

**IRMA 3 Convertible  
Hardware Installation Guide**

ATTACHMATE.  
**CONNECTIVITY  
ADAPTER**

# ***IRMA 3 Convertible***

## ***Hardware Installation Guide***

Attachmate Corporation has prepared this document for use by Attachmate personnel, licensees, and customers. The information contained herein is the property of Attachmate and shall not be copied, photocopied, translated, or reduced to any electronic or machine readable form, in whole or in part, without prior written approval from Attachmate.

Attachmate reserves the right to, without notice, modify or revise all or part of this document and/or change product features or specifications and shall not be responsible for any loss, cost, or damage, including consequential damage, caused by reliance on these manuals.

In all correspondence with Attachmate Corporation regarding this publication, refer to part number 243492, June 1997.

© 1991, 1995, 1997 by Attachmate Corporation. All rights reserved.



### **Declaration of Conformity**

We, Attachmate Corporation, 3617 131st Avenue, S.E., Bellevue, WA, United States of America, declare under our sole responsibility that the product, IRMA 3 Convertible, to which this declaration relates, is in conformity with the following standards: EN 55022 "Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology", EN 50082-1 "Electromagnetic compatibility - Generic immunity standard Part 1: Residential, commercial, and light industry", IEC 801-2 "Electromagnetic compatibility for industrial process measurement and control equipment Part 2: Electrostatic discharge requirements", IEC 801-3 "Electrical compatibility for industrial process measurement and control equipment Part 3: Radiated electromagnetic field requirements" following the provisions of 89/336/EEC Electromagnetic Compatibility Directive. A Declaration of Conformity in accordance with the above standards has been made and is on file at Attachmate Corporation Europe, Boulogne France.

**Patent Notice.** Product patented and protected by US patent laws under US Patent Numbers 4,885,482; 5,163,833; 5,162,675; 5,287,460; and by Canadian Patents, Foreign Patents and other Foreign Patents Pending.

**Trademarks and registered names.** Attachmate, Crosstalk, EXTRA!, IRMALINK, IRMA 3, Supportware!, and RLN are registered trademarks and Crossfax, E78, FT/Express, IRMA, IRMALAN, IRMAX, and are trademarks of Attachmate Corporation.

Microsoft, MS-DOS, and Windows are registered trademarks of Microsoft Corporation.

FaxBack is a registered trademark of FaxBack, Inc.

CompuServe is a registered trademark of CompuServe, Incorporated.

Unisys is a registered trademark of Unisys Corporation.

Pentium, 386, and 486 are trademarks of Intel Corporation.

IBM, Micro Channel, OS/2, AT, and PS/2 are registered trademarks and PC/XT is a trademark of IBM Corporation.

UL is a registered trademark of Underwriters Laboratories, Inc.

Memorex Telex is a registered trademark of Memorex Telex NV.

All other trademarks or registered trademarks are the property of their respective owners.

## ***Warning***

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

This digital apparatus does not exceed the Class A limits for radio noise emissions from a digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Cet présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

# Table of Contents

## About This Guide

Who should read this guide?.....	xii
How to use this guide.....	xii
Documentation conventions.....	xiii
Common abbreviations.....	xiv
Where do you go from here?.....	xv

## 1 Introducing IRMA 3 Convertible

Overview.....	1-2
What is IRMA 3 Convertible?.....	1-2
Features.....	1-2
Checking your package.....	1-4
System requirements.....	1-4
Required hardware.....	1-4
Cables and connections.....	1-4
Required software.....	1-5
Required memory.....	1-5
Making a working copy.....	1-6
Contacting Customer Support by phone.....	1-6

## 2 Converting the Adapter

Overview.....	2-2
Do you need to convert your adapter?.....	2-2
Converting the adapter for an ISA system.....	2-3
Removing the Micro Channel components.....	2-3
Preparing the adapter for an ISA system.....	2-7
Converting the adapter for a Micro Channel system.....	2-9
Removing the ISA components.....	2-9
Preparing the adapter for a Micro Channel system.....	2-11

### 3 Installing the ISA Hardware

Overview .....	3-2
Before you install the adapter .....	3-2
The address switches .....	3-2
Changing the default switch settings .....	3-5
Setting the jumpers .....	3-6
Installing the adapter.....	3-7
Running the configuration program.....	3-10
The Main menu.....	3-12
Choosing the emulator address.....	3-13
Choosing the emulation personality .....	3-14
Choosing the install options.....	3-16
DCA/CUT options.....	3-16
DCA/DFT options .....	3-17
IBM ONLY options .....	3-19
CUT & IBM options.....	3-20
DFT & IBM options .....	3-21
Exiting the program .....	3-23
Running the download program.....	3-26
Completing the installation.....	3-28

### 4 Installing the Micro Channel Hardware

Overview .....	4-2
Before you install the adapter .....	4-2
Copying the .ADF file .....	4-2
Setting the jumpers .....	4-3
Installing the adapter.....	4-5
Updating the PS/2 configuration.....	4-8
Using the default settings.....	4-9
Using nondefault settings .....	4-9
Running the configuration program.....	4-11
The Main menu.....	4-13
Setting the emulator address.....	4-14
Choosing an emulation personality .....	4-15
Exiting the program .....	4-17
Running the download program.....	4-20
Completing the installation.....	4-21

## A Running the Diagnostic Program

Overview .....	A-2
Running the diagnostic program .....	A-2
Modifying your CONFIG.SYS file (OS/2 systems only) .....	A-4
I3PLDIAG error codes .....	A-5
Classifying the error codes .....	A-5
check_contention .....	A-5
Defective IRMA3 .....	A-5
The I3PLDIAG error messages .....	A-6

## B Using the I3PLFIND Utility

Overview .....	B-2
Using the I3PLFIND utility .....	B-2

## C Extended Addresses

The DIP switch settings .....	C-2
-------------------------------	-----

## Glossary

## Index

## Figures

Figure 2-1.	IRMA 3 Convertible adapter.....	2-3
Figure 2-2.	Removing the Micro Channel backplate.....	2-4
Figure 2-3.	Removing the Micro Channel card holder "A".....	2-5
Figure 2-4.	Sliding the cable adapter assembly from the slot.....	2-5
Figure 2-5.	Turning over the cable adapter assembly.....	2-6
Figure 2-6.	Sliding the cable adapter assembly into the slot .....	2-7
Figure 2-7.	Securing the ISA backplate.....	2-8
Figure 2-8.	Removing the ISA backplate .....	2-9
Figure 2-9.	Sliding the cable adapter assembly from the slot.....	2-10
Figure 2-10.	Turning over the cable adapter assembly.....	2-10
Figure 2-11.	Sliding the cable adapter assembly into the slot .....	2-11
Figure 2-12.	Attaching the Micro Channel card holder "A".....	2-12
Figure 2-13.	Attaching the Micro Channel backplate.....	2-13
Figure 2-14.	Securing the Micro Channel backplate .....	2-14
Figure 3-1.	Location of switches on IRMA 3 Convertible.....	3-3
Figure 3-2.	Default settings for the adapter address .....	3-4
Figure 3-3.	Available settings for the adapter address.....	3-4



Figure 3-4.	Location of the jumpers on IRMA 3 Convertible.....	3-6
Figure 3-5.	Positioning the adapter in an IBM PC .....	3-7
Figure 3-6.	IRMA 3 Convertible installed in an IBM PC .....	3-8
Figure 3-7.	Connecting the coaxial cable .....	3-8
Figure 3-8.	Connecting the twisted-pair cable.....	3-9
Figure 3-9.	Configuration main menu .....	3-12
Figure 3-10.	Emulator Address menu.....	3-13
Figure 3-11.	Personality Select menu.....	3-14
Figure 3-12.	Install Options menu for DCA/CUT.....	3-16
Figure 3-13.	Install Options menu for DCA/DFT.....	3-17
Figure 3-14.	Install Options menu for IBM ONLY.....	3-19
Figure 3-15.	Install Options menu for CUT & IBM.....	3-20
Figure 3-16.	Install Options menu for DFT & IBM .....	3-21
Figure 3-17.	Exit menu .....	3-23
Figure 3-18.	Save and Exit menu .....	3-24
Figure 4-1.	IRMA 3 Convertible adapter assembled for a Micro Channel system .....	4-3
Figure 4-2.	Location of the jumpers on the IRMA 3 Convertible adapter .....	4-4
Figure 4-3.	Removing a slot cover .....	4-6
Figure 4-4.	Securing the adapter.....	4-6
Figure 4-5.	Connecting the coaxial cable .....	4-7
Figure 4-6.	Connecting the twisted-pair cable.....	4-7
Figure 4-7.	Configuration main menu .....	4-13
Figure 4-8.	Personality Select menu .....	4-15
Figure 4-9.	Exit menu .....	4-17
Figure 4-10.	Save and Exit menu .....	4-17
Figure A-1.	Diagnostic screen .....	A-3
Figure B-1.	I3PLFIND screen.....	B-3
Figure C-1.	Extended address switch settings.....	C-2

## Tables

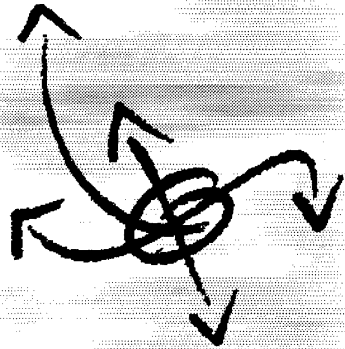
Table 1-1.	Required memory .....	1-5
Table 1-2.	Customer Support phone numbers .....	1-6
Table 2-1.	What to read in this chapter.....	2-2
Table 3-1.	I3PLCFG options for ISA systems .....	3-10
Table 3-2.	DOWNLOAD options for ISA systems .....	3-27

Table 4-1.	Default values for IRMA 3 Convertible .....	4-8
Table 4-2.	Alternate values for IRMA 3 Convertible .....	4-10
Table 4-3.	3PLCFG options for Micro Channel system .....	4-12
Table 4-4.	DOWNLOAD options for Micro Channel systems .....	4-20
Table A-1.	I3PLDIAG options .....	A-2



# About This Guide

- Who should read this guide? xii
- How to use this guide xii
- Documentation conventions xiii
- Common abbreviations xiv
- Where do you go from here? xv



# Who should read this guide?

This guide is intended for anyone who installs, configures, or uses IRMA 3 Convertible. To install IRMA 3 Convertible, you should have a working knowledge of your PC operating system (MS-DOS®, Windows 95, Windows NT, or OS/2®), 3270 emulation, and the terminal emulation software you will be using.

## How to use this guide

This guide provides detailed instructions for installing and configuring the IRMA 3® Convertible adapter. Begin by reading Chapters 1 and 2, as follows:

Chapter 1, "Introducing IRMA 3 Convertible," includes a general description of the IRMA 3 Convertible hardware. It discusses features, package contents, and system requirements.

Chapter 2, "Converting the Adapter," describes how to assemble IRMA 3 Convertible for use in an ISA or Micro Channel® system.

Then read either Chapter 3 or 4, depending on what type of system you are using:

Chapter 3, "Installing the ISA Hardware," explains how to install and configure the adapter in an ISA system.

Chapter 4, "Installing the Micro Channel Hardware," explains how to install and configure the adapter in a Micro Channel system.

The following appendixes are also included:

Appendix A, "Running the Diagnostic Program," explains how to use the IRMA 3 Convertible diagnostic program to test your installation.

Appendix B, "Using the I3PLFIND Utility," explains how to use the I3PLFIND program to get information about the IRMA 3 Convertible adapters installed in your PC.

Appendix C, "Extended Addresses," describes the DIP switch settings that correspond to the extended addresses offered by the IRMA 3 Convertible adapter.

This manual also includes a glossary and an index.

# Documentation conventions

The following documentation conventions are used in this manual:

<b>bold</b>	In command lines, bold represents information that you should enter exactly as shown.
[ ]	In command lines, square brackets indicate an option. To include an option, type only the information inside the brackets. Do not type the brackets unless they appear in bold.
<i>italics</i>	Italics represent variable information. In command lines, do not enter the words themselves in the command; enter the information they represent.
KEY	A key name in a box, for example, ENTER, refers to a specific key on the keyboard.  If you have remapped the function originally mapped to the key, substitute the new key or key combination for the original.
<code>monospace text</code>	This font identifies actual programming code.
X'nnn'	This represents hexadecimal digits.
<b>Note</b>	This signifies important additional information.
<b>Caution</b>	This symbol means that a failure to follow the recommended procedure could result in a loss of data or damage to equipment or related products.
<b>Warning</b>	This symbol means that a failure to take appropriate safety precautions could result in physical injury.

# Common abbreviations

The following abbreviations are used in this manual:

ASCII	American Standard Code for Information Interchange
ADF	Adapter description file
API	Application programming interface
BBS	Bulletin Board System
BISYNC	Binary synchronous transmission
CUT	Control unit terminal
DIP	Dual in-line package
DFT	Distributed function terminal
DOS	Disk operating system
EMS	Extended memory specification
FTP	File transfer protocol
I/O	Input/output
IRQ	Interrupt request line
ISA	Industry standard architecture
KB	Kilobit
LAN	Local area network
LRC	Longitudinal redundancy check
OS/2	Operating System/2
PC	Personal computer
PROM	Programmable read-only memory
PS/2	Personal System/2
RAM	Random access memory
SDLC	Synchronous data link control
SNA	Systems network architecture

## Where do you go from here?

Since this guide explains installing IRMA 3 Convertible in both ISA and Micro Channel systems, you may need to read only portions of it. The following chart can help you find the information you need.

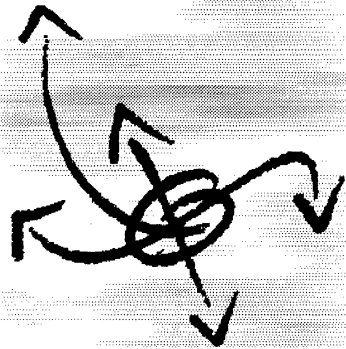
<b>To install the adapter for use in...</b>	<b>Read chapters...</b>
An ISA PC	1, 2, and 3
A Micro Channel PC	1, 2, and 4





# Introducing IRMA 3 Convertible

- Overview 1-2
- What is IRMA 3 Convertible? 1-2
- Checking your package 1-4
- System requirements 1-4
- Making a working copy 1-6
- Contacting Customer Support by phone 1-6



## *Chapter 1*

## Overview

To prepare you for installing and using IRMA 3 Convertible, this chapter provides the following information:

- A description of the adapter and its features
- Package contents
- The hardware, software, and memory requirements
- A note on making and using a working copy of the distribution diskette

## What is IRMA 3 Convertible?

IRMA 3 Convertible is Attachmate's 3270 terminal emulation hardware platform. The unique dual-bus hardware design of IRMA 3 Convertible lets you choose either an ISA or Micro Channel system for connection to a mainframe. The adapter also supports IBM®-compatible emulation software for both CUT and DFT modes. Read on for a more detailed list of features.

**Note** This guide contains information that applies to both the current and previous release of the IRMA 3 Convertible adapter. Where necessary, the current release is referred to as IRMA3t, to distinguish it from the previous release of the adapter, which is referred to as IRMA 3 Convertible. Unless distinguished in this way, references to the IRMA 3 Convertible adapter in this guide apply to both releases of the adapter. For example, the configuration and diagnostics programs, and the download and find utilities apply to both releases of the adapter.

## Features

IRMA 3 Convertible provides the following key features:

- **Convertible capability.** This versatile adapter may be used in either an ISA or Micro Channel system. This means you can connect a wide variety of PCs to the mainframe, including a UL® listed IBM PC, PC/XT™, PC/AT®, and PS/2® Model 30-95, 286, 386™, 486™ or Pentium™, or compatibles.
- **Twisted-pair support.** IRMA 3 Convertible is Attachmate's hardware platform for coaxial and twisted-pair connections (this cabling must meet the IBM cabling system type 3 specifications). Simply attach the cable directly to the RJ-11 connector on the adapter. No additional balun is necessary. Thorough product testing proves that IRMA 3 Convertible's proprietary circuit design is highly reliable in twisted-pair and mixed cabling environments.

- **CUT- and DFT-mode support.** IRMA 3 Convertible supports a wide range of emulation software so you can easily upgrade without swapping out the adapter. IRMA 3 Convertible provides the following:
  - CUT-mode emulation with E78™ Plus, EXTRA!®, the IRMA™ family of emulation software, and third-party compatible software.
  - DFT-mode emulation with EXTRA!, IRMAX™ DFT and IRMAX Multisessions, Select Comm Server, Select Comm Workstation, and IRMA for the Mainframe.
  - A DFT gateway for host access from LAN-based PCs that are running IRMALAN™/EP software.
  - Support for Attachmate IRMA Graphics for Mainframe and full compatibility with programs written for IRMA, IRMA 2, and PJ.
- **IBM software compatibility.** In addition to supporting Attachmate software for CUT- and DFT-mode connections, the adapter supports IBM emulation software for both CUT and DFT modes. These applications include IBM OS/2 Extended Edition, IBM 3270 PC Workstation Program, IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program-Entry Level, and IBM Personal Communications/3270.
- **Software-loaded microcode.** Software-loaded microcode allows easy upgrades or migration to other Attachmate products without changing PROMs or returning hardware. When you receive upgrades, simply install the new programs directly from diskette.
- **On-board microprocessor.** An on-board, high-speed microprocessor manages the 3270 protocol independently of the PC processor. This functionality lets a PC function as an online IBM 3270 terminal and a PC at the same time. You can take advantage of the display and send functions of the IBM terminals, as well as all the processing capabilities of your PC.

## Checking your package

Before you install the adapter, make sure the following items are in your package:

- An IRMA 3 Convertible adapter assembled for an ISA or Micro Channel system, with components for both architectures included
- One 3.5" software diskette labeled IRMA 3 Configuration/Diagnostics for DOS and OS/2

If you are missing any of these, contact your Attachmate reseller.

**Note** This package does not contain terminal emulation software. Contact your Attachmate reseller for more information on obtaining terminal emulation software.

## System requirements

To use the IRMA 3 Convertible adapter for terminal emulation, you need the following hardware, software, and memory.

### Required hardware

The following hardware is required:

- An IBM PC, PC/XT, PC/AT, PS/2 Model 30-95, 286, 386, 486, Pentium; or compatible computer.
- An IBM 3274 Channel Attached or Remote Controller (SNA/SDLC or BISYNC, or compatible, such as Memorex Telex<sup>®</sup>), a 3174 or 3276 controller or Integrated Terminal Controller with Type A adapters. DFT support on a 3274 controller requires configuration support D or T.

### Cables and connections

IBM uses coaxial or twisted-pair cable to connect devices such as printers and terminals to terminal controllers. To use IRMA 3 Convertible, you must have a cable running into the PC work area to link the PC to one of the controller ports. If your PC is replacing an IBM 3278, 3279, 3290, or equivalent terminal, this cable may already be present and configured correctly. Contact your system administrator if you have any questions about the cable connection or the existing controller configuration.

## Required software

The following software is required:

- PC-DOS or MS-DOS version 3.1 or newer (some emulators may require different versions of DOS); Windows 95 or Windows NT; or IBM OS/2 Standard Edition version 1.1 or Extended Edition version 1.2.
- For terminal emulation, use one of the following:
  - Attachmate terminal emulation software applications, such as E78 Plus, EXTRA!; the IRMA family of emulation software; IRMALAN DFT Gateway; Select Comm Server; Select Comm Workstation; and programs written for IRMA, IRMA 2, and PJ.
  - IBM terminal emulation software, such as IBM 3270 PC Workstation Program, IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program-Entry Level, IBM OS/2 EE 1.2, and IBM Personal Communications/3270.

**Note** You also need any software required by the emulation software. For example, if you are using IRMA for the Mainframe or Windowlink, you need Microsoft® Windows®.

- For file transfers: FT/Express™, IBM SEND/RECEIVE (IND\$), Attachmate IRMALINK® FT/TSO, IRMALINK FT/CMS, IRMALINK FT/3270, or ForteNet file transfer software.
- For APA graphics: Attachmate IRMA Graphics for Mainframe, used with IRMAX DFT or IRMAX Multisessions.

## Required memory

Table 1-1 lists the minimum memory requirements for running the programs and utilities.

**Table 1-1. Required memory**

To run this program...	You need...
Configuration program (I3PLCFG)	330 KB of free memory
Diagnostic program (I3PLDIAG)	170 KB of free memory
Microcode loader program (DOWNLOAD)	65 KB of free memory
Information utility (I3PLFIND)	150 KB of free memory

## Making a working copy

Before you install IRMA 3 Convertible, make a working copy of the distribution diskette, using the DOS or OS/2 DISKCOPY command. Keep the original distribution diskette in a safe place in case you need to exchange it for future software upgrades.

## Contacting Customer Support by phone

Attachmate Customer Support is available Monday through Friday, 6:00 A.M. to 5:00 P.M., Pacific time, excluding Attachmate holidays. Table 1-2 lists the phone numbers you can use to contact Attachmate Customer Support in North America.

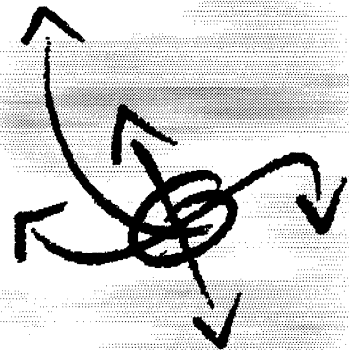
**Table 1-2. Customer Support phone numbers**

<b>Service</b>	<b>Phone number</b>
All products except those listed below.	(800) 688-3270
Unisys®, RLN®, and NetWizard® Products	(800) 274-6633
Crosstalk® Products	(513) 745-0515
Emissary®, PathWay™, and Other Internet Products	(800) 933-6795
SupportWare!® Services	(800) 288-5232
	(800) 274-6633 (Unisys)
ZIP!® Mail Products (in the United States)	(800) 456-2350
ZIP! Mail Products (in Canada)	(800) 800-6641

Customers outside of North America should contact their local resellers for assistance.

# Converting the Adapter

- Overview 2-2
- Do you need to convert your adapter? 2-2
- Converting the adapter for an ISA system 2-3
- Converting the adapter for a Micro Channel system 2-9





# Overview

This chapter explains how to assemble the IRMA 3 Convertible adapter for an ISA system and for a Micro Channel system. The adapter fits into any half-card expansion slot, and is shipped preassembled for use in either an ISA or a Micro Channel system. However, by following the simple procedures described in this chapter, you can easily convert the adapter for use in the other type of system, and back again, in the event you want to use the adapter with a different type of computer.

## Do you need to convert your adapter?

If your adapter is shipped preassembled for the computer you are now using, skip this chapter and refer to the appropriate chapter on installing the adapter into your computer—Chapter 3, “Installing the ISA Hardware,” or Chapter 4, “Installing the Micro Channel Hardware.” If you need to convert your adapter, read the section in this chapter that is appropriate for your system needs. See Table 2-1 for more information.

**Table 2-1. What to read in this chapter**

<b>If you have an...</b>	<b>Read this section</b>
IBM PC; PC/XT; PC/AT; PS/2 Model 30–40; 386; 486; Pentium; or compatible	“Converting the adapter for an ISA system” on page 2-3
IBM PS/2 Model 50–95, or compatible	“Converting the adapter for a Micro Channel system” on page 2-9

# Converting the adapter for an ISA system

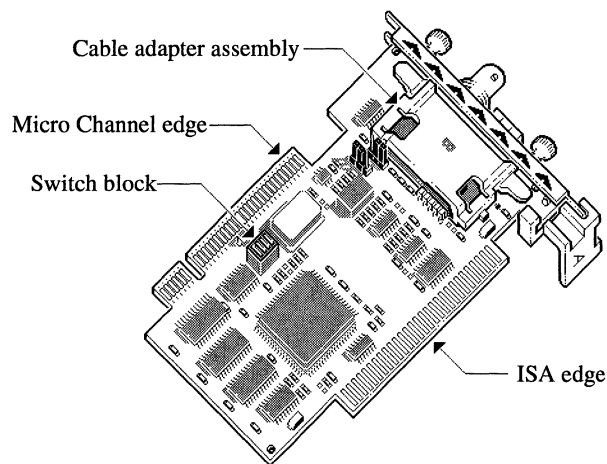
This section first describes how to remove the Micro Channel components from the adapter, and then explains how to assemble the adapter for an ISA system.

**Note** Before assembling the adapter for an ISA system, locate the flat ISA backplate that is included in your package.

## Removing the Micro Channel components

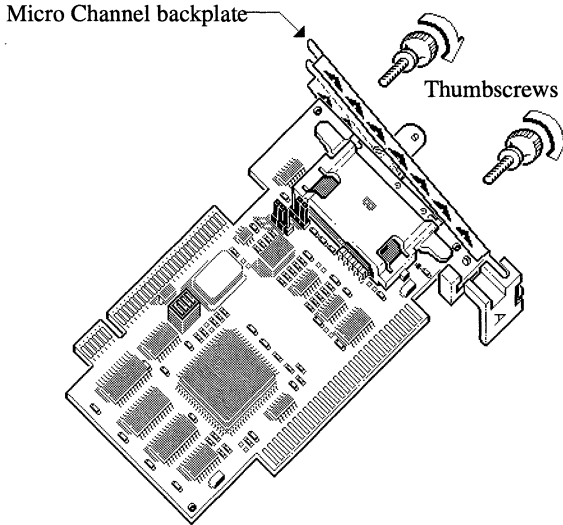
Follow these steps to remove the Micro Channel components:

- 1 Position the adapter so that the cable adapter assembly points to the right and the switch block of four DIP switches is at the top, and the ISA edge is facing toward you. See Figure 2-1.



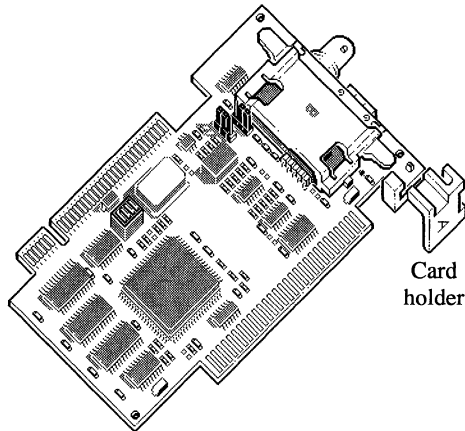
**Figure 2-1. IRMA 3 Convertible adapter**

- 2 Loosen and remove the two thumbscrews on either side of the cable adapter assembly. Then tilt the right end of the backplate up slightly (about 25°), until you can easily slip it over the coaxial connector, as shown in Figure 2-2. Save the Micro Channel backplate in case you need to assemble the adapter for a Micro Channel system at a later date.



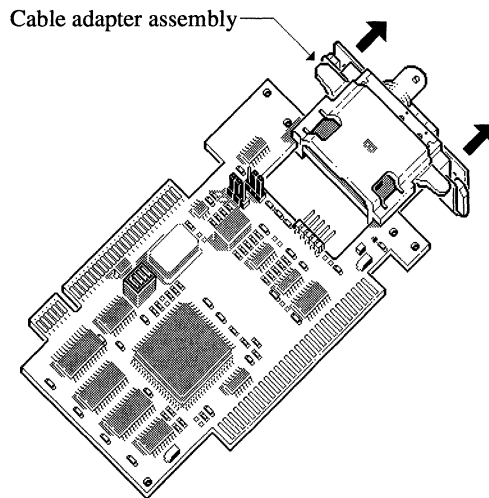
**Figure 2-2. Removing the Micro Channel backplate**

- 3 Carefully unsnap and remove the Micro Channel card holder labeled A, by rotating it toward the ISA edge of the adapter, as shown in Figure 2-3. Save the card holder in case you need to reassemble the adapter for a Micro Channel system.



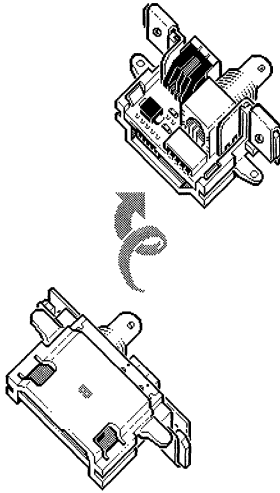
**Figure 2-3. Removing the Micro Channel card holder "A"**

- 4 Pull the cable adapter assembly from its slot in the adapter, as shown in Figure 2-4.



**Figure 2-4. Sliding the cable adapter assembly from the slot**

- 5 Turn over the adapter assembly so that the plastic covered side, with the label B, is facing you. See Figure 2-5.

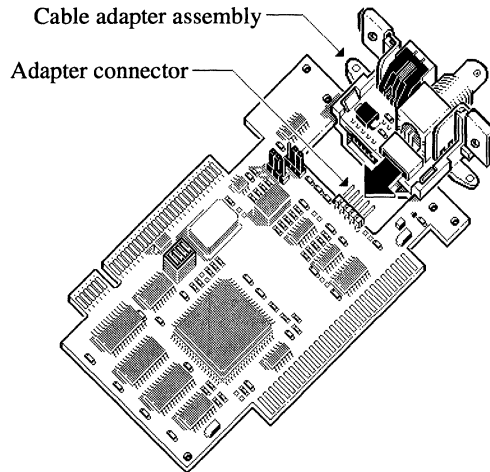


**Figure 2-5. Turning over the cable adapter assembly**

## Preparing the adapter for an ISA system

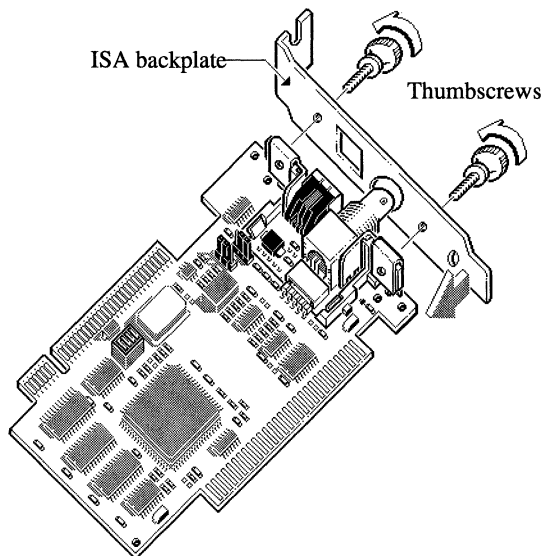
Once you have removed the Micro Channel components, you are ready to set up the adapter for use with an ISA system. Follow these steps:

- 1 Slide the cable adapter assembly, component side up, back into its slot in the adapter, as shown in Figure 2-6. Take care not to bend the pins on the adapter connector when sliding it back into its slot.



**Figure 2-6. Sliding the cable adapter assembly into the slot**

- 2 Place the ISA backplate over the end of the adapter and secure it with the two thumbscrews that you removed earlier. Figure 2-7 illustrates this procedure.



**Figure 2-7. Securing the ISA backplate**

The adapter is now assembled for use in an ISA system. Proceed to Chapter 4, "Installing the Micro Channel Hardware."

# Converting the adapter for a Micro Channel system

This section first describes how to remove the ISA components from the adapter, and then explains how to assemble the adapter for use in a Micro Channel system.

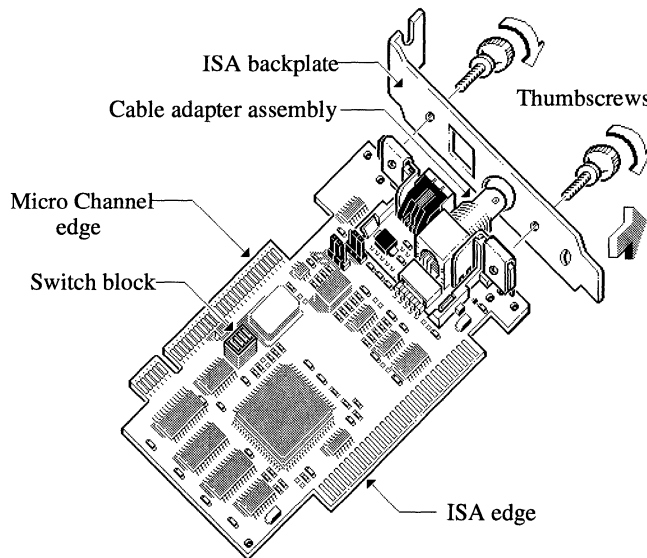
Before you begin assembling the adapter for a Micro Channel system, make sure you have the following items included in your package:

- One plastic Micro Channel card holder labeled A
- A Micro Channel backplate, distinguished by its three metal prongs at the top and the rails on the sides

## Removing the ISA components

Follow these steps to remove the ISA components:

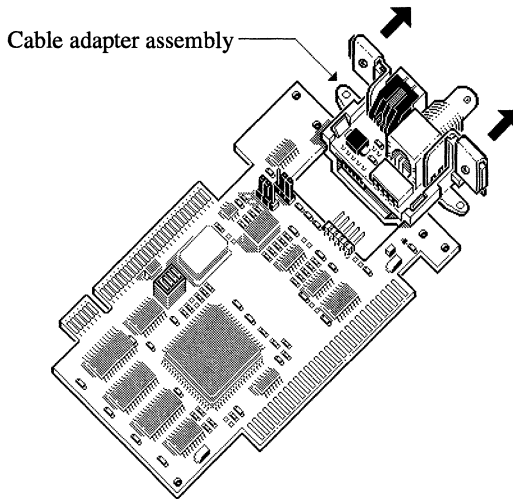
- 1 Position the adapter so that the cable adapter assembly points to the right and the ISA edge is toward you.
- 2 Loosen and remove the two thumbscrews on either side of the cable adapter assembly and slide the ISA backplate from the adapter, as shown in Figure 2-8. Save the backplate in case you need to assemble the adapter for ISA at a later date.



**Figure 2-8. Removing the ISA backplate**

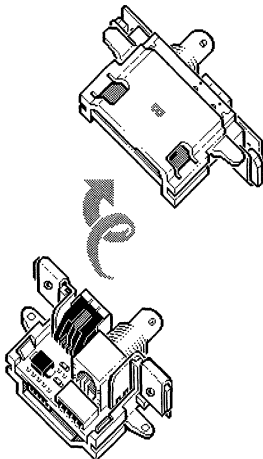


- 3 Grasp the cable adapter assembly labeled B, and pull it out of its slot in the adapter, as shown in Figure 2-9.



**Figure 2-9. Sliding the cable adapter assembly from the slot**

- 4 Turn the cable adapter assembly over so that the plastic covered side, labeled B, is away from you and the component side is facing you, as shown in Figure 2-10.

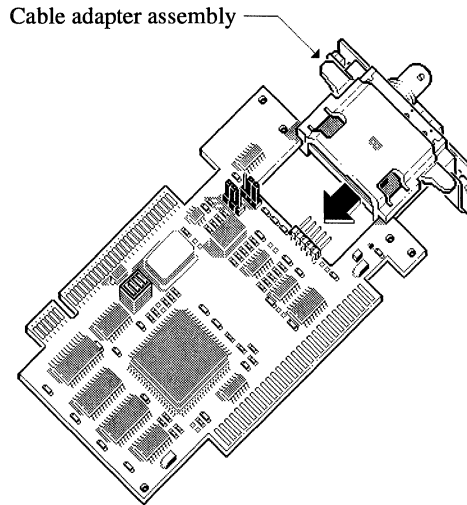


**Figure 2-10. Turning over the cable adapter assembly**

## Preparing the adapter for a Micro Channel system

Once you have removed the ISA components, you are ready to set up the adapter for a Micro Channel system. Follow these steps:

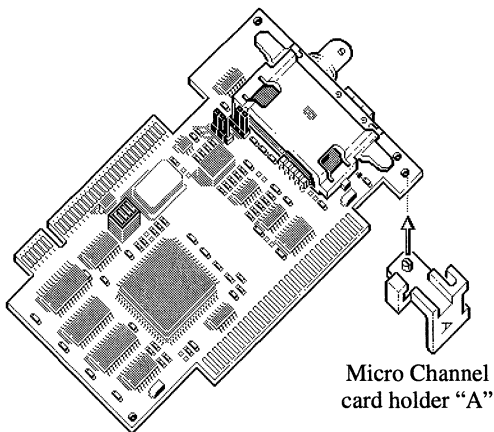
- 1 Slide the cable adapter assembly, component side up, back into its slot in the adapter, as shown in Figure 2-11. Take care not to bend any of the pins on the adapter connector when sliding it back into its slot.



**Figure 2-11. Sliding the cable adapter assembly into the slot**

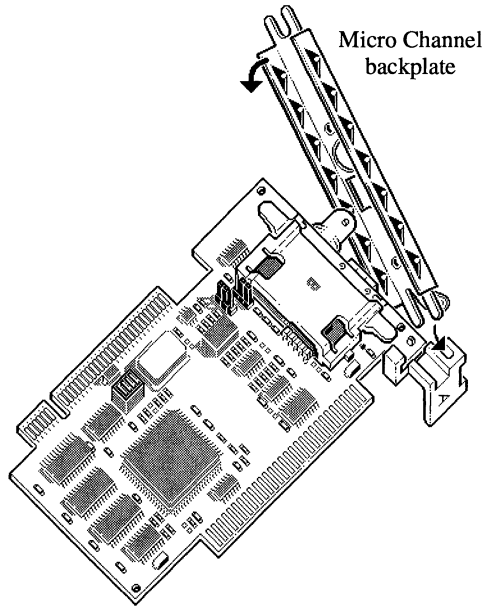
- 2 Snap the small plastic Micro Channel card holder labeled A, into place at the top right hand corner of the adapter by inserting the snaps into the mounting hole on the adapter and twist clockwise 3°, as shown in Figure 2-12.

**Note** If you position the adapter so the Micro Channel edge is pointing up, the letter A is shown on the top portion of the card holder.



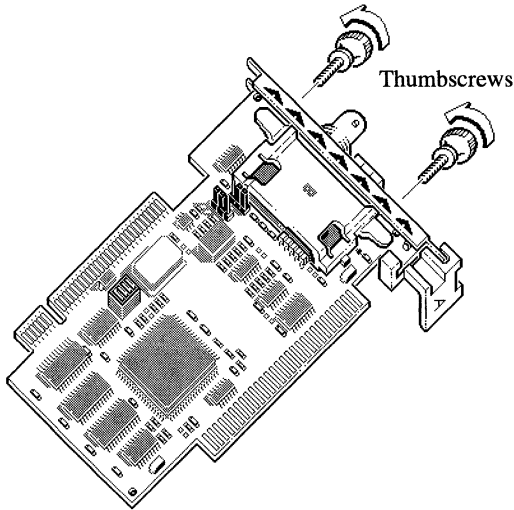
**Figure 2-12. Attaching the Micro Channel card holder "A"**

- 3 Fit the two metal prongs at the top of the Micro Channel backplate under the hooks of the small Micro Channel card holder "A." Then slip the backplate over the end of the coaxial connector so that its rails cover the cable adapter assembly, as shown in Figure 2-13.



**Figure 2-13. Attaching the Micro Channel backplate**

- 4 Secure the Micro Channel backplate with the two thumbscrews that you removed earlier, as shown in Figure 2-14.

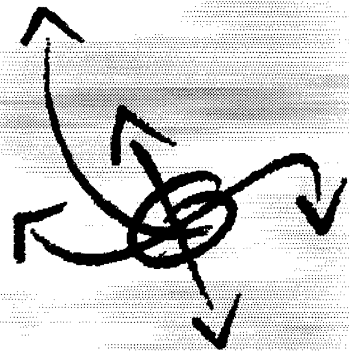


**Figure 2-14. Securing the Micro Channel backplate**

The adapter is now assembled for use in a Micro Channel system. Proceed to Chapter 4, "Installing the Micro Channel Hardware."

# Installing the ISA Hardware

- Overview 3-2
- Before you install the adapter 3-2
- Installing the adapter 3-7
- Running the configuration program 3-10
- Running the download program 3-26
- Completing the installation 3-28



## Overview

This chapter explains how to install an IRMA 3 Convertible adapter that is assembled for an ISA system. Follow these instructions if you are using an IBM PC, PC/XT, PC/AT, PS/2 Model 30-40, 286, 386, 486, Pentium; or a compatible computer.

This chapter covers the following topics:

- Preliminary tasks, including setting the adapter address switches and setting the jumpers
- Installing the adapter
- Running the configuration program
- Running the download program
- Completing the installation

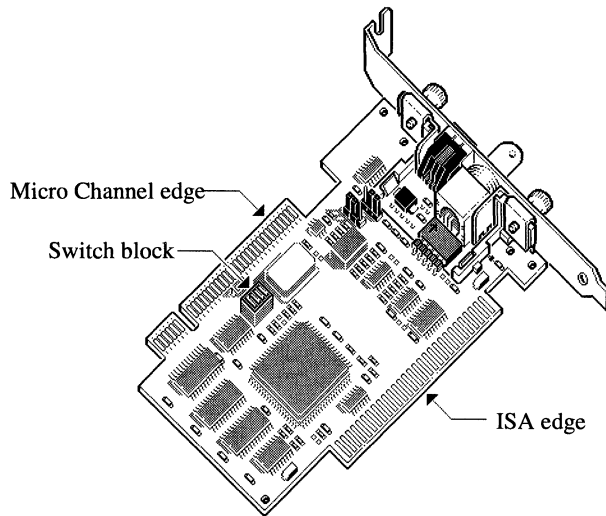
## Before you install the adapter

Before installing the IRMA 3 Convertible adapter, you must configure it for the type system you have, either ISA or Micro Channel, and set the address switches and jumpers, as described in the following sections.

## The address switches

I/O ports are used to pass information between your PC and hardware, such as the IRMA 3 Convertible adapter. Each port has a specific address corresponding to a 1-byte (8 bit) register on the IRMA 3 Convertible adapter. Programs such as E78 Plus, the IBM Workstation program, and the configuration and download programs each use a distinct range of I/O addresses to read data from and write data to the IRMA 3 Convertible adapter's ports. The I/O addresses chosen for the IRMA 3 Convertible adapter must not conflict with I/O addresses used by other adapters or hardware devices in your PC.

The switch block consists of four DIP switches located at the top of the IRMA 3 Convertible adapter (nearest to the Micro Channel edge). The switch block determines the hardware's adapter address. Figure 3-1 shows the location of the switches.

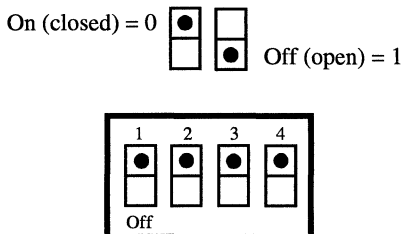


**Figure 3-1. Location of switches on IRMA 3 Convertible**

**Note** Refer to Appendix C, "Extended Addresses," for more information on switch settings that correspond to extended address ranges supported by the IRMA 3 Convertible adapter.

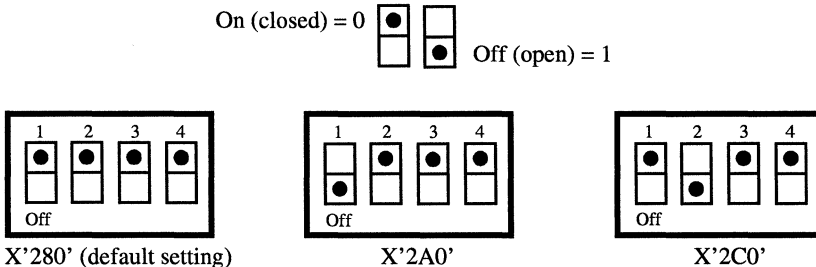


The adapter address is the first of a set of addresses that the configuration, download, and emulation programs use to communicate with the hardware. The factory settings are suitable for most systems. However, if you plan to install multiple adapters in your PC, we recommend you set each to a distinct address as described in this section. You may also need to change the settings on the IRMA 3 Convertible adapter if there is an address conflict with other hardware in your system, if you experience operational difficulties after installation, or if you have converted the adapter from Micro Channel architecture. Figure 3-2 shows the default switch settings for the adapter address.



**Figure 3-2. Default settings for the adapter address**

If the adapter is factory assembled for use in ISA systems, all the switches are in the ON position, giving a default setting of X'280'. Figure 3-3 shows the available address settings for IRMA 3 Convertible.



**Figure 3-3. Available settings for the adapter address**

## Changing the default switch settings

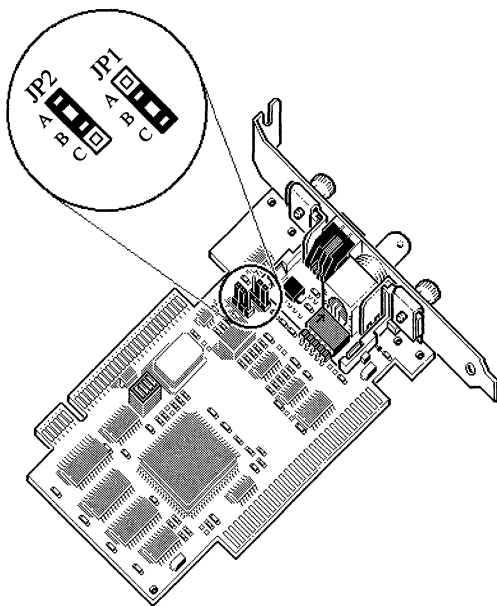
To change a setting, follow these steps:

- 1 Locate the switch block of DIP switches.
- 2 Flip the switches to the desired combination; simply press the rocker dimple down in the desired direction.
- 3 Record any address changes that you make. You will need this information during configuration.

**Note** Although IRMA 3 Convertible offers the extended address ranges X'680', X'6A0', X'6C0', X'6E0', X'A80', X'AA0', X'AC0', X'AE0', X'E80', X'EA0', X'EC0', and X'EE0', most users will not need to use them. The extended address ranges are offered for environments that use multiple adapters and require additional address ranges, such as servers. Switch settings for the extended addresses are shown in Appendix C, "Extended Addresses."

## Setting the jumpers

IRMA 3 Convertible also has two jumpers. You can connect straight coaxial or twisted-pair cables to the adapter. Jumper JP1 sets the cabling interface and is factory configured to B-C to indicate a coaxial connection. Jumper JP2 determines the sensitivity of the receiver circuit and is factory configured to position A-B for High Sensitivity. Figure 3-4 shows the location of and default settings for the jumpers.



**Figure 3-4.** Location of the jumpers on IRMA 3 Convertible

The default setting for JP1, B-C (93 ohm impedance), indicates that you are using straight coaxial cable or a balun connected to the cable adapter assembly.

If you are connecting a twisted-pair cable directly to the RJ-11 connector, set JP1 to A-B (110 ohm impedance).

The default setting for JP2, A-B (High Sensitivity), assures functionality over the maximum recommended cable lengths for both coaxial and twisted-pair cabling. In noisy twisted-pair cabling situations, where communication error rates are more likely, move JP2 to position B-C, for Low Sensitivity.

## Installing the adapter

Once you have made changes to the switch and jumper settings, follow these steps to install the adapter:

- 1 Note the serial number on the IRMA 3 Convertible adapter and write it down for your records.
- 2 Turn off the power to the PC and all externally attached devices, such as printers or modems.

**Warning** Failure to turn off the power to your PC and unplug the power cord could result in injury to you.

- 3 Unplug the power cable from the outlet.
- 4 **For locking cabinets:** Turn the key on the front panel counterclockwise to the unlocked position.
- 5 Remove the cover from the chassis. Refer to your PC manual for specific directions for removing the cover.
- 6 Choose an open expansion slot for the adapter. You can install the adapter in any available expansion PC slot.
- 7 Locate the appropriate expansion slot cover on the inside of the rear panel, and remove the screw and cover. Save the screw. You will use it later to secure the adapter into the slot.
- 8 Turn the adapter so that the ISA edge is down, and the Micro Channel edge of the adapter is pointing upward. Grasp the adapter by the top or sides, and then carefully guide it into the slot. See Figure 3-5.

Check to see that the coaxial connector bracket is properly positioned in the rear panel. The adapter is installed horizontally in the PS/2 Model 30.

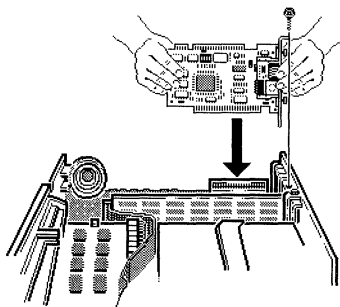
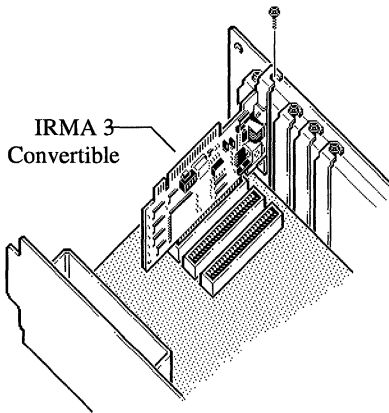


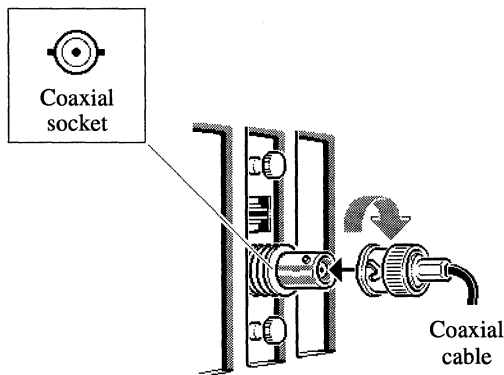
Figure 3-5. Positioning the adapter in an IBM PC

- 9 Install the screw you removed in step 7 to secure the IRMA 3 Convertible adapter to the expansion slot. See Figure 3-6.



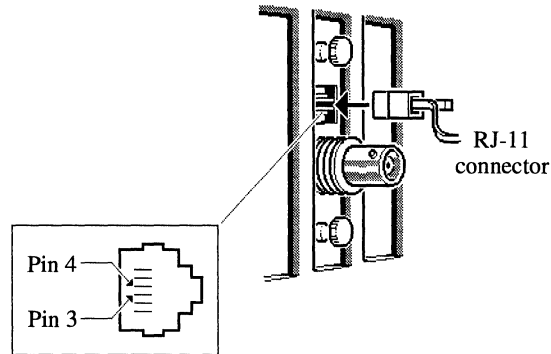
**Figure 3-6.** IRMA 3 Convertible installed in an IBM PC

- 10 Replace the PC cover.
- 11 Replace the cover mounting screws in the rear or side panels. Replace the back plastic panel cover (if required).
- 12 **For coaxial connections:** Connect the cable as shown in Figure 3-7. Place the cable in the socket and turn the cable with a clockwise motion.



**Figure 3-7.** Connecting the coaxial cable

**For direct twisted-pair connections:** Insert the RJ-11 plug from the modular cable into the adapter's RJ-11 connector. The signal wire connects to pin 4 and the shield wire to pin 3. See Figure 3-8.



**Figure 3-8.** Connecting the twisted-pair cable

After you install the hardware, you are ready to run the IRMA 3 Convertible configuration program. Continue with the next section, "Running the configuration program," for details.

## Running the configuration program

Once you have set the switches and jumpers, and completed the installation, run the IRMA 3 Convertible configuration program to identify the IRMA 3 Convertible characteristics compatible with the terminal emulation software that you are using. At least 330 KB of free memory is required to run the configuration program.

**Note** If you plan to use E78 Plus, version 1.4.2 or newer, you do not need to run the configuration program. Run the E78GEN program included with the emulator to set up the hardware configuration.

To configure the adapter for use with Select Comm Workstation or Select Comm Server, run the SETUPCW or SETUPCS configuration programs (included with these software programs), respectively, instead of running the IRMA 3 Convertible configuration program.

To run the configuration program, follow these steps:

- 1 Insert your working copy of the IRMA 3 Convertible diskette in any drive, or move to the directory containing the IRMA 3 Convertible file, I3PLCFG.
- 2 Type the following at the DOS command prompt and press ENTER:

**I3PLCFG** [*options...*]

Table 3-1 describes each I3PLCFG command option.

**Table 3-1. I3PLCFG options for ISA systems**

Option	Description
nnn	Hexadecimal address for additional adapters. Use this option if you have multiple IRMA 3 Convertible adapters in your system.
?	Displays command line option or online help.

The program may display a message asking for additional information with which to identify your system as ISA or Micro Channel.

If you see the following error message, you must re-enter the I3PLCFG command along with the /M parameter for an ISA system (including EISA); thereafter, use the /M parameter each time you enter the command:

Unknown System Configuration. Use parameter /M=is or /M=mc for ISA and Micro Channel systems respectively.

Type the following at the DOS command prompt and press ENTER:

**I3PLCFG /M=is** [*options...*]

**Note** If your system is an OS/2 system and you need to specify the /M parameter, you also need to add the /M parameter to a pre-existing line of your CONFIG.SYS file as follows:

```
DEVICE=drive: \path\DDCOAX.SYS /M=xx
```

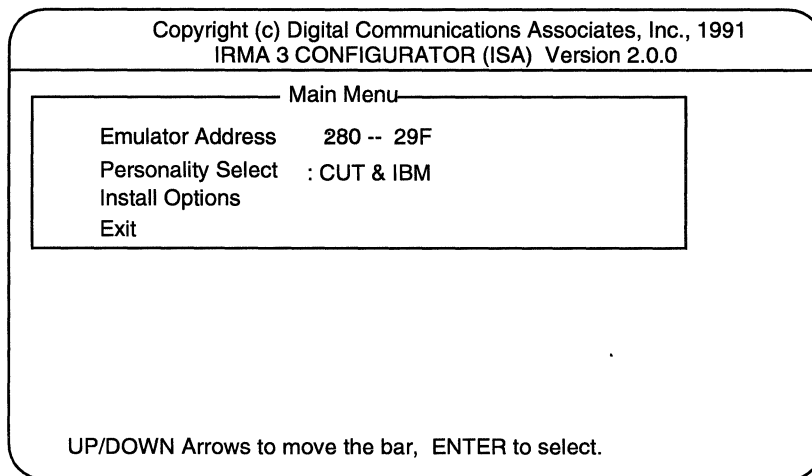
Modifying your CONFIG.SYS file is described in Appendix A, "Running the Diagnostic Program."

If there are no other error messages, the program displays the IRMA 3 Convertible Configurator main menu, shown in Figure 3-9.



## The Main menu

The main menu, shown in Figure 3-9, displays the four options available: Emulator Address, Personality Select, Install Options, and Exit.



**Figure 3-9. Configuration main menu**

Use the arrow keys to move the bar from option to option. Press **ENTER** to choose an option. When you choose an option from the main menu, the program displays a second-level menu. On the second-level menu, move to the configuration choices with the arrow keys and press **ENTER**. Press **ESC** to return to the main menu. The **HOME** and **END** keys, respectively, move you to the top and bottom of menus quickly.

**Note** If no IRMA3t or IRMA 3 Convertible adapter is installed in your system, and no option is specified after entering the 13PLCFG command, your screen displays a prompt that asks you which adapter you plan to configure your system for—IRMA3t (the current release of the adapter), or IRMA 3 Convertible (the previous release of the adapter). Type **1** for IRMA3t, or **2** for IRMA 3 Convertible.

The following sections explain how to use each of the four configuration options in detail. Work through these sections in the order in which they appear in this chapter.

## Choosing the emulator address

Choosing the emulator address involves matching the adapter address in the configuration program with the adapter address DIP switch setting. Figure 3-10 shows the second-level menu that is displayed when you choose Emulator Address from the main menu.

Main Menu		Choices
Emulator Address	: 280 - 29F	280--29F
Personality Select	: CUT & IBM	2A0--2BF
Install Options		2C0--2DF
Exit		

ESC to return, UP/DOWN Arrows to move the bar, ENTER to select.

**Figure 3-10. Emulator Address menu**

The following paragraphs describe how to complete the Emulator Address field.

**Emulator Address.** The Emulator Address field indicates which I/O port address the configuration and download programs use to communicate with the hardware. The emulator address initially displayed is the address set by the DIP switches on the IRMA 3 Convertible adapter. The recommended address is X'280'.

Range: X'280'–X'29F', X'2A0'–X'2BF', or X'2C0'–X'2DF'

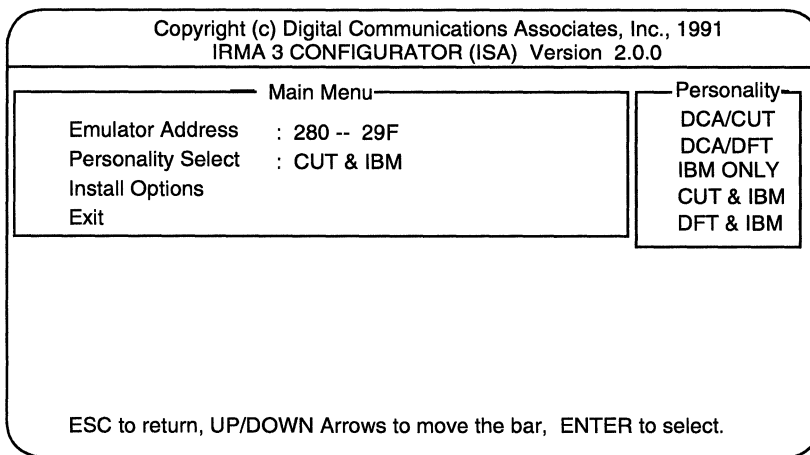
Default: X'280'–X'29F'

Usage: Required. The address you specify here must match the setting on the adapter. If you decide to change the address on the menu, be sure to change the switch settings on the adapter. If you have multiple IRMA 3 Convertible adapters installed in your PC, configure each adapter to use a unique emulator address. If you choose the X'2C0'–X'2DF' range, disable the IBM personality to avoid I/O conflicts, since IBM also uses the X'2D0–2DF' range.

**Note** Although IRMA 3 Convertible offers the extended address ranges X'680', X'6A0', X'6C0', X'6E0', X'A80', X'AA0', X'AC0', X'AE0', X'E80', X'EA0', X'EC0', and X'EE0', you will probably not need to use them. The extended address ranges are offered for environments that use multiple adapters, and need additional address ranges, such as LAN servers. Switch settings for the extended ranges are shown in Appendix C, "Extended Addresses."

## Choosing the emulation personality

IRMA 3 Convertible works with various types of terminal emulation software. Figure 3-11 shows the second-level menu that is displayed when you choose Personality Select from the main menu.



**Figure 3-11. Personality Select menu**

The following paragraphs show which personality option to choose for your software.

**Personality Select.** With the Personality Select option, you specify the IRMA 3 Convertible personality compatible with the terminal emulation software that you are using.

**DCA/CUT** Choose this personality if you are using E78 Plus, PC 789, Windowlink, EXTRA!, or IRMA emulation software in CUT mode.

**DCA/DFT** Choose this personality if you are using IRMALAN DFT Gateway, IRMAX DFT, IRMAX Multisessions, Select Comm Workstation, Select Comm Server, or IRMA emulation software in DFT mode.

- IBM ONLY** Choose this personality if you are using IBM terminal emulation software such as the IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program–Entry Level, IBM 3270 PC Workstation Program, Personal Communications/3270, or OS/2 Extended Edition.
- CUT & IBM** Choose this personality if you are using Attachmate emulation software such as EXTRA!, E78 Lite, E78 Plus, PC789, or Windowlink; or IBM terminal emulation software such as the IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program–Entry Level, IBM 3270 PC Workstation Program, Personal Communications/3270, and OS/2 Extended Edition.
- DFT & IBM** Choose this personality if you are using Attachmate EXTRA! emulation software; IRMAX DFT or IRMAX Multisessions; or IBM terminal emulation software such as the IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program–Entry Level, IBM 3270 PC Workstation Program, Personal Communications/3270, and OS/2 Extended Edition.

**Note** To run more than one type of software on the IRMA 3 Convertible adapter, you must set up a configuration file for each personality and store it in a separate directory.

## Choosing the install options

The configuration parameters that appear on the Install Options second-level menu depend on the personality you choose for the IRMA 3 Convertible adapter. The Install Options available for each of the personalities are described in the following sections.

### DCA/CUT options

Figure 3-12 shows the second-level menu that is displayed when you choose Install Options from the main menu, if you have chosen the DCA/CUT personality.

Copyright (c) Digital Communications Associates, Inc., 1991 IRMA 3 CONFIGURATOR (ISA) Version 2.0.0	
Main Menu	Install Options
Emulator Address : 280 - 29F	
Personality Select : DCA/CUT	
Install Options	Dual Port Memory : CE000
Exit	Enable 220h Address : YES
F1 help, ESC to return, UP/DOWN Arrows to move the bar, ENTER to select.	

**Figure 3-12. Install Options menu for DCA/CUT**

The following paragraphs describe the DCA/CUT Install Options.

**Dual Port Memory.** This field specifies the dual port memory address for use with Attachmate terminal emulation software.

Range: Disable, CE000, C0000, C2000, C4000, C6000, C8000, CA000, CC000, D0000, D2000, D4000, D6000, D8000, DA000, DC000, or DE000.

Default: CE000.

Usage: Required if you are using Attachmate terminal emulation software.

**Enable 220h Address.** This field specifies whether you enable or disable the X'220' address. Choose Yes to enable the X'220' address and make the IRMA 3 Convertible adapter compatible with the original PROM-based IRMA adapter. You must enable the X'220' address range to use any Attachmate and third-party software written for the PROM-based IRMA hardware. Choose No to allow the address range to be used by other adapters and software.

Range: Yes or No.

Default: Yes.

Usage: Required for use with Attachmate terminal emulation software. If you have multiple IRMA 3 Convertible adapters installed in your PC, only one may be configured with the X'220' address enabled.

## DCA/DFT options

Figure 3-13 shows the second-level menu that is displayed when you choose Install Options from the main menu, if you have chosen the DCA/DFT personality.

Copyright (c) Digital Communications Associates, Inc., 1991 IRMA 3 CONFIGURATOR (ISA) Version 2.0.0			
Main Menu		Install Options	
Emulator Address	: 280 -- 29F	Dual Port Memory	CE000
Personality Select	: DCA/DFT	IRQ Level	IRQ2
Install Options			
Exit			

F1 help, ESC to return, UP/DOWN Arrows to move the bar, ENTER to select.

**Figure 3-13.** Install Options menu for DCA/DFT

The following paragraphs describe the DCA/DFT Install Options.

**Dual Port Memory.** This field specifies the dual port memory address for use with Attachmate terminal emulation software.

Range: Disable, CE000, C0000, C2000, C4000, C6000, C8000, CA000, CC000, D0000, D2000, D4000, D6000, D8000, DA000, DC000, or DE000.

Default: CE000.

Usage: Required if you are using Attachmate terminal emulation software.

**IRQ Level.** This field specifies the interrupt request line, or IRQ level, to allow one non-sharing adapter to have exclusive use of a specified interrupt request line. If there is more than one adapter in the PC, we recommend that each adapter be set to a unique IRQ level, although IRMA 3 Convertible supports the use of shared interrupts. IRQ level 2 on this menu corresponds to the Coaxial Interrupt Number choice on the IRMAX configuration menu.

Range: IRQ2, IRQ3, or Disable

Default: IRQ2

Usage: Required for use with Attachmate terminal emulation software. If you have multiple IRMA 3 Convertible adapters installed in your PC, each one must be configured to use a different IRQ level. The emulation software must be configured for the same interrupt that you choose here.

**Note** IRQ levels can also be shared by one or more adapters in a Micro Channel System, and for Select Comm Workstation or Select Comm Server. See Chapter 4, "Installing the Micro Channel Hardware," for more details.

## IBM ONLY options

Figure 3-14 shows the second-level menu that is displayed when you choose Install Options from the main menu, if you have chosen the IBM ONLY option.

Main Menu		Install Options	
Emulator Address	: 280 -- 29F	Dual Port Memory	CE000
Personality Select	: IBM ONLY	IRQ Level	IRQ2
Install Options			
Exit			

F1 help, ESC to return, UP/DOWN Arrows to move the bar, ENTER to select.

**Figure 3-14. Install Options menu for IBM ONLY**

The following paragraphs describe the IBM ONLY Install Options.

**Dual Port Memory.** This field specifies the dual port memory address for use with IBM terminal emulation software.

Range: Disable, CE000, C0000, C2000, C4000, C6000, C8000, CA000, CC000, D0000, D2000, D4000, D6000, D8000, DA000, DC000, or DE000.

Default: CE000.

Usage: Required if using IBM terminal emulation software.

**IRQ Level.** The IRQ level is displayed for information only and may not be changed. The IRQ parameter is set to match the functionality of the IBM 3270 Connection adapter. If you try to change it, a message appears on the help line indicating that no choices are available. Press ESC to return to the main menu.



## CUT & IBM options

Figure 3-15 shows the second-level menu that is displayed when you choose Install Options from the main menu, if you have chosen the CUT & IBM personality.

Copyright (c) Digital Communications Associates, Inc., 1991 IRMA 3 CONFIGURATOR (ISA) Version 2.0.0	
Main Menu	Install Options
Emulator Address : 280 -- 29F	
Personality Select : CUT & IBM	
Install Options	Dual Port Memory CE000
Exit	Enable 220h Address : YES

F1 help, ESC to return, UP/DOWN Arrows to move the bar, ENTER to select.

**Figure 3-15. Install Options menu for CUT & IBM**

The following paragraphs describe the CUT & IBM Install Options.

**Dual Port Memory.** This field specifies the dual port memory address for use with IBM terminal emulation software.

Range: Disable, CE000, C0000, C2000, C4000, C6000, C8000, CA000, CC000, D0000, D2000, D4000, D6000, D8000, DA000, DC000, or DE000.

Default: CE000.

Usage: Required if using IBM terminal emulation software.

**Enable 220h Address.** This field specifies whether you enable or disable the X'220' address. Choose Yes to enable the X'220' address and make the IRMA 3 Convertible adapter compatible with the original PROM-based IRMA adapter. You must enable the X'220' address range to use any Attachmate and third-party software written for the PROM-based IRMA hardware. Choose No to allow the address range to be used by other adapters and software.

Range: Yes or No.

Default: Yes.

Usage: Required if you are using Attachmate terminal emulation software. If you have multiple IRMA 3 Convertible adapters installed in your PC, only one may be configured with the X'220' address enabled.

## DFT & IBM options

Figure 3-16 shows the second-level menu that is displayed when you choose Install Options from the main menu, if you have chosen the DFT & IBM personality.

Copyright (c) Digital Communications Associates, Inc., 1991 IRMA 3 CONFIGURATOR (ISA) Version 2.0.0	
Main Menu	Install Options
Emulator Address : 280 -- 29F	Dual Port Memory CE000
Personality Select : DFT & IBM	IRQ Level : IRQ2
Install Options	
Exit	
ESC to return, UP/DOWN Arrows to move the bar, ENTER to select.	

**Figure 3-16.** Install Options menu for DFT & IBM

The following paragraphs describe the DFT & IBM Install Options.

**Dual Port Memory.** This field specifies the dual port memory address for use with IBM terminal emulation software.

Range:               Disable, CE000, C0000, C2000, C4000, C6000,  
                          C8000, CA000, CC000, D0000, D2000, D4000,  
                          D6000, D8000, DA000, DC000, or DE000

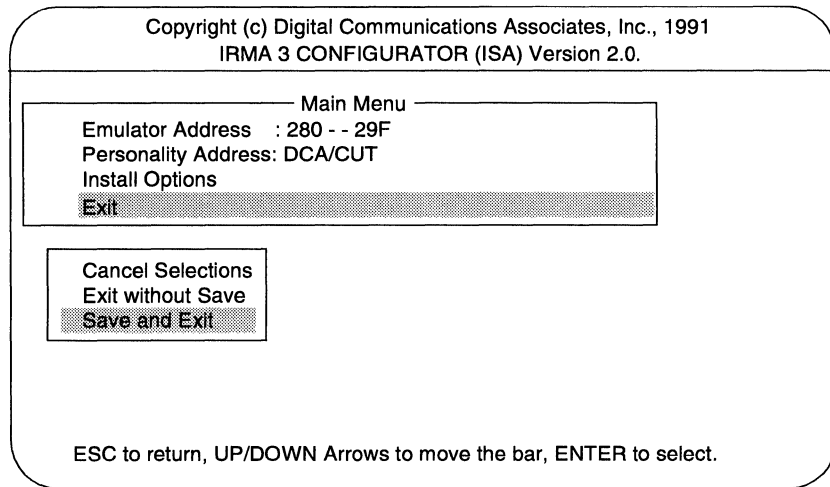
Default:             CE000

Usage:               Required if using IBM terminal emulation  
                          software.

**IRQ Level.** The IRQ level is displayed for information only and may not be changed. The IRQ parameter is set to match the functionality of the IBM 3270 Connection adapter. If you try to change it, a message appears on the help line indicating that no choices are available. Press ESC to return to the main menu.

## Exiting the program

When you choose Exit from the main menu, the program displays the second-level menu shown in Figure 3-17.



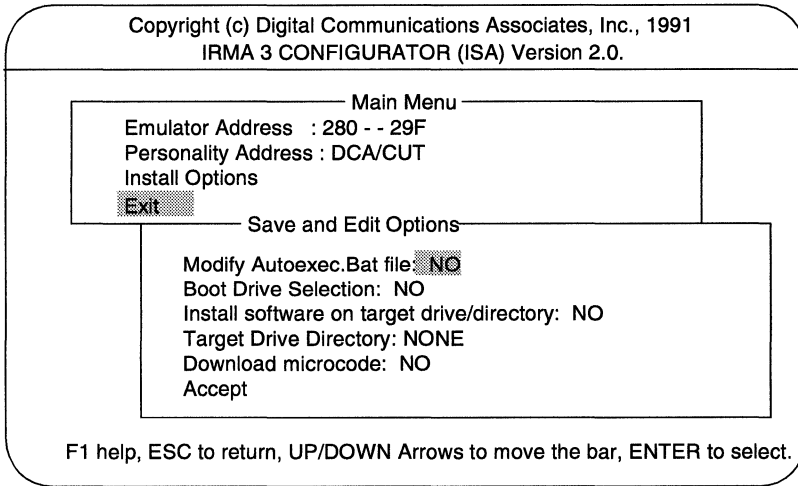
**Figure 3-17. Exit menu**

The following paragraphs describe the Exit menu choices.

**Cancel Selections.** Cancels any changes and returns control to the main menu.

**Exit without Save.** Exits the configuration menu without saving any changes.

**Save and Exit.** Displays the menu shown in Figure 3-18.



**Figure 3-18. Save and Exit menu**

The following paragraphs describe the Save and Exit Options.

**Modify Autoexec.Bat file.** Choose Yes to automatically append the download command to the AUTOEXEC.BAT file. If no AUTOEXEC.BAT file exists, one will be created by the configuration program. See the next section, "Running the download program," for information about the IRMA 3 Convertible download program.

Range: Yes or No

Default: No

Usage: Optional. Not available if you are running the software under OS/2.

**Boot Drive Selection.** Specifies where your AUTOEXEC.BAT file is located. A or C is only available if you choose Yes in the Modify Autoexec.Bat File field.

Range: A or C

Default: C when Yes is chosen in the Modify Autoexec.Bat File field.

Usage: Optional. Not available if you are running the software under OS/2.

**Install software on target drive/directory.** Indicates whether to install the files from the IRMA Convertible configuration disk to the drive and directory specified in the Target Drive/Directory field.

Range: Yes or No.

Default: No.

Usage: Optional.

**Target drive/directory.** A date entry field that specifies the target drive and directory for the files you are copying from the IRMA 3 Convertible configuration disk. This option is only available if you choose Yes in the Install Software on Target Drive/Directory field.

Range: None, C:\IRMA3t, or any drive/directory.

Default: None.

Usage: Optional.

**Download microcode.** Automatically executes the download program, as described in the next section, "Running the download program." Once the program is executed, one of several messages may appear to indicate the current status.

Range: Yes or No.

Default: No.

Usage: Optional. You may also enter the **DOWNLOAD** command from the DOS prompt to execute the download program.

**Accept.** Saves your configuration and creates a configuration file named I3xx.DAT, where *xxx* is the IRMA 3 Convertible adapter address. For example, if the IRMA 3 Convertible address is X'280', the configuration file is named I3280.DAT. The download program uses the file to configure IRMA 3 Convertible for the chosen personality.

**Note** If you receive an LRC error after the configuration program save the files, this indicates a checksum or bad memory error. Check for memory conflicts with other adapters in your system, make sure your memory chip is functional, and make sure you have enough free memory to run the configuration program (330 KB).

Complete the hardware installation by following the instructions in the next section to download the configuration file to the IRMA 3 Convertible adapter.

## Running the download program

The IRMA 3 Convertible download program sets the adapter to the personality you specified during configuration. You must execute the download program every time you start the system, or whenever you change the adapter personality. At least 65 KB of free memory is required to run the download program.

Also, if you change the adapter address of the IRMA 3 Convertible adapter, you must run the configuration program again to generate a new I3xxx.DAT file.

**Note** If you plan to use Select Comm Workstation or Select Comm Server, it is not necessary to run the IRMA 3 Convertible download program. The SETUPCW or SETUPCS programs, respectively, add the necessary commands to the STARTUP.COM file for each IRMA 3 Convertible adapter you have installed. See your Select software installation guide for more information.

The download program configures IRMA 3 Convertible to the desired personality and downloads the microcode. If you have one adapter installed and enter the download command without specifying a hexadecimal address, the microcode is downloaded to the adapter whose adapter address is X'280'.

If you have multiple adapters installed in your PC, make sure you download the microcode to the desired adapter by entering the appropriate option (see Table 3-2 for a description of the download command options). For example, DOWNLOAD 280 loads the microcode to the adapter whose adapter address is X'280'.

The download program looks for the download files (.DNL) and the .DAT files in the current working directory.

If you chose the Copy Files to Target Drive/Directory option at the Save and Exit menu of the configuration program, the download program can be executed from the drive/directory specified.

If you chose the Modify Autoexec.BAT File at the Save and Exit menu of the configuration program, the Download command is automatically entered when you reboot the PC. Table 3-2 summarizes the DOWNLOAD options.

**Table 3-2. DOWNLOAD options for ISA systems**

Option	Description
nnn	Hexadecimal address for additional adapters. Use this option if you have multiple IRMA 3 Convertible adapters in your system.
?	Displays command line options or online help.

Follow these steps to run the IRMA 3 Convertible download program:

- 1 Insert your working copy of the IRMA 3 Convertible diskette in any drive, or move to the directory that contains the DOWNLOAD file.
- 2 Type the following at the DOS command prompt and press ENTER:

**DOWNLOAD** [*options...*]

The program may display a message asking for additional information with which to identify your system as ISA or Micro Channel.

If you see the following error message, you must re-enter the DOWNLOAD command along with the /M parameter for an ISA system (including EISA); thereafter, use the /M parameter each time you enter the command:

Unknown System Configuration. Use parameter /M=is or /M=mc for ISA and Micro Channel systems respectively.

Type the following at the DOS command prompt and press ENTER:

**DOWNLOAD /M=is** [*options...*]

**Note** If your system is an OS/2 system and you need to specify the /M parameter, you also need to add the /M parameter to a pre-existing line of your CONFIG.SYS file as follows:

```
DEVICE=drive: \path\DDCOAX.SYS /M=xx
```

Modifying your CONFIG.SYS file is described in Appendix A, "Running the Diagnostic Program."



## **Completing the installation**

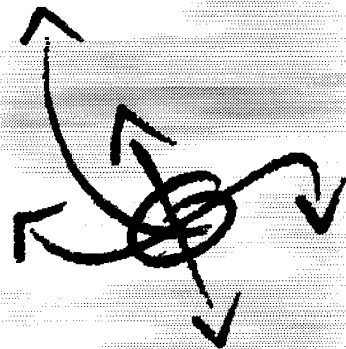
Once you have installed IRMA 3 Convertible and have downloaded the microcode, you are ready to run your desired applications.

If, however, you experience any problems after the installation, check the following:

- Make sure any changes to the default DIP switch settings for the hardware are reflected in the software configuration where applicable.
- Use IRMA 3 Convertible's diagnostic program (I3PLDIAG.EXE) and I3PLFIND utility (I3PLFIND.EXE) to test your installation. See Appendix A, "Running the Diagnostic Program," for information about this program.
- Make sure that you have properly executed the download program.
- Make sure that you have configured the emulation software properly for use with the IRMA 3 Convertible adapter.

# Installing the Micro Channel Hardware

- Overview 4-2
- Before you install the adapter 4-2
- Installing the adapter 4-5
- Updating the PS/2 configuration 4-8
- Running the configuration program 4-11
- Running the download program 4-20
- Completing the installation 4-21



## Overview

This chapter explains how to install the IRMA 3 Convertible adapter that is assembled for a Micro Channel system. Follow these instructions if you are using an IBM PS/2 Model 50–95, or compatible computer.

This chapter covers the following topics:

- Preliminary tasks, including copying the .ADF file and setting the jumpers
- Installing the adapter
- Updating the PS/2 hardware configuration
- Running the configuration program
- Running the download program
- Completing the installation

## Before you install the adapter

Before installing the adapter, it must be properly assembled for a Micro Channel system, as described in Chapter 2, “Converting the Adapter.” You should also have a thorough understanding of the PS/2 Reference diskette functions, and have successfully copied the .ADF file (@6EF8), to your working copy of the IBM PS/2 Reference diskette. This information is described in the IBM quick reference manual for your PS/2 computer.

**Note** The DIP switches on the adapter do not apply to Micro Channel systems.

## Copying the .ADF file

Before installing the adapter, you must copy the adapter description file with the extension .ADF, to your working copy of the IBM PS/2 Reference diskette to properly identify the adapter. The .ADF file contains base addresses, interrupts, and other pertinent information about the Micro Channel configuration that the PS/2 requires to properly identify and configure the adapter. This file is named @6EF8.ADF (for the current release of IRMA 3 Convertible—IRMA 3t), or @6E79.ADF (for the previous release of IRMA 3 Convertible), where 6EF8 or 6E79, respectively, is the Adapter ID.

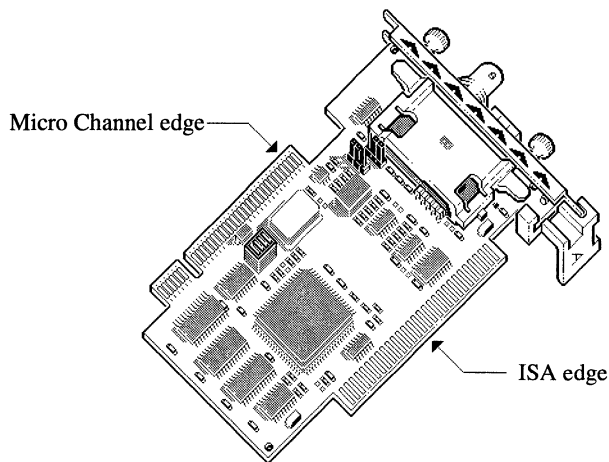
To automatically copy the .ADF file to the IBM PS/2 Reference diskette, you can run the IRMA 3 Convertible configuration program prior to installing the adapter in your PC. Refer to “Running the configuration program” on page 4-11 for more details. If you do not run the configuration program prior to

installation, you must manually copy the correct .ADF file to your working copy of the IBM PS/2 Reference diskette.

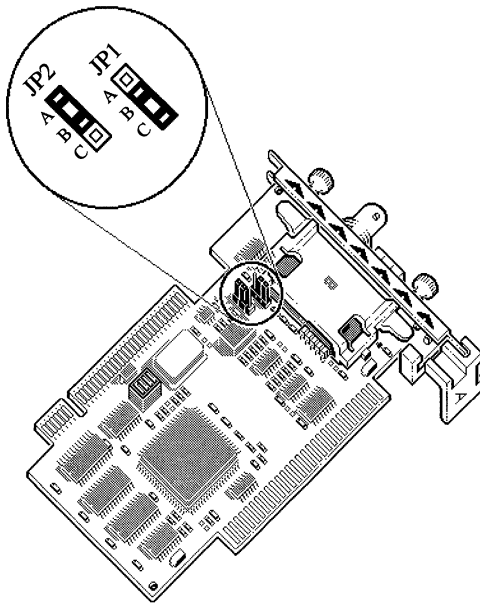
To manually copy the .ADF file, it must be present in the directory from which you will run the configuration program. If you need help making a backup of the IBM PS/2 Reference diskette, or copying the .ADF file to it, refer to the IBM Quick Reference manual for your PS/2 computer. Also, you can view and print the contents of the .ADF files, for both the current and previous releases of the IRMA 3 Convertible adapter.

## Setting the jumpers

IRMA 3 Convertible also has two jumpers. You can connect straight coaxial or twisted-pair cables to the adapter. Jumper JP1 sets the cabling interface and is factory configured to B-C to indicate a coaxial connection. Jumper JP2 determines the sensitivity of the receiver circuit and is factory configured to position A-B for High Sensitivity. Figure 4-1 shows the adapter assembled for installation in a Micro Channel system. Figure 4-2 shows the location of the jumpers on the adapter and the default settings.



**Figure 4-1.** IRMA 3 Convertible adapter assembled for a Micro Channel system



**Figure 4-2. Location of the jumpers on the IRMA 3 Convertible adapter**

The default setting for JP1, B-C (93 ohm impedance), indicates that you are using straight coaxial cable or a balun connected to the cable adapter connector. If you are connecting a twisted-pair cable directly to the RJ-11 connector set JP1 to A-B (110 ohm impedance).

The default setting for JP2, A-B (High Sensitivity), assures functionality over the maximum recommended cable lengths for both coaxial and twisted-pair cabling. In noisy twisted-pair cabling situations, where communication error rates are excessive, move JP2 to position B-C, for Low Sensitivity.

## Installing the adapter

To prepare for the installation, be sure you have the following items:

- The IRMA 3 Convertible adapter assembled for a Micro Channel system
- A screwdriver or coin
- A copy of your system's IBM reference documentation
- The IBM reference diskette

To install the IRMA 3 Convertible adapter in the PS/2 system, follow these steps:

- 1 Note the serial number on the IRMA 3 Convertible adapter and write it down for future reference.
- 2 Turn off the PS/2 and all attached devices such as printers or modems.
- 3 Unplug any computer power cords from electrical outlets.

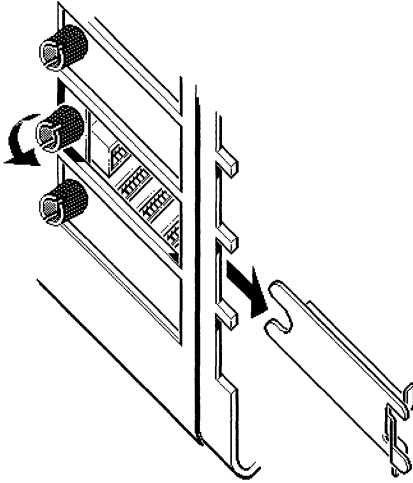
**Warning** Failure to turn off the power to your PS/2 and unplug the power cord could result in injury to you.

- 4 Unlock the PS/2 system unit cover.
- 5 Loosen the PS/2 cover screws with a coin or screwdriver, and remove the cover.

**Note** For more information or instructions, see your IBM reference documentation.

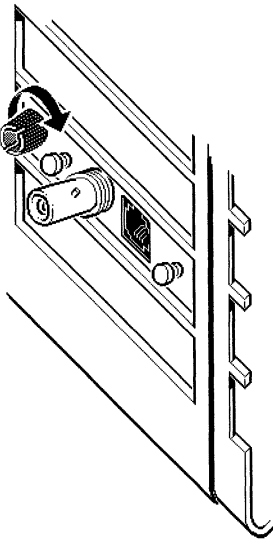
- 6 Locate the expansion slots.
- 7 Choose an unused slot for the adapter.

- 8 Remove the expansion slot cover if it is still in place. Do this by loosening the screw and removing the cover. See Figure 4-3.



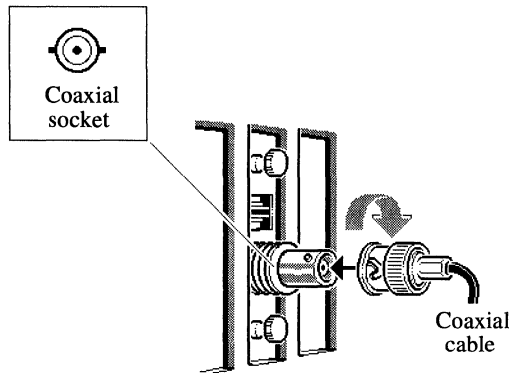
**Figure 4-3. Removing a slot cover**

- 9 Position the adapter so that the tops of the plastic Micro Channel card holder are pointing toward you. The cable adapter connector should point toward the back of the PS/2.
- 10 Firmly press the adapter into the slot until it is seated in place. Make sure that the coaxial connector plate is flush with the expansion slot opening.
- 11 Tighten the slot screw to secure the Micro Channel adapter. See Figure 4-4.



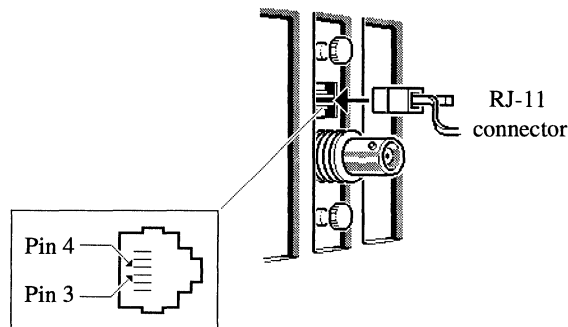
**Figure 4-4. Securing the adapter**

- 12 Replace the PS/2 cover.
- 13 Tighten the cover screws.
- 14 Lock the Model 60 or 80 cover to protect the system unit and its options.
- 15 **For coaxial connections:** Connect the cable as shown in Figure 4-5. Place the cable in the socket and turn it with a clockwise motion.



**Figure 4-5. Connecting the coaxial cable**

**For direct twisted-pair connections:** Insert the RJ-11 plug from the modular cable into the IRMA 3 Convertible RJ-11 connector. The signal wire must connect to pin 4 and the shield wire to pin 3. See Figure 4-6.



**Figure 4-6. Connecting the twisted-pair cable**

- 16 Reconnect each cable in its original position.

This completes the Micro Channel hardware installation. Continue with the next section, “Updating the PS/2 configuration,” for details on updating the PS/2 configuration prior to running the IRMA 3 Convertible configuration program.



## Updating the PS/2 configuration

Once the adapter is installed, use the PS/2 Set Configuration menu to update the PS/2 hardware configuration. Follow these steps:

- 1 Insert the working copy of the reference diskette to which you copied the IRMA 3 Convertible .ADF file in drive A, and turn on your PS/2.

After the memory count, the PS/2 displays error 165 as a result of the installation of a new adapter (IRMA 3 Convertible) and beeps twice. Then the PS/2 reference diskette logo screen is displayed.

- 2 Press ENTER to continue. The system displays a brief description of the error resulting from the addition of the IRMA 3 Convertible adapter. The program asks if you want to choose automatic or manual configuration. This choice depends on whether you want to use default or alternative values.

Table 4-1 shows the default values for the IRMA 3 Convertible adapter.

**Table 4-1. Default values for IRMA 3 Convertible**

<b>Selection</b>	<b>Value</b>
DCA emulator address	X'280'–X'29F'
IRQ level	IRQ2
IRMA emulator port address	Enable X'220'–X'227'
RAM address range	CE000
IBM emulator port address	Enable X'2D0'

To automatically choose the default values for the IRMA 3 Convertible, proceed to the next section, “Using the default settings.”

To manually choose alternate values, refer to “Using nondefault settings” on page 4-9.

## Using the default settings

The procedure described here automatically updates the PS/2 configuration and chooses the default values for the IRMA 3 Convertible adapter based on the chosen personality. The program indicates any conflict with existing adapters. Follow these steps:

- 1 Press **Y** for "yes" at the automatic configuration prompt.

The information window informs you that automatic configuration is running.

- 2 Once you receive the completion message, remove the reference diskette from the drive, and press **ENTER** to restart the computer.

After automatically restarting, the PS/2 does the following if the adapter is installed properly: completes its memory count without returning any error messages, beeps once, and displays the DOS prompt.

If there is a problem, run the diagnostics program, *I3PLDIAG.EXE*, described in Appendix A, "Running the Diagnostic Program," to check the installation. Or, use the information utility *I3PLFIND.EXE*, as described in Appendix B, "Using the I3PLFIND Utility."

## Using nondefault settings

To change the default settings of the IRMA 3 Convertible adapter, use the manual configuration option. Follow these steps:

- 1 To reconfigure the system manually, press **N** at the automatic configuration prompt.
- 2 From the Main menu of the reference diskette, choose the Set Configuration menu.
- 3 From the Set Configuration menu, choose the View Configuration option.
- 4 Press **PGDN** to see the installed adapters in their slot locations. The IRMA 3 Convertible adapter, referred to as the "IRMA 3 Convertible 3270 Adapter," appears with the default settings.
- 5 Press **ESC** to return to the Set Configuration menu.
- 6 Choose the Change Configuration option to change the settings.

- 7 Use PGDN to move down the configuration screen to the slot entry for the IRMA 3 Convertible adapter. Press F6, Next Value, to move to the next choice, or F5 to return to a previous choice. A message appears if you choose a conflicting value. Table 4-2 displays the alternate values available for the adapter.
- 8 Press F10 to save the settings you chose, and wait for the PS/2 to display the following message:  
  
Save configuration complete
- 9 Choose the Backup Configuration option. Press ENTER when the following message appears in the information window:  
  
Backup complete
- 10 Press ESC to exit the Set Configuration menu.
- 11 Press ESC again at the Main Menu, and follow the instructions in the information window to restart your system. Remember to remove the reference diskette when restarting.

After restarting, the PS/2 does the following if the adapter is installed properly: completes its memory count without returning any error messages, beeps once, and displays the DOS prompt.

**Table 4-2. Alternate values for IRMA 3 Convertible**

<b>Selection</b>	<b>Value</b>
DCA Emulator Address	X'280'–X'29F', X'2A0'–X'2BF', or X'2C0'–X'2DF'
IRMA Emulator Port Address	Disable X'220'–X'227'
IRQ level or Disable Interrupt	IRQ2, IRQ10, or Disable INT
IBM Emulator Port Address	Disable IBM (see .ADF file)
RAM Address Range	C0000, C2000, C4000, C6000, C8000, CA000, CC000, CE000, D0000, D2000, D4000, D6000, D8000, DA000, DC000, DE000, or Disable RAM

If there is a problem, run the diagnostic program described in Appendix A, "Running the Diagnostic Program," to check the installation. Continue with the next section, "Running the configuration program," to run the configuration program.

**Note** If you have more than one IRMA 3 Convertible adapter installed in the PS/2, you must choose unique addresses for each adapter. The X'220'–X'227' address may be enabled for only one of the adapters. In addition, be sure that the emulation software is configured to use the address you choose here.

To use IBM emulation software with IRMA 3 Convertible, you must choose IRQ2 (9). You may not choose Disable IBM, Disable RAM Address Range or Disable IRQ.

Note also that the IRQ level corresponds to the choice for the coaxial interrupt number on the IRMAX configuration menu. IRQ9 equals IRQ2 and IRQ10 equals IRQ3.

## Running the configuration program

Once you have set the jumpers, copied the correct .ADF file to your PS/2 Reference diskette, and completed the installation, run the IRMA 3 Convertible configuration program to identify the IRMA 3 Convertible characteristics compatible with the terminal emulation software that you are using. At least 330 KB of free memory is required to run the IRMA 3 Convertible configuration program.

**Note** You may choose to run the IRMA 3 Convertible configuration program prior to installing the adapter into your system to automatically copy the .ADF file to the IBM PS/2 Reference diskette. Note also that if you plan to use Select Comm Workstation or Select Comm Server, you will not need to run the IRMA 3 Convertible configuration program. Instead, run the SETUPCW program or the SETUPCS configuration programs (included with these software packages), respectively.

To run the configuration program, follow these steps:

- 1 Insert your working copy of the IRMA 3 Convertible diskette in drive A, or move to the directory containing the IRMA 3 Convertible file, I3PLCFG.
- 2 Type the following command at the DOS prompt and press ENTER:

**I3PLCFG** [*options...*]

Table 4-3 describes each I3PLCFG command option.

**Table 4-3. 3PLCFG options for Micro Channel system**

Option	Description
nnn	Hexadecimal address for additional adapters. Use this option if you have multiple IRMA 3 Convertible adapters in your system.
?	Displays command line options or online help.

The program may display a message asking for additional information with which to identify your system as ISA or Micro Channel.

If you see the following error message, you must re-enter the I3PLCFG command along with the /M parameter for a Micro Channel system; thereafter, use the /M parameter each time you enter the command.

Unknown System Configuration. Use parameter /M=is or /M=mc for ISA and Micro Channel systems respectively.

Type the following at the DOS command prompt and press ENTER:

**I3PLCFG /M=mc** [options...]

**Note** If your system is an OS/2 system and you need to specify the /M parameter, you also need to add the /M parameter to a pre-existing line of your CONFIG.SYS file as follows:

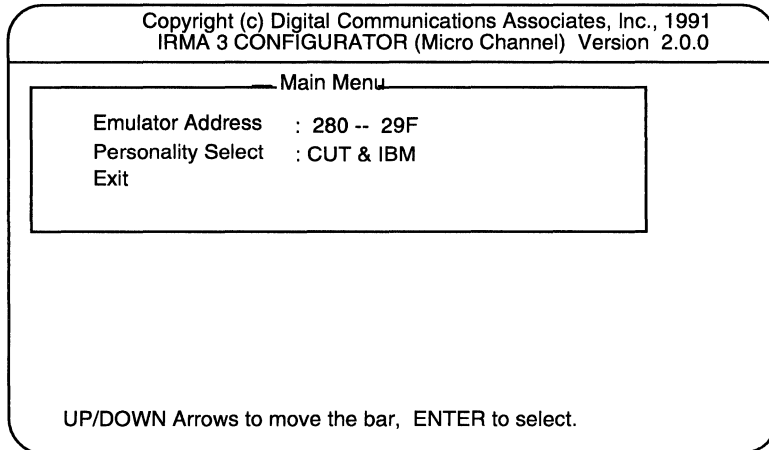
```
DEVICE=drive: \path\DDCOAX.SYS /M=xx
```

Modifying your CONFIG.SYS file is described in Appendix A, "Running the Diagnostic Program."

If there are no other error messages, the program displays the IRMA 3 Convertible Configurator main menu, shown in Figure 4-7.

## The Main menu

The main menu, shown in Figure 4-7, displays the three options available: Emulator Address, Personality Select, and Exit.



**Figure 4-7. Configuration main menu**

Use the arrow keys to move the bar from option to option. Press ENTER to choose an option. When you choose an option from the main menu, the program displays a second-level menu. On the second-level menu, move to the configuration choices with the arrow keys and press ENTER. Press ESC to return to the main menu. The HOME and END keys, respectively, move you to the top and bottom of menus quickly.

**Note** If no IRMA3t or IRMA 3 Convertible adapter is installed in your system, and you specify no options when you enter the I3PLCFG command, a screen prompt asks you to indicate the adapter you plan to configure your system for—IRMA3t (the current release of the adapter) or IRMA 3 Convertible (the previous release of the adapter). Type 1 for IRMA3t, or 2 for IRMA 3 Convertible.

The following sections describe each option in detail. Work through these sections in the order in which they appear.

## Setting the emulator address

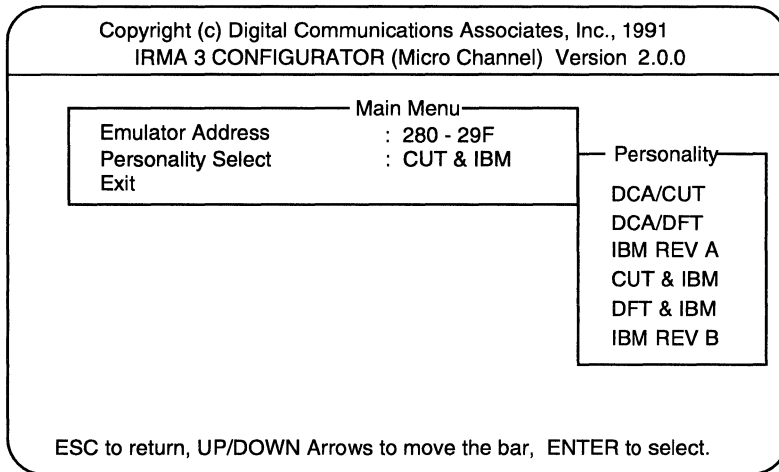
I/O ports pass information between the PC and hardware such as the IRMA 3 Convertible adapter. Each port has a specific address corresponding to a 1-byte (8 bit) register on the adapter. Programs such as E78 Plus, the IBM Workstation program, and the IRMA 3 Convertible configuration and download programs, each use a distinct range of I/O addresses to read data from and write data to the adapter's ports. I/O addresses chosen for the IRMA 3 Convertible adapter must not conflict with I/O addresses used by other adapters in the PC. The specific addresses are chosen through the .ADF file.

The Emulator Address line in the configuration program shows the range of I/O addresses used by the software to communicate with the IRMA 3 Convertible adapter. The current range of 2xx cannot be changed with the IRMA 3 Convertible configuration program; you must use the IBM PS/2 Set Configuration menu described in "Updating the PS/2 configuration" on page 4-8. IRMA, IRMA 2, and IBM adapters all operate in the 2xx range.

**Note** Although IRMA 3 Convertible offers the extended address ranges X'680', X'6A0', X'6C0', X'6E0', X'A80', X'AA0', X'AC0', X'AE0', X'E80', X'EA0', X'EC0', and X'EE0', most users will not need to use them. These are offered for environments that use multiple adapters which require additional address ranges, such as LAN servers. Switch settings for the extended addresses are shown in Appendix C, "Extended Addresses."

## Choosing an emulation personality

The Personality Select option specifies the IRMA 3 Convertible characteristics compatible with the terminal emulation software that you are using. Figure 4-8 shows the second-level menu that is displayed when you choose Personality Select from the main menu.



**Figure 4-8. Personality Select menu**

The following paragraphs show which personality option to choose for your software.

**Personality Select.** With the Personality Select option, specify the IRMA 3 Convertible personality compatible with the terminal emulation software that you are using.

**DCA/CUT** Choose this personality if you are using E78 Plus, PC789, Windowlink, EXTRA!, or IRMA emulation software.

**DCA/DFT** Choose this personality if you are using IRMA emulation software, IRMAX DFT, IRMAX Multisessions, IRMALAN DFT Gateway, Select Comm Workstation, or Select Comm Server.



**IBM REV A** Choose this personality if you are using IBM terminal emulation software, such as the IBM 3270 PC Workstation Program, IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program—Entry Level, Personal Communications/3270, and OS/2 Extended Edition; and if you are using an IBM base address of X'2d0', and memory address of CE000–CFFFF.

**CUT & IBM** Choose this personality if you are using Attachmate emulation software such as EXTRA!, E78 Plus, PC789, E78 Lite, Windowlink; or IBM terminal emulation software such as the IBM 3270 PC Workstation Program, IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program—Entry Level, Personal Communications/3270, and OS/2 Extended Edition.

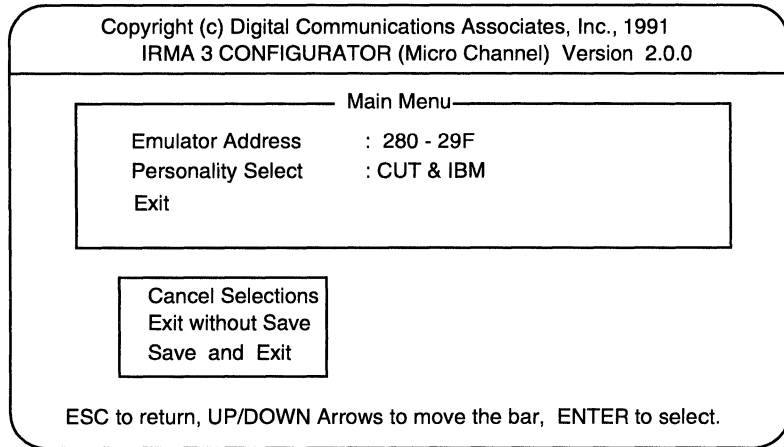
**DFT & IBM** Choose this personality if you are using Attachmate EXTRA! emulation software; IRMAX DFT or IRMAX Multisessions; or IBM terminal emulation software such as the IBM 3270 PC Workstation Program, IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program—Entry Level, Personal Communications/3270, and OS/2 Extended Edition.

**IBM REV B** Choose this personality if you are using IBM terminal emulation software, such as the IBM 3270 PC Workstation Program, IBM PC 3270 Emulation Program, IBM PC 3270 Emulation Program—Entry Level, Personal Communications/3270, and OS/2 Extended Edition; and if you are using an IBM base address other than 2D0, and memory address of CE000–CFFFF.

**Note** To run more than one type of software on the IRMA 3 Convertible adapter, you may need to set up a configuration file for each personality and store it in a separate directory.

## Exiting the program

When you choose Exit from the main menu, the program displays the second-level menu shown in Figure 4-9.



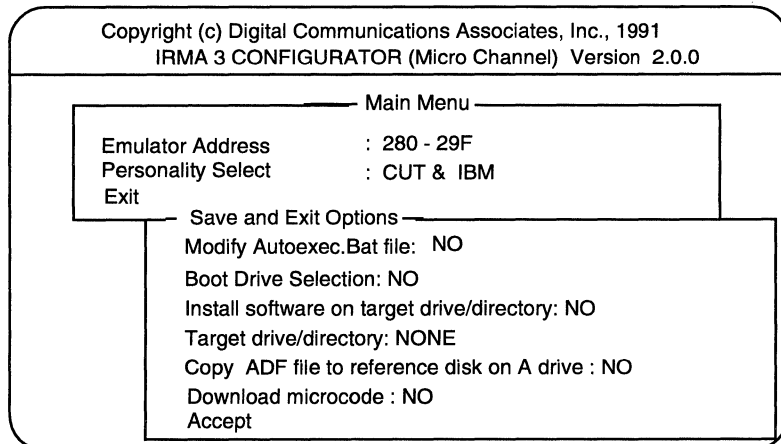
**Figure 4-9. Exit menu**

The following paragraphs describe the Exit menu choices.

**Cancel Selections.** Cancels any changes and displays the main menu.

**Exit without Save.** Exits the Configuration menu without saving any changes.

**Save and Exit.** Displays the menu shown in Figure 4-10.



**Figure 4-10. Save and Exit menu**

The following paragraphs describe the Save and Exit Options.

**Modify Autoexec.Bat file.** Choose Yes to automatically append the download command to the AUTOEXEC.BAT file. If no AUTOEXEC.BAT file exists, one will be created by the configuration program. See the next section for information about the IRMA 3 Convertible download program.

Range: Yes or No

Default: No

Usage: Optional. Not available if you are running the software under OS/2.

**Boot Drive Selection.** Defines the location of your AUTOEXEC.BAT file. A or C is available only if you choose Yes in the Modify Autoexec.Bat file field.

Range: None, A, or C

Default: None

Usage: Optional. Not available if you are running the software under OS/2.

**Install software on target drive/directory.** Indicates whether to copy files from the IRMA 3 Convertible configuration disk to the desired drive and directory specified in the Target Drive/Directory field.

Range: Yes or No

Default: No

Usage: Optional

**Target drive/directory.** A data entry field that specifies the target drive and directory for the files you are copying from the IRMA 3 Convertible configuration disk.

Range: None, C:\IRMA3t, or any drive\filename

Default: None

Usage: Optional

**Copy ADF file to reference disk on A drive.** Indicates whether or not the adapter description file is automatically copied to the IBM PS/2 Reference diskette. This file is named @6EF8.ADF (for the current release of IRMA 3 Convertible—IRMA 3t), or @6E79.ADF (for the previous release of IRMA 3 Convertible). The Adapter ID is 6EF8 or 6E79, respectively. If you choose "No" here, you must manually copy the file to the reference diskette prior to installing IRMA 3 Convertible to properly identify the adapter. To successfully copy this file manually, it must be present in the directory from which you are running the configuration program. The .ADF adapter description file contains base addresses, interrupts, and other pertinent information about the Micro Channel adapter that the PS/2 requires to configure the Micro Channel Bus.

Range: Yes or No

Default: Yes

Usage: Optional

**Download microcode.** Automatically executes the IRMA 3 Convertible download program, as described in the next section, "Running the download program." Once executed, one of several possible messages indicates the current status.

Range: Yes or No

Default: No

Usage: Optional. You may also enter the **DOWNLOAD** command from the DOS prompt to execute the download program.

**Accept.** Choose "Accept" and press **ENTER** to complete the installation. Follow any additional prompts displayed on the help line to transfer the .ADF file to the reference diskette. When you save a configuration, the program creates a configuration file named I3xxx.DAT, where xxx is the IRMA 3 Convertible adapter address. The download program uses this file to configure IRMA 3 Convertible to the chosen personality.

Follow the instructions in the next section, "Running the download program," to run the download program.

## Running the download program

The IRMA 3 Convertible download program sets the adapter to the personality specified during configuration. You must execute the download program every time you start the system, or whenever you change the adapter personality. At least 65 KB of free memory is required to run the download program.

If you have multiple adapters installed in your PC, make sure you download the microcode to the appropriate adapter by entering the appropriate option (see Table 4-4 for a description of DOWNLOAD command options). For example, DOWNLOAD 280 loads the microcode to the adapter whose adapter address is X'280'.

If you chose the Copy Files to Target Drive/Directory option or the Modify Autoexec.Bat File option at the Save and Exit menu of the configuration program, the download program may be executed from the drive/directory specified.

If you chose the Modify Autoexec.Bat file or the Download microcode option at the Save and Exit Options menu of the configuration program, the download command is automatically executed when you reboot the PC.

**Note** If you plan to use Select Comm Workstation or Select Comm Server, it is not necessary to run the IRMA 3 Convertible download program. The SETUPCW or SETUPCS programs, respectively, add the necessary commands to the STARTUP.CMD file for each IRMA 3 Convertible adapter you have installed. See your Select-specific software installation guide for more information.

Follow these steps to run the IRMA 3 Convertible download program:

- 1 Insert your working copy of the IRMA 3 Convertible diskette in drive A.
- 2 Type the following at the DOS command prompt and press ENTER:

**DOWNLOAD** [*options...*]

The download program configures IRMA 3 Convertible to the desired personality and downloads the microcode. Table 4-4 summarizes the DOWNLOAD options.

**Table 4-4. DOWNLOAD options for Micro Channel systems**

Option	Description
<i>nnn</i>	Hexadecimal address for additional adapters. Use this option if you have multiple IRMA 3 Convertible adapters in your system.
?	Displays command line options or online help.

The program may display a message asking for additional information with which to identify your system as ISA or Micro Channel.

If you see the following error message, you must re-enter the **DOWNLOAD** command along with the **/M** parameter for a Micro Channel system; thereafter, use the **/M** parameter each time you enter the command:

Unknown System Configuration. Use parameter **/M=is** or **/M=mc** for ISA and Micro Channel systems respectively.

Type the following at the DOS command prompt and press **ENTER**:

**DOWNLOAD /M=mc** [*options...*]

**Note** If your system is an OS/2 system and you need to specify the **/M** parameter, you also need to add the **/M** parameter to a pre-existing line of your **CONFIG.SYS** file as follows:

```
DEVICE=drive: \path\DDCOAX.SYS /M=xx
```

Modifying your **CONFIG.SYS** file is described in Appendix A, "Running the Diagnostic Program."

## Completing the installation

Once you have installed the IRMA 3 Convertible hardware and downloaded the configuration, you are ready to run your desired applications.

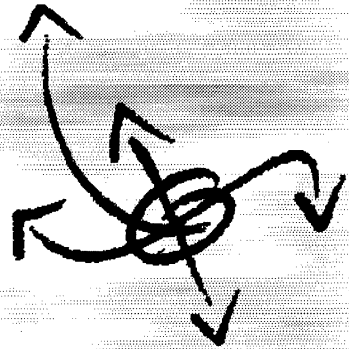
If, however, you experience any problems after the installation, check the following:

- Run the IRMA 3 Convertible diagnostic program, **I3PLDIAG.EXE**, to test your installation. See Appendix A, "Running the Diagnostic Program," for information about this program.
- If you are running terminal emulation software that is not an IRMA product, make sure that you have properly executed the download program.
- If you are running terminal emulation software that is not an IRMA product, make sure that you have configured the emulation software properly for use with the IRMA 3 Convertible adapter.
- If you are running **EXTRA!** terminal emulation software, configure the adapter for its emulation personality in **DCA/CUT**, **CUT & IBM**, or **DFT & IBM**.



# Running the Diagnostic Program

- Overview A-2
- Running the diagnostic program A-2
- Modifying your CONFIG.SYS file (OS/2 systems only) A-4
- I3PLDIAG error codes A-5
- The I3PLDIAG error messages A-6



*Appendix A*



## Overview

The IRMA 3 Convertible distribution diskette includes a diagnostic program, I3PLDIAG.EXE, which tests the adapter's installation and configuration.

This appendix provides the following information:

- Instructions for using the I3PLDIAG program
- Instructions for modifying your CONFIG.SYS file (for OS/2 systems only)
- A list of the possible errors and suggested actions

**Note** At least 170 KB of free memory is required to run I3PLDIAG.EXE.

## Running the diagnostic program

To run the diagnostic program, follow these steps:

- 1 Insert the IRMA 3 Convertible diskette in any drive, or move to the directory containing the IRMA 3 Convertible files.
- 2 Type the following at the DOS command prompt and press ENTER:

**I3PLDIAG** [options...]

Table A-1 describes each I3PLDIAG option.

**Table A-1. I3PLDIAG options**

Option	Description
-L	Continuously runs the diagnostic program. Press any key to stop this loop test.
nnn	Hexadecimal address for additional adapters. Use this option to test multiple IRMA 3 Convertible adapters in your system.
?	Displays online help.

The program may display a message asking for additional information with which to identify your system as ISA or Micro Channel.

If you see the following error message, you must re-enter the I3PLDIAG command along with the /M parameter for an ISA system or Micro Channel system; thereafter, use the /M parameter each time you enter the command:

Unknown System Configuration. Use parameter /M=is or /M=mc for ISA and Micro Channel systems respectively.

Type the following at the DOS command prompt and press ENTER:

**I3PLDIAG /M=xx** [*options...*]

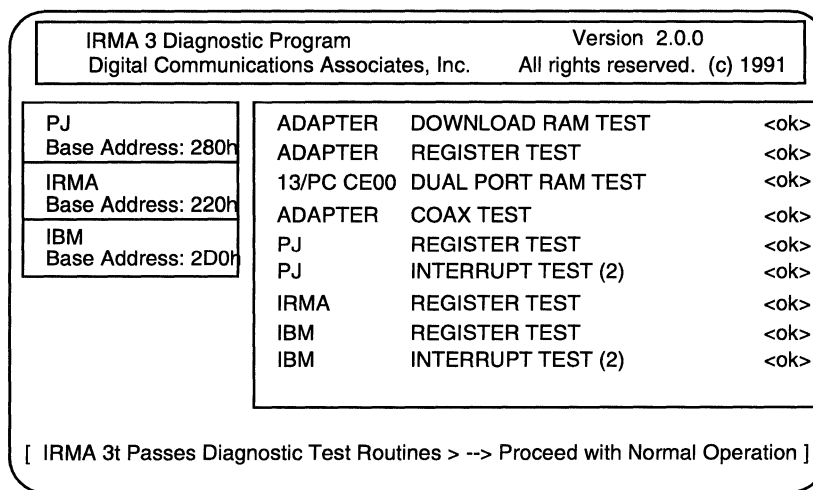
The variable *xx* is as follows: is for an ISA system (including EISA) or mc for a Micro Channel system.

**Note** If your system is an OS/2 system and you need to specify the /M parameter, you also need to add the /M parameter to a pre-existing line of your CONFIG.SYS file as follows:

```
DEVICE=drive: \path\DDCOAX.SYS /M=xx
```

- 3 If the program displays a different message indicating a problem, check the error codes listed in the next section. If you cannot correct the error, contact your system administrator or your Attachmate distributor. If you need further assistance, contact Attachmate Customer Support. If the results indicate that there is no problem, proceed to step 4.
- 4 Run the download program again to reestablish the adapter's personality. You may continue operation as usual.

Figure A-1 shows a sample I3PLDIAG diagnostic screen.



**Figure A-1. Diagnostic screen**

**Note** Once you enter the I3PLDIAG command, the diagnostic program finds the IRMA 3 Convertible adapter and begins the test. If you ran the download program prior to the I3PLDIAG program, the program tests features based on the chosen configuration. If you did not run the download program prior to I3PLDIAG, the program tests all possible addresses and downloads its own microcode. The program displays the test results on the screen.

## Modifying your CONFIG.SYS file (OS/2 systems only)

If you are using an OS/2 system, you must modify your CONFIG.SYS file to successfully run the IRMA 3 Convertible diagnostics program. Modifying your CONFIG.SYS file involves adding a device driver and changing a parameter, using the utility DDINSTAL and an ASCII text editor. Running the DDINSTAL utility automatically installs the device driver for the diagnostics program, and adds the device driver statement in your CONFIG.SYS file.

To modify your CONFIG.SYS file, complete the following steps:

- 1 Type the following command at the DOS prompt and press ENTER:

```
DDINSTAL [drive] [pathname]
```

The system prompts you to insert the distribution diskette.

- 2 Insert the diskette and press ENTER. Follow the prompts displayed to install the device driver.

The system displays information indicating that the device driver is installed.

- 3 Open your CONFIG.SYS file and verify the IOPL parameter, or change it with an ASCII text editor, so it appears as follows:

```
IOPL=YES
```

- 4 Restart your PC to accept the changes.

## I3PLDIAG error codes

This section explains the error codes that the I3PLDIAG diagnostic program may display. Possible causes and corrective measures are noted at the end of each description.

If you cannot recover from an error situation, contact Attachmate Customer Support for assistance. Refer to Chapter 1, "Introducing IRMA 3 Convertible," for information about how to contact Customer Support.

### Classifying the error codes

The majority of the hardware errors detected by the I3PLDIAG program fall into two main classes of errors: check contention and Defective IRMA 3. The next sections describe each class of error.

#### check\_contention

Check contention errors indicate a potential IRMA 3-to-PC interface problem. These errors suggest that there may be interference between the IRMA 3 Convertible adapter and other adapters in the PC. Remove all nonessential adapters such as EMS adapters, modem adapters, and so on, and run the I3PLDIAG program again. If you have multiple IRMA 3 Convertible adapters in the PC, run the diagnostic program with only one adapter installed. Also, try changing the adapter's address or IRQ level.

If the error condition persists, the hardware is defective. See the next section for further instructions. If the message indicates that the adapter is working, make sure that the base address settings and other user-defined options are unique for each adapter that you install in the PC.

#### Defective IRMA3

If the I3PLDIAG program reports an error in this class, there is a high probability that the IRMA 3 Convertible hardware is defective. Before you call Attachmate to exchange the adapter, try the procedures in the previous section, "check\_contention." If the error condition persists, the adapter is defective.

## The I3PLDIAG error messages

This section lists error messages and classifications (check\_contention or defective IRMA3). How to proceed with each type of error is described “Classifying the error codes” on page A-5. If a message does not fit either classification, a description of the problem and suggestions for correcting the situation follow.

**Error 04,05,06: PJ R/W reg**

These are Defective IRMA 3 errors.

**Error 07,08,09: IRMA R/W reg**

These are Defective IRMA 3 errors.

**Error 0A,0B,0C,0D: IRMA attn. reg**

These are Defective IRMA 3 errors.

**Error 2E, 2F: No polls detected**

These are Defective IRMA 3 errors.

**Error 4A: IBM interrupt errors**

This is a check\_contention error.

**Error 4B,4C,4D,4E,4F: PJ interrupt errors**

These are check\_contention errors.

**Error 5A,5B,5C,5D: IBM control Reg. error**

These are Defective IRMA 3 errors.

**Error 5E,5F: IBM 87E reg. error**

These are Defective IRMA 3 errors.

**Error 6A,6B,6C,6D,6E: IBM page change reg. error**

These are check\_contention errors.

**Error 7A,7B,7C,7D: Test bit macro**

These are check\_contention errors.

**Error 10: PJ masterlocks not enabled**

This is a Defective IRMA 3 error.

**Error 11: IRMA masterlocks not enabled**

This is a Defective IRMA 3 or check\_contention error.

**Error 12: PJ masterlocks not disabled**

This is a Defective IRMA 3 error.

**Error 13: IRMA masterlocks not disabled**

This is a check\_contention error.

**Error 30: ucode failure poll chk**

Make sure that the coaxial cable is properly connected to the adapter and that the attached controller is functional. If so, try the cable on another terminal or IRMA 3 Convertible adapter. If the terminal or adapter runs on the same coaxial line, then the original adapter tested is defective.

**Error 50,51,52,53: PJ interrupt errors**

These are check\_contention errors.

**Error 54: PJ SOP not reset**

This is a check\_contention error.

**Error 55: IBM TID/SCAN error**

These are Defective IRMA 3 errors.

**Error 56,57,58: IBM VSR ERROR**

These are Defective IRMA 3 errors.

**Error 59: IBM interrupt status reg. error**

This is a Defective IRMA 3 error.

**Error 60,61,62,63,64,65: IBM 87E reg. error**

These are Defective IRMA 3 errors.

**Error 69: IBM page change reg. error**

This is a check\_contention error.

**Error 70,71,72,73,74,75,76: Reset command macro**

These are check\_contention errors.

**Error 78: Test bit macro**

This is a check\_contention error.

**Error A1,A2,A3,A4,A6: Dual port RAM error**

These are check\_contention errors.

**Error B0,B1,B2: PC timeout error**

These are check\_contention errors.

**Error B5: IRMA base XXX not disabled**

This is a check\_contention error.

**Error B6: IRMA base XXX not enabled**

This is a check\_contention error.

**Error B7: Read revision**

If no other error is reported with this message, you may disregard it. If another message is reported, see the classification for that message and proceed accordingly.

**Error B8, B9: Dual port RAM error**

These are check\_contention errors.

**FATAL: di\_ram\_test failed**

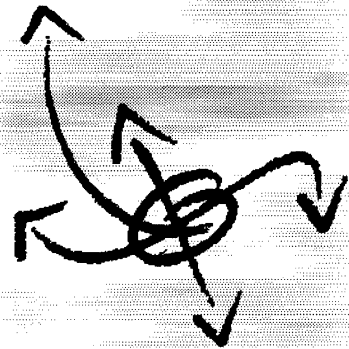
This is a check\_contention or a Defective IRMA 3 error.

**FATAL: LRC check error**

This error indicates a bad-memory problem. Check that your memory chips are working properly, and that there is no conflict with other adapters in your system.

# Using the I3PLFIND Utility

- Overview B-2
- Using the I3PLFIND utility B-2



*Appendix B*



## Overview

You may, at some time, need information about the IRMA 3 Convertible adapter installed in your PC that is not readily available. For example, you may need to know the adapter address so as not to set another adapter to the same address. Or, if you have multiple adapters installed, you may need to know which one is set for CUT and which one for DFT. The IRMA 3 Convertible software set includes a utility called I3PLFIND that lets you easily access this information if your adapter is configured prior to using it.

This appendix explains how to use the I3PLFIND information utility.

**Note** At least 150 KB of free memory is required to run the I3PLFIND utility.

## Using the I3PLFIND utility

To use the I3PLFIND utility, follow these steps:

- 1 Insert your working copy of the IRMA 3 Convertible diskette in any drive, or move to the directory containing the IRMA 3 Convertible files.
- 2 At the DOS prompt, type the following command and press ENTER:

**I3PLFIND**

The program may display a message asking for additional information with which to identify your system as ISA or Micro Channel.

If you see the following error message, you must re-enter the I3PLFIND command along with the /M parameter for an ISA system or Micro Channel system; thereafter, use the /M parameter each time you enter the command:

Unknown System Configuration. Use parameter /M=is or /M=mc for ISA and Micro Channel systems respectively.

Type the following at the DOS command prompt and press ENTER:

**I3PLFIND /M=xx**

The variable xx is as follows: is for an ISA system (including EISA) or mc for a Micro Channel system.

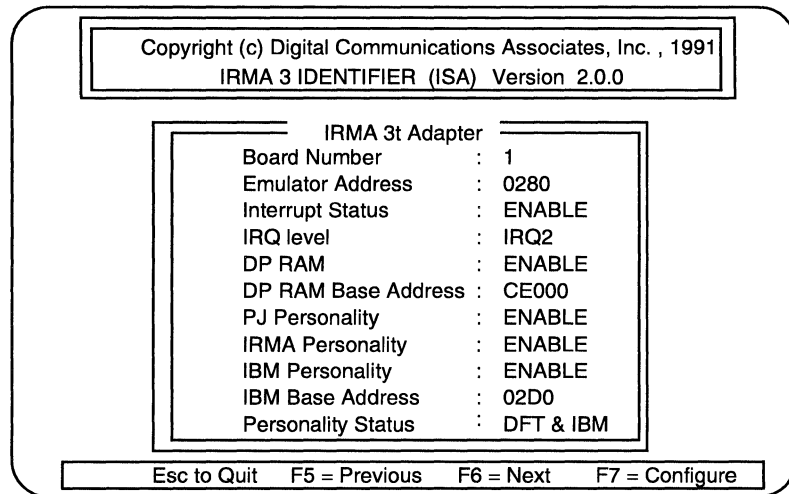
**Note** If your system is an OS/2 system and you need to specify the /M parameter, you also need to add the /M parameter to a pre-existing line of your CONFIG.SYS file as follows:

```
DEVICE=drive: \path\DDCOAX.SYS /M=xx
```

Modifying your CONFIG.SYS file is described in Appendix A, "Running the Diagnostic Program."

The program displays a preliminary screen which specifies the number of adapters found, and the number of valid .DAT files found, if it cannot find the corresponding .DAT files for all the adapters in the current directory.

- 3 Press any key to display the screen shown in Figure B-1. If you have more than one IRMA 3 Convertible adapter installed, I3PLFIND reports for each one separately, in increasing order of base address.



**Figure B-1. I3PLFIND screen**

- 4 Use the keys listed at the bottom of the screen to move to the next F6 or previous screen F5.
- 5 If you want to assign characteristics to an adapter, press F7 to go directly to the configuration menu from the I3PLFIND screen.

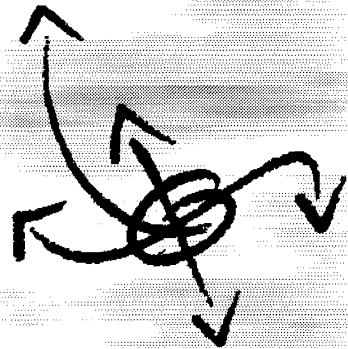
**Note** Personality Status applies to ISA configurations only.



# Extended Addresses

- The DIP switch settings

C-2



*Appendix C*



# The DIP switch settings

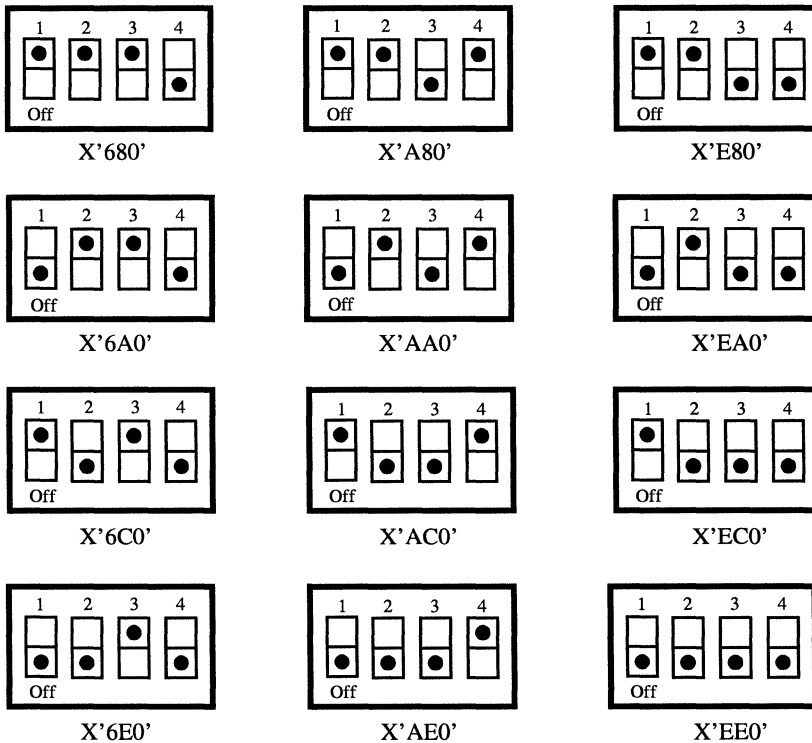
This appendix describes the DIP switch settings that correspond to the extended address ranges.

The Irma 3 Convertible adapter offers the extended address ranges X'680', X'6A0', X'6C0', X'6E0', X'A80', X'AA0', X'AC0', X'AE0', X'E80', X'EA0', X'EC0', and X'EE0'. The extended address ranges are offered for environments that use multiple adapters and require additional address ranges, such as LAN servers.

**Note** The representation in Figure C-1 depicts a recessed rocker switch. To change the settings on this type switch, simply press the rocker dimple down in the desired direction.

Figure C-1 displays the required switch settings for the extended address ranges.

On (closed) = 0   Off (open) = 1



**Figure C-1. Extended address switch settings**

# Glossary

**ASCII**—American Standard Code for Information Interchange. The most popular coding method used by small computers for converting letters, numbers, punctuation and control coded into digital form. Once defined, ASCII characters can be recognized and understood by other computers and by communications devices.

**address**—Unique designation for the location of data or the identity of a device. Each device on a communications network must have an address.

**ADF file**—An adapter description file, identified by its .ADF extension, that contains base addresses, interrupts, and other pertinent information about a Micro Channel adapter that the PS/2 requires to configure the Micro Channel Bus.

**API**—An application programming interface which is a set of standard software interrupts, calls and data formats that application programs use to initiate contact with network services, mainframe communications programs, or other program-to-program communications.

**balun**—A transformer used to connect balanced cables, such as twisted-pair cables, to unbalanced cables, such as coaxial cables, by matching the electrical characteristics of the cables.

**BBS**—Bulletin Board System. Another term for electronic bulletin board. Typically a PC, modem/s and communications bulletin board software attached to the end of one or more phone lines. Callers can call the BBS, read messages and download public domain software.

**BISYNC**—Binary synchronous transmission. A data character-oriented communications protocol developed by IBM for synchronous transmission of binary-coded data between two devices.

**bit**—Contraction of binary digit. This is the smallest unit of information used by a computer system. A bit is represented as either 0 (zero) or 1 (a space or mark in data communications terminology). 8 bits = 1 byte. *See also* byte.

**boot**—The process of loading the PC operating system so that you can run other programs. A cold boot occurs when you start up your PC, which loads DOS or OS/2 into memory from the default drive. A warm boot occurs when the PC power is already on, and you press CTRL ALT DEL.

**byte**—A string of 8 bits, treated as a unit, that represent a character. *See also* bit.

**card holder**—A plastic piece that is attached to the top or side of an adapter. Sometimes referred to as a puller or retainer.

**coaxial cable**—Cable that consists of a conductor within another conductor, with insulation between the two conductors. The inner conductor is usually a small copper tube or wire, and the outer conductor is usually copper tubing or copper braid. It is the common medium used to connect LANs and 3270 devices. The maximum distance that a coaxial cable can be run between a 3270-type cluster controller and peripheral devices is 5,000 feet (1,500 meters).

**communication controller**—Device that directs the transmission of data over a network (for example, the IBM 3725 front-end processor).

**communication line**—Coaxial cables, host modem cables, and phone lines that connect your PC to the host mainframe computer.

**configure**—To set up values that define a system.

**controller**—*See* communication controller.

**CUT**—Control unit terminal. A 3270 operation mode that allows only one host session per terminal, and in which the controller processes all terminal functions. CUT devices are sometimes called dumb or non-intelligent and require a controller to interface with the network and host. CUT devices that produce graphics are capable of producing only Programmed Symbol (PS) graphics. *Contrast with DFT.*

**default**—Value that is automatically used if one is not specified.

**DFT**—Distributed function terminal. Type of intelligent terminal supported by IBM 3270 control units in which most of the terminal's functions are controlled by the terminal rather than by the control unit. Allows multiple sessions. *Contrast with CUT.*

**DIP switch**—On an Attachmate coaxial adapter, a four-position switch (four ON/OFF switches) that sets the base address and hardware interrupt level for the adapter.

**DOS**—Disk operating system. The operating system used by IBM PCs and compatibles. The actual program name may be either IBM PC DOS or MS-DOS. Refer to the manual that accompanied your PC for the correct DOS software.

**Dual Port Memory Address**—The value that identifies the RAM address port that is shared by the adapter and PC. The software uses this address to read from and write to both RAM and the PC.

**EMS**—Expanded memory specification. It is a technique for accessing RAM above 1 MB. To enable expanded memory, you must use the Expanded Memory Manager. You should configure a system to use expanded memory only if you run application programs that require expanded memory.

**emulator**—Computer system or component that functions like another computer system or component.

**field**—Defined position in the screen display of a program that contains information entered by you or generated by the system.

**file**—Collection of data that the computer treats as a single unit. Each file has a unique filename to identify it.

**filename**—Identifies a specific file and can contain up to 8 alphanumeric and national characters.

**FTP**—File transfer protocol. In local area networking technology, file-sharing protocol that operates at layers 5 through 7 of the Open Systems Interconnection (OSI) model.

**hardware interrupt**—A direct line from a PC expansion slot to the CPU that provides direct access for an installed adapter. *See also* IRQ.

**host computer**—The primary or controlling computer whose operating system and applications become available during emulation.

**I/O (Input/Output) address**—The value that identifies the I/O port. Each port has a specific address corresponding to a 1-byte (8-bit) register on the Irma 3 Convertible adapter. Programs such as E78 Plus and the IBM Workstation program each use a distinct range of I/O addresses to read data from and write data to the Irma 3 Convertible adapter.

**I/O (Input/Output) port**—An access point used to pass information between the PC and hardware such as the Irma 3 Convertible adapter. Each port has a specific address corresponding to a 1-byte (8-bit) register on the Irma 3 Convertible adapter.

**impedance**—The total resistance a circuit offers to the flow of an alternating current. Measured in ohms.

**IRQ**—Interrupt request line. Refers to a specific hardware interrupt level within the PC. *See also* hardware interrupt.

**KB**—Kilobit. One thousand bits per second.



**logon**—Procedure through which you gain access into a computer system.

**LRC**—Longitudinal redundancy check. An error checking technique based on an accumulated collection of transmitted characters. An LRC character is accumulated at both the sending and receiving stations during the transmission of a block of characters. This accumulation is called the Block Check Character (BCC) and is transmitted in the last character in the block. The transmitted BCC is compared with the accumulated BCC character at the receiving station for an equal condition. When they're equal, you know the data transmitted correctly.

**Micro Channel architecture**—Refers to the internal hardware (bus) design for the IBM PS/2 series of computers, including Models 50, 60, 70, and 80.

**network**—Computer systems, controllers, terminals, and software connected in a way that allows them to communicate with each other.

**OS/2**—Operating System/2. OS/2 is an operating system that allows a PC to schedule and supervise work, manage computer resources, and operate and control peripheral devices. It runs under two modes: real and protected. A special function of OS/2 is its multitasking feature.

**parameter**—A variable used as input to a program, operating system, or API to govern how systems, programs, or functions perform.

**peripheral device**—Computer equipment that may be used for I/O operations with the CPU. Examples include terminals, tape drives, and disks.

**RAM**—Random access memory. Part of the computer used for holding active programs and data. *Contrast with ROM.*

**remote connection**—Indirect connection of a peripheral device or control unit (for example, with modems and phone lines) to the host.

**ROM**—Read-only memory. Memory containing information that cannot be changed under normal circumstances. Information contained in ROM can be read by the computer, but cannot be overwritten. *Contrast with RAM.*

**SDLC**—Synchronous data link control. A bit-oriented synchronous communications protocol developed by IBM where the message may contain any collection or sequence of bits without being mistaken for a control character.

**status line**—Bottom line on a 3270 emulation display. It is reserved for system messages and information about the current 3270 session.

**terminal**—A device that can send or receive data over a data communications channel.

**twisted-pair cable**—Two paired wires, with each wire twisted two or more times per inch to help cancel out noise.



# Index

## A

- adapter address
  - definition, 3-4
  - extended addresses, C-2
  - restrictions in setting, 3-4
  - setting for multiple adapters, 3-4
  - setting the DIP switches, 3-3
- adapter connector, 2-7, 2-11
- adapter description file (.ADF). *See* Micro Channel systems
- address settings
  - extended, 3-5, C-2
  - restrictions in configuration program, 4-11, 4-14
- address switches
  - definition, 3-2
  - restrictions in setting, 3-2
- .ADF file
  - copying, 4-2, 4-19
  - definition, 4-2
- APA graphics software supported, 1-3, 1-5
- architectures supported, 1-2
- AUTOEXEC.BAT file, 3-24, 4-18

## B

- backing up distribution diskette, 1-6
- backplate
  - attaching the Micro Channel, 2-13
  - removing the ISA, 2-9
  - removing the Micro Channel, 2-4
  - securing the ISA, 2-8
- balun. *See* connectors

## C

- cable adapter assembly, 2-5, 2-9
- cabling interface, 3-6, 4-3
- cabling requirements
  - coaxial, 1-2, 1-4
  - twisted-pair, 1-2, 1-4
- card holder
  - attaching the Micro Channel, 2-12
  - removing the Micro Channel, 2-5
- coaxial connections, 1-2, 1-4, 3-6, 4-3, 4-4

## compatibility

- APA graphics software, 1-5
- emulation software, 1-5
- file transfer software, 1-5
- PC, 1-2, 1-4
- CONFIG.SYS, modifying, A-4
- configuration program
  - definition, 3-10
  - exceptions in running, 3-10, 4-11
  - I3PLCFG command, 3-10, 4-11
  - main menu, 3-12, 4-13
  - /M parameter command, 3-10, 4-12
  - personality options, 3-14
  - restrictions in setting addresses, 3-13
  - running, 3-10, 4-11
  - setting up for multiple adapters, 3-4, 3-13, 4-14
- configuration, updating the PS/2 hardware, 4-8
- connectors
  - adapter, 3-6, 4-4
  - balun, 3-6, 4-4
  - coaxial, 3-6, 4-4
  - RJ-11, 3-6, 4-4
  - twisted pair, 3-6, 4-4
- controller
  - configuration, 1-4
  - requirements, 1-4
- converting the adapter for
  - ISA systems, 2-3
  - Micro Channel systems, 2-9
- customer support phone numbers, 1-6
- CUT & IBM personality option, 3-15, 4-16
- CUT- and DFT-mode support, 1-3

## D

- DCA/CUT personality option, 3-14, 4-15
- DCA/DFT personality option, 3-14, 4-15
- DFT & IBM personality option, 3-15, 4-16
- diagnostic program
  - definition, A-2
  - error codes, A-5
  - error messages, A-6
  - I3PLDIAG command, A-2
  - /M parameter command, A-2
  - running, A-2

## DIP switches

- available settings for adapter
    - addresses, 3-4
  - changing default settings, 3-5
  - default settings for adapter addresses, 3-4
  - exceptions for setting, 4-2
  - extended address settings, C-2
  - extended addresses, 3-5, 3-14
    - setting for multiple adapters, 3-4
  - switch block, description, 3-3
- distribution diskette, making a working copy, 1-6
- download program
  - definition, 3-26
  - DOWNLOAD command, 3-27, 4-20
  - exceptions in running, 3-26, 4-20
  - /M parameter command, 3-27, 4-21
  - running, 3-26, 4-20
- DOWNLOAD. *See* download program

## E

- emulation programs supported, 1-5
- emulator address
  - choosing, 3-13, 4-14
  - requirements in configuration program, 3-13, 4-14
- error 165, 4-8
- error codes for diagnostic program (I3PLDIAG), A-5
- error messages in diagnostic program (I3PLDIAG), A-6
- extended address settings, 3-14, 4-14, C-2

## F

- files
  - copying .ADF, 4-2
  - modifying AUTOEXEC.BAT, 3-24, 4-18
  - modifying CONFIG.SYS, A-4
- file transfer software supported, 1-5
- FIND. *See* I3PLFIND utility

## H

- hardware
  - IRMA 3 Convertible requirements, 1-4
  - updating the PS/2 configuration, 4-8

## I

- I/O
  - addresses, 3-2
  - ports, 3-2, 4-14
- I3PLCFG. *See* configuration program
- I3PLDIAG. *See* diagnostic program
- I3PLFIND utility
  - definition, B-2
  - I3PLFIND command, B-2
  - /M parameter command, B-2
  - using, B-2
- IBM ONLY personality option, 3-15, 3-19
- IBM REV A personality option, 4-16
- IBM REV B personality option, 4-16
- information utility. *See* I3PLFIND utility
- interrupt request line (IRQ). *See* IRQ level
- IRMA 3 Convertible
  - convertible capability, 1-2, 2-2
  - converting for ISA systems, 2-3
  - converting for Micro Channel systems, 2-9
  - distribution diskette, 1-4
  - features, 1-2
  - installing in ISA systems, 3-2
  - installing in Micro Channel systems, 4-2, 4-5
  - memory requirements, 1-5
  - package contents, 1-4
  - product description, 1-2
  - running the configuration program, 3-10, 4-11
  - running the download program, 3-26
  - setting the DIP switches for ISA systems, 3-3
  - setting the jumpers, 3-6
  - system requirements, 1-4
  - updating the PS/2 configuration, 4-8

**IRMA 3 Convertible features**  
convertible capability, 1-2  
CUT- and DFT-mode support, 1-3  
IBM software compatibility, 1-3  
on-board microprocessor, 1-3  
software-loaded microcode, 1-3  
twisted-pair support, 1-2

**IRQ level**, 3-18

**ISA systems**  
converting the adapter for, 2-3  
installing the adapter, 3-2  
running the configuration program,  
3-10  
running the download program, 3-26  
setting address switches, 3-2  
setting jumpers, 3-6

**J**

**jumper settings**  
balun connections, 3-6, 4-4  
coaxial connections, 3-6, 4-4  
ISA systems, 3-6  
twisted-pair connections, 3-6, 4-4

**M**

memory requirements for IRMA 3  
Convertible, 1-5

Micro Channel card holder, 2-9

Micro Channel systems  
converting the adapter, 2-9  
copying the .ADF file, 4-2  
installing the adapter, 4-2, 4-5  
running the configuration program,  
4-11  
running the download program, 4-20  
setting jumpers, 4-3  
updating the PS/2 hardware  
configuration, 4-8

**P**

Personality Select option, 3-14, 4-15

**R**

RJ-11 connectors, 1-2, 3-6, 4-4

**S**

software requirements for IRMA 3  
Convertible, 1-5  
switch block. *See* DIP switches  
switch settings, 3-4, 3-5  
switches, setting for ISA systems, 3-2  
system requirements, 1-4

**T**

terminal emulation software support, 1-3,  
1-5  
twisted-pair connections, 1-2, 1-4, 3-6, 4-3,  
4-4  
type 3 cable specifications, 1-2

**U**

updating the PS/2 hardware configuration,  
4-8



# We Need Your Comments

After you've used the product documentation, please give us your comments on this manual by completing this form and returning it to Attachmate. Your comments will help us improve our product.

**1** Did you find any errors in the manual?

Yes       No

If so, please list the page numbers and describe the error:

**2** Did you look up a topic in the manual's index that you couldn't find?

Yes       No

If so, please list the topic: \_\_\_\_\_

**3** Does the manual adequately explain how to install and set up the product?

Yes       No

If not, what information is missing?

**4** Were you able to find the function you needed?

Yes       No

If not, what information is missing?

**5** What part of this manual do you use most? \_\_\_\_\_

**6** How often do you expect to refer to this manual?

Never       Once       Occasionally       Often

**7** Is the level of detail provided in the manual:

Too little       About right       Too much

If not enough information, what information is missing?

If too much information, what information do you not need?

**8** How do you look for information in a manual?

Scan the book       Refer to the Table of Contents       Look up topics in the Index



**9** Do you have any other comments about the overall quality of this documentation?

Please tell us about yourself:

Your name \_\_\_\_\_

Company name \_\_\_\_\_

Your title/key function \_\_\_\_\_

Years of PC experience \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Country \_\_\_\_\_

Phone \_\_\_\_\_

May we contact you about your comments?

Yes

No

Please send your comments to:

Attachmate Corporation  
Attn: Information Services  
2555 Westside Parkway, Suite 500  
Alpharetta, Georgia 30201  
U.S.A.

## Corporate Headquarters

Attachmate Corporation  
3617 131st Avenue SE  
Bellevue, Washington 98006 USA  
Phone: (425) 644-4010  
Fax: (425) 747-9924  
International Fax: (425) 649-6675  
World Wide Web:  
<http://www.attachmate.com>

## Technical Support

**North America**  
Customer Support Department  
(425) 957-4607

Unisys® RLN®, and NetWizard®  
(800) 274-6633

CROSSTALK®  
(513) 745-0515

Emissary™, PathWay, and Other  
Internet Products  
(800) 933-6795

### Europe, the Middle East, and Africa

Ireland  
(353) 61 472111

### Asia, the Pacific Rim, and Latin America

Australia  
(61) 3 9694 6711

Japan  
(81) 3 5560 8970

Brazil  
(55) 11 866-3766

Mexico  
(52) 5208 0360

## Electronic Support

World Wide SupportWeb!™  
<http://supportweb.attachmate.com>

Internet E-mail  
[support@attachmate.com](mailto:support@attachmate.com)

FTP Server  
<ftp://ftp.attachmate.com>

FaxBack®  
(425) 649-6595 (U.S.)

Bulletin Board Systems (BBS)  
(425) 649-6660 (U.S.)  
(353) 61 474 460 (Ireland)