

IBM RT PC User Setup Guide

The following statement applies to this IBM product. The statement for other IBM products intended for use with this product will appear in their accompanying manuals.

Federal Communications Commission (FCC) Statement

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions 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 Subpart J of 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.

Instructions to User: Properly shielded and grounded cables and connectors must be used for connection to peripherals in order to meet FCC emission limits. Proper cables are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

CAUTION:

This product is equipped with a 3-wire power cord and plug for the user's safety. Use this power cord in conjunction with a properly grounded electrical outlet to avoid electrical shock.

Third Edition (June 1988)

This major revision obsoletes previous editions of the IBM RT PC User Setup Guide.

This edition applies to all subsequent releases until otherwise indicated in new editions or technical newsletters. Changes are made periodically to the information herein; these changes will be incorporated in new editions of this publication.

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM licensed program in this publication is not intended to state or imply that only IBM's licensed program may be used. Any functionally equivalent program may be used instead.

International Business Machines Corporation provides this manual "as is," without warranty of any kind, either express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this manual at any time.

Products are not stocked at the address given below. Requests for copies of this product and for technical information about the system should be made to your authorized IBM RT PC dealer.

A reader's comment form is provided at the back of this publication. If the form has been removed, address comments to IBM Corporation, Department 997, 11400 Burnet Road, Austin, Texas 78758. IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

IBM and RT PC are registered trademarks of International Business Machines Corporation.

©Copyright International Business Machines Corporation 1985, 1986, 1987, 1988. All rights reserved.

Safety Notice Translations

DANISH



Pag. 3-6

ADVARSEL - de elektriske kabler og stik er udformet for maksimal sikkerhed. Benyt kun stikkontakter med jordforbindelse for at undge elektrisk stod.

DUTCH



Waarschuwing

Schakel de systeemeenheid en alle randapparatuur uit en haal de netspanningsstekkers van de systeemeenheid en van alle randapparatuur uit de stopcontacten, voordat u een kap opent of een signaalkabel loshaalt.

Page 3-6

"LET OP! - De machines hebben elektrichiteitskables en stekers die aan de veiligheidsvoorschriften voldoen".

Sluit de machines alleen aan op een contactdoos met randaarde om elektrische schokken te vermijden.

FINNISH



Huomio

Ennen minkään yhteyskaapelin tai kannen irroittamista, katkaise virta systeemiyksiköstä ja kaikista siihen liitetyistä laitteista; irroita sitten kaikki verkkojohdot pistorasioistaan.

Sivu 3-6

VAROITUS - Laitteen virheetön ja turvallinen toiminta vaatii, että se liitetään vain maatettuun pistorasiaan.

FRENCH



Page 3-6

ATTENTION: Ce matériel est équipé de câbles électriques et de fiches répondant aux normes de sécurité. Il doit être connecté à un recéptable électrique muni d'une mise à la terre réglementaire, afin d'éviter tout risque électrique.

GERMAN



Achtung

Vor dem Entfernen von Verkleidungen oder dem Trennen von Signalkabeln Netzschafter der Systemeinheit und aller angeschlossenen Geräte ausschaften. Dann alle Netzkabel aus den Netzsteckdosen ziehen.

Seite 3-6

Vorsicht - alle Geracte verfuegen ueber Kabel und Stecker. Zur Vermeidung von elektrischen Schlaegen alle Geraete nur an geerdete Steckdosen anschliessen.

ITALIAN



Attenzione

Prima di togliere qualsiasi coperchio o scollegare qualsiasi cavo di segnale, spegnere gli interruttori di alimentazione dell'unità di sistema e di tutti i dispositivi collegati; scollegare poi dalle prese di corrente tutti i cavi di alimentazione esterni.

Pag. 3-6

AVVERTENZA - Tutte le unità sono dotate di cavi e spine progettate per la sicurezza. Per evitare scariche elettriche usare prese con messa a terra.

JAPANESE

危険

注意:

カバーを取り外したり、信号ケーブルを切り難したりする場合には、必ず システム装置の電源スイッチとすべての接続装置の電源スイッチをオフに してから、すべての外部電源ケーブルをコンセントから抜いてください。

注意

各装置には、安全設計されたコードやプラグがあります。電気的ショックを予防する ために、装置は全て接地端子のあるコンセントにのみ差し込むようにしてください。

NORWEGIAN



Advarsel

Før du tar av dekselet eller trekker ut signalkabler, må du slå av nettbryterne på systemenheten og alle tilkoplede enheter (AV, Off eller O) og trekke ut alle nettkablene fra stikkontaktene.

Side 3-6

"ADVARSEL: Enhetene er utstyrt med kabler og plugger som bare må koples til forskriftsmessing jordede stikkontakter".

PORTUGUESE



Cuidado

Antes de remover qualquer tampa ou de desligar qualquer cabo de sinal coloque os interruptores de corrente eléctrica da unidade do sistema e de todos os dispositivos a ela ligados na posição de desligado (off) e desligue das tomadas todos os cabos externos de corrente eléctrica.

As informações sobre segurança incluídas neste Manual estao especificadas e traduzidas para Português neste documento.

Pagina 3-6

CUIDADO - Os dispositivos têm cabos eléctricos e tomadas que obedecem a regras de segurança. Lingue todos os dispositivos apenas a tomadas com fio de terra para evitar choques eléctricos.

SPANISH



Precaucion

Antes de guitar cualquier cubierta o desconectar cualquier cable de seóal, coloque los interruptores de alimentación en la unidad del sistema y en todos los dispositivos conectados en posición de APAGADO; desenchufe entonces todos los cables externos de alimentación de las tomas de corriente.

Pa. 3-6

ATENCION - Los cables y enchufes eléctricos de los dispositivos han sido diseñados con vistas a la seguridad. Enchufe los dispositivos sólo en tomas de corriente con conexión de tierra para evitar posibles descargas eléctricas.

SWEDISH



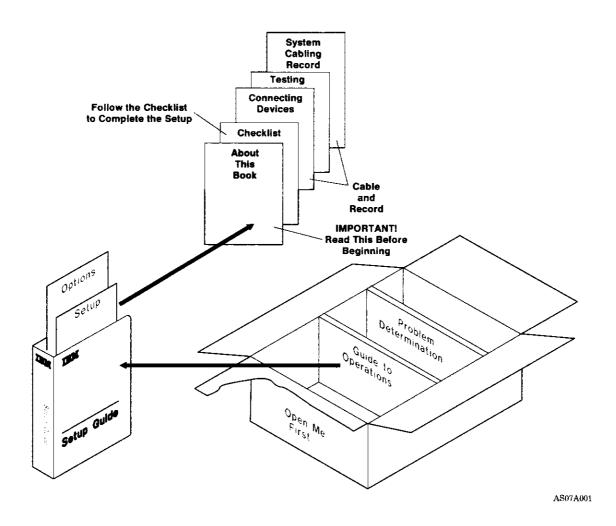
Varning

Innan du tar bort någon kåpa eller lossar någon signalkabel måste du slå från strömbrytarna på systemenheten och alla anslutna enheter samt lossa alla nätkablar från sina uttag.

På sidan 3-6 finns fölijande varningstext:

VARNING - Enheterna är av säkerhetsskäl försedda med jordade nätkblar. De får endast anslutas till jordade cluttag.

User Setup Process



About This Book

IBM RT PC User Setup Guide contains information to help you set up the IBM RT Personal Computer®. The setup process consists of three basic tasks:

1. Identifying, unpacking, and connecting (cabling) the devices to the system unit

2. Testing the system setup

3. Installing the operating system and adding devices.

To help you set up the IBM RT PC, IBM has provided three types of information: .

Check list of tasks (Section 1, the most important section of this

• Sections 2 and 3 of this book (supporting information for every type of setup)

• Other books (detailed information).

How to Do The Setup Task

Section 1, "Setup Tasks Check List" directs you through a checklist of tasks to completely set up the IBM RT PC System. Each task refers you to other documentation for information about the task.

Do the tasks in the order given, and complete each individual task before going to the next one.

RT PC and RT Personal Computer are registered trademarks of International Business Machines Corporation.

RT is a trademark of International Business Machines Corporation

Section 2, "Connecting Devices to the IBM RT PC System Unit" contains drawings and reference material to help you connect IBM-supported devices to the system units. The section shows the adapters, ports, connectors, and cables needed to connect each device.

The book shows every possible setup situation for IBM-supported devices. Select the instructions for the devices you need to connect to the system unit. This section helps you do task 6 on page 1-6.

Section 3, "Testing the System" contains the steps for testing the hardware setup. This section helps you do task 7 on page 1-7.

A Reader's Comment Form and Book Evaluation Form are provided at the back of this book. Use the Reader's Comment Form at any time to give IBM information that may improve the book. After you become familiar with the book, use the Book Evaluation Form to give IBM specific feedback about the book.

What You Need

You can unpack, set up, connect devices, test the hardware, and install the operating system programs using the check list, the other information in this book, other referenced documentation, and two flat-bladed screwdrivers (small and medium).

You also need sufficient floor space in which to work, sturdy desks or tables on which to set up the devices, and grounded electrical outlets for most of the devices.

To begin the setup, go to task 1 in Section 1 of this book.

Related Information

You may find the following books helpful:

- IBM RT PC Guide to Operations describes the IBM 6151 and IBM 6150 system units, the displays, keyboard, and other devices that can be attached. This guide also includes procedures for operating the hardware and moving the IBM 6151 and IBM 6150 system units.
- IBM RT PC Installing and Customizing the AIX Operating System provides step-by-step instructions for installing and customizing the AIX Operating System, including how to add or delete devices from the system and how to define device characteristics. This book also explains how to create, delete, or change AIX and non-AIX minidisks.
- IBM RT PC Options Installation provides instructions for installing optional adapters in IBM 6151 and IBM 6150 and installing fixed-disk and diskette drives in IBM 6150 (packaged with IBM RT PC User Setup Guide).
- IBM RT PC Problem Determination Guide provides instructions for running diagnostic routines to locate and identify hardware problems. A problem determination guide for software and two high-capacity (1.2MB) diskettes containing the IBM RT PC diagnostic routines are included.

See IBM RT PC Bibliography and Master Index for order numbers of IBM RT PC publications and diskettes.

Ordering Additional Copies of This Book

To order additional copies of this publication, use either of the following sources:

- To order from your IBM representative, use Order Number SA23-2608.
- To order from your IBM dealer, use part 22F9802.

A binder and tabs are included with the order.

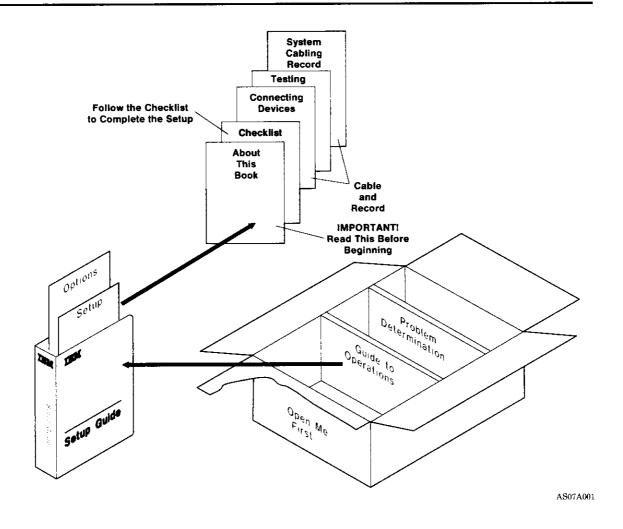
Contents

Section 1. Setup Tasks Check List	1-1
Before You Start	1-3 1-5
Betup Tasks Check List	10
Section 2. Connecting Devices to the IBM RT PC	
System Unit	2-1
Before You Start	2-3
Example Office Arrangements	2-3
Preparing the Devices	2-4
System Unit Drawings	2-5
Serial Ports S1 and S2	2-6
Completing the System Cabling Record	2-6
	2-7
Input Devices IBM RT PC Mouse Connected to	
IBM 6150 System UnitIBM RT PC Mouse Connected to	2-7
IBM RT PC Keyboard and IBM RT PC Mouse Connected to	
IBM 6151 System Unit	2-7
IBM 5083 Tablet (Model 11 or 12) Connected to IBM 6150	
System Unit	2-8
IBM 5083 Tablet (Model 11 or 12) Connected to IBM 6151	
System Unit	2-8
IBM 5083 Tablet (Model 11A or 12A) Connected to IBM 6150	
System Unit	2-9
IBM 5083 Tablet (Model 11A or 12A) Connected to IBM 6151	
System Unit	2-9
IBM 5080 Lighted Program Function Keyboard Feature and	
IBM 5080 Dials Feature Connected to IBM 6150 System	
Unit	2-10
IBM 5080 Lighted Program Function Keyboard Feature and	
IBM 5080 Dials Feature Connected to IBM 6151 System	
Unit	2-10
Display (IBM 6155)	2-11
IBM 6155 Extended Monochrome Graphics Display	
Connected to IBM 6150 System Unit	2-11

IBM 6155 Extended Monochrome Graphics Display	
Connected to IBM 6151 System Unit	2-12
	2-13
Display (IBM 6154)	
IBM 6150 System Unit	2-13
IBM 6154 Advanced Color Graphics Display Connected to	
IBM 6151 System Unit	2-14
Display (IBM 6153)	2-15
IBM 6153 Advanced Monchrome Graphics Display	
Connected to IBM 6150 System Unit	2-15
IBM 6153 Advanced Monchrome Graphics Display	
Connected to IBM 6151 System Unit	2-16
Display (IBM 5154)	2-17
IBM 5154 Personal Computer Enhanced Color Display	
Connected to IBM 6150 System Unit	2-17
IBM 5154 Personal Computer Enhanced Color Display	
Connected to IBM 6151 System Unit	2-18
Display (IBM 5151)	2-19
IBM 5151 Personal Computer Display Connected to IBM	
6150 System Unit	2-19
IBM 5151 Personal Computer Display Connected to IBM	
6151 System Unit	2-20
Display (IBM 5081)	2-21
IBM 5081 Monochrome Display (Model 11) Connected to	
IBM 6150 System Unit	2-22
IBM 5081 Monochrome Display (Model 11) Connected to	
1BM 6151 System Unit	2-22
IBM 5081 Color Display (Model 12) Connected to IBM 6150	
System Unit	2-23
IBM 5081 Color Display (Model 12) Connected to IBM 6151	
System Unit	2-23
IBM 5081 Color Display (Model 16 or 19) Connected to IBM	
6150 System Unit	2-24
IBM 5081 Color Display (Model 16 or 19) Connected to IBM	
6151 System Unit	2-24
IBM 6157 Streaming Tape Drive	2-25
IBM 6157 Streaming Tape Drive Connected to IBM 6150	
System Unit	2-25
IBM 6157 Streaming Tape Drive Connected to IBM 6151	
System Unit	2-26
Serial Printers and Plotters	2-27
Serial Plotters	2-29

Parallel Printers	2-30
Terminals and Work Stations (RS232C/MIL-STD 188)	2-31
Terminals and Work Stations (RS232C)	2-34
Terminals and Work Stations (RS422A)	2-37
Modems and Autocall Units	2 - 38
IBM Personal Computer Network	2-43
IBM 3270 Network	2-44
Ethernet Network	2-45
IBM Token-Ring Network	2-46
IBM 5080/IBM RT PC Graphics System	2-47
IBM S/370 Host Interface Adapter/IBM RT PC Graphics	
System	2-48
IBM Megapel Display Adapter	2-49
IBM RT PC Small Computer System Interface (SCSI) Adapter	2-50
IBM RT PC 6192 Expansion Unit	2-51
IBM 6156 Portable Disk Drives	2-52
IBM 6156 Portable Disk Drives - Model 001 and 003	 .
connected to IBM 6150 and 6151 System Units	2-52
Section 3. Testing the System	3-1
Before You Start	3-3
Checking Out the System	3-6
Appendix A. System Cabling Records	\mathbf{A} -1
Purpose	A
Using the System Cabling Record	A-1

Section 1. Setup Tasks Check List



Before You Start

To set up the IBM RT PC System, you must complete the tasks on the check list. The check list guides you through the setup process. As you complete each task, write a check by the task before you go to the next one. Use the referenced information to help you do each task.

Notes:

Setup Tasks Check List

The setup tasks are as follows:

1. Locate all the devices you will connect to the system unit. These are the devices for one entire system setup, such as the display, keyboard, mouse, system unit, modem, terminals, printers, and so on.

This book refers to each device by the name printed on the packing carton on the device logo.

2. Unpack and set up the printers, plotters, terminals, and modems, following the instructions on the packing cartons or the instructions shipped with each device. If the instructions ask you to test the devices, do so now.

Leave enough space behind the devices so that you can connect them to the system unit as instructed to do so in task 6.

3. Unpack the system unit. For the IBM 6150, follow the graphics on the packing carton. Unpack the unit near the location in which you plan to use it. Leave enough space behind the unit to connect the other devices to it.

Note: This book assumes the options are installed. If this is not true, have them installed before you continue with the setup. Follow the instructions in IBM RT PC Options Installation, included in this binder, to install the options.

CONTINUE TO THE NEXT PAGE

- 4. Prepare for cabling by doing the following:
 - Prepare the system units using "Preparing the Devices" on 2-4.
 - Familiarize yourself with the system by reading "System Unit Drawings" on 2-5.
 - Read the instructions under "Completing the System Cabling Record" on 2-6.
- 5. Locate the appropriate system cabling record in Appendix A. Read the instructions and record the requested information as you do task 6, using Section 2. You must complete this record in order to do tasks 7 and 8.
- 6. Connect (cable) the devices to the system unit, beginning with the instructions on 2-7 in Section 2, "Connecting Devices to the IBM RT PC System Unit" in this book. Note the following:
 - Begin at 2-7 and work through the section, skipping devices you do not have.
 - Locate the device you want to connect in the list of devices at the top of the page.
 - Identify on the page and in the system unit the connector you have.

The book shows only the IBM-supported connectors. The word connector refers to either Serial Ports S1 and S2 on IBM 6150 or the ports on the adapter brackets. (Adapters are printed circuit cards or boards that change the operation of the system unit). If your connector does not match the one in the drawing, go to the following pages until you find one that matches.

- Connect the device using the cable (or an equivalent) shown in the drawings.
- Complete the system cabling record as you connect each device.

You can connect devices to any port of the 4- or 8-port adapters as well as to any port of an 8-port cable assembly. It is important to write the device name next to the corresponding port on the system cabling record.

This book shows all the IBM-supported devices you can connect to the system unit. Use the instructions for only IBM-supported devices.

7. Test the system using Section 3, "Testing the System" in this book.

With completion of task 7, you have installed the system and can now install the Virtual Resource Manager (VRM) and the AIX Operating System.

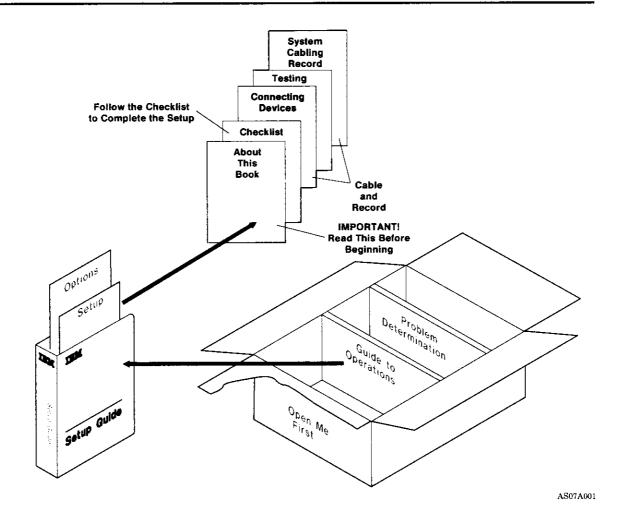
8. See Installing the Virtual Resource Manager and Installing and Customizing the AIX Operating System for complete instructions on VRM and AIX Operating System installation.

If you decide to add options or devices in the future, take the completed system cabling record to the point-of-purchase. The representative can use the record to design a compatible arrangement of both the old and new options. Afterward, do the following:

• Use Options Installation to install the new options in the system unit.

• Use this check list to connect the new devices to the system, skipping tasks that do not apply.

Section 2. Connecting Devices to the IBM RT PC System Unit

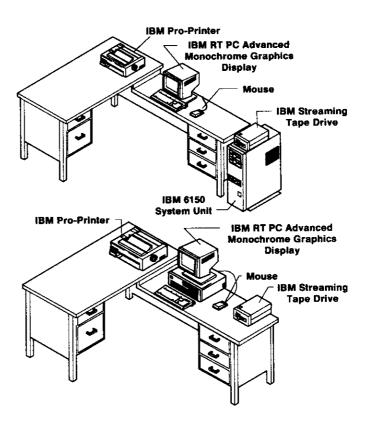


Before You Start

Use this section to do Setup Tasks 2, 4, 5, and 6 on the check list in Section 1 of this book.

At any point in this process, when you have connected all the devices you have, return to the check list.

Example Office Arrangements

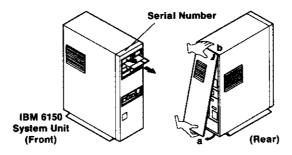


AS07A002

Preparing the Devices

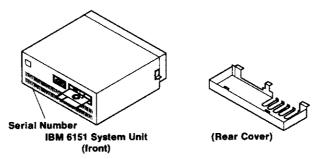
Prepare the system unit for connecting devices by doing the following:

- 1. For IBM 6150 System Units, open the diskette drive lever, remove the shipping card (if one is present), and close the lever. Remove the rear cover:
 - a. Pull the bottom of the rear cover free.
 - b. Lower the cover to free the hooks from the frame.



AS07A003

2. For IBM 6151 System Units, open the diskette drive lever, remove the shipping card (if one is present), and close the lever. The rear cover is in a box attached to the inside of the system unit carton. Do not put the rear cover on until told to do so.

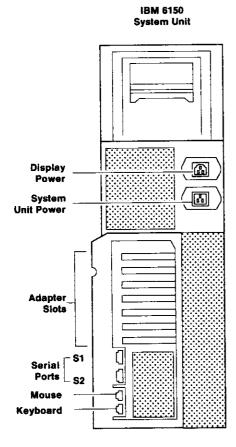


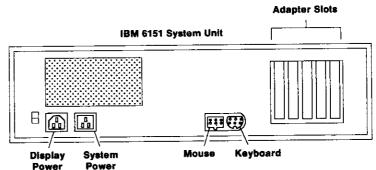
AS07A004

System Unit Drawings

The following drawings show the system unit connectors and slots containing the adapters. All the connections you make will be to these connectors. Familiarize yourself with the system unit you have, and then go to Setup Task 5, Section 1 to begin connecting devices to the system unit.

Turn off the power on all devices before you connect any device to the system unit.





AS07A063

Serial Ports S1 and S2

On IBM 6150 System Units only, S1 and S2 use the RS232C interface to provide Direct Memory Access (DMA) data transmit capability. To minimize impact on overall system performance, connect the fastest serial output devices (printers and plotters) in your system configuration to these ports. Because S1 has higher DMA priority than S2, connect the highest speed device to S1.

Completing the System Cabling Record

Locate the appropriate example and blank cabling record in Appendix A (Figures A-1 through A-4 on pages A-4 through A-9), and read all the Appendix A instructions. As you connect each device to an adapter or port, write the name of the adapter, device, or devices in the correct boxes. Do not record where you connected the keyboard and mouse.

Use care when you complete this record, because you need this information when you test the system (Setup Task 7, Section 1) and when you install the operating system programs (Setup Task 8, Section 1).

Because each system unit can contain different adapters and different arrangements of the adapters, this book cannot tell you the exact location of many of the adapters. When the adapter must be in a particular slot, that slot is highlighted.

Some of the adapters can be installed in more than one slot. In this case, all the possible slots are highlighted.

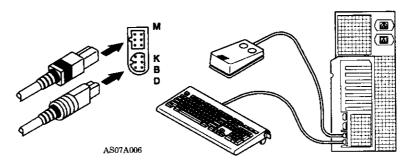
Use the enlarged drawings to identify the adapters. Do not try to identify the locations of the adapters by looking only at the highlighted adapter slots.

Stop here and go to task 6 on 1-6 on the check list.

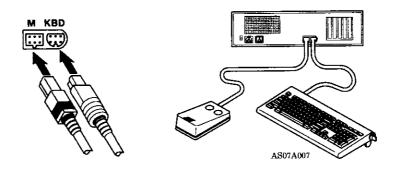
Input Devices

IBM RT PC Keyboard and IBM RT PC Mouse Connected to IBM 6150 System Unit

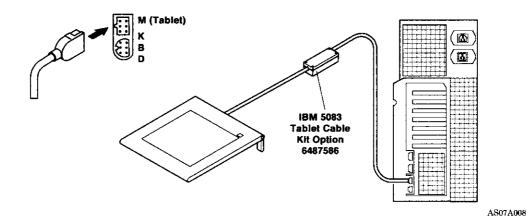
Note: Connect the keyboard before you connect the mouse.



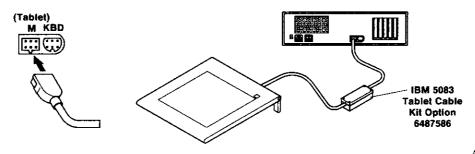
IBM RT PC Keyboard and IBM RT PC Mouse Connected to IBM 6151 System Unit



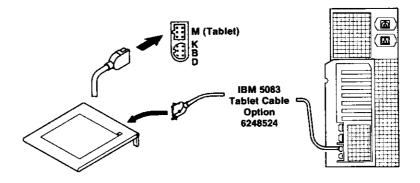
IBM 5083 Tablet (Model 11 or 12) Connected to IBM 6150 System Unit



IBM 5083 Tablet (Model 11 or 12) Connected to IBM 6151 System Unit

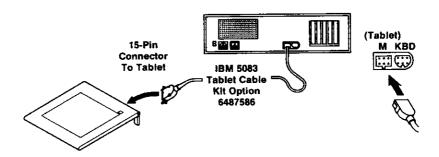


IBM 5083 Tablet (Model 11A or 12A) Connected to IBM 6150 System Unit

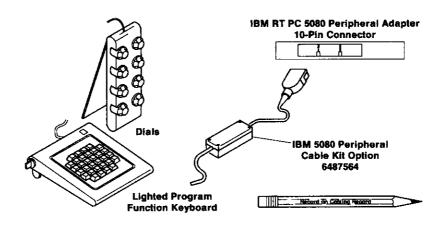


AS07A010

IBM 5083 Tablet (Model 11A or 12A) Connected to IBM 6151 System Unit

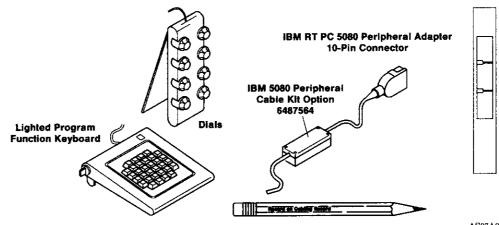


IBM 5080 Lighted Program Function Keyboard Feature and IBM 5080 Dials Feature Connected to IBM 6150 System Unit



AS07A012

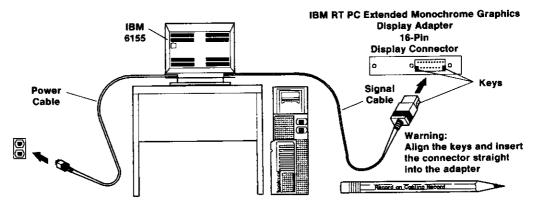
IBM 5080 Lighted Program Function Keyboard Feature and IBM 5080 Dials Feature Connected to IBM 6151 System Unit



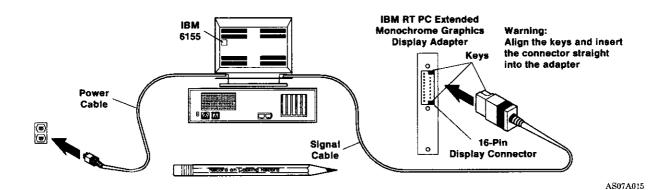
Display (IBM 6155)

Connect this display to the 16-pin connector on the IBM RT PC Extended Monochrome Graphics Display Adapter. Connect the power cable to a grounded electrical outlet.

IBM 6155 Extended Monochrome Graphics Display Connected to IBM 6150 System Unit



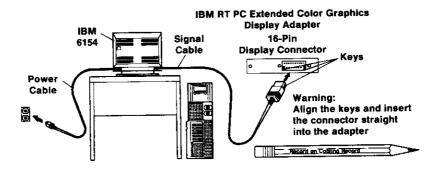
IBM 6155 Extended Monochrome Graphics Display Connected to IBM 6151 System Unit



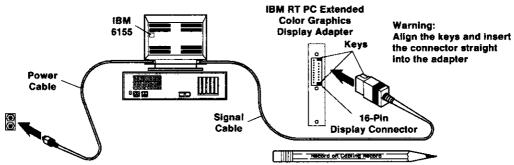
Display (IBM 6154)

Connect this display to the 16-pin connector on the IBM RT PC Advanced Color Graphics Display Adapter. Connect the power cable to a grounded electrical outlet.

IBM 6154 Advanced Color Graphics Display Connected to IBM 6150 System Unit



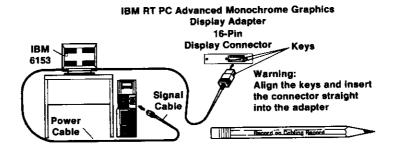
IBM 6154 Advanced Color Graphics Display Connected to IBM 6151 System Unit



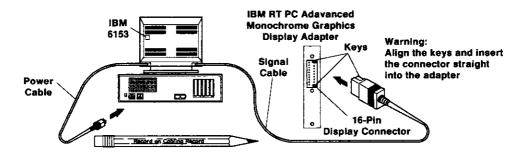
Display (IBM 6153)

Connect this display to the 16-pin connector on the IBM RT PC Advanced Monochrome Graphics Display Adapter. Connect the power cable to the display power connector on the system unit. Do not confuse the brightness control on the front of the display with a power switch.

IBM 6153 Advanced Monchrome Graphics Display Connected to IBM 6150 System Unit



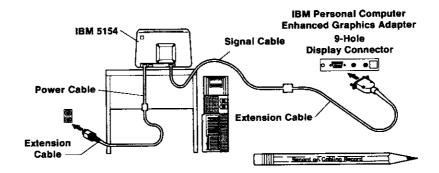
IBM 6153 Advanced Monchrome Graphics Display Connected to IBM 6151 System Unit



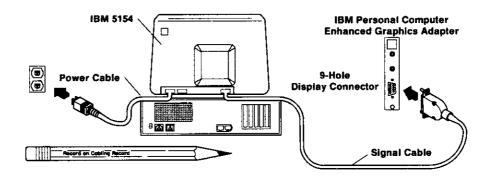
Display (IBM 5154)

You can use commercially available extension cables to more easily reach IBM 6150 System Units. Connect this display to the 9-hole connector on the IBM PC Enhanced Graphics Adapter. Ensure that the display power switch is off. Connect the power cable to a grounded electrical outlet.

IBM 5154 Personal Computer Enhanced Color Display Connected to IBM 6150 System Unit



IBM 5154 Personal Computer Enhanced Color Display Connected to IBM 6151 System Unit

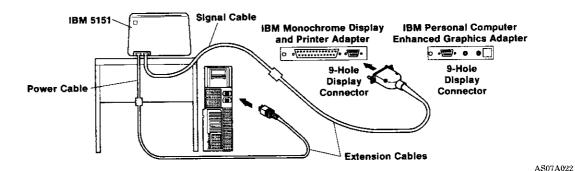


Display (IBM 5151)

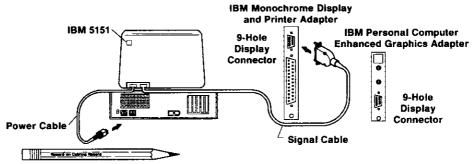
The IBM 5151 Personal Computer Display has no power switch. The system unit power switch turns this display on or off.

You can use commercially available extension cables to more easily reach IBM 6150 System Units. Connect this display to the small 9-hole connector on the IBM Monochrome Display and Printer Adapter or on the IBM PC Enhanced Graphics Adapter. Connect the power cable to the display power connector on the system unit.

IBM 5151 Personal Computer Display Connected to IBM 6150 System Unit



IBM 5151 Personal Computer Display Connected to IBM 6151 System Unit



Display (IBM 5081)

For color displays, connect the three color-coded connectors on the RGB video cable to matching input receptacles on the interactive display. Plug the other end of the RGB video cable into the 3-pin connector on the IBM Megapel Display Adapter.

Note: View-only displays can be connected to three color-coded output receptacles provided on the back of the interactive display.

Warning: Do not connect IBM 5081 displays to the convenience outlet on the back of the IBM RT PC; the system unit will be damaged.

Ensure that the display power switch is off. Then connect the power cable, first to the display and then to a grounded wall outlet.

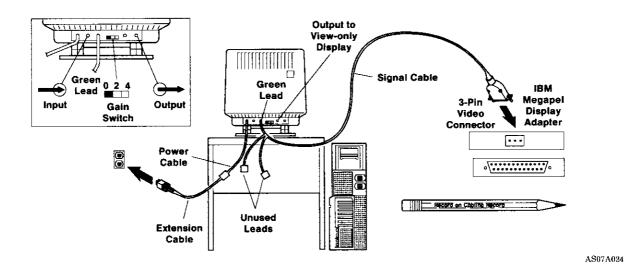
The monochrome display uses only the green lead on the RGB video cable. This lead is connected to the matching input receptacle on the interactive display. Plug the other end of the RGB video cable into the 3-pin connector on the IBM Megapel Display Adapter.

Note: View-only displays may be connected to the greeen output receptacle provided on the back of the interactive display.

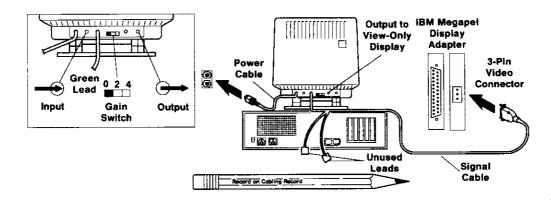
Warning: Do not connect IBM 5081 displays to the convenience outlet on the back of the IBM RT PC: the system unit will be damaged.

Ensure that the display power switch is off. Then connect the power cable to a grounded wall outlet.

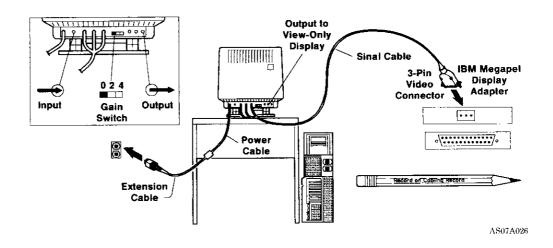
IBM 5081 Monochrome Display (Model 11) Connected to IBM 6150 System Unit



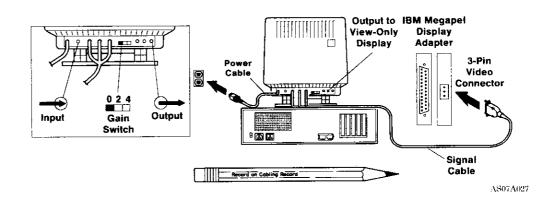
IBM 5081 Monochrome Display (Model 11) Connected to IBM 6151 System Unit



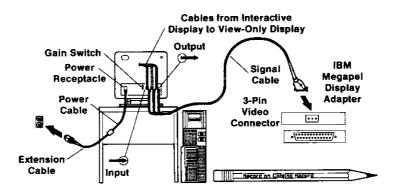
IBM 5081 Color Display (Model 12) Connected to IBM 6150 System Unit



IBM 5081 Color Display (Model 12) Connected to IBM 6151 System Unit

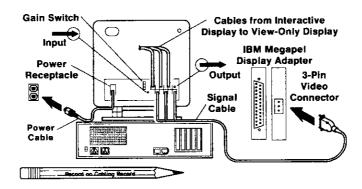


IBM 5081 Color Display (Model 16 or 19) Connected to IBM 6150 System Unit



AS07A028

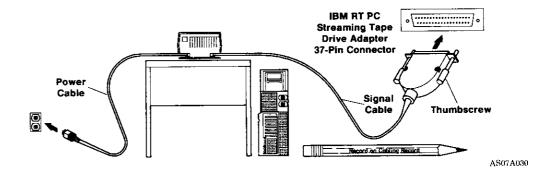
IBM 5081 Color Display (Model 16 or 19) Connected to IBM 6151 System Unit



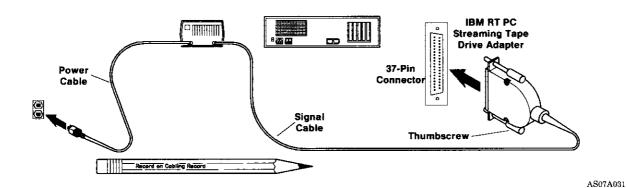
IBM 6157 Streaming Tape Drive

Connect this device to the IBM RT PC Streaming Tape Drive Adapter, the only 37-pin connector in the system. Connect the power cable to a grounded electrical outlet.

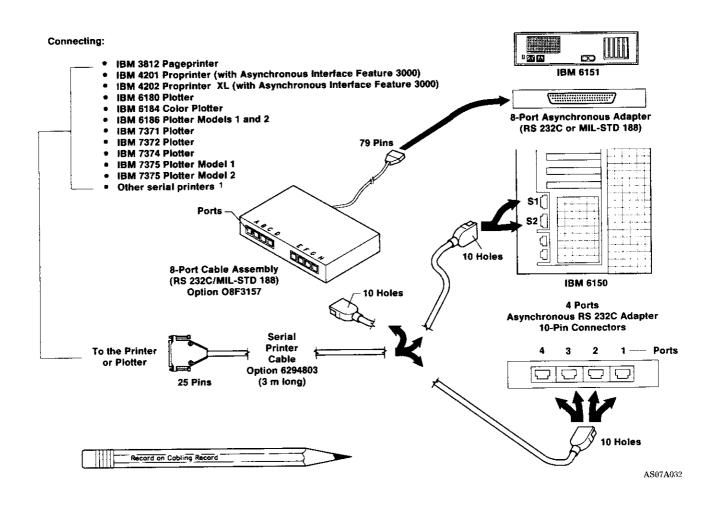
IBM 6157 Streaming Tape Drive Connected to IBM 6150 System Unit



IBM 6157 Streaming Tape Drive Connected to IBM 6151 System Unit

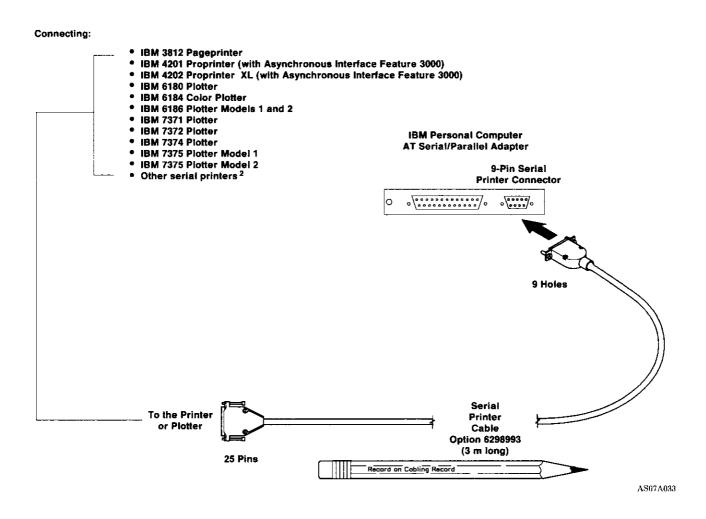


Serial Printers and Plotters



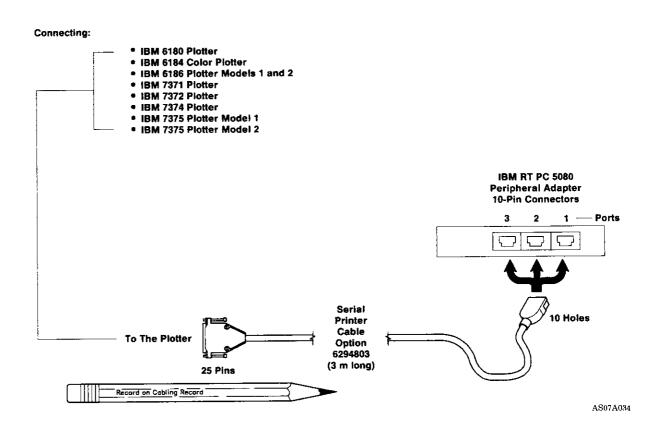
 $^{1\,}$ To achieve optimum performance from high speed printers, connect printers to connector S1 of the IBM 6150. Use S2 for connecting any of the other devices listed.

Serial Printers and Plotters (Continued)



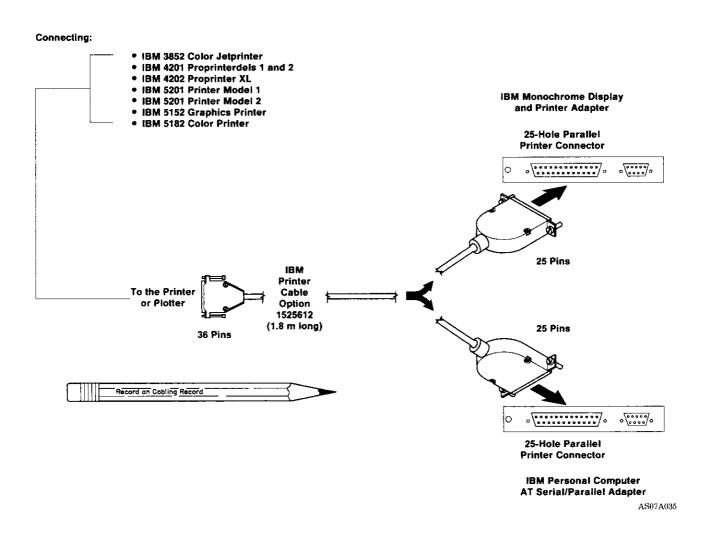
² . To achieve optimum performance from high speed printers, connect printers to connector S1 of the IBM 6150. Use S2 for connecting any of the other devices listed.

Serial Plotters



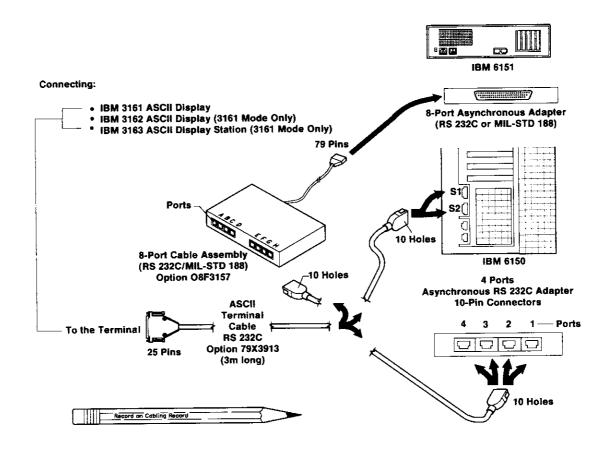
This adapter and cable combination only supports plotters that use XON-XOFF Pacing Protocol.

Parallel Printers

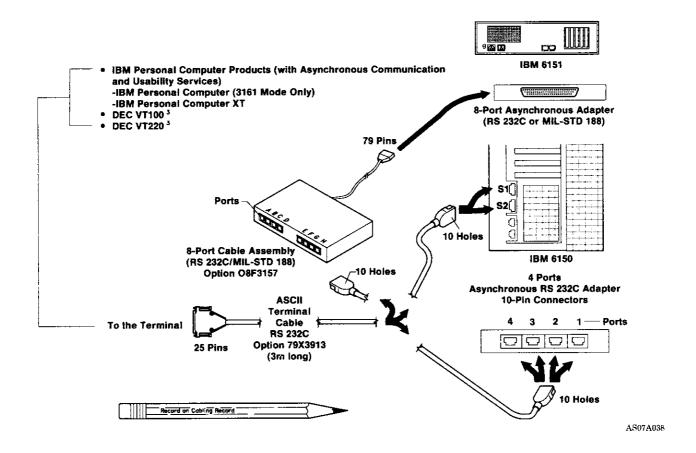


You can connect a total of two parallel devices to a system unit. If you have an IBM Monochrome Display and Printer Adapter and two Personal Computer AT Serial/Parallel Adapters installed in a system unit, connect the two parallel devices to the parallel ports on the Personal Computer AT Serial/Parallel Adapters.

Terminals and Work Stations (RS232C/MIL-STD 188)

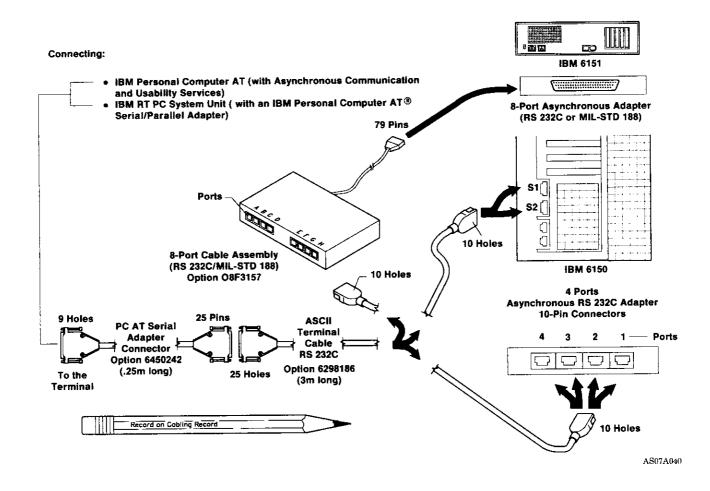


Terminals and Work Stations (RS232C/MIL-STD 188) (Continued)

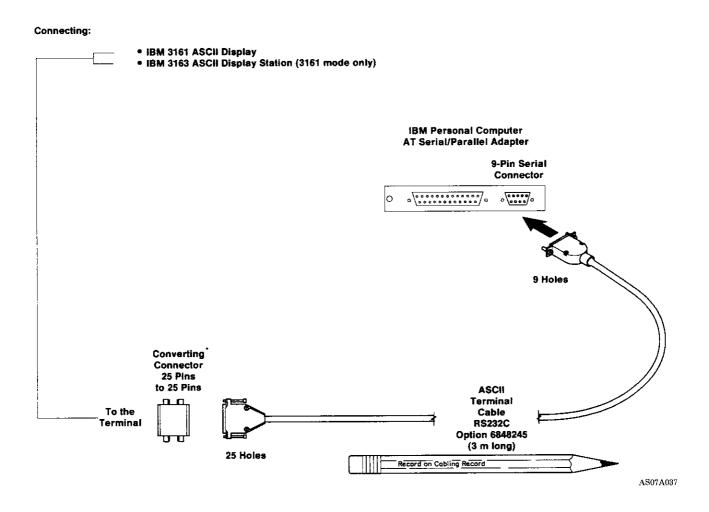


Registered trademarks of Digital Equipment Corporation.

Terminals and Work Stations (RS232C/MIL-STD 188) (Continued)



Terminals and Work Stations (RS232C)



^{*} Use a commercially available converting connector (such as Pryor Computer Supplies part 120-001 MM, Devoke Data Products part 6823-X Type M/M, or the equivalent) to make this connection.

Terminals and Work Stations (RS232C) (Continued)

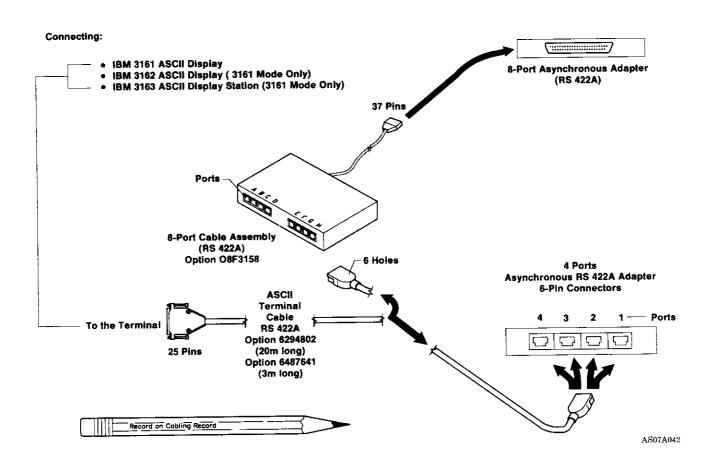
Connecting: IBM Personal Computer AT (with asynchronous communications and **Usability Services**) -IBM Personal Computer -IBM Personal Computer XT DEV VT100 4 **DEV VT220 4** IBM Personal Computer AT Serial/Parallei Adapter 9-Pin Serial Connector 9 Holes **ASCII Terminal** Cable To the RS232C **Terminal** Option 6848245 (3 m long) 25 Holes Record on Cabling Record AS07A039

 $^{4\,}$ To achieve optimum performance from high speed printers, connect printers to connector S1 of the IBM 6150. Use S2 for connecting any of the other devices listed.

Terminals and Work Stations (RS232C) (Continued)

Connecting: IBM Personal Computer AT (with asynchronous communications and Usability Services) IBM RT PC System Unit (with an IBM Personal Compurter AT Serial/Parallel Adapter) iBM Personal Compurter AT Serial/Parallel Adapter 9-Pin Serial Connector 0 9 Holes **ASCII PC-AT Serial Terminal** To the Cable Adapter Terminal Connector RS232C (9/25)Option 6848245 (3 m long) Option 6450242 25 Holes (.25m long) Record on Cabling Record AS07A041

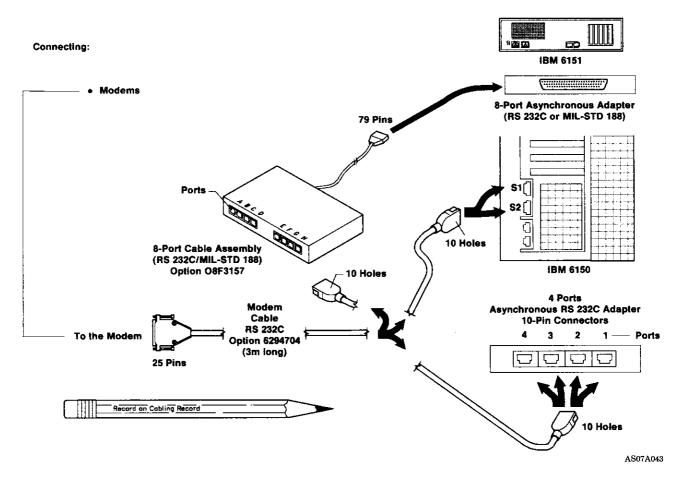
Terminals and Work Stations (RS422A)

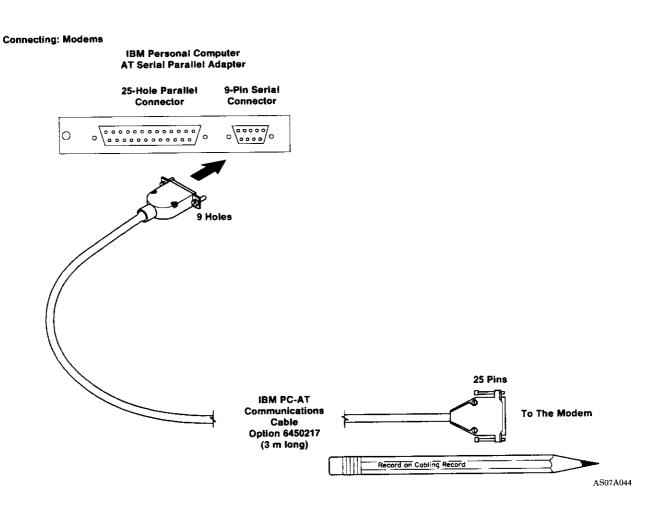


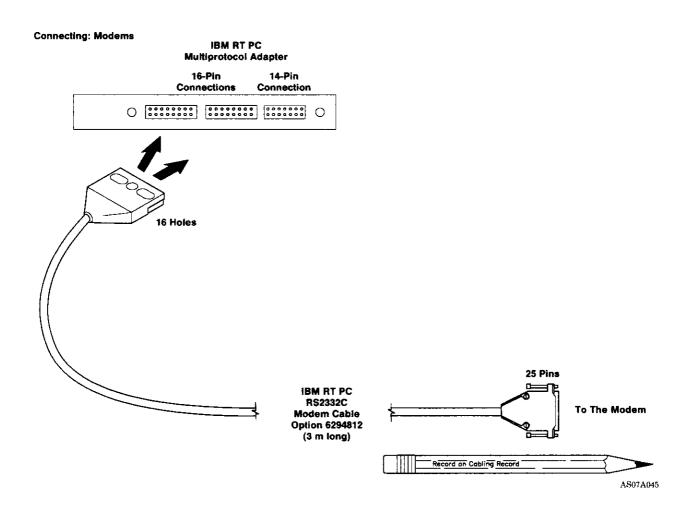
- If the cables from the 4-Port RS422A Adapter to this terminal are longer than 122 m (399 ft), you must provide surge protection.
- Do not install these cables outdoors.

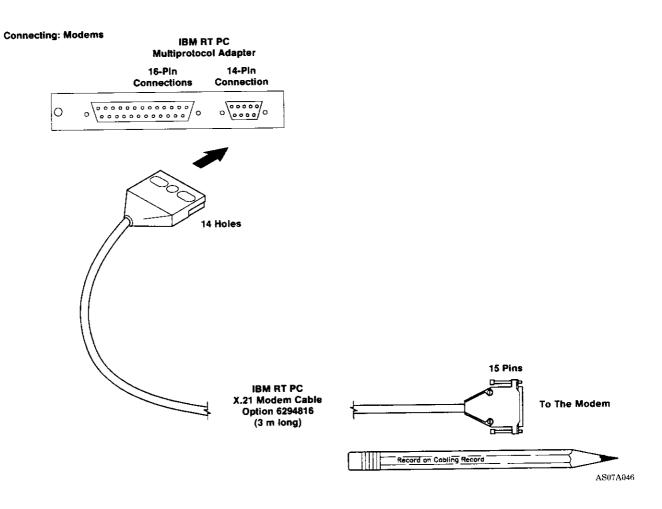
Modems and Autocall Units

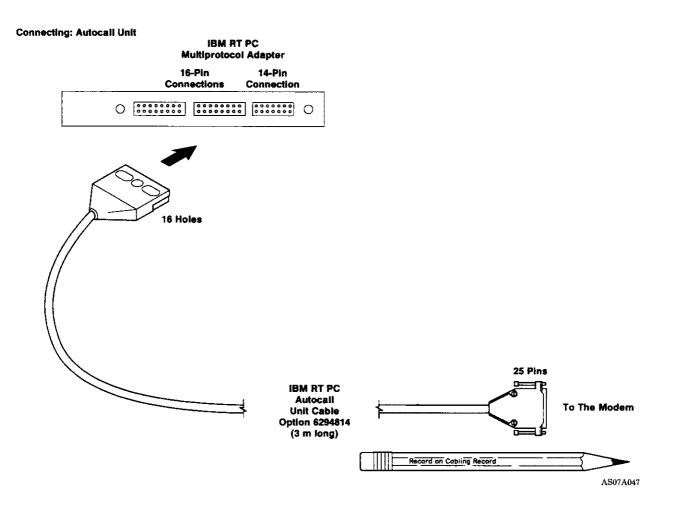
The RT PC is designed to support attachment of modems that comply with the International Telegraph and Telephone Consultative Committee recommendations V.24/V.28, as published in the report of the CCITT Seventh Plenary Assembly (Yellow Book), Geneva, 10-21 November 1980, and EIA RS232C (August 1969). Additionally, the RT PC is designed to support attachment of auto-dialer modems that conform to the Hayes AT command set, using asynchronous protocol.











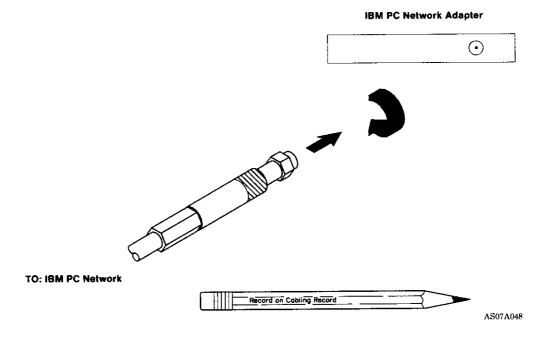
IBM Personal Computer Network

Connecting: IBM RT PC System Unit

You can connect this system to a network of communicating devices using the IBM PC Network Adapter and the appropriate IBM PC Network cable kit.

For more information, see Setup Instructions for the IBM PC Network Transformer and Translation Unit, Setup Instructions for the IBM PC Base Expander, and Setup Instructions for the IBM PC Network Short, Medium and Long Distance Kits.

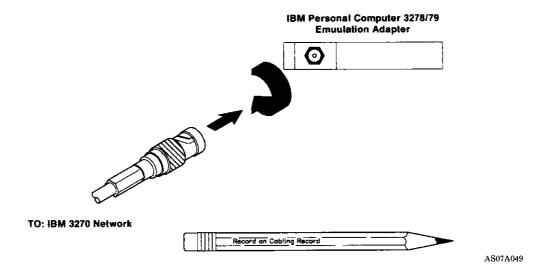
Warning: Tighten the connector with only your fingers. Do not use a tool.



IBM 3270 Network

Connecting: IBM RT PC System Unit

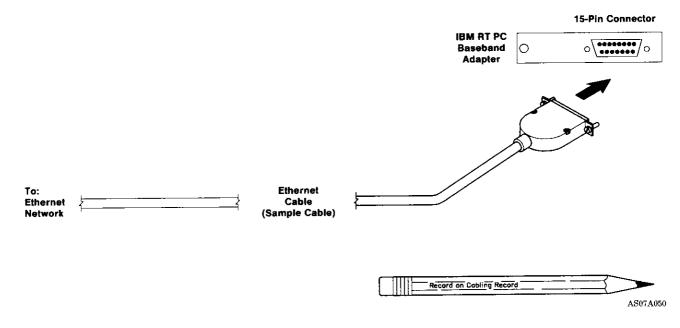
You can connect this system to an IBM 3270 network using the IBM Personal Computer 3278/79 Emulation Adapter and the appropriate coaxial cable as described in IBM 3270 Information Display System Installation Manual - Physical Planning.



Ethernet Network

Connecting: IBM RT PC System Unit

You can connect the IBM RT PC system to an Ethernet¹ network using the IBM RT PC Baseband Adapter. You should contact a qualified Ethernet installer for information on network installation. For planning information see the IBM RT PC Baseband Adapter Hardware Technical Reference.



Trademark of Xerox Corporation

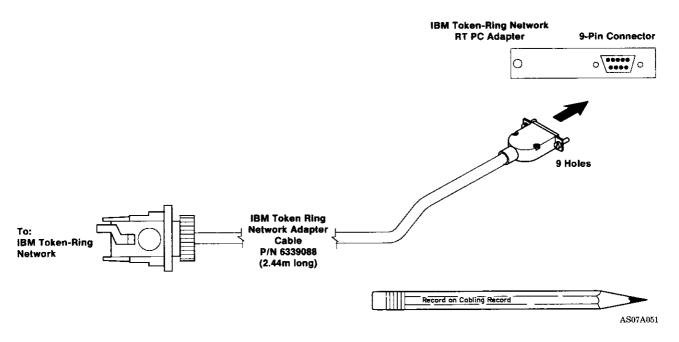
IBM Token-Ring Network

Connecting: IBM RT PC System Unit

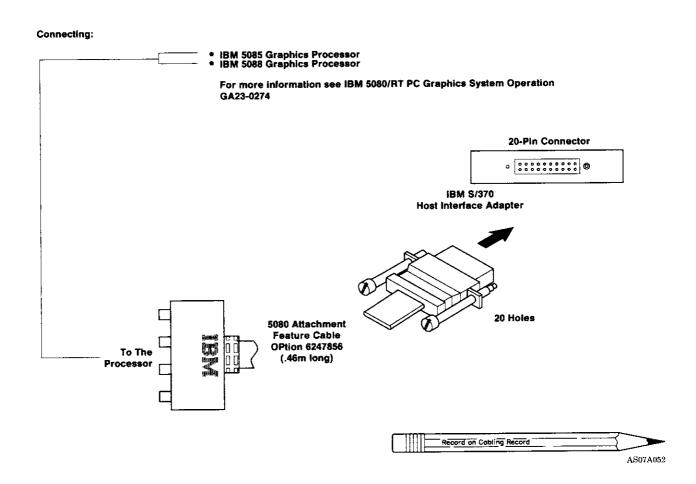
You can connect this system to a network of communicating devices using the IBM Token-Ring Network RT PC Adapter and the appropriate IBM Token-Ring Network adapter cable.

If your system uses the IBM cabling system, connect the adapter cable as shown in the following figure.

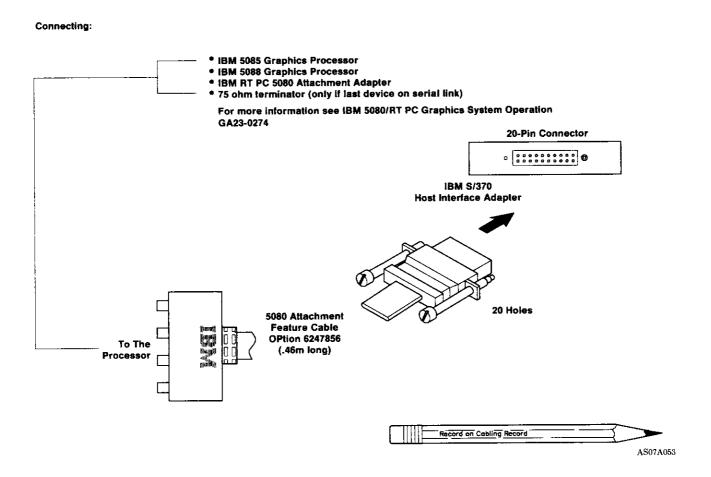
If your system uses telephone, twisted-pair media, connect the Type 3 Media Filter to the IBM Token-Ring Network. See IBM Token-Ring Network Telephone Twisted-Pair Media Guide, GA27-3714.



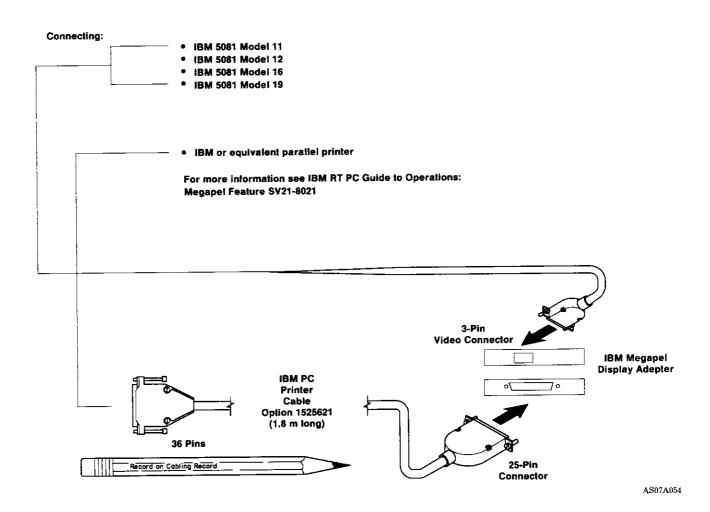
IBM 5080/IBM RT PC Graphics System



IBM S/370 Host Interface Adapter/IBM RT PC Graphics System

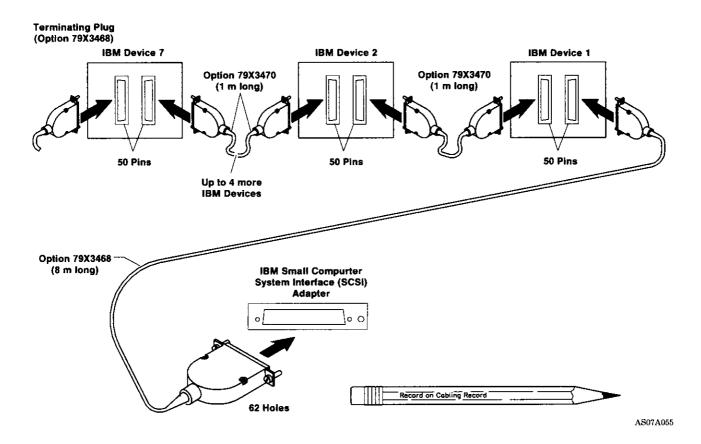


IBM Megapel Display Adapter



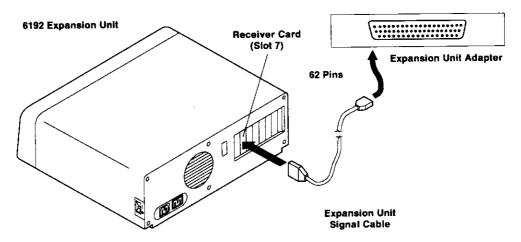
IBM RT PC Small Computer System Interface (SCSI) Adapter

Connecting: up to 7 devices



IBM RT PC 6192 Expansion Unit

Connecting: IBM RT PC Expansion Unit Adapter

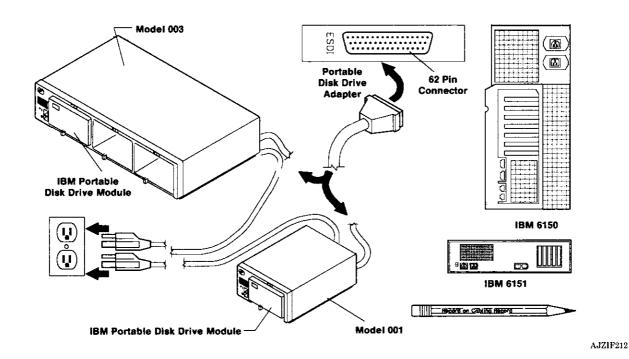


AJZIF211

IBM 6156 Portable Disk Drives

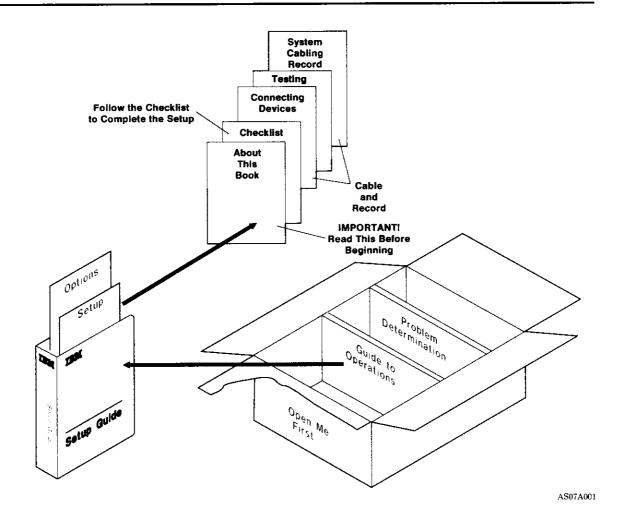
Connect these devices to the IBM RT PC Portable Disk Drive Adapter.

IBM 6156 Portable Disk Drives - Model 001 and 003 connected to IBM 6150 and 6151 System Units



You have completed Setup Task 6 on page 1-6; return to the check list.

Section 3. Testing the System



Before You Start

Use this section with task 7. If the system has operational problems, go to IBM RT PC Problem Determination Guide.

CAUTION

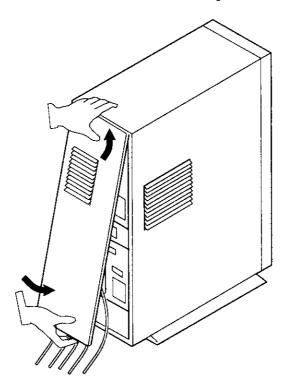
Before doing any procedure, turn off power to the system unit and all connected devices, and unplug system unit and device power cables from electrical outlets. Refer to "Safety Notice Translations" on page iii.

- 1. Ensure the power is off on all devices, including the system unit.
- 2. Connect the system unit power cable to the power connector on the rear of the system unit. Connect the power cable for each device to the power connector on the device.

3. Install the rear cover.

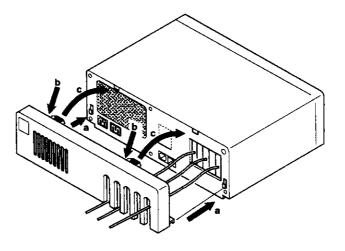
• On the IBM 6150 system unit, arrange the cables so that you can fit the rear cover in place.

Warning: Do not operate the IBM 6150 system unit for an extended period of time without the rear cover in place. It is recommended that 75 mm (3 inches) minimum clearance be provided between the IBM 6150 system unit cover louvers and adjacent walls or furniture to ensure adequate cooling.



- On the IBM 6151 system unit, do not remove the cables. Slide the cables into the slots in the cover.
 - a. Insert the lower hooks into the holes in the frame.
 - b. Push down on the back cover.
 - c. Insert the clips on the system unit into the loops on the cover.

Warning: It is recommended that 75 mm (3 inches) minimum clearance be provided between the IBM 6151 system unit cover louvers and adjacent walls or obstructions to ensure adequate cooling.



AS07A057

CAUTION

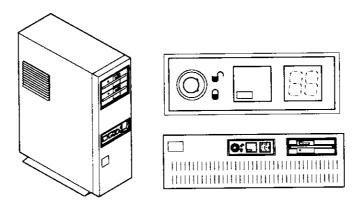
Devices have electrical cables and plugs designed for safety. Plug all devices only into grounded electrical outlets to avoid possible electrical shock. Refer to Safety Notice Translations on page iii.

- 4. Connect all the power cables to grounded electrical outlets.
- 5. Go to "Checking Out the System," below.

Checking Out the System

- 1. Get Diagnostic Diskette 1 (DIAG-1) from the pocket in the back cover of IBM RT PC Problem Determination Guide.
- 2. Unlock the system unit by turning the key counterclockwise.
- 3. If the notch on the diskette is covered by a tab, remove the tab.
- 4. Open the diskette drive (the top drive in IBM 6150).
- 5. Turn the power switches on for all devices, including the system unit and immediately insert the diskette (label side up). Close the drive.

6. Is the green power-on light on?



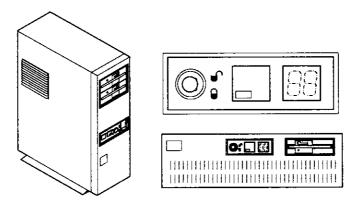
AS07A058

Go to the next step. Yes.

Check all the electrical cables and outlet. No.

7. After the light comes on, wait several minutes while numbers flash on and off on the two-digit display.

8. Is the red two-digit display blank (no numbers on it)?



AS07A058

Yes. Go to the next step.

No. Go to IBM RT PC Problem Determination Guide.

9. Adjust the brightness and contrast controls on the display, if the display has these controls. If you need help operating the display, see *IBM RT PC Guide to Operations*.

Note: If your system is connected to a IBM 5085 Graphics Processor, the keyboard belongs to the 5081 Display at power on. If you have not switched the keyboard to your display using the **Alt** and **Sw Keybd** keys, see 5080/RT PC Graphics System Operation.

10. Do you see the following information on the display screen?

DIAGNOSTIC OPERATING INSTRUCTIONS

DIAG-1

This diskette contains diagnostics and utilities for your system. You should use these procedures whenever you are having problems with your system which have not been corrected by any software application procedures available.

In general, the procedures will run automatically. However, sometimes you will be required to select options, tell the system when to continue, and do simple tasks and exchange diskettes.

Go to the next step. Yes.

Go to IBM RT PC Problem Determination Guide. No.

11. Read the DIAGNOSTIC OPERATING INSTRUCTIONS.

Some of the key functions are listed below, in case you need them.

- Enter continues the procedure or performs an action.
- End stops a test or an action.
- F10 returns to the previous menu and cancels any changes.
- Escape resets the procedures and returns to the Diagnostic Operating Instructions.
- Page Down lets you see information below that shown on the screen.
- Page Up lets you see information above that shown on the
- Backspace lets you correct errors.

12. Press Enter.

13. Do you see the following information on the screen?

FUNCTION SELECTION

ID ITEM

1 Diagnostic Routines

This selection allows you to test your machine's hardware and determine if you have a hardware problem. Any problem will be indicated by a SRN (Service Request Number). The SRN will allow your service representative to quickly determine what parts are required to repair

Yes. Go to the next step.

No. Go to IBM RT PC Problem Determination Guide.

- 14. Type 4 to select Installation Verification. Use the 4 on the typewriter key area, not the numeric keypad. Press Enter. This process may take several minutes.
- 15. Do you see the INSTALLED OPTIONS LIST?

INSTALLED OPTIONS LIST

DIAG-1

The following options are installed on your machine.

ADAPTER/DEVICE

SLOT ADDRESS IRQ DMA

Processor and Memory Management Card

P

2MB Memory Expansion Option

С

Yes. Go to the next step.

No. Go to IBM RT PC Problem Determination Guide.

- 16. Compare the INSTALLED OPTIONS LIST with the system cabling record you completed when connecting devices to the system unit (task 6 and Section 2). The slot numbers of the adapters on the system cabling record should be the same as the slot numbers of the adapters on the Installed Options List. Do the slot numbers match?
 - Yes. Go to the next step.
 - Call the person who installed the options and report No. that the two lists do not match.
- 17. If you have a 4 or 8-Port Asynchronous Adapter (RS232C/MIL-STD 188/RS422A) or an IBM Personal Computer AT® Serial/Parallel Adapter installed, you need to note one additional piece of information on the system cabling record. Look at the adapter names on the screen and note the number after the name. Write this number in the ID column on the system cabling record. The information on your screen looks similar to the following:

ADAPTER/DEVICE	PLOI
Personal Computer AT Serial/Parallel Adapter 1 Personal Computer AT Serial/Parallel Adapter 2 4-Port Asynchronous RS-232C Adapter 1 4-Port Asynchronous RS-232C Adapter 2 4-Port Asynchronous RS-422A Adapter 3 4-Port Asynchronous RS-422A Adapter 4	3 6 2 4 7 8
TI OTO TIDY HOUTE OND AND THE THEORY	

The numbers immediately after the adapter names mean that the primary (1) Serial/Parallel Adapter is in slot 3, and the alternate (2) is in slot 6. The first 4-port adapter is in slot 2; the second, in slot 4; the third, in slot 7; and the fourth, in slot 8.

An X may appear after the adapter name if the switches on the adapter are set incorrectly.

CONTINUE TO THE NEXT PAGE

CLOT

- 18. Look at the adapter names on the screen. Write on the system cabling record the names of adapters you have not yet recorded. Write only the names of adapters in slots 2 through 8 in IBM 6150 and slots 1 through 5 in IBM 6151. Do not worry about slots not listed on the cabling record. The completed system cabling record should match the information on the screen for these numbered adapter slots.
- 19. Remove the diagnostic diskette from the drive and return it to the pocket in the back cover of IBM RT PC Problem Determination Guide.

You have completed task 7. Return to the check list.

Appendix A. System Cabling Records

Purpose

The system cabling record provides a place to record the names of the devices and the adapter or port to which you connected each device. Carefully complete this record. You must have this information when you test the system (Setup Task 7, Section 1) and when you install the operating system (setup Task 8, Section 1).

Using the System Cabling Record

Study the appropriate sample record, and then do the following:

- 1. Record the cabling information immediately after you cable each device to the system unit.
- 2. As you connect (cable) each device to an adapter, note the slot number the adapter is in. Write the adapter name (as it is printed in Section 2) in the space corresponding to the slot where the adapter is installed.

If more than one adapter of the same type is installed, record the name as many times as necessary.

- 3. Write the name of each connected device on the line corresponding to the adapter connector (port) to which you made the connection.
 - Slots that can contain 4 or 8-port adapters have eight lines for recording device names. Slots that can contain only adapters with two connectors or ports (for example, the IBM Personal Computer AT® or the IBM Monochrome Display

and Printer Adapter) have two lines for recording device names.

If the IBM RT PC Expansion Unit Adapter is used, record it under the Name column as you would any other adapter. In the Devices column, record "IBM RT PC 6192 Expansion Unit," and then record the adapters and devices that relate to the 6192 Expansion Unit.

Disregard the extra lines on the form if the adapter has only one or two ports.

- Record only the devices you connect. Depending on your system, you might not write in all the spaces. Do not record where you connect the keyboard and mouse.
- 4. The ID column under Adapters is provided to distinguish between adapters of the same type. You will complete this part of the cabling record when you test the system in Section 3.

IMPORTANT

You must complete the following System Cabling Record before you leave Section 2. The success of the system setup process depends on the information on this form.

Adapters					
Name ID		Connectors (Ports)	Devices		
Slot 2	Advanced		1	Advanced Monochrome Display	
			2	(6153)	
	_		3		
	lonochrome		4		
20	isplay Adapter		5		
			6		
			7		
			8		
Slot 3	PC AT		Isrial Port	-	
	1		1	IBM 4201 Proprinter	
	erial/Parallel		Parallel Port		
A	dapter		2	IBM 5201 Writer	
Slot 4	IBM PC		1		
	_		2	(9) 1	
			3	() A VA ~)	
	stwork		4		
A	dapter		5		
			6		
			7/2	20-	
			8 >)V		
Siot 5	IBM RI PC		1	IBM Streaming Tape Drive	
	_		2		
Itreaming Tape Drive Adapter		3			
		4			
		5			
			6		
			7		
			8		

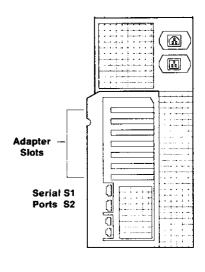


Figure A-1 IBM 6150 System Cabling Record

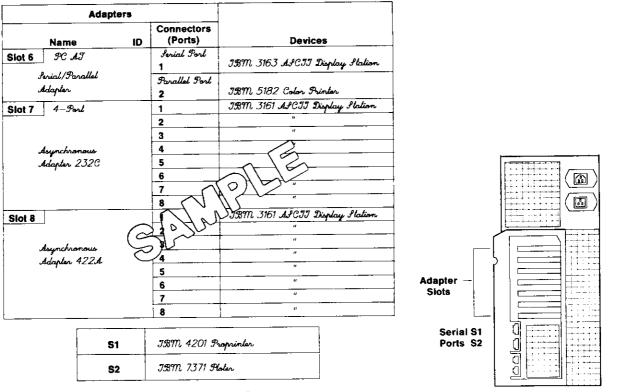


Figure A-1 (Cont.) IBM 6150 System Cabling Record

Adapters					
Name ID		Connectors (Ports)	Devices		
Slot 2		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
Slot 3		1			
		2			
Slot 4		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
Slot 5		1			
<u> </u>		2			
		3			
		4			
		5			
		6			
		7			
		8			

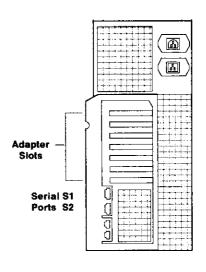


Figure A-2 IBM 6150 System Cabling Record

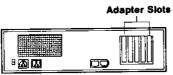
A	Adapters				
Name	QI	Connectors (Ports)	Devices		
Slot 6					
·····		1			
		2			
Slot 7	-	1			
		2			
		3			
		4			
	}	5		-	
		6			
	}	7			
31		8			
Slot 8		2			
		3		-	
	:	4			? ==== : :
	İ	5		Adapter _	
		6		Slots	
		7			
		8			
				Serial S1 Ports S2	
_					
	S 1				
	\$2				

Figure A-2 (Cont.)IBM 6150 System Cabling Record

Adapter Slots

Adapters				
Name ID		Connectors (Ports)	Devices	
Slot 1	PC AT		Serial Port 1	IBM 4201 Proprinter
	al/Parallel apter		Parallel Porl	IBM 5201 Writer
Slot 2	IBM		1	IBM Streaming Tape Drive
			2	
<i>91.</i>	-: 7		3	
	rming Tape		4	
www	Adapter		5	
			6	7772
			7	
			8	
Slot 3	4-Port	,	14/ A " //	JAM 3163 APCII Display Station
	1	1	8/1/2	
		(\sim)	3~	
Asyr	nchronous	$\langle \mathcal{D} \rangle$	4	
Adaj	nter 2320		5	
		}	6	
			7	
			8	
Slot 4	4-Port	+	1	IBM 3163 APCII Display Flation
0101 7] 4—Fori		2	000.70 0.00 0.00 0.00
			3	
A	nchronous		4	
		İ	_	
лаа	plan 422A	i	5	
		!	6	
			7	 -
		-	8	44 4990 4 400 4
Slot 5	Advanced	į	1	Advanced Monochrome Display
			2	(6153)
		!	3	
Monochrome		4		
Displ	lay Adapter	İ	5	
•	• ,	į	6	
			7	
		1	8	

Figure A-3 IBM 6151 System Cabling Record



Ad	apters				
Name ID		Connectors (Ports)	Devices		
Slot 1					
Slot 2		1			
	İ	2			
	1	3			
		5			
		6			
		7			
		8			
Slot 3		1			
3101 3		2			
		3			
		4			
		5			
		6			
		7			
		8			
Slot 4		1			
		2			
		3			
		4			
		5			
	1	6			
		7			
		8			
Slot 5	1	1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			

Figure A-4 IBM 6151 System Cabling Record

IBM RT PC

<u> TBM</u>

Reader's Comment Form

User Setup Guide

SA23-2608-0

Your comments assist us in improving our products. IBM may use and distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

For prompt resolution to questions regarding set up, operation, program support, and new program literature, contact the authorized IBM RT PC dealer in your area.

Comments:

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIBST CLASS PERMIT NO. 40 ARMONK, NEW YORK

Austin, Texas 78758-3493

International Business Machines Corporation Department 997, Building 998 11400 Burnet Rd.

Fold and Tape

Fold and Tape

IBM RT PC



Reader's Comment Form

User Setup Guide

SA23-2608-0

Your comments assist us in improving our products. IBM may use and distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

For prompt resolution to questions regarding set up, operation, program support, and new program literature, contact the authorized IBM RT PC dealer in your area.

Comments:

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

Fold and Tape

Tape



BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

Please Do Not Staple

International Business Machines Corporation Department 997, Building 998 11400 Burnet Rd. Austin, Texas 78758-3493 Fold and Tape

Tape

IBM RT PC

IBM

Reader's Comment Form

User Setup Guide

SA23-2608-0

Your comments assist us in improving our products. IBM may use and distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

For prompt resolution to questions regarding set up, operation, program support, and new program literature, contact the authorized IBM RT PC dealer in your area.

Comments:

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

Fold and Tape



BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

International Business Machines Corporation Department 997, Building 998 11400 Burnet Rd. Austin, Texas 78758-3493 ng Line -----

Fold and Tape

1

Tape

IBM	RT	\mathbf{PC}	User	Setup	Guide
-----	----	---------------	------	-------	-------

SA23-2608-0

Book Title

Order No.

Book Evaluation Form

Your comments can help us produce better books. You may use this form to communicate your comments about this book, its organization, or subject matter, with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you. Please take a few minutes to evaluate this book as soon as you become familiar with it. Circle Y (Yes) or N (No) for each question that applies and give us any information that may improve this book.

Y 	N	Is the purpose of this book clear?	Y 	N	Are the abbreviations and acronyms understandable?
Y	N	Is the table of contents helpful?	Y	N	Are the examples clear?
Y	N	Is the index complete?	<u>Y</u>	N	Are examples provided where they are needed?
Y	N	Are the chapter titles and other headings meaningful?	Y	N	Are the illustrations clear?
<u>Y</u>	N	Is the information organized appropriately?	Y	N	Is the format of the book (shape, size, color) effective?
Y	N	Is the information accurate?			Other Comments
Y	N	Is the information complete?	Wh boo	at coul	d we do to make this book or the entire set of this system easier to use?
Y	N	Is only necessary information included?			
<u>ү</u>	N	Does the book refer you to the appropriate places for more information?			Optional Information
<u>Y</u>	N	Are terms defined clearly?	Co	ur nam mpany	e name
<u></u>	N	Are terms used consistently?		eet add y, Stat	

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

Fold and Tape



BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

International Business Machines Corporation Department 997, Building 998 11400 Burnet Rd. Austin, Texas 78758-3493

Fold and Tape

- Cut or Fold Along Line