Install the SIMM by positioning the new SIMM at approximately a 60-degree angle with respect to the CPU circuit card.

   All SIMMs are keyed to prevent them from being inserted incorrectly.

   ▭▷ NOTE:
   > Install the first SIMM in the slot adjacent to the CPU heat sink, near the bottom of the P5 200 MHz CPU circuit card.

   ▭▷ NOTE:
   > Install a new SIMM in the slot adjacent to the last SIMM installed. Do not leave any empty sockets between SIMMS.

6. Push down at that angle until the SIMM is reset into the SIMM carrier.

7. 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 are then forced open and locked when in the upright position.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Power Supply *200*

8. Ensure the connector guide pins are seated in the clearance holes provided at each end of the SIMM.

   When properly seated, the guides are fully extended into the circuit card clearance holes.

9. Reinstall the CPU circuit card. See Removing a Circuit Card in Chapter 5, Replacing or Installing Circuit Cards, for this procedure.

10. Replace the dress covers. See Replacing the Side Dress Cover in Chapter 4, Getting Inside the Computer, for this procedure.

11. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

12. Reboot the system. See Rebooting the System in Chapter 3, Common System Procedures, for this procedure.

13. Verify the amount of memory as the system reboots.

Replacing the Power Supply

⚠ CAUTION:
Do not operate the MAP/100P for extended periods without both positions, PS1 and PS2, being equipped with a power supply.

⇒ NOTE:
A power supply alarm fault is generated, on the Console Alarm Panel, when a power supply is removed.

The MAP/100P has the power supplies located in positions Power Supply 1 and Power Supply 2 (Figure 7-23).

The power supplies installed in the MAP/100P automatically sense whether the incoming voltage is 110 or 220 VAC. There are no manual adjustments necessary to prepare the power supply for the incoming voltage.

The power supplies are installed in a power distribution backplane in the MAP/100P (Figure 7-27).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Power Supply *201*

1. AC input pins
2. DC voltage output pins
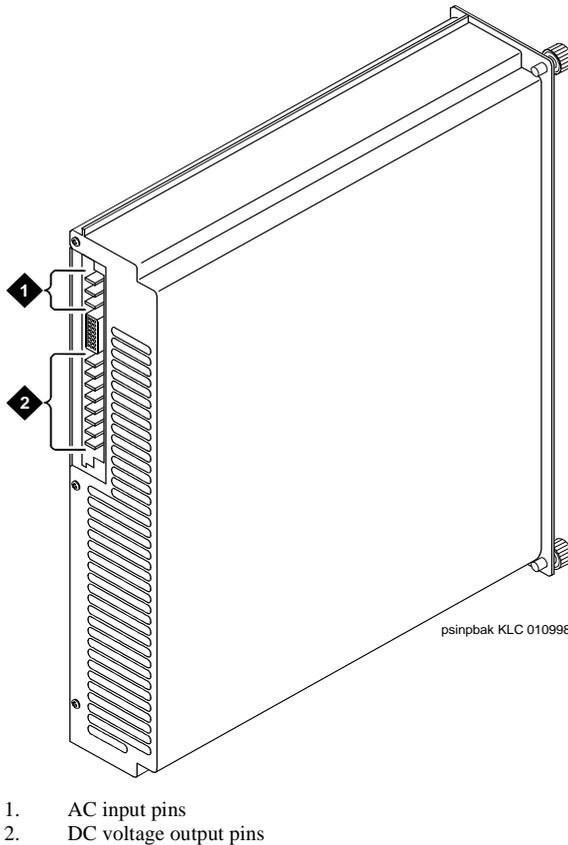
Figure 7-27. Power Supply Back View

Removing a Power Supply

To remove a power supply, 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. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Power Supply *202*

4. Loosen the two thumbscrews that hold the power supply in the MAP/100P ([Figure 7-28](#)).
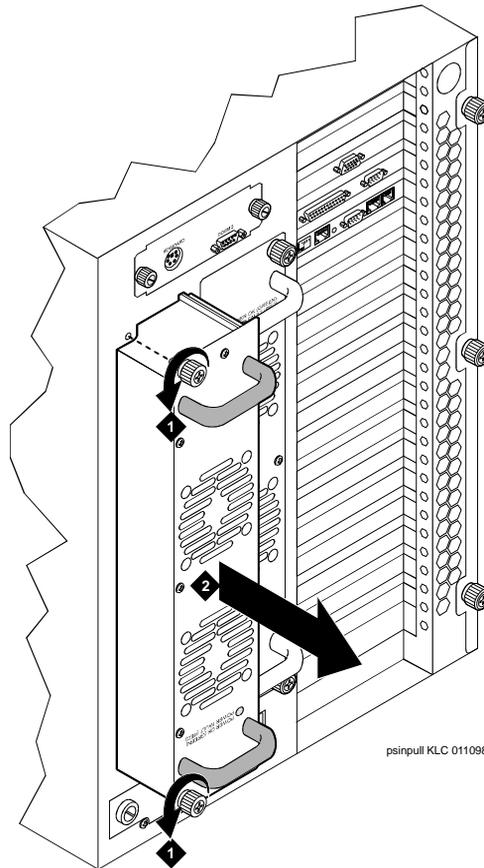
1.   Retaining thumbscrews

Figure 7-28.   Removing a Power Supply

5. Grasp the power supply pull handles and pull the power supply from the MAP/100P.

6. Place the power supply to the side.

> ⚠ **CAUTION:**
> *It is important that the defective power supply be returned to the remote maintenance center in the same condition as it was in the Avaya Interchange system. If the power supply is damaged during removal, packaging, or shipping, an adequate failure analysis cannot be conducted.*

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Remote Maintenance Circuit Card Interface Board 203

Installing a Power Supply

To install a power supply, do the following:

1. Align the power supply with the slot in the MAP/100P.

2. Slide the power supply into the MAP/100P.

3. Apply pressure to ensure that the power supply is completely seated.

! CAUTION:

Make sure the power supply is completely seated. Do not use the thumbscrews to install or pull the power supply into the power supply distribution backplane.

4. Tighten the two thumbscrews on the power supply.

NOTE:

Use a screwdriver to ensure that the thumbscrews are tight enough to properly seat the power supply.

5. Apply power to the MAP/100P. See <u>Restoring Power to the MAP/100P</u> in <u>Chapter 4, Getting Inside the Computer</u>, for this procedure.

6. Make sure the power supply status indicator on the power supply is lit.

This indicates the power supply is operational.

Replacing the Remote Maintenance Circuit Card Interface Board

The remote maintenance circuit card interface board (<u>Figure 7-29</u>) consolidates internal MAP/100P alarm signals from each power supply and circuit card cage fan modules. The remote maintenance circuit card interface board contains a keyboard connection and the CPU COM2 port.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Remote Maintenance Circuit Card Interface Board *204*
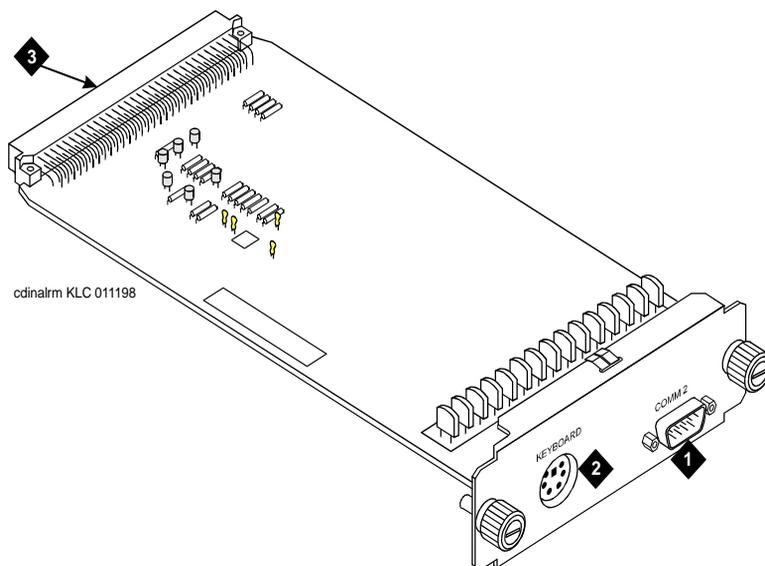
1. COM2 port
2. Keyboard connection
3. Power supply backplane connection

Figure 7-29.   Remote Maintenance Circuit Card Interface Board

The remote maintenance circuit card interface board is located on the upper rear of the MAP/100P (Figure 7-23).

Removing the Remote Maintenance Circuit Card Interface Board

To remove the remote maintenance circuit card interface board, 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. If the system is in service, complete Step a and Step b:

   a. Stop the voice system. See Stopping the Voice System in Chapter 3, Common System Procedures, for this procedure.
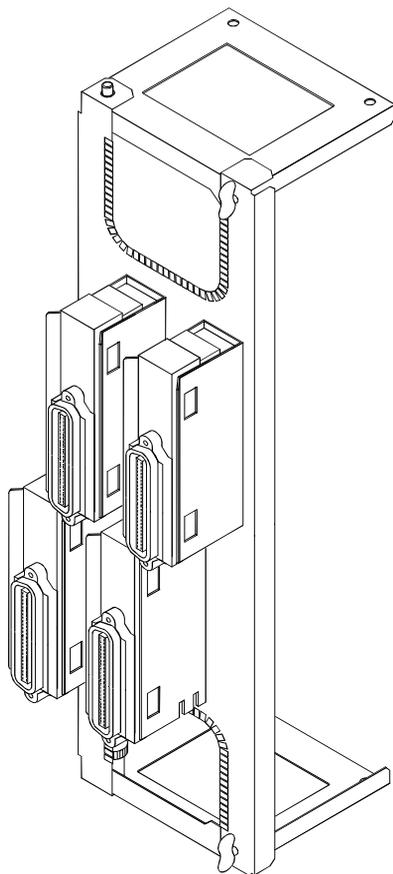
   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Disconnect the keyboard cable from the MAP/100P.

5. If a cable is attached to the CPU COM2 port, disconnect it.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

7 Replacing Other Components
Replacing a Terminator SIP

205

6. Loosen the two thumbscrews on the remote maintenance circuit card interface board (Figure 7-29).

7. Pull the remote maintenance circuit card interface board out of the MAP/100P.

Installing the Remote Maintenance Circuit Card Interface Board

To install the remote maintenance circuit card interface board, do the following:

1. Align the remote maintenance circuit card interface board with the MAP/100P.

2. Gently slide the remote maintenance circuit card interface board into the MAP/100P until it (Figure 7-29) has properly mated with the power supply backplane.

3. Tighten the two thumbscrews on the remote maintenance circuit card interface board (Figure 7-29).

   Use a screwdriver to tighten the thumbscrews to ensure a proper connection.

4. If you disconnected a cable from CPU COM2 port in Step 5 of Removing the Remote Maintenance Circuit Card Interface Board, reconnect it.

5. Connect the keyboard cable to the MAP/100P.

6. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

Replacing a Terminator SIP

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 can, however, be empty connectors.

To replace a terminator SIP, do the following:

1. Align the terminator SIP with the SIP socket on the circuit card (Figure 7-30).

   Use the markings on both the terminator SIP and the circuit card to align the terminator SIP.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Tip/Ring Distribution Hardware 206
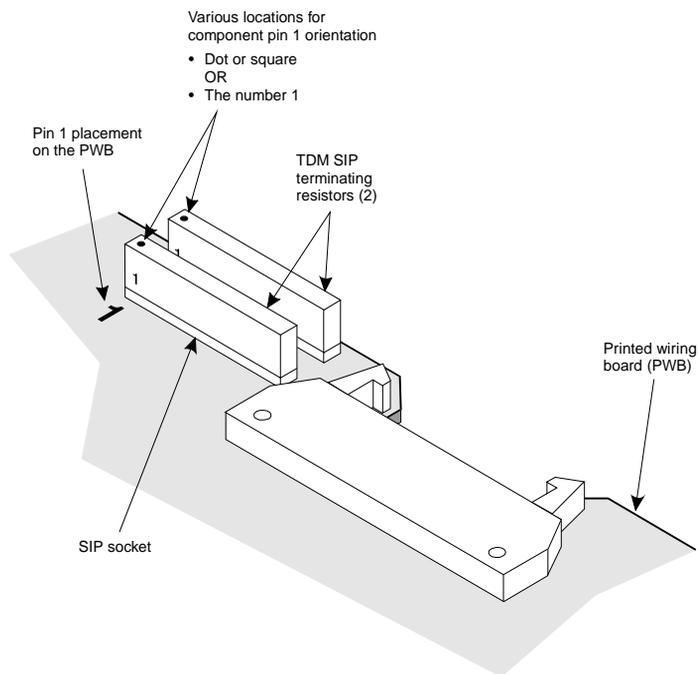
Figure 7-30. Replacing Terminator SIPs on the TDM Bus

    2. Insert the terminator SIP.

You have completed this procedure.

Replacing the Tip/Ring Distribution Hardware

The Tip/Ring distribution hardware (Figure 7-31) comes in a kit which consists of:

- A 356B adapter

- Two 8-inch cable ties

- Four adapter brackets

- A 25-pair, high-density cable for the first 24 channels

  > **NOTE:**
  > Two additional 25-pair, high-density cables are required for the second and third 24 channels along with 356B adapters, cable ties, and adapter brackets, all being supported by the distribution panel. Therefore, if you are connecting 66 channels, or 11 Tip/Ring circuit cards, you need additional components.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Tip/Ring Distribution Hardware

207

➡ **NOTE:**
The two 8-inch cable ties are used to secure each 25-pair cable connector to the 356B adapter.
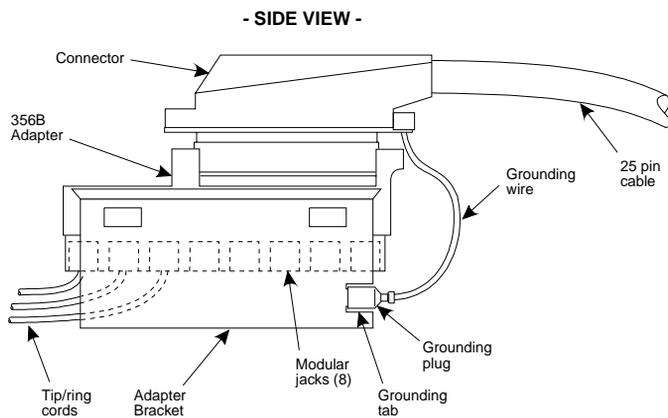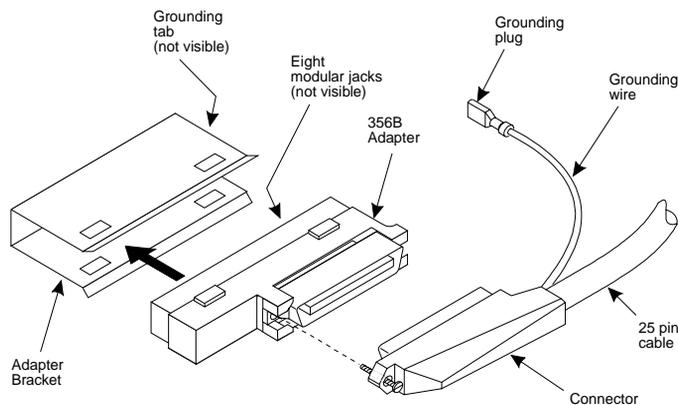
Figure 7-31. Tip/Ring Distribution Hardware Assembly

The Tip/Ring distribution hardware attaches to the rear bracket on the MAP/100P (Figure 7-32).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Tip/Ring Distribution Hardware

208

BRAKTISO
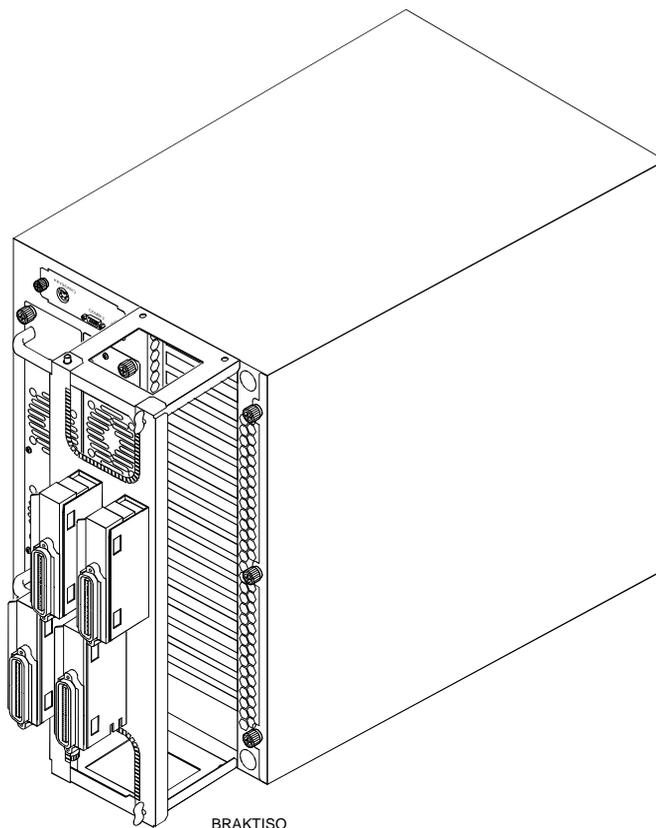
Figure 7-32.   Tip/Ring Distribution Hardware on MAP/100P — Tower Configuration

⊫> NOTE:
The MAP/100P uses only three 356B adapters.

Removing the Tip/Ring Distribution Hardware

To remove the Tip/Ring distribution hardware, do the following:

1. If the system is currently connected to the telephone network, notify the service provider that the system is about to be disconnected. The service provider then asks which extensions are affected.

2. If the system is in service, perform the Step a and Step b:

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

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Tip/Ring Distribution Hardware 209

b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

3. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

4. Loosen the screw that secures the 25-pin cable to the 356B adapter.

5. Cut the two cable ties securing the 25-pair cable connector hood to the 356B adapter mounting bracket.

6. Disconnect the 25-pin cable from the 356B adapter.

7. Pull the 356B adapter from the mounting bracket.

8. Disconnect the Tip/Ring cables from the 356B adapter.

9. If necessary, remove the two screws that secure the adapter bracket to the distribution hardware.

Installing the Tip/Ring Distribution Hardware

To install the Tip/Ring distribution hardware, do the following:

1. Verify that the distribution hardware is on-site and appears to be in usable condition.

2. If the system is currently connected to the telephone network, notify the service provider that the system is about to be disconnected. The service provider then asks which extensions are affected.

3. If the system is in service, complete Step a and Step b:

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

   b. Shut down the voice system. See Shutting Down the System in Chapter 3, Common System Procedures, for this procedure.

4. Remove the incoming power. See Removing Power from the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

5. Verify that all of the necessary components are included (Figure 7-31).

6. Secure the u-shaped adapter brackets to the mounting plate on the rear of the MAP/100P with the screws provided (Figure 7-32).

   The u-shape of the bracket is mounted differently on the tower configuration of the MAP/100P (Figure 7-33) than on the rack-mounted configuration (Figure 7-34).

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
 Replacing the Tip/Ring Distribution Hardware

210

CBLBRAKT

Figure 7-33.   Tip/Ring Distribution Hardware — Tower Configuration

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Tip/Ring Distribution Hardware 211

scin012 RPY 022098
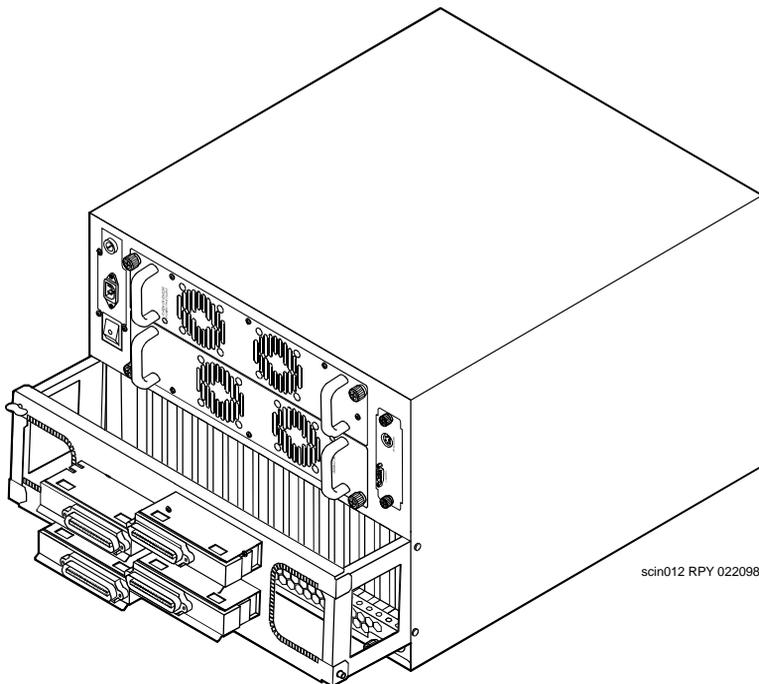
Figure 7-34. Tip/Ring Distribution Hardware — Rack-Mounted Configuration

7. Plug the 18-inch, 6-pin modular cords from the Tip/Ring cards into the 356B adapters. Each adapter can accommodate eight modular cords (Figure 7-31).

8. Using the connector provided, attach the 25-pair, high-density cable to the 356B adapter.

9. Snap the 356B adapters into the adapter bracket. Ensure the modular cords are inside the adapter bracket.

$\Longrightarrow$ NOTE:
The 356B adapters can be removed by spreading the bracket sides apart.

⚠ CAUTION:
The 25-pair, high-density cables will dress down from the adapter brackets in a tower configuration. The cables will dress to either side of the MAP/100P in a rack-mounted configuration.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

7 Replacing Other Components
Replacing the Tip/Ring Distribution Hardware 212

10. Secure the 25-pair cable connector hood to the adapter bracket by using two 8-inch cable ties.

11. Connect the grounding wire on the end of the adapter bracket.

12. Apply power to the MAP/100P. See Restoring Power to the MAP/100P in Chapter 4, Getting Inside the Computer, for this procedure.

13. Notify the service provider that the system is back online, if necessary.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

8 Installing an RFU (Remote Field Update)
Overview

213

Installing an RFU (Remote Field Update)

8

Overview

See Chapter 2, RFU Installation, in *Avaya Interchange Release 5.4 Installation and System Recovery* for the procedures to install a Remote Field Update (RFU).

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

8 Installing an RFU (Remote Field Update)
Overview 214

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

A System Configuration
Memory Configuration   215

System Configuration

A

Memory Configuration

The MAP/100P supports 96 MB of memory packaged on two 32-MB plus two 16-MB single in-line memory modules (SIMM). These modules are placed in sockets located in the bottom left corner of the CPU circuit card.

The CPU circuit card must be equipped with SIMMs in matched pairs, and the SIMMs must be in the following configuration:

- Two identical 32-MB SIMMs located in the SIMM1 and SIMM2 sockets, plus two identical 16-MB SIMMs located in the SIMM3 and SIMM4 sockets

Component Assignments

The following hardware components are discussed in this section:

- Circuit cards
- Operating hardware

Circuit Cards

Circuit cards are placed in the MAP/100P in locations called *slots*. Slots are numbered from Slot 1 through Slot 20 from the bottom of the MAP/100P to the top in a tower configuration and from left to right in a rack-mounted configuration. Circuit card connections are accessible from the back of the MAP/100P ().
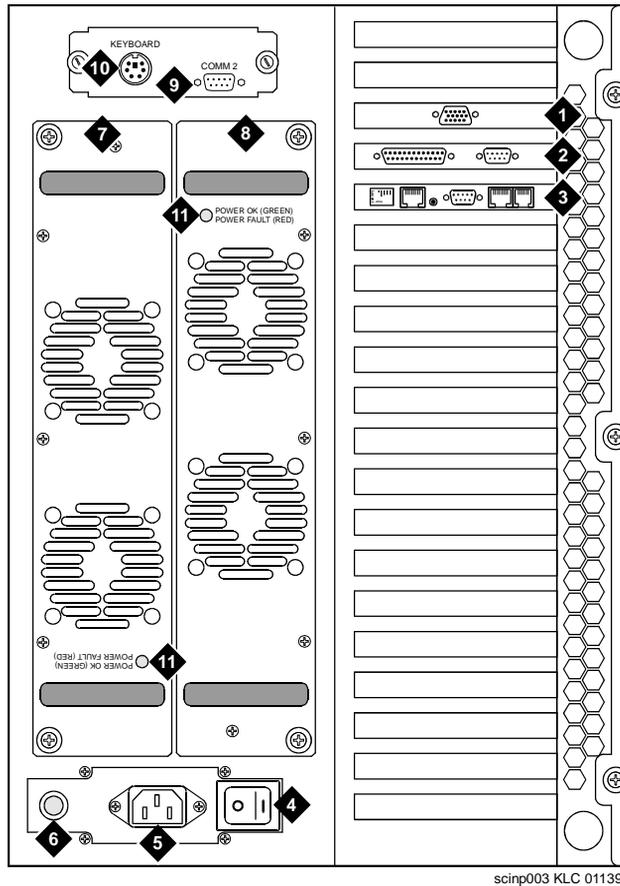
Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

A System Configuration
Component Assignments *216*

1. Video circuit card
2. P5 200 MHz CPU
3. Remote maintenance card
4. ON/OFF power switch
5. AC power input

6. Fuse
7. Power supply 1
8. Power supply 2
9. COM2 port
10. Keyboard port
11. Power supply LED

Figure A-1.   Back View of the MAP/100P

Fixed Circuit Card Locations

The following circuit cards have fixed locations in the MAP/100P (Figure A-1):

- Tip/Ring circuit cards — ISA Slot 1 and ISA Slot 2

- Remote maintenance circuit card — Slot 16

- P5 200 MHz CPU circuit card — Slot 17

- Video circuit card — Slot 18

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

A System Configuration
Component Assignments 217

Assignment Rules

The following rules apply to the placement of optional boards in the MAP/100P:

- A maximum of 15 ISA slots is available.

- A maximum of 11 Tip/Ring circuit cards is supported.

- A maximum of 3 ACCX circuit cards is supported.

- The system does not support both a digital station interface circuit card and a DCIU circuit card.

- All other circuit cards are supported as one per system with no mutual exclusions.

- Slots 3 through 15 are occupied by circuit cards in the following order starting with Slot 3:

    1. Tip/Ring

    2. SSP

    3. ACCX

    4. Digital station interface or DCIU

    5. Multi-Port serial

    6. LAN

- The LAN circuit card always occupies Slot 15 if it is provided.

- The Multi-Port serial circuit card occupies the highest available slot after the LAN circuit card, if provided, has been installed.

- A digital station interface or DCIU circuit card occupies the highest available slot after the LAN circuit card and the Multi-Port serial circuit card, if provided, have been installed.

- ACCX circuit cards are assigned slots sequentially, starting with the highest available slot.

Operating Hardware

Operating hardware is placed in the MAP/100P in locations called *bays*. The MAP/100P has two types of bays:

- Peripheral bays

- Hard disk drive bays

The peripheral bays are numbered from 1 through 4. Hard disk drive bays are numbered from 0 through 5. Bays are accessible from the front of the MAP/100P ().
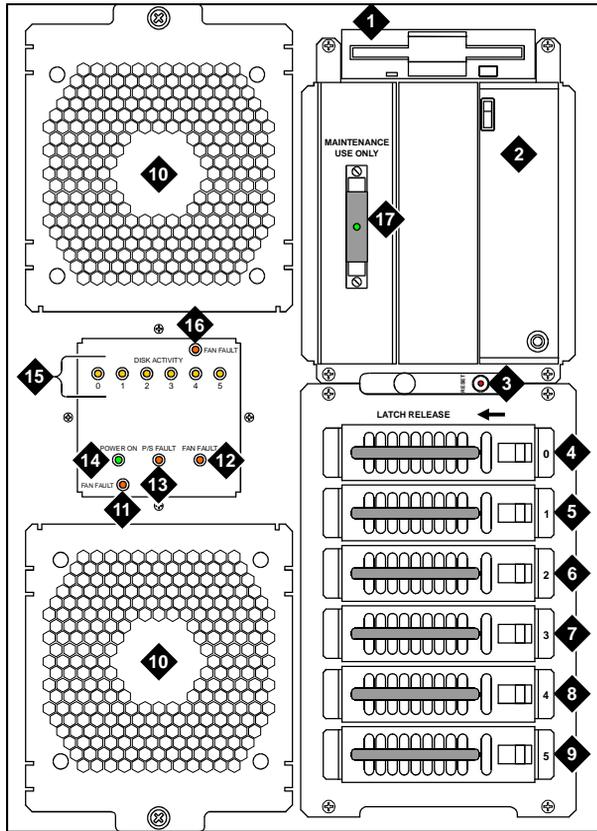
Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

A System Configuration
Component Assignments

218

scinp002 klc 011198

1.	Diskette drive	10.	Circuit card cage fan
2.	Cartridge tape drive	11.	Fan fault LED
3.	Reset push button	12.	Fan fault LED
4.	Hard disk drive 0	13.	Power supply fault LED
5.	Hard disk drive 1	14.	Power On LED
6.	Hard disk drive 2	15.	Hard disk drive activity LEDs
7	Hard disk drive 3	16.	Fan fault LED
8.	Hard disk drive 4	17.	SCSI terminating resistor
9.	Hard disk drive 5		

Figure A-2.   Front View of the MAP/100P

The following peripheral bay assignments are fixed in the MAP/100P:

- Bay 1 — External SCSI connector

- Bay 2 — Empty

- Bay 3 — Cartridge tape drive

- Bay 4 — Diskette drive

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

A System Configuration
  Resource Allocation   219

The following hard disk drive bay assignments are fixed in the MAP/100P.

- Bay 0 — Hard Disk Drive 0

- Bay 1 — Hard Disk Drive 1

- Bay 2 — Hard Disk Drive 2

- Bay 3 — Hard Disk Drive 3

- Bay 4 — Hard Disk Drive 4

- Bay 5 — Hard Disk Drive 5

Resource Allocation

Table A-1 lists the resource assignments for all devices in the MAP/100. It includes the circuit cards as well as devices which are included on the CPU circuit card.

Table A-1. Resource Allocation

Device	IRQ	I/O Address	RAM Address	Notes
PCI VGA video controller circuit card	14	3B0-3DF	A0000-BFFFF C0000-C7FFF	128K Video RAM, required. 32K Video BIOS, required.
System BIOS	—	-—	E0000-FFFF	Located on CPU, required.
CPU watchdog register	—	370	—	Located on CPU, required, not used.
LPT1 port	7	378-37F	—	Located on CPU, required.
COM1 port	4	3F8-3FF	—	Located on CPU, required.
COM2 port	3	2F8-2FF	—	Located on CPU, disable for RMB.
PCI SCSI	14	Plug & Play	C8000-CBFFF	Located on CPU, SCSI ID 7, required.
2-GB SCSI disk	—	—	—	2 required, 4 optional.
2-GB SCSI tape	—	—	—	1 required, SCSI ID 6.

(1 of 2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

A System Configuration
Resource Allocation   *220*

Table A-1.   Resource Allocation

Device	IRQ	I/O Address	RAM Address	Notes
Diskette drive	6	3F0-3F7	—	DMA 2, controller located on CPU, required.
LAN circuit card	10	280-29F	D8000-D9FFF	Optional.
Multi-port circuit card	—	—	D0000-D3FFF	1 optional.
Tip/Ring circuit card	2	x00-x1F	—	x=1-3,5-7, 9,A,B,D,E, 2 required. 9 optional.
ACCX circuit card	5	x40-x4F	—	x=1,3,5 3 optional.
Digital station interface circuit card or DCIU interface circuit card	12	240-24F	D4000-D7FFF	1 optional.
Remote maintenance circuit card	3	180-187	DC000-DCFFF	Disable COM2 port on the CPU.
SSP circuit card	11	d20-d27	—	1 optional.

(2 of 2)

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

B   Component Ordering Numbers
Component Ordering Numbers   *221*

Component Ordering Numbers

B

Component Ordering Numbers

Table B-1.   Component Ordering Numbers

Basic Component Description	Order Number
Adapter, 356A	104158829
Adapter, 356B	105197297
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, electrical, jack to jack	407005255
Adapter, electrical, external SCSI	407524073
Adapter, SCSI, 68-50 pin, F/F, custom label	407846229
Adapter, T1-to-551 Paradyne CSU	407665884
Backplane, hard disk drives	407869908
Backplane, 20-slot	407869924
Backplane, power supply	407872829
Board assembly, PCA console interface	407872837
Board assembly, alarm card	407869890

(1 of 4)

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

B Component Ordering Numbers
Component Ordering Numbers 222

Table B-1. Component Ordering Numbers

Basic Component Description	Order Number
Bracket, cable	406667519
Brackets, PC filter (20)	406798686
Cable assembly kit, hard disk	406664912
Cable assembly, TDM bus	ED5P20830 G-7B
Cable assembly, audio input/output	407667757
Cable assembly, console	407868199
Cable assembly, CPU/Keyboard interface	406664938
Cable assembly, DC backplane power	407868157
Cable assembly, DC media power	407868165
Cable assembly, diskette drive	407868116
Cable assembly, disk power	406664946
Cable assembly, drive bay DC power	407868173
Cable assembly, EMI suppression (RMB)	407265529
Cable assembly, internal fan status	601436108
Cable assembly, keyboard/reset	407868124
Cable assembly, M/F RS232	405119355
Cable assembly, modular T/R, 16-inch	601875040
Cable assembly, reset switch	407868181
Cable assembly, SCSI drive indicators	407868140
Cable assembly, SCSI jumper	407873660
Cable assembly, SCSI peripheral control, wide	407869601
Cable assembly, Tip/Ring trunk	601386907
Cable assembly, telephone cord, 3-ft.	601448632
Cable assembly, VGA port jumper	406664979
Circuit card, Multi-port serial	406618538
Circuit card, Multi-port serial	407009046
Circuit card, CPU, P5 200 MHz processor	407877018
Circuit card, Ethernet LAN interface, 10MB/PCI	407553254
Circuit card, remote maintenance, with modem	
Circuit card, remote maintenance, without modem	406969238

(2 of 4)

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

B Component Ordering Numbers
 Component Ordering Numbers

223

Table B-1.   **Component Ordering Numbers**

Basic Component Description	Order Number
Circuit card, speech and signal processor (SSP)	601835820
Circuit card, Tip/Ring (IVC6)	106406580
Circuit card, Tip/Ring (IVC6-1A)	107213944
Circuit card, Tip/Ring, (AYC30)	107224586
Circuit card, video controller, PCI	407783620
Cord, 10-pin modular, 10 ft.	846362705
Cord, 10-pin modular, 10 ft	846983039
Cord, 6-pin modular, 14-ft	102937604
Cord, AC power, 9-ft	406900092
Cord, AC power, Australia, 8-ft.	407051630
Cord, AC power, Chile (Italy style), 6-ft.	407515196
Cord, AC power, Germany, 6-ft	407051648
Cord, AC power, India, 8-ft	407406735
Cord, AC power, Israel, 8-ft	407879790
Cord, AC power, Japan, 8-ft	407406727
Cord, AC Power, Switzerland, 8-ft	407879782
Cord, AC power, United Kingdom, 6-ft	406999243
Cord, power, monitor (PC style)	407115591
Cord, power, monitor (wall outlet)	406666263
Cord, telephone, 25-ft	103623195
Cord, telephone, DW8A-SE, 25 ft	103848800
Coupler, E1, F/F (BNC Coaxial)	407617901
Disk drive, floppy, 1.44-MB	406664573
Disk drive, floppy, 1.44-MB	406832584
Disk drive, hard, SCSI, 2.0-GB	407876358
Fan, 2-unit module	407869916
Filter, air, bezel, rack door	407869874
Filter, air, bezel, rack inlay	407869882
Filter, air, bezel, tower door	407869866
Fuse and holder, 110V/60Hz	407876341

(3 of 4)

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

B Component Ordering Numbers
Component Ordering Numbers

224

Table B-1. Component Ordering Numbers

Basic Component Description	Order Number
Fuse and holder, 220V/50Hz	407876333
IC, 16-MB SIMM	407701747
IC, 32-MB SIMM	407700285
Keyboard (GIS gray)	407104066
Main power distribution board	406798231
Module, voice workstation	601459621
Monitor, color, VGA	407773316
Power supply 430W	407858976
Resistor SIP, TDM terminator	403789167
Switch, power	407870476
Tape drive, SCSI streaming, 2-GB	407334507
Terminator, single-ended active, SCSI	407874429
Toroid, ring type	405853458
Toroid, split type	407616846

(4 of 4)

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

C Disaster Recovery
 Overview

225

Disaster Recovery

C

Overview

See Chapter 4, New Installation and System Recovery Procedures, in *Avaya Interchange Release 5.4 Installation and System Recovery*, for disaster recovery procedures.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

C Disaster Recovery
Overview

226

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

227

Glossary

5ESS Switch
A central office switch manufactured by Lucent Technologies that can be integrated with the Avaya Interchange system.

A

accessed message
A message that was received and scanned (either the entire message or just the header).

ACA
See *automatic circuit assurance*.

ACD
See *automatic call distribution*.

activity menu
The list of options spoken to users when they first access a messaging system. Selecting an activity is the starting point for all user operations.

ADAP
See *administration and data acquisition package*.

address
INTUITY AUDIX user identification, containing the user's extension and machine, that indicates where the system needs to deliver a message. An address can include several users or mailing lists. Name or number addressing can be selected with the ⌧ Ⓐ (Address) command.

adjunct
A separate system closely integrated with a switch, such as an Avaya Interchange system or a call management system (CMS).

administration
The process of setting up a system (such as a switch or a messaging system) to function as desired. Options and defaults are normally set up (translated) by the system administrator or service personnel.

administration and data acquisition package (ADAP)
A software package that allows the system administrator to transfer system user, maintenance, or traffic data from an INTUITY AUDIX system to a personal computer (PC).

ADU
See *asynchronous data unit*.

alarm log
A list of alarms that represent all of the active or resolved problems on an Avaya Interchange system. The alarm log is stored in a software file on disk and can be accessed either locally or remotely on a terminal connected to the system.

alarms
Hardware, software, or environmental problems that can affect system operation. Alarms are classified as *major*, *minor*, or *warning*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

228

alphanumeric
Consisting of alphabetic and numeric symbols or punctuation marks.

ALT
See *assemble, load, and test.*

American wire gauge (AWG)
A standard measuring gauge for nonferrous conductors.

AMIS
See *Audio Messaging Interchange Specification*.

AMIS prefix
A number added to the destination number to indicate that it is an AMIS analog networking number.

analog networking
A method of transferring a message from one messaging system to another whereby the message is played back (voiced) during the transfer.

analog signal
In teleprocessing usage, a communications path that usually refers to a voice-grade telephone line.

announcement
A placeholder within the Avaya Interchange system for playing fragments. Each event that may occur within AUDIX has one or more announcement numbers permanently assigned to it. Fragment numbers are then assigned to the announcement numbers.

announcement fragment
A numbered piece of spoken information that makes up a system message or prompt.

antistatic
A treatment for material to prevent the build-up of static electricity.

API
See *application programming interface.*

application
A computer software program.

application identifier
A two-letter code used in the administrator's log to identify the application or subsystem for which an alarm is being generated. There are eight application identifiers as follows: CA (Call Accounting), ML (MERLIN LEGEND), MT (Maintenance), NW (Digital Networking), SW (Switch Integration), VM (Voice Messaging), VP (Voice Processing), and VR (Voice Response).

application programming interface (API)
A set of formalized software calls and routines that an application program can reference to access underlying network services.

assemble, load, and test (ALT)
The Avaya factory process that preloads software, installs hardware, and tests the system prior to shipping.

ASP
advanced signal processor

asynchronous communication
A method of data transmission in which bits or characters are sent at irregular intervals and spaced by start and stop bits rather than by time. See also *synchronous communication*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

229

asynchronous data unit (ADU)

An electronic communications device that can extend data transmission over asynchronous lines more than 50 feet in length. Recommended ADUs for use with the Avaya Interchange system include Z3A1 or Z3A4.

asynchronous transmission

A form of serial communications where each transmitted character is bracketed with a start bit and one or two stop bits. The Avaya Interchange system provides asynchronous EIA-232 capabilities for INTUITY AUDIX Digital Networking, if required.

attendant console

A special-purpose telephone with numerous lines and features usually located at the front desk of a business or other organization. The front desk attendant uses this telephone to answer and transfer calls.

Audio Messaging Interchange Specification (AMIS)

An analog networking protocol that allows users to exchange messages with any messaging system that also has AMIS Analog Networking capabilities. Messages can be exchanged with users on Avaya Interchange systems as well as with users on remote messaging systems made by vendors other than Avaya.

Audio Information Exchange (AUDIX)

A complete messaging system accessed and operated by touchtone telephones and integrated with a switch.

audit

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

AUDIX

See *Audio Information Exchange*.

autodelete

An INTUITY AUDIX feature that allows users to designate that faxes be automatically deleted from their mailboxes after they are printed.

automated attendant

An Avaya Interchange system feature that allows users to set up a main extension number with a menu of options that routes callers to an appropriate department at the touch of a button.

automatic call distribution (ACD)

The System 85, Generic 2, or Generic 3 call-distribution group of analog ports that connects Avaya Interchange users to the system. See also *call-distribution group*.

automatic circuit assurance (ACA)

A feature of the switch that keeps records of both very long and very short calls and notifies the attendant when these calls exceed a certain parameter. The logic is that many very short calls or one very long one can suggest a trunk that is hung, broken, or out of order. The attendant can then physically dial into the trunk to check it.

automatic message scan

An INTUITY AUDIX feature that allows users to scan all message headers and messages at the touch of two buttons. With INTUITY FAX Messaging, this feature allows all new faxes to be bundled and transmitted over a single fax call delivery call. Also called *autoscan*.

autoprint

An INTUITY AUDIX feature that allows users to designate that faxes be automatically sent to a specified print destination.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

230

autoscan
 See *automatic message scan*.

AWG
 See *American wire gauge*.

B

background testing
 Testing that runs continuously when the system is not busy doing other tasks.

backplane
 A centrally located device within a computer to which individual circuit cards are plugged for communication across an internal bus.

backup
 A duplicate copy of files and directories saved on a removable medium such as a floppy diskette or a tape. The backed-up file system can be copied back (restored) if the active version is damaged (corrupted) or lost.

basic input/output system (BIOS)
 A system that contains the buffers for sending information from a program to the actual hardware device for which the information is intended.

basic call transfer
 The switch-hook flash method used to send the INTUITY AUDIX transfer command over analog voice ports.

basic rate access
 See *basic rate interface*.

basic rate interface (BRI)
 International standard protocol for connecting a station terminal to an integrated systems digital network (ISDN) switch. ISDN BRI supports two 64-Kbps information-bearer channels (B1 and B2), and one 16-Kbps call status and control (D) channel (a 2B + D format). Also called b*asic rate access*.

binary synchronous communications (BSC)
 A character-oriented synchronous link protocol.

BIOS
 See *basic input/output system*.

body
 The part of an Avaya Interchange voice mail message that contains the actual spoken message. For a leave word calling (LWC) message, it is a standard system announcement.

boot
 The operation to start a computer system by loading programs from disk to main memory (part of system initialization). Booting is typically accomplished by physically turning on or restarting the system. Also called *reboot*.

boot filesystem
 The filesystem from which the system loads its initial programs.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

231

BRI

See *basic rate interface*.

broadcast messaging

An INTUITY AUDIX feature that enables the system administrator and other designated users to send a message to all users automatically.

BSC

See *binary synchronous communications*.

buffer

A temporary storage area used to equalize or balance different operating speeds. A buffer can be used between a slow input device, such as a terminal keyboard, and the main computer, which operates at a very high speed.

bulletin board

An INTUITY AUDIX feature that allows a message to be played to callers who dial the bulletin board extension. Callers cannot leave a message since this service is a listen-only service. Also called *information service*.

bundling

Combining several calls and handling them as a single call. See also *automatic message scan*.

bus

An electrical connection/cable allowing two or more wires, lines, or peripherals to be connected together.

busy-out/release

To remove an Avaya Interchange device from service (make it appear busy or in use), and later restore it to service (release it). The Avaya Interchange switch data link, voice ports, or networking ports can be busied out when they appear faulty or when maintenance tests are run.

C

CA

Call accounting system application identifier. See *application identifier*.

call accounting system (CAS)

A software device that monitors and records information about a calling system.

call-answer

An INTUITY AUDIX feature that allows the system to answer a call and record a message when the user is unavailable. Callers can be redirected to the system through the call coverage or call forwarding switch features. INTUITY AUDIX users can record a personal greeting for these callers.

call-answer language choice

The capability of user mailboxes to accept messages in different languages. For the INTUITY AUDIX application, this capability exists when the multilingual feature is turned on.

callback number

In AMIS analog networking, the telephone number transmitted to the recipient machine to be used in returning messages that cannot be delivered.

call classification analysis (CCA)

A process that enables application designers to use information available within the system to classify the disposition of originated and transferred calls.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

232

call coverage

A switch feature that defines a preselected path for calls to follow if the first (or second) coverage points are not answered. The Avaya Interchange system can be placed at the end of a coverage path to handle redirected calls through call coverage, send all calls, go to cover, and so on.

call data handler process (CDH)

A software process that accumulates generic call statistics and application events.

call detail recording (CDR)

A switch feature that uses software and hardware to record call data. See also *call detail recording utility*.

call detail recording utility (CDRU)

Applications software that collects, stores, optionally filters, and outputs call detail records for direct or polled output to peripheral devices. See also *call detail recording*.

call delivery

See *message delivery*.

call-distribution group

The set of analog port cards on the switch that connects switch users to the Avaya Interchange system by distributing new calls to idle ports. This group (or split) is called automatic call distribution (ACD) on System 85, Generic 2, and Generic 3 and uniform call distribution (UCD) on System 75, Generic 1, and Generic 3. See also *automatic call distribution* and *uniform call distribution*.

call management system (CMS)

An inbound call distribution and management reporting package.

called tone (CED tone)

The distinctive tone generated by a fax endpoint when it answers a call (a constant 2100-Hz tone).

called subscriber information (CSI)

The identifier for the answering fax endpoint. This identifier is sent in the T.30 protocol and is generally the telephone number of the fax endpoint.

calling tone (CNG tone)

The distinctive tone generated by a fax endpoint when placing a call (a constant 1100-Hz tone that is on for 1/2 second, off for 3 seconds).

call vectoring

A System 85 R2V4, Generic 2, and Generic 3 feature that uses a vector (switch program) to allow a switch administrator to customize the behavior of calls sent to an automatic call distribution (ACD) group.

card cage

An area within the Avaya Interchange hardware platform that contains and secures all of the standard and optional circuit cards used in the system.

cartridge tape drive

A high-capacity data storage/retrieval device that can be used to transfer large amounts of information onto high-density magnetic cartridge tape based on a predetermined format. This tape is to be removed from the system and stored as a backup.

CAS

See *call accouting system*.

CCA

See *call classification analysis*.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

233

CDH

See *call data handler process*.

CDR

See *call detail recording*.

CDRU

See *call detail recording utility (CDRU)*.

CED tone

See *called tone*.

CELP

See *code excited linear prediction*.

central office (CO)

An office or location in which large telecommunication equipment such as telephone switches and network access facilities are maintained. In a CO, private customer lines are terminated and connected to the public network through common carriers.

central processing unit (CPU)

The component of the computer that manipulates data and processes instructions coming from software.

channel

A telecommunications transmission path for voice and/or data.

channel capacity

A measure of the maximum bit rate through a channel.

class of restriction (COR)

A feature that allows up to 64 classes of call-origination and call-termination restrictions for telephones, telephone groups, data modules, and trunk groups. See also *class of service*.

class of service (COS)

The standard set of INTUITY AUDIX features given to users when they are first administered (set up with a voice mailbox). See also *class of restriction*.

clear to send (CTS)

A function that is located on Pin 5 of the 25-conductor RS-232 interface. CTS is used in the transfer of data between the computer and a serial device.

client

A computer that not only sends, receives and uses data, but also shares a larger resource whose function is to do most data storage and processing. For INTUITY Message Manager, the user's PC running Message Manager is the client. See also *server*.

CMS

See *call management system*.

CNG tone

See *calling tone*.

CO

See *central office*.

COR

See *class of restriction*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

234

COS
See *class of service*.

code excited linear prediction (CELP)
An analog-to-digital voice coding scheme.

collocated
An Avaya Interchange system installed in the same physical location as the host switch. See also *local installation*.

collocated adjunct
Two or more adjuncts that are serving the same switch (that is, each has voice port connections to the switch) or that are serving different switches but can be networked through a direct RS-232 connection because of their proximity.

comcode
A numbering system for telecommunications equipment used by Avaya Inc. Each comcode is a 9-digit number that represents a specific piece of hardware, software, or documentation.

command
An instruction or request given by the user to the software to perform a particular function. An entire command consists of the command name and options. Also, one- or two-key touch tones that control a mailbox activity or function.

community
A group of telephone users administered with special send and receive messaging capabilities. A community is typically comprised of people who need full access to each other by telephone on a frequent basis. See also *default community*.

compound message
A message that combines a voice message and a fax message into one unit, which INTUITY AUDIX then handles as a single message.

configuration
The particular combination of hardware and software components selected for a system, including external connections, internal options, and peripheral equipment.

controller circuit card
A circuit card used on a computer system that controls its basic functionality and makes the system operational. The controller circuit card is used to control magnetic peripherals, video monitors, and basic system communications.

COS
See *class of service*.

coverage path
The sequence of alternate destinations to which a call to a user on an Avaya Interchange system is automatically sent when it is not answered by the user. This sequence is set up on the switch, normally with the Avaya Interchange system as the last or only destination.

CPU
See *central processing unit*.

cross connect
Distribution-system equipment used to terminate and administer communication circuits.

cross connection
The connection of one wire to another, usually by first anchoring each wire to a connecting block and then placing a third wire between them so that an electrical connection is made.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

235

CSI

See *called subscriber information*.

CTS

See *clear to send*.

D

DAC

See *dial access code*.

database

A structured set of files, records, or tables. Also, a collection of filesystems and files in disk memory that store the voice and nonvoice (program data) necessary for Avaya Interchange system operation.

data communications equipment (DCE)

Standard type of data interface normally used to connect to data terminal equipment (DTE) devices. DCE devices include the data service unit (DSU), the isolating data interface (IDI), and the modular processor data module (MPDM).

data communications interface unit (DCIU)

A switch device that allows nonvoice (data) communication between an Avaya Interchange system and an Avaya switch. The DCIU is a high-speed synchronous data link that communicates with the common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

data link

A term used to describe the communications link used for data transmission from a source to a destination, for example, a telephone line for data transmission.

data service unit (DSU)

A device used to access digital data channels. DATAPHONE II 2500 DSUs are synchronous data communications equipment (DCE) devices used for extended-local Avaya Interchange system connections. The 2600 or 2700 series can also be used; these support diagnostic testing and the DATAPHONE II Service network system.

data set

Another term for a modem, although a data set usually includes the telephone. See also *modem*.

data terminal equipment (DTE)

Standard type of data interface normally used for the endpoints in a connection. Normally the Avaya Interchange system, most terminals, and the switch data link are DTE devices.

DBP

See *data base processor*.

DCE

See *data communications equipment*.

DCIU

See *data communications interface unit*.

DCP

See *digital communications protocol*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

236

DCS

See *distributed communications system*.

debug

See *troubleshooting*.

dedicated line

A communications path that does not go through a switch. A dedicated (hard-wired) path can be formed with directly connected cables. MPDMs, DSUs, or other devices can also be used to extend the distance that signals can travel directly through the building wiring.

default

A value that is automatically supplied by the system if no other value is specified.

default community

A group of telephone users administered with restrictions to prevent them from sending messages to or receiving messages from other communities. If a system is administered to use communities, the default community consists of all the users defined on that system.

default print number

The user-administered extension to which autoprinted faxes are redirected upon their receipt into the user's mailbox. This default print destination is also provided as a print option when the user is manually retrieving and printing faxes from the mailbox.

delivered message

A message that has been successfully transmitted to a recipient's incoming mailbox.

demand testing

Testing performed on request (usually by service personnel).

diagnostic testing

A program run for testing and determining faults in the system.

dial-ahead/dial-through

The act of interrupting or preceding INTUITY AUDIX system announcements by typing (buffering) touchtone commands in the order the system would normally prompt for them.

dial string

A series of numbers used to initiate a call to a remote AMIS machine. A dial string tells the switch what type of call is coming (local or long distance) and gives the switch time to obtain an outgoing port, if applicable

dialed number identification service (*DNIS_SVC)

An available channel service assignment on the Avaya Interchange system. Assigning this service to a channel permits the Avaya Interchange system to interpret information from the switch and operate the appropriate application for the incoming telephone call.

DID

See *direct inward dialing*.

digital communications protocol (DCP)

A 64-Kbps digital data transmission code with a 160-Kbps bipolar bit stream divided into two information (I) channels and one signaling (S) channel.

digital networking

A method of transferring messages between messaging systems in a digital format. See also *INTUITY AUDIX Digital Networking*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

237

digital signal processor (DSP)

A specialized digital microprocessor that performs calculations on digitized signals that were originally analog and then sends the results on.

DIP switch

See *dual in-line package switch*.

direct inward dialing (DID)

The ability for an outside caller to call an internal extension without having to pass through an operator or attendant.

direct memory access (DMA)

A quick method of moving data from a storage device directly to RAM, which speeds processing.

directory

1. An INTUITY AUDIX feature that allows you to hear a user's name and extension after pressing ✱ ✱ N at the activity menu. 2. A group of related files accessed by a common name in software.

display terminal

A data terminal with a screen and keyboard used for displaying Avaya Interchange screens and performing maintenance or administration activities.

distributed communications system (DCS)

A network of two or more switches that uses logical and physical data links to provide full or partial feature transparency. Voice links are made by using tie trunks.

distribution list

See *mailing list*.

DMA

See *direct memory access*.

DNIS

See *dialed number identification service*.

domain

An area where data processing resources are under common control. The INTUITY AUDIX system is one domain, and an e-mail system is another domain.

DSP

See *digital signal processor*.

DSU

See *data service unit*.

DTE

See *data terminal equipment*.

DTMF

See *dual tone multifrequency*.

dual in-line package (DIP) switch

A small switch, usually attached to a printed circuit card, in which there are only two settings: on or off (or 0 or 1). DIP switches are used to configure the card in a semipermanent way.

dual language greetings

The capability of INTUITY AUDIX users to create personal greetings in two different languages — one in a primary language and one in a secondary language. This capability exists when the multilingual feature is turned on and the prompts for user mailboxes can be in either of the two languages.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

238

dual tone multifrequency (DTMF)
A way of signaling consisting of a pushbutton or touchtone dial that sends out a sound consisting of two discrete tones that can be picked up and interpreted by telephone switches.

E

EIA interface
A set of standards developed by the Electrical Industries Association (EIA) that specifies various electrical and mechanical characteristics for interfaces between electronic devices such as computers, terminals, and modems. Also known as *RS-232*.

ELA
Enhanced-List Application

electrostatic discharge (ESD)
Discharge of a static charge on a surface or body through a conductive path to ground. ESD can be damaging to integrated circuits.

electronic mail
See *e-mail*.

electrostatic discharge (ESD)
The discharge of a static charge on a surface or body through a conductive path to ground, ESD can damage integrated circuits.

e-mail
The transfer of a wide variety of message types across a computer network (LAN or WAN). E-mail messages can be text messages containing only ASCII or can be complex multimedia messages containing embedded voice messages, software files, and images.

enabled/disabled
The state of a hardware device that indicates whether it is available for use by the Avaya Interchange system. Devices must be equipped before they can be enabled (made active). See also *equipped/unequipped*.

endpoint
See *fax endpoint*.

enhanced call transfer
An INTUITY AUDIX feature that allows compatible switches to transmit messages digitally over the BX.25 (data) link. This feature is used for quick call transfers and requires a fully integrated digital switch. Callers can transfer only to other extensions in the switch dial plan.

enhanced serial data interface (ESDI)
A software- and hardware-controlled method used to store data on magnetic peripherals.

equipped/unequipped
The state of a networking channel that indicates whether Avaya Interchange software has recognized it. Devices must be equipped before they can be enabled (made active). See also *enabled/disabled*.

error message
A message on the screen indicating that something is wrong with the system and possibly suggesting how to correct it.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

239

errors

Problems detected by the system during operation and recorded in the maintenance log. Errors can produce alarms if they exceed a threshold.

escape from reply

The ability to quickly return to getting messages for a user who encounters a problem trying to respond to a message. To escape, the user presses #.

escape to attendant

A feature that allows users with the call answer feature to have a personal attendant or operator administered to pick up their unanswered calls. A system-wide extension could also be used to send callers to a live agent.

ESD

See *electrostatic discharge*.

ESDI

See *enhanced serial data interface*.

event

An informational messages about the system's activities. For example, an event is logged when the system is rebooted. Events may or may not be related to errors and alarms.

F

facilities restriction level (FRL)

A value that determines which types of calls the users of a switch are allowed to make.

facility out-of-service (FOOS)

State of operation during which the current channel is not receiving a dial tone and is not functioning.

facsimile

1. A digitized version of written, typed, or drawn material transmitted over telephone lines and printed out elsewhere. 2. Computer-generated text or graphics transmitted over computer networks. A computer-generated fax is typically printed to a fax machine, but can remain stored electronically.

fax

See *facsimile*.

fax addressing prefix

Unique prefix that identifies a particular fax nodepoint to the Avaya Interchange system. This prefix is used by the system as a template to differentiate all call-delivery machines on the network from each other.

fax endpoint

Any device capable of receiving fax calls. Fax endpoints include fax machines, individual PC fax modems, fax ports on LAN fax servers, and ports on fax-enabled messaging systems.

fax print destination prefix

A dial string that the Avaya Interchange system adds to the fax telephone number the user enters to print a fax. The system takes the full number (fax print destination prefix + fax telephone extension) and hunts through the machine translation numbers until it finds the specific fax endpoint.

field

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

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

240

FIFO

See *first-in/first-out*.

file

A collection of data treated as a basic unit of storage.

filename

Alphanumeric characters used to identify a particular file.

file redundancy

See *mirroring*.

file system

A collection of related files (programs or data) stored on disk that are required to initialize an Avaya Interchange system.

first-in/first-out (FIFO)

A method of processing telephone calls or data in which the first call or data to be received is the first call or data to be processed.

F key

See *function key*.

FNPAC

See *foreign numbering-plan area code*.

FOOS

See *facility out-of-service*.

foreign exchange (FX)

A central office (CO) other than the one providing local access to the public telephone network.

foreign numbering-plan area code (FNPAC)

An area code other than the local area code that must be dialed to call outside the local geographical area.

format

To set up a disk, floppy diskette, or tape with a predetermined arrangement of characters so that the system can read the information on it.

FRL

See *facilities restriction level*.

function

Individual steps or procedures within a mailbox activity.

function key (F key)

A key on a computer keyboard programmed to perform a defined function when pressed. The user interface for the Avaya Interchange system defines keys F1 through F8.

FX

See *foreign exchange*.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

241

G

Generic 1, 2, or 3
Switch system software releases, designed for serving large communities of System 75 and System 85 users.

generic tape
A copy of the standard software and stand-alone tape utilities that is shipped with a new Avaya Interchange system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the Avaya Interchange system. For example, if the GOS is P05, 95% of the callers hear the system answer, and 5% hear ringing until a port becomes available to answer the call.

guaranteed fax
A feature of INTUITY FAX Messaging that temporarily stores faxes sent to a fax machine. In cases where the fax machine is busy or does not answer a call, the call is sent to an INTUITY AUDIX mailbox.

guest password
A feature that allows callers who are not INTUITY AUDIX users to leave messages on the system by dialing a user's extension and entering a systemwide guest password.

H

hard disk drive
A high-capacity data-storage and -retrieval device that is located inside a computer. A hard disk drive stores data on nonremovable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware
The physical components of a computer system. The central processing unit, disks, tape, and floppy drives are all hardware.

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

help
A command run by pressing (HELP) or (CTRL) (?) on an Avaya Interchange display terminal to show the options available at your current screen position. In the INTUITY AUDIX system, press (*) (H) on the telephone keypad to get a list of options. See also *online Help*.

host switch
The switch directly connected to the Avaya Interchange system over the data link. Also, the physical link connecting an Avaya Interchange system to a distributed communications system (DCS) network.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

242

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

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See INTUITY *messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

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

initialization and administration system (INADS)
A computer-aided maintenance system used by remote technicians to track alarms.

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

integrated services digital network (ISDN)
A network that provides end-to-end digital connectivity to support a wide range of voice and data services.

integrated voice processing CELP (IVC6) card
A computer circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the Avaya Interchange system are processed through the IVC6 card.

interface
The device or software that forms the boundary between two devices or parts of a system, allowing them to work together. See also *user interface*.

internal e-mail
Software on a PC that provides messaging capability between users on the same AUDIX system or to administered remote AUDIX systems and users. Users can create, send, and receive a message that contains multiple media types, specifically, voice, fax, text, or file attachments (software files, such as word processing or spreadsheet files).

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

243

interrupt request (IRQ)
Within a PC, a signal sent from a device to the CPU to temporarily suspend normal processing and transfer control to an interrupt handling routine.

INTUITY AUDIX Digital Networking
An Avaya Interchange feature that allows customers to link together up to 500 remote Avaya Interchange machines for a total of up to 500,000 remote users. See also *digital networking*.

INTUITY Message Manager
A Windows-based software product that allows INTUITY AUDIX users to receive, store, and send their voice/FAX messages from a PC. The software also enables users to create and send multimedia messages that include voice, fax, file attachments, and text.

INTUITY messaging application programming interface (IMAPI)
A software function-call interface that allows INTUITY AUDIX to interact with Avaya Interchange Message Manager.

IRQ
See *interrupt request*.

ISDN
See *integrated services digital network*.

isolating data interface (IDI)
A synchronous, full duplex data device used for cable connections between an Avaya Interchange GPSC-AT/E card and the switch data communications interface unit (DCIU).

IVC6
See *integrated voice processing CELP (IVC) card.*

J

jumpers
Pairs or sets of small prongs or pins on circuit cards and mother boards the placement of which determines the particular operation the computer selects. When two pins are covered, an electrical circuit is completed. When the jumper is uncovered, the connection is not made. The computer interprets these electrical connections as configuration information.

L

label
The name assigned to a disk device (either a removable tape cartridge or permanent drive) through software. Cartridge labels can have a generic name (such as "3.3") to show the software release, or a descriptive name if for backup copies (such as "back01"). Disk drive labels usually indicate the disk position (such as disk00 or disk02).

LAN
See *local area network*.

last-in/first-out (LIFO)
A method of processing telephone calls or data in which the last call (or data) received is the first call (or data) to be processed.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

244

LCD

See *liquid crystal display.*

leave word calling (LWC)

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

LED

See *light emitting diode.*

LIFO

See *last-in/first-out.*

light emitting diode (LED)

A light on the hardware platform that shows the status of operations.

liquid crystal display (LCD)

The 10-character alphanumeric display that shows the status of the system, including alarms.

load

The process of reading software from external storage (such as disk) and placing a copy in system memory.

local area network (LAN)

A network of PCs that communicate with each other and that normally share the resources of one or more servers. Operation of INTUITY Message Manager requires that the INTUITY AUDIX system and the users' PCs be on a LAN.

local AUDIX machine

The Avaya Interchange system where a user's INTUITY AUDIX mailbox is located. All users on this home machine are called *local users.*

local installation

A switch, adjunct, or peripheral device installed physically near the host switch or system. See also *collocated.*

local network

A network in which all Avaya Interchange systems are connected to the same switch.

login

A unique code a user must enter to gain approved access to the Avaya Interchange system. See also *password.*

login announcement

A feature enabling the system administrator and other designated users to create a mail message that is automatically played to all INTUITY AUDIX users every time they log in to the system.

Lotus Notes

Information management software for work groups that allows individuals to share and manipulate information over a local or wide area network

LWC

See *leave word calling.*

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

245

M

magnetic peripherals
Data storage devices that use magnetic media to store information. Such devices include hard disk drives, floppy disk drives, and cartridge tape drives.

mailbox
A portion of disk memory allotted to each Avaya Interchange system user for creating and storing outgoing and incoming messages.

mailing list
A group of user addresses assigned a list ID# and public or private status. A mailing list can be used to simplify the sending of messages to several users.

maintenance
The process of identifying system errors and correcting them, or taking steps to prevent problems from occurring.

major alarm
An alarm detected by Avaya Interchange software that affects at least one fourth of the Avaya Interchange ports in service. Often a major alarm indicates that service is affected.

MANOOS
See *manually out-of-service*.

manually out-of-service
State of operation during which a unit has been intentionally taken out of service.

MAP
See *multi-application platform*.

mean time between failures
The average time a manufacturer estimates will elapse before a failure occurs in a component or system.

media type
The form a message takes. The media types supported by the Avaya Interchange system are voice, text, file attachments, and fax.

memory
A device that stores logic states such that data can be accessed and retrieved. Memory can be temporary (such as system RAM) or permanent (such as disk).

menu
A list of options displayed on a computer terminal screen or spoken by a voice processing system. Users choose the option that reflects what action they want the system to take.

menu tree
The way in which nested automated attendants are set up.

message categories
Groups of messages in INTUITY AUDIX users' mailboxes. Categories include *new*, *unopened*, and *old* for the incoming mailbox and *delivered*, *accessed*, *undelivered*, *undeliverable* (not deliverable), and *file cabinet* for the outgoing mailbox.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

246

message component

A media type included in a multimedia message. These types include voice, text, file attachments, and fax messages.

message delivery

An optional INTUITY feature that permits users to send messages to any touchtone telephone, as long as the telephone number is in the range of allowable numbers. This feature is an extension of the AMIS analog networking feature and is automatically available when the AMIS feature is activated.

Message Manager

See INTUITY *Message Manager*.

message-waiting indicator (MWI)

An indicator that alerts Avaya Interchange users that they have received new mail messages. An MWI can be an LED or neon lamp, or an audio tone (stutter dial tone).

message waiting lamp (MWL)

See *message-waiting indicator*.

migration

An installation that moves data to the Avaya Interchange system from another type of Avaya messaging system, for example, from AUDIX R1, DEFINITY AUDIX, or AUDIX Voice Power.

minor alarm

An alarm detected by maintenance software that affects less than one-fourth of the Avaya Interchange ports in service but has exceeded error thresholds or may impact service.

mirroring

An Avaya Interchange system feature that allows data from crucial filesystems to be continuously copied to backed-up (mirror) file systems while the system is running. If the system has some problem in which an original filesystem cannot be used, the backup filesystem is placed in service automatically.

ML

MERLIN LEGEND application identifier. See *application identifier*.

mode code

A string of touchtones from a MERLIN LEGEND switch. A mode code may send the INTUITY AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting indicators.

modem

A device that converts data from a form that is compatible with data processing equipment (digital) to a form compatible with transmission facilities (analog), and vice versa.

modular

A term that describes equipment made of plug-in units that can be added together to make the system larger, improve its capabilities, or expand its size.

modular processor data module (MPDM)

A data device that converts RS-232C or RS-449 protocol signals to digital communications protocol (DCP) used by System 75/85, Generic1, and Generic 3 switches. MPDMs can connect the Avaya Interchange system to a switch DCIU or SCI link or connect terminals to a switch port card.

MPDM

See *modular processor data module*.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

247

MT

Maintenance application identifier. See *application identifier*.

MTBF

See *mean time between failures*.

multiapplication platform (MAP)

The computer hardware platform used by the Avaya Interchange system.

multilingual feature

A feature that allows announcement sets to be active simultaneously on the system in more than one language. Mailboxes can be administered so that users can hear prompts in the language of their choice.

MWI

See *message-waiting indicator*.

MWL

See *message-waiting lamp*.

N

networking

See *INTUITY AUDIX Digital Networking*.

networking prefix

A set of digits that identifies an Avaya Interchange machine.

night attendant

The automated attendant created on a MERLIN LEGEND switch that automatically becomes active during off-hours. The night attendant substitutes for one or more daytime attendants.

not deliverable message

A message that could not be delivered after a specified number of attempts, usually indicating that the user's mailbox is full.

NPA

See *numbering plan area*.

NT

Networking application identifier. See *application identifier*.

MWL

See *message waiting lamp*.

Numbering plan area

Formal name for 3-digit telephone area codes in North America. Within an area code, no two telephone lines may have the same 7-digit phone number. The code is often designated as NXX, to indicate the three digits.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Glossary

Issue 4
January 2002

248

O

off-hook
   See *switch hook.*

on-hook
   See *switch hook.*

online Help
   An Avaya Interchange system feature that provides information about user interface windows, screens, and menus by pressing a predetermined key. See also *help.*

open systems interconnection (OSI)
   An internationally accepted framework of standards for communication between systems made by different vendors.

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

option
   A choice selected from a menu or an argument used in a command line to specify program output by modifying the execution of a command. When you do not specify any options, the command executes according to its default options.

OS
   See *operating system.*

OSI
   See *open systems interconnection.*

outcalling
   An Avaya Interchange system feature that allows the system to dial users' numbers to inform them that they have new messages.

outgoing mailbox
   A storage area on the Avaya Interchange system where users can keep copies of messages for future reference or action.

P

parallel transmission
   The transmission of several bits of data at the same time over different wires. Parallel transmission of data is usually faster than serial transmission.

password
   1. A word or character string recognized automatically by the Avaya Interchange system that allows a user access to his- or /her mailbox or a system administrator access to the system database. 2. An alphanumeric string assigned to local and remote networked machines to identify the machines or the network. See also *login.*

password aging
   An INTUITY AUDIX feature that allows administrators to set a length of time after which a user's AUDIX password or the administrator's system password expires. The user or administrator must then change the password.

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

249

PBX

See *private branch exchange*.

PC

See *power converter*.

PDM (processor data module)

See *modular processor data module (MPDM)*.

peripheral device

Equipment such as a printer or terminal that is external to the Avaya Interchange cabinet but neces-
sary for full operation and maintenance of the system. Also called a *peripheral*.

personal directory

An INTUITY AUDIX feature that allows each user to create a private list of customized names.

personal fax extension

See *secondary extension*.

PI

See *processor interface*.

PIB

See *processor interface*.

pinouts

The signal description per pin number for a particular connector.

PMS

See *property management system*.

port

A connection or link between two devices that allows information to travel to a desired location. For
example, a switch port connects to an Avaya Interchange voice port to allow a caller to leave a mes-
sage.

POST

See *power-on self -est*.

power-on self-test (POST)

A set of diagnostics stored in ROM that tests components such as disk drives, keyboard, and mem-
ory each time the system is booted. If problems are identified, a message is sent to the screen.

priority call answer

An INTUITY AUDIX feature that allows users to designate a call answer message as a priority mes-
sage. To make a message a priority message, the caller presses ②ﾠafter recording.

priority messaging

An INTUITY AUDIX feature that allows some users to send messages that are specially marked and
preferentially presented to recipients. See also *priority outcalling*.

priority outcalling

An INTUITY AUDIX feature that works with the priority messaging feature by allowing the message
recipient to elect to be notified by outcalling only when a priority message has been received. See
also *priority messaging*.

private branch exchange (PBX)

An analog, digital, or electronic telephone switching system where data and voice transmissions are
not confined to fixed communications paths but are routed among available ports or channels. See
also *switch*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

250

private mailing list
A list of addresses that only the Avaya Interchange system user who owns it can access.

private messaging
A feature of INTUITY AUDIX that allows a user to send a message that cannot be forwarded by the recipient.

processor data module (PDM)
See *modular processor data module (MPDM)*.

processor interface (PI)
A System 75, Generic 1, Generic 3i, Generic 3s, and Generic 3vs switch data link. Also called *processor interface board (PIB)*.

programmed function key
See *function key*.

property management system (PMS)
A product used by lodging establishments to automate the management of guest records, reservations, room assignments, and billing. In an integrated PMS environment, special software links the PMS to the INTUITY Lodging system so that both systems share a common set of messages and commands.

protocol
A set of conventions or rules governing the format and timing of message exchanges (signals) to control data movement and the detection and possible correction of errors.

public mailing list
A list of addresses that any INTUITY AUDIX user can use if that user knows the owner's list ID number and extension number. Only the owner can modify a public mailing list.

pulse-to-tone converter
A device connected to the switch that converts signals from a rotary pulses to touchtone signals. This device allows callers to use rotary telephones to access options in an Avaya Interchange user's mailbox or in an automated attendant.

R

RAM
See *random access memory*.

random access memory (RAM)
The memory used in most computers to store the results of ongoing work and to provide space to store the operating system and applications that are actually running at any given moment.

read-only memory (ROM)
A form of computer memory that allows values to be stored only once. After the data is initially recorded, the computer can only read the contents. ROM is used to supply constant code elements such as bootstrap loaders, network addresses, and other more or less unvarying programs or instructions.

reboot
See *boot*.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

251

remote access

Sending and receiving data to and from a computer or controlling a computer with terminals or PCs connected through communications (that is, telephone) links.

remote installation

A system, site, or piece of peripheral equipment that is installed in a different location from the host switch or system.

remote maintenance

The ability of Avaya personnel to interact with a remote computer through a telephone line or LAN connection to perform diagnostics and some system repairs. See also *remote service center*.

remote network

A network in which the systems are integrated with more than one switch.

remote service center

An Avaya or Avaya-certified organization that provides remote support to Avaya Interchange customers. Depending upon the terms of the maintenance contract, your remote service center could be notified of all major and minor alarms and could have the ability to remotely log in to your system and remedy problems. See also *remote maintenance.*

remote terminal

A terminal connected to a computer over a telephone line.

remote users

INTUITY AUDIX users whose mailboxes reside on a remote INTUITY AUDIX Digital Networking machine.

REN

See *ringer equivalence number*.

reply loop escape

An INTUITY AUDIX feature that allows a user the option of continuing to respond to a message after trying to reply to a nonuser message.

reply to sender

An INTUITY AUDIX feature that allows users to immediately place a call to the originator of an incoming message if that person is in the switch's dial plan.

request to send (RTS)

One of the control signals on an EIA-232 connector that places the modem in the originate mode so that it can begin to send.

restart

1. An Avaya Interchange feature that allows users who have reached the system through the call answer feature to access their own mailboxes by entering the ✱ R (Restart) command. This feature is especially useful for long distance calls or for users who want to access the Avaya Interchange system when all the ports are busy. 2. The reinitialization of certain software, for example, *restarting* the messaging system.

restore

The process of recovering lost or damaged files by retrieving them from available backup tapes, floppy diskettes, or other disk devices.

retention time

The amount of time messages are saved on disk before being automatically deleted from a user's mailbox.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Glossary

Issue 4
January 2002

252

reusable upgrade kit (RUK)

A package shipped to the customer's site prior to an upgrade that contains materials the technician needs to complete the installation. This package includes an A/B switch box, a keyboard, a 25-foot coaxial cable, two T adapters, and terminations to a LAN circuit card. It remains the property of Avaya once the installation is finished.

right-to-use (RTU) fee

A charge to the customer to access certain functions or capacities that are otherwise restricted, for example, additional voice or networking ports or hours of speech storage. Avaya personnel can update RTU parameters either at the customer's site or remotely via a modem.

ringer equivalence number (REN)

A number required in the United States for registering your telephone equipment with a service provider.

ROM

See *read-only memory*.

RS-232

See *EIA interface*.

RTS

See *request to send*.

RUK

See *reusable upgrade kit*.

S

SCA

See *switch communications adapter*.

scan

To automatically play mail messages, headers, or both.

scheduled delivery time

A time and/or date that an INTUITY AUDIX user can assign to a message that tells the system when to deliver it. If a delivery time is omitted, the system sends the message immediately.

screen

That portion of the Avaya Interchange user interface through which most administrative tasks are performed. Avaya Interchange screens request user input in the form of a command from the `enter command:` prompt.

SCSI

See *small computer system interface*.

secondary extension

A second, fax-dedicated extension that directs incoming faxes directly into a user's mailbox without ringing the telephone. The secondary extension shares the same mailbox as the voice extension but acts like a fax machine. Also called *personal fax extension*.

serial transmission

The transmission of one bit at a time over a single wire.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

253

server

A computer that processes and stores data that is used by other smaller computers. See also *client*.

shielded cables

Cables that are protected from interference with metallic braid or foil.

SID

See *switch integration device*.

SIMM

See *single in-line memory module*.

simplified message service interface (SMSI)

Type of data link connection to an integrated 1A ESS or 5ESS switch in the Avaya Interchange system.

simplified message desk interface (SMDI)

Also known as station message desk interface. Type of data link from the central office that contains information and instructions for the Avaya Interchange system. With SMDI, the caller need not re-enter the called number once the call terminates to the Avaya Interchange system. See also *simplified message service interface*.

single in-line memory module (SIMM)

A method of containing random access memory (RAM) chips on narrow strips that attach directly to sockets on the CPU circuit card. Multiple Sums are sometimes installed on a single CPU circuit card.

small computer systems interface (SCSI)

An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

SMDI

See *station message desk interfac*e.

SMDR

See *station message detail recording*.

SMSI

See *simplified message service interface*.

SP

signal processor

SSP

scaleable signal processor

station message desk interface (SMDI

See *simplified message desk interface*.

station message detail recording

See *call detail recording (CDR)*.

subscriber

An Avaya Interchange user who has been assigned the ability to access the INTUITY AUDIX Voice Messaging system.

surge

A sudden rise and fall of voltage in an electrical circuit.

Avaya Interchange Release 5.4
MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

254

surge protector

A device that plugs into the telephone system and the commercial AC power outlet to protect the telephone system from damaging high-voltage surges.

SW

Switch integration application identifier. See *application identifier.*

switch

An automatic telephone exchange that allows the transmission of calls to and from the public telephone network. See also *private branch exchange (PBX).*

switched access

A connection made from one endpoint to another through switch port cards. This allows the endpoint (such as a terminal) to be used for several applications.

switch hook

The device at the top of most telephones that is depressed when the handset is resting in the cradle (that is, when the telephone is *on hook*). This device is raised when the handset is picked up (that is, when the telephone is *off hook*).

switch-hook flash

A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch integration

Sharing of information between a messaging system and a switch to provide a seamless interface to callers and system users. A fully integrated INTUITY AUDIX system, for example, answers each incoming telephone call with information taken directly from the switch. Such information includes the number being called and the circumstances under which the call was sent to it, for example, covered from a busy or unanswered extension.

switch integration device (SID)

A combination of hardware and software that passes information from the switch to the Avaya Interchange system, thus allowing it to share information with non-Avaya switches. The operation of a SID is unique to the particular switch with which it interfaces.

switch network

Two or more interconnected switching systems.

synchronized mailbox

A mailbox that is paired with a corresponding mailbox in another domain and linked via software that keeps track of changes to either mailbox. When the contents of one mailbox change, the software replicates that change in the other mailbox.

synchronizer

The name given to the trusted server by the e-mail vendor, Lotus Notes.

synchronous communication

A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. See also *asynchronous communication.*

synchronous transmission

A type of data transmission where the data characters and bits are exchanged at a fixed rate with the transmitter and receiver synchronized. This allows greater efficiency and supports more powerful protocols.

System 75

An advanced digital switch that supports up to 800 lines for voice and data communications.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

255

System 85

An advanced digital switch manufactured that supports up to 3000 lines for voice and data communications.

system configuration

See *configuration*.

T

T.30

The standard for Group III fax machines that covers the protocol used to manage a fax session and negotiate the capabilities supported by each fax endpoint.

tape cartridge

One or more spare removable cartridges required to back up system information.

tape drive

The physical unit that holds, reads, and writes to magnetic tape.

TCP/IP

See *transmission control protocol/internet protocol*.

TDD

See *telecommunications device for the deaf*.

TDM

See *time division multiplexing*.

telecommunications device for the deaf (TDD)

A device with a keyboard and display unit that connects to or substitutes for a telephone. The TDD allows a deaf or hearing-impaired person to communicate over the telephone lines with other people who have TDDs. It also allows a deaf person to communicate with the INTUITY AUDIX system.

terminal

See *display terminal*.

terminal type

A number indicating the type of terminal from which a user is logging in to the Avaya Interchange system. Terminal type is the last required entry before gaining access to the Avaya Interchange display screens.

terminating resistor

A grounding resistor placed at the end of a bus, line, or cable to prevent signals from being reflected or echoed.

time division multiplexing (TDM)

A method of serving multiple channels simultaneously over a common transmission path by assigning the transmission path sequentially to the channels, with each assignment being for a discrete time interval.

tip/ring

A term used to denote the analog telecommunications interface.

tone generator

A device acoustically coupled to a rotary telephone used to produce touchtone signals.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

256

traffic
   The flow of attempts, calls, and messages across a telecommunications network.

translations
   Software assignments that tell a system what to expect on a certain voice port or the data link, or how to handle incoming data. Translations customize the Avaya Interchange system and switch features for users.

transmission control protocol/internet protocol (TCP/IP)
   A suite of protocols that allow disparate hosts to connect over a network. Transmission control protocol (TCP) organizes data on both ends of a connection and ensures that the data that arrives matches that the data that was sent. Internet protocol (IP) ensures that a message passes through all the necessary routers to the proper destination.

T/R
   See *tip/ring*.

troubleshooting
   The process of locating and correcting errors in computer programs or systems. Also called *debugging*.

trusted server
   A server that uses IMAPI to access an INTUITY AUDIX mailbox on behalf of a user and is empowered to do everything to a user's message that INTUITY AUDIX can do.

TTS
   Text-to-Speech

U

UCD
   See *uniform call distribution*.

Undelete
   An INTUITY AUDIX feature that allows users to restore the last message deleted by pressing ✱ Ⓤ.

undelivered message
   A message that has not yet been sent to an INTUITY AUDIX user's incoming mailbox. The message resides in the sender's outgoing mailbox and can be modified or redirected by the sender.

unequipped
   See *equipped/unequipped*.

unfinished message
   A message that was recorded but not approved or addressed, usually as the result of an interrupted INTUITY AUDIX session. Also called *working message*.

uniform call distribution (UCD)
   The type of call-distribution group (or hunt group) of analog port cards on some switches that connects users to the INTUITY AUDIX system. System 75, Generic 1, Generic 3, and some central office switches use UCD groups. See also *call-distribution group*.

uninterruptable power supply (UPS)
   An auxiliary power unit that provides continuous to provide power in cases in which commercial power is lost.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Glossary

257

UNIX operating system
A multiuser, multitasking computer operating system.

upgrade
An installation that moves an Avaya Interchange system to a newer release.

untouched message
An INTUITY AUDIX feature that allows a user to keep a message in its current category by using the
⊡ ⊡ ⊞ (Hold) command. If the message is in the new category, message-waiting indication
remains active (for example, the message-waiting lamp remains lit).

UPS
See *uninterruptable power supply.*

U. S. 123
An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify
telephone keypad presses. For example, a prompt might say "*Press star three*" instead of "*Press
star D.*"

user interface
The devices by which users access their mailboxes, manage mailing lists, administer personal
greetings, and use other messaging capabilities. Types of user interfaces include a touchtone tele-
phone keypad.

user population
A combination of different types of users on which Avaya Interchange configuration guidelines are
based.

V

vector
A customized program in the switch for processing incoming calls.

VM
Voice messaging application identifier. See *application identifier.*

voice link
The Avaya Interchange analog connection(s) to a call-distribution group (or hunt group) of analog
ports on the switch.

voice mail
See *voice message.*

voice mailbox
See *mailbox.*

voice message
Digitized information stored by the Avaya Interchange system on disk memory. Also called *voice
mail.*

voice port
The IVC6 port that provides the interface between the Avaya Interchange system and the analog
ports on the switch.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance 585-313-809

Issue 4
January 2002

Glossary

258

voice terminal

A telephone used for spoken communications with the Avaya Interchange system. A touchtone telephone with a message-waiting indicator is recommended for INTUITY AUDIX users.

voicing

1. Speaking a message into the Avaya Interchange system during recording. 2. Having the system play back a message or prompt to a user.

VP

Voice platform application identifier. See *application identifier*.

VR

Voice response application identifier. See *application identifier*.

W

WAN

See *wide area network*.

wide area network (WAN)

A data network typically extending a local area network (LAN) over telephone lines to link with LANS in other buildings and/or geographic locations.

window

That portion of the Avaya Interchange user interface through which you can view system information or status.

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

259

Index

A

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

260

B

C

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

261

Avaya Interchange Release 5.4
MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

262

D

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

263

E

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

264

F

G

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

265

H

hard disk
    carriage
    drives

I

IVC6, see Tip/Ring circuit card

L

LAN circuit card, see Ethernet LAN circuit card

M

MAP/100P
memory
    modules, see SIMMs

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

266

N

O

P

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

267

R

S

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

268

T

tapes
    formatting, 53
    managing, 56
    removing, 52
    when to change, 50
TCP/IP
    diagnostics, 35
    software testing, 35
TDM bus, 205
terminal, troubleshooting, 7
tests
    channel internal loop-around, 24
    connectivity, 37
    network connection
        modem loop-around, 26
        network loop-around, 27
    remote connection, 21
    TCP/IP software, 35
time
    acknowledging changes, 72
    changing, 71
    checking, 69
Tip/Ring circuit card
    AYC10
        switch settings, 103
        view, 101
    AYC30
        switch settings, 104
        view, 100
    busying out, 46
    diagnostics, 42
    function, 102
    I/O address, 220
    IRQ, 220
    maximum installed, 102
    releasing, 47
Tip/Ring, distribution hardware
    installing, 209
    removing, 208
    view, 207
troubleshooting
    memory, 6
    modems, 2
    optional features, 6
    rebooting, 4
    tape drives, 3
    terminal, 7
    voice ports, 4

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

269

U

unattended backups
    backed-up data, <u>56</u>
    verifying, <u>57</u>

V

video controller circuit card
    function, <u>118</u>
    I/O address, <u>219</u>
    maximum installed, <u>118</u>
    RAM address, <u>219</u>
voice
    card, see Tip/Ring circuit card
voice ports, troubleshooting, <u>4</u>
voice system
    starting, <u>64</u>
    stopping, <u>65</u>
voiced names, storing during attended backup, <u>59</u>

Avaya Interchange Release 5.4
 MAP/100P System Maintenance *585-313-809*

Issue 4
January 2002

Index

270