

 **ATARI**[®]
Documentation Series

PC

OWNER'S[®] *Manual*[™]

IMPORTANT INFORMATION

The Atari PC uses and produces radio frequency energy. If not installed and used according to the instructions in this manual, the equipment may cause interference with your radio and TV reception.

If you experience interference while using the equipment, switch it off. If interference stops, the equipment is probably at fault. With the equipment switched on, try to correct the problem using the following measures:

- Adjust the position of the radio or TV antenna.
- Reposition the equipment in relation to the radio or TV.
- Move the equipment away from the radio or TV.
- Plug the equipment into a different electrical outlet so the equipment and radio or TV are connected to separate branch circuits.

If necessary, consult your Atari dealer or an experienced radio-TV technician for additional suggestions.

A helpful resource is *How to Identify and Resolve Radio-TV Interference Problems*, prepared by the Federal Communications Commission and available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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ATARI®

PC

Owner's Manual



TABLE OF CONTENTS

INTRODUCTION	1
Welcome to the Atari PC!	1
Using This Manual	2
CHAPTER 1: GETTING STARTED	5
Atari PC System Components	5
Computer and Disk Drive	5
Keyboard, Monitor, and Mouse	6
Numeric Data Processor and RAM Chips	6
Connecting the PC System	6
Switching the PC System On and Off	8
Switching On the System	8
Switching Off the System	11
Connecting Additional Floppy Disk Drives	11
Connecting One External Drive	11
Connecting Two External Drives	12
Switching On a System with External Drives	13
Ports and Features	13
Keyboard	13
The Computer's Back Panel	15
CHAPTER 2: ATARI PC SYSTEM OVERVIEW	17
MS-DOS	17
One-Drive and Multi-Drive Systems	17
Floppy Disks	17
Write-Protecting Disks	19
Copying the Program Disks	20
The CONFIG.SYS and AUTOEXEC.BAT Files	21
CONFIG.SYS	21
AUTOEXEC.BAT	22
The Tree Structure of Directories and Files	23
Filenames	23
Changing the Drive Designation	26
Atari PC Special Features	26
Changing System Speeds	26
Selecting Monitor Display Modes	28
Setting the Key Click Feature	28
Installing the Mouse for Use with Non-GEM Programs ...	29
CHAPTER 3: INTRODUCTION TO MS-DOS COMMANDS	31
Commands	31
Parameters	31

Command Syntax	32
Editing Commands	34
Preparing Disks	34
FORMAT	34
DISKCOPY	35
Creating and Copying Files	36
COPY	36
Viewing, Renaming, and Erasing Files	38
TYPE	38
REN (REName)	38
DEL (DElete) and ERASE	39
Working with Directories	39
DIR (DIRectory)	39
MKDIR (MaKe DIRectory)	40
CHDIR (CHange DIRectory)	41
RMDIR (ReMove DIRectory)	41
TREE	42
PATH	42
Checking Disks, Directories, and Files	43
CHKDSK (CHeck DiSK)	43
Printing Files	44
PRINT	44
MODE	45
Monitor Display Mode Commands	45
A Few Other Useful Commands	48
CURSOR	48
PROMPT	48
CLS (CLear Screen)	48
Common MS-DOS Error Messages	49
APPENDIX A: SYSTEM MAINTENANCE	51
APPENDIX B: INSTALLING EXTRA RAM AND THE NUMERIC DATA PROCESSOR	55
APPENDIX C: ATARI PC SPECIFICATIONS	59
APPENDIX D: ATARI PC CONNECTOR PINOUT SPECIFICATIONS ..	63
APPENDIX E: POWER CONNECTION IN THE UNITED KINGDOM	67
GLOSSARY	69
INDEX	75
CUSTOMER SUPPORT	79

INTRODUCTION

Welcome to the Atari PC!

If you are new to the PC world, you'll discover that the Atari PC is a powerful, reliable system that's easy to set up and operate. And if you're a seasoned PC user, you'll appreciate the many features built into the Atari PC—features you'd have to add on to other systems—including:

- A high-speed 8088 processor that permits both standard PC and turbo operating speeds.
- 512 kilobytes of RAM with expansion capability to 640 kilobytes.
- An EGA (Enhanced Graphics Adapter) video subsystem for superior screen resolutions and color selection.
- Support for an optional numeric data processor to speed calculations.
- An internal 5¼-inch floppy disk drive.
- Support for an Atari external hard disk drive.
- Interfaces for both serial and parallel peripherals.
- A monitor port that supports EGA, color, and monochrome monitors.
- An IBM® PC AT® layout keyboard.
- An external floppy disk drive port, supporting up to two additional 5½-inch or 3¼-inch drives.
- A mouse for controlling GEM® Desktop™ and other utilities and applications.

The **Atari PC Information Sheet** included with the system gives a complete list of all hardware, software, and documentation supplied with your Atari PC.

Using This Manual

To get top performance from your Atari PC, you'll want to set up and operate it correctly from the start. This manual explains how to do that in clear, non-technical language that PC novices as well as computer experts can understand. Once you're accustomed to using your PC, this manual can serve as a reference guide to individual procedures and specific information.

It is essential that you make backup copies of the disks supplied with your Atari PC. Backup copies safeguard you from accidentally losing or damaging the information on the original disks. Once you've made the copies, use them as your working disks and safely store the originals. For instructions on copying disks, see **Copying the Program Disks** in **Chapter 2** of this manual.

Read the manual chapters in sequence the first time through, letting them guide you through connecting your system to a thorough explanation of system operation. Atari PC owners in the United Kingdom can refer to **Appendix E** for additional instructions when connecting their systems. A summary of each manual section follows:

Chapter 1: Getting Started describes the Atari PC components and explains how to connect and switch on the system. This chapter includes instructions for adding external disk drives and other peripherals.

Chapter 2: Atari PC System Overview takes a look at how your PC system works and explains how to use MS-DOS®, the PC's operating system. You'll also find helpful information on system features, working with disks, and making backup copies of the program disks.

Chapter 3: Introduction to MS-DOS Commands explains how to use MS-DOS commands and provides a reference for often-used commands. The last section of the chapter explains common error messages you may see while working with your system.

Appendix A: System Maintenance explains how to identify and correct common operating problems and take care of your system.

Appendix B: Installing Extra RAM and the Numeric Data Processor explains how to install those optional features.

Appendix C: Atari PC Specifications summarizes the major features and requirements of the system.

Appendix D: Atari PC Connector Pinout Specifications shows the pin assignments of the Atari PC's peripheral ports.

Appendix E: Power Connection in the United Kingdom includes additional set-up instructions for Atari PC owners in the United Kingdom.

The **Glossary** defines common technical terms used in this manual.

The **Index** helps you locate terms and procedures discussed in the manual.

Customer Support tells you where to find more information about the Atari PC and all Atari computer products.

Paragraphs marked **Note** or **Warning** appear throughout the manual. Notes contain useful hints and other information relevant to the topic being discussed. Warnings alert you to potential problems and suggest ways to avoid them.

In this manual, characters in dark type enclosed by square brackets ([]) represent keys on your Atari PC keyboard. In cases where a process or function requires using two or three keys, the keys are listed together in order. For example, [Ctrl] [S] means to hold down the [Ctrl] key while pressing the [S] key; [Ctrl] [Alt] [Del] means to hold down the [Ctrl] and [Alt] keys while pressing the [Del] key.

Warning: To prevent electrical shock, DO NOT remove the metallic shield under the PC computer cover under any circumstances. Obtain all servicing (except for installing extra RAM and the numeric data processor) from an authorized Atari dealer or service center. Before removing the cover of your computer or performing any operation to its interior, it is absolutely required that you disconnect the computer's power cord.

CHAPTER 1

GETTING STARTED

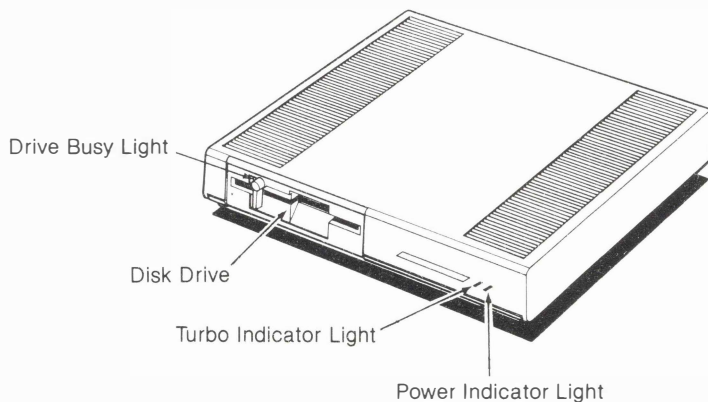
Your Atari PC computer system should be set up in a roomy workspace that's both healthy for the system and comfortable for you. When setting up your system, choose a location that has a sturdy, level surface close to a grounded electrical outlet, with plenty of room for airflow around the components. The location should also be clean, grease-free, and protected from extreme temperatures, direct sunlight, dampness, and high humidity.

Carefully unpack the PC components, placing them in the workspace you've selected. Remove all packing materials and save them for storing or shipping your PC later.

Atari PC System Components

Computer and Disk Drive

The PC computer holds the microchips, integrated circuits, and power supply that make computer operations possible. It also contains a disk drive that uses 5¼-inch floppy disks. The disk drive lets you store and retrieve information with your computer.



Keyboard, Monitor, and Mouse

The Atari PC keyboard and monitor are the tools you and the computer use to communicate. You use the keyboard to give data and instructions to the PC. The monitor provides a visual display of your keyboard input and the PC's computing processes as they happen. You can attach a monochrome, color, or EGA (Enhanced Graphics Adapter) monitor to your Atari PC system.

The mouse attaches to the computer and is used to operate the PC from GEM Desktop and certain applications programs. You use the mouse by rolling it on a flat surface and pressing the mouse buttons.

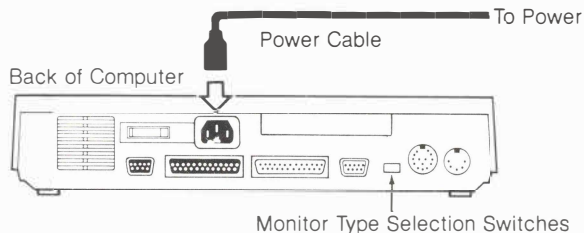
Numeric Data Processor and RAM Chips

Inside your Atari PC are provisions for a numeric data processor (Intel® 8087 chip) and additional RAM (for a system total of 640 kilobytes). If you're going to install these optional chips, do so before you connect the system. See **Appendix B** for complete instructions.

Connecting the PC System

Remove the protective insert from the PC's disk drive and make sure the computer is turned off (the power switch is on the back: **I** is on; **O** is off). Then follow these steps to connect your system:

1. Plug the power cable into the jack marked "Power" on the back of the computer. Then plug the cable into a grounded electrical outlet.



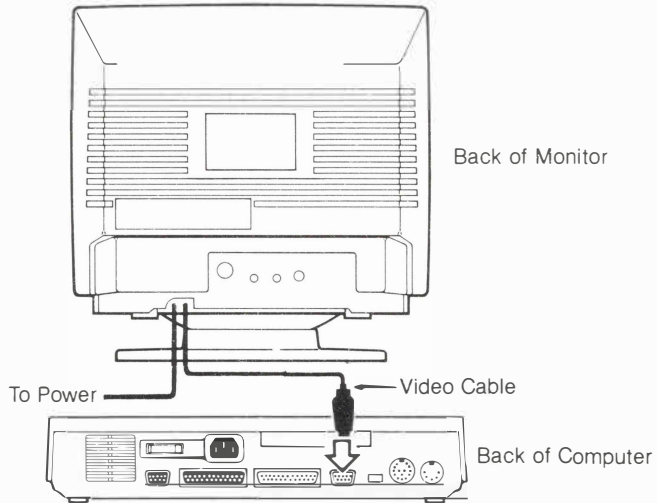
2. Set the monitor type selection switches on the computer's back panel correctly for your monitor type. You must do this before you connect the monitor.

For EGA monitor use, leave the switches at the factory setting. If you are using a color or monochrome monitor, modify the switch settings according to the table below. The up position is OFF; the down position is ON.

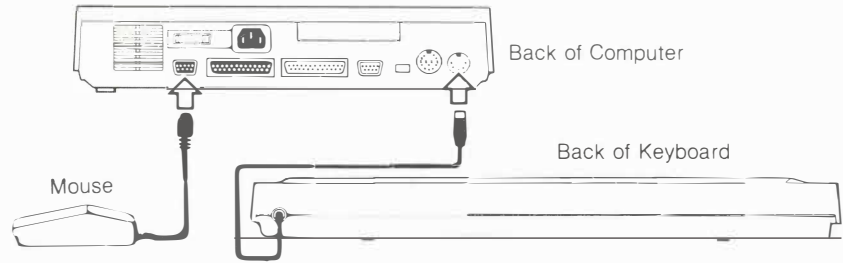
Monitor Switches	Switch 1	Switch 2	Switch 3	Switch 4
EGA Monitor	OFF	ON	OFF	OFF
Color Monitor	ON	OFF	OFF	ON
Monochrome Monitor	ON	OFF	ON	ON

Warning: To prevent damage to your monitor, you **MUST** set the switches correctly for your monitor type **BEFORE** you connect the monitor and switch on the system.

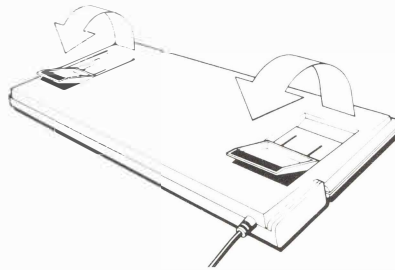
3. Set the monitor on top of or beside the computer. Plug the monitor's video cable into the jack labeled "Monitor" on the back of the computer. Make sure the monitor is turned off, then connect its power cable to the monitor, then to a grounded electrical outlet. See the manual supplied with your monitor for further information.



4. Connect the keyboard by plugging its cable into the jack labeled "Keyboard" on the back of the computer. Connect the mouse by plugging its cable into the mouse port on the back of the computer. Remove the protective strip on the bottom of the mouse that holds the roller in place.



Adjustable legs on the bottom of the keyboard let you raise or lower the keyboard to its best typing position. To raise the keyboard (for instance, when it's placed on a low tabletop), swing the legs out to the raised position. Push the legs back into their original position to lower the keyboard.



Switching the PC System On and Off

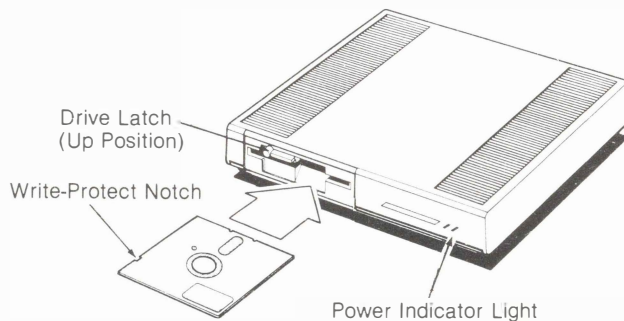
Switching On the System

Use MS-DOS Disk 1 (supplied with your Atari PC) when you switch on your system. This disk contains information your computer needs in order to initialize.

Note: It's essential that you make backup copies of the disks supplied with your Atari PC. Always use the backup copies as your working disks and store the originals for safekeeping. For instructions, see **Copying the Program Disks** in **Chapter 2**.

To switch on your PC system, follow these steps:

1. Switch on your monitor and any other peripherals you've connected. Then switch on your computer (always switch on the computer last). The power indicator light comes on.
2. Make sure the drive latch is flipped up. Hold MS-DOS Disk 1 label side up with the write-protect notch on the left. Gently slide the disk into the drive opening until it's completely inside the drive. Flip the drive latch down, locking the disk in place.



3. The computer begins retrieving data from the disk. When the computer is finished, the operating system MS-DOS prompts you for the date on the monitor screen:

**Current date is Tue 1-01-1980
Enter new date (mm-dd-yy):**

Note: If the date prompt doesn't appear, check that your monitor is switched on with the brightness properly adjusted, and that MS-DOS Disk 1 is correctly inserted with the drive latch flipped down. If you still don't see a date prompt, switch off the system and make sure all cable connections are correct and secure. If the problem continues when you switch on the system, see **Appendix A: System Maintenance**.

4. Type the date from the keyboard in the form requested on screen, using numbers separated by hyphens (-) or slashes (/). Use the **[Backspace]** key (**[<-]**) to erase mistakes.

5. Press the [Enter] key. MS-DOS responds by prompting you for the time:

```
Current time is 0:01:15.24  
Enter new time:
```

6. Enter the hour and minutes (and seconds, if you like), separating them with colons (:). MS-DOS uses a 24-hour clock, so add 12 to any PM hour. For example, if the time is 3:20 PM, enter:

```
15:20:00
```

7. Press the [Enter] key. Your screen will display something like this:

```
Current date is Tue 1-01-1980  
Enter new date (mm-dd-yy): 11-30-87  
Current time is 0:01:15.24  
Enter new time: 15:20:00
```

```
Microsoft(R) MS-DOS(R) Version 3.21  
(C)Copyright Microsoft Corp 1981-1987
```

```
A>
```

Note: The Atari PC adds the date and time to all files you create or modify. Entering the correct date and time whenever you start up your PC will help you identify the most up-to-date versions of your files later. However, entering the date and time is optional and you can skip over the prompts by pressing [Enter] twice. The PC will then use a default date and time instead.

The A> at the bottom of the display is the MS-DOS system prompt. The A means that drive A is currently in use (accessed). Next to the prompt is a blinking bar called the cursor. The system prompt and the cursor tell you that MS-DOS and the PC are ready to receive instructions. The line containing the prompt is called the MS-DOS command line.

Note: Chapters 2 and 3 tell you how to work with MS-DOS and your Atari PC from this point.

Switching Off the System

Remove the disk from your drive, then switch off your computer first, then your monitor and any peripherals. Wait at least ten seconds before switching your computer system back on. Switching the computer on with the on/off switch is called a coldstart, and it completely initializes the computer.

Connecting Additional Floppy Disk Drives

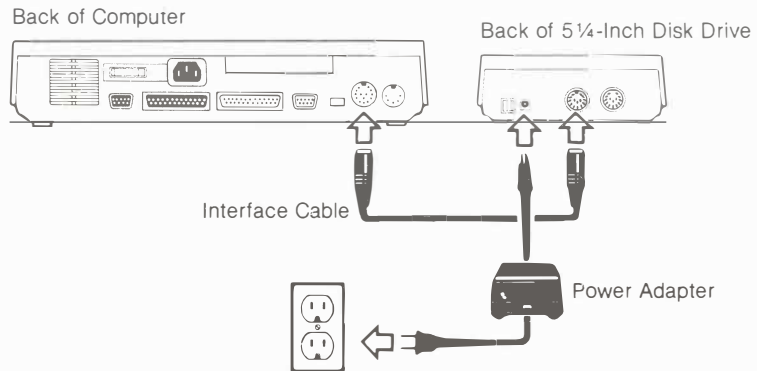
You can connect up to two external floppy disk drives to your Atari PC system. The external drives can be either 5¼-inch or 3½-inch drives. Connecting additional drives streamlines data storage and retrieval.

Connecting One External Drive

To connect one external (5¼-inch or 3½-inch) drive, follow these steps:

1. Make sure both the computer and external drive are switched off, and you've removed the protective insert from inside the drive. Plug one end of the drive's interface cable into the port labeled "Floppy Disk" on the back of the computer. Plug the other end into the port marked "In" on the back of the drive.
2. Insert the round plug on the drive's power adapter cable into the jack labeled "Power" on the back of the drive. Then plug the cable into a grounded electrical outlet.

Connecting One External Floppy Disk Drive



Connecting Two External Drives

It's possible to connect two external floppy disk drives to your PC. The two drives can use the same disk size (5¼-inch or 3½-inch), or different disk sizes (one using 5¼-inch and one using 3½-inch).

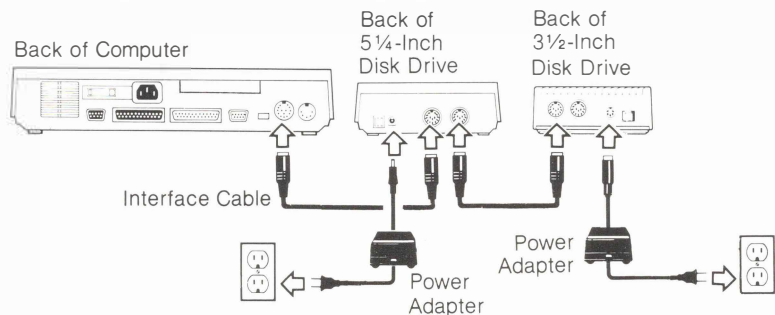
If the drives use different disk sizes, you must connect the 5¼-inch drive to the computer first, then connect the 3½-inch drive to the external 5¼-inch drive.

Follow these steps to connect the drives:

1. Make sure the computer and both external drives are switched off, and you've removed the protective insert from inside the drives. Plug one end of a drive interface cable into the port labeled "Floppy Disk" on the back of the computer. Plug the other end into the port marked "In" on the back of the first drive. (If you are connecting two different drive types, this will be the 5¼-inch drive.)
2. Plug one end of a drive interface cable into the port marked "Out" on the back of the first drive, then plug the other end of the cable into the port marked "In" on the back of the second drive. (If you are connecting two different drive types, this will be the 3½-inch drive.)
3. For each drive, insert the round plug on a power adapter cable into the jack labeled "Power" on the back of the drive. Then plug the cable into a grounded electrical outlet.

Note: The 5¼-inch and 3½-inch drives use different types of power adapters.

Connecting Two External Floppy Disk Drives



Switching On a System with External Drives

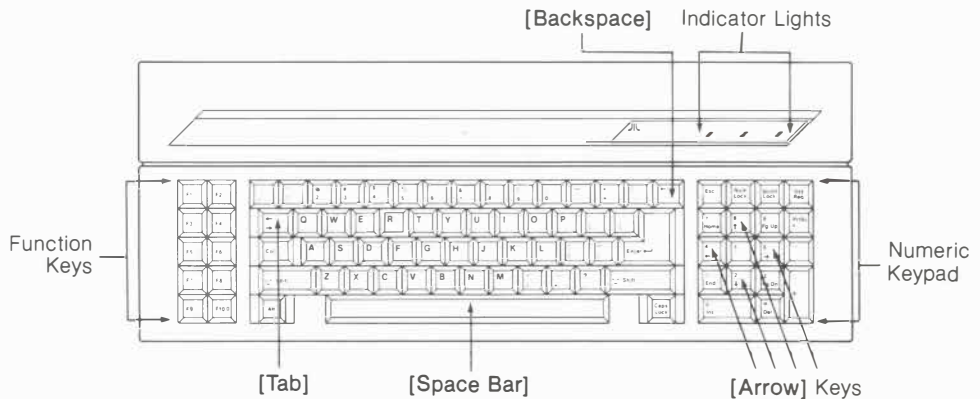
A system with external drives is switched on and off the same way as a system without external drives (see **Switching the PC System On and Off** earlier in this chapter).

However, if you want to start up the system from a disk in a drive other than the internal drive (for instance, from a 3½-inch drive) you must press either the **[F2]** or the **[F3]** key as soon as you see text displayed on screen. Pressing **[F2]** starts up the system from a disk in the first external drive (connected directly to the computer); pressing **[F3]** starts up a system from a disk in the second external drive.

Ports and Features

Keyboard

The Atari PC keyboard is like a typewriter keyboard in both design and function. In addition, extra keys on the PC's keyboard perform special functions not found in a typewriter.



Along the left side of the keyboard are the function keys **[F1]** through **[F10]**. These keys perform varying functions depending on your applications program. The **[F1]** through **[F6]** keys are also used to edit the MS-DOS command line. (See the **MS-DOS User's Reference** for details.)

The alphanumeric keys (letters, numbers, and symbols) are primarily used to enter data and commands. They usually function just like similar keys on a typewriter. The **[Shift]**, **[Tab]**, **[Backspace]**, and **[Caps Lock]** keys also perform the same functions as their typewriter counterparts. Most alphanumeric keys automatically repeat when they are held down.

Certain keys have special control functions. These keys are **[Alt]**, **[Ctrl]**, **[Del]**, **[End]**, **[Esc]**, **[Home]**, **[Ins]**, **[Num Lock]**, **[Pg Dn]**, **[Pg Up]**, **[PrtSc]**, and **[Scroll Lock]**. Although the functions of these keys can vary depending on your applications program, the following key combinations (keys pressed simultaneously) will usually be in effect:

[Ctrl] [S]	Stops the screen display from scrolling. Press [Ctrl] [S] again to resume scrolling.
[Ctrl] [Num Lock]	Pauses the current program or command. Press any key to continue.
[Ctrl] [Scroll Lock]	Stops the current program or command and returns you to the MS-DOS command line.
[Ctrl] [Alt] [Del]	Restarts your system.
[Ctrl] [Alt] [keypad +]	Turns on turbo mode, setting the system to high speed.
[Ctrl] [Alt] [keypad -]	Turns off turbo mode, returning the system to normal PC computing speed.
[Ctrl] [Alt] [<]	Turns on audible key click.
[Ctrl] [Alt] [>]	Turns off audible key click.

When a printer is connected to your system you can also use these key combinations:

[Shift] [PrtSc]	Prints the screen display.
[Ctrl] [PrtSc]	Prints what you type as you type it. Also prints the screen output (the PC's screen response to your instructions). Press [Ctrl] [PrtSc] again to stop printing.

The four **[Arrow]** keys are generally used within an applications program to move the cursor in the direction of their arrows (up, down, left, or right). The cursor is a movable symbol on screen that marks where the next action will take place.

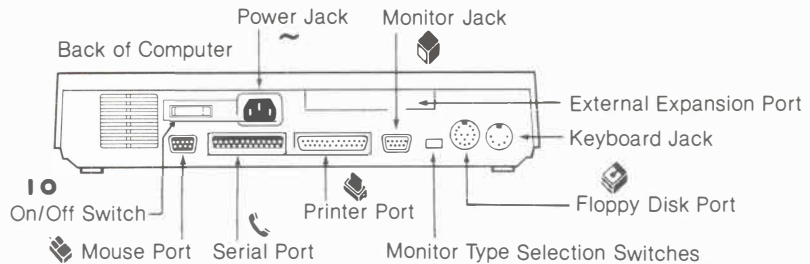
The numeric keypad provides a means for entering numbers and math symbols, calculator-style. Pressing the **[Num Lock]** key once activates the numeric keys for arithmetic entry. Pressing the **[Num Lock]** key again lets you use the keys for the symbols as marked, as well as for specific functions depending on the applications program you're using. When the **[Num Lock]** key is pressed for arithmetic entry, its indicator light will be lit.

Indicator lights for **[Num Lock]**, **[Scroll Lock]**, and **[Caps Lock]**, when lit, tell you that those functions are activated.

Note: The **[Sys Req]** key normally has no function.

The Computer's Back Panel

Several types of external devices, called peripherals, can be connected to your system through ports on the computer's back panel.



Be sure to switch off the power to both the peripheral and the computer before connecting them. Some peripheral cables have small retaining screws or clips on the sides of the connector. When the cable is in place on the computer, tightening the screws or attaching the clips maintains a strong connection and helps eliminate interference which might affect television or radio reception in the area.

Warning: Never touch the exposed contacts on any port. Static electricity could harm the sensitive electronics inside your PC computer.

 **On/Off**

The on/off switch turns the computer on and off. I is on; O is off.

 **Power**

The power jack (labeled “Power”) connects the computer to a grounded power source.

 **Printer**

A parallel printer connects to your computer through the printer port (labeled “Printer”). The printer port is an industry-standard parallel interface, so almost any parallel device can be attached here. Refer to the manual supplied with your peripheral for installation instructions.

External Expansion

The external expansion port can support an Atari external hard disk drive.

 **Monitor**

A monochrome, color, or EGA monitor attaches to your computer through the monitor jack (labeled “Monitor”). The monitor type selection switches are adjacent to the monitor connector.

 **Floppy Disk**

External floppy disk drives connect to the computer through the floppy disk port (labeled “Floppy Disk”).

 **Mouse**

The mouse connects to the computer through the mouse port.

Keyboard

The keyboard connects to the computer through the keyboard jack (labeled “Keyboard”).

 **Serial Devices**

A modem or other serial device attaches to the computer through the serial port (labeled “Serial”). Refer to the manual supplied with your serial device for installation instructions.

CHAPTER 2

ATARI PC SYSTEM OVERVIEW

MS-DOS

MS-DOS (Microsoft® Disk Operating System) is the operating system for the Atari PC, and is contained on MS-DOS Disks 1 and 2 supplied with your computer.

MS-DOS consists of a group of programs that manage all computer processes such as running programs, creating files, and printing documents. You control MS-DOS by entering commands on the MS-DOS command line next to the MS-DOS prompt. (Controlling MS-DOS with commands is fully explained in **Chapter 3**.)

One-Drive and Multi-Drive Systems

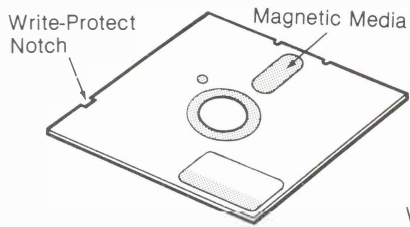
Your Atari PC has an internal floppy disk drive that uses 5¼-inch floppy disks. To streamline data storage and retrieval, you can also connect up to two external floppy disk drives that use either 5¼-inch or 3½-inch disks.

In systems limited to one drive (the internal drive), that drive acts as both drive A and drive B. This allows for operations that use two disks (such as copying a file from one disk to another). During such operations, the disks themselves are referred to as disk A and disk B, and MS-DOS prompts you when to switch disks in the drive in order to proceed.

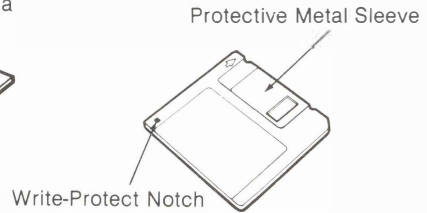
Floppy Disks

Floppy disks serve as permanent storage for programs and other data. These disks have a stiff protective casing holding a circular sheet of oxide-coated material. The material is the magnetic media, which holds data and is read by the disk drive. (On 3½-inch disks, the magnetic media is also protected by a sliding metal sleeve.) Most floppies have a write-protect notch.

5 1/4-Inch Floppy Disk



3 1/2-Inch Floppy Disk



Warning: DO NOT touch the magnetic media. Doing so may damage your disk and the information on it.

Floppy disks for the Atari PC are usually double-sided, meaning that both sides of the magnetic media are certified as safe for storing information. A double-sided 5 1/4-inch disk has a memory capacity of 360 kilobytes; a double-sided 3 1/2-inch disk has a memory capacity of 720 kilobytes.

You must format a new blank disk before you can use it. Formatting prepares a disk to receive information by completely erasing the disk, checking for damage on the magnetic media, and setting patterns (sectors and tracks) in place to hold the information you will eventually write to the disk. (For instructions on how to format, see **FORMAT** in **Chapter 3**.)

To insert a 5 1/4-inch disk into the drive, first make sure the drive latch is flipped up. Hold the disk label side up, with the write-protect notch on the left. Gently slide the disk into the drive opening until it is completely inside the drive. (If the disk meets resistance, check to see if another disk is already in the drive.) Flip the drive latch down to lock the disk in place.

To remove the disk, flip the drive latch up and gently pull out the disk.

To insert a 3 1/2-inch disk into its drive, hold the disk with the metal sleeve towards the drive and the write-protect notch on the left. Gently slide the disk into the drive until it clicks into position. The disk will be completely inside the drive when properly inserted.

To remove the disk, firmly press the eject button on the front of the drive, then gently pull out the disk.

Warning: To avoid damaging your disks, make sure the drive's busy light is off before you insert or remove a disk.

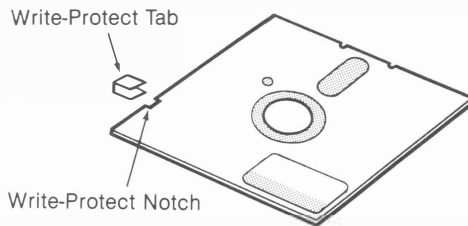
Write-Protecting Disks

When you write to a disk, the drive and computer work together to put information from RAM onto the disk, where it is stored. Write-protecting a disk is a security measure you take to prevent new information from being written to the disk. This keeps you from inadvertently changing disk contents you want to preserve.

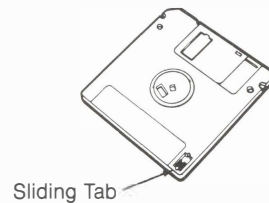
Most 5¼-inch disks have a write-protect notch on the left edge of the casing. To write-protect the disk, cover the notch with the write-protect tab supplied with the disk. Fold the tab over the notch to cover it on both sides of the casing. Remove the tab when you no longer want the disk to be write-protected.

Most 3½-inch disks have a write-protect notch in the lower left corner of their casing. On the back of the disk, the write-protect notch has a sliding tab. To write-protect the disk, slide the tab until you can see through the notch. To remove the protection, slide the tab back so it covers the notch.

5 1/4-Inch Disk



3 1/2-Inch Disk (Back View)



Note: Some commercial program disks do not have write-protect notches. These disks are permanently write-protected.

Copying the Program Disks

You must make backup copies of all disks supplied with your Atari PC before beginning to work with them routinely. This protects you from losing the disks or damaging their contents. After copying, store the original disks in a safe place away from dust and magnetism. Always use the copies as your working disks.

MS-DOS provides a DISKCOPY command for copying an original disk to a blank disk. If the blank disk is not formatted, DISKCOPY formats it before copying.

To copy the disks with the DISKCOPY command, follow these steps:

1. Have a blank disk ready for each disk you're going to copy. Do not write-protect the disks.
2. Switch on your system as described in **Chapter 1** to display the A> prompt.
3. Type
DISKCOPY
then press **[Enter]**.
4. MS-DOS will ask you for the source disk. Leave the original MS-DOS Disk 1 in the drive and press any key.
5. Next, MS-DOS will ask for the target disk. Replace the source disk with a blank disk and press any key. You may be asked to swap the source and target disks several times.
6. When formatting and copying are complete, MS-DOS will ask if you want to copy another disk. Press **[Y]**.
7. When MS-DOS asks for the new source disk, remove the disk from drive A, replace it with the next disk you want to copy, and press any key. Then repeat steps 5, 6, and 7 until all original disks are copied.
8. When MS-DOS asks if you want to copy another disk, press **[N]**.

After removing each backup disk from the drive, immediately label it using the same name as on the original disk's label. Write on the label before affixing it to the disk, or if the label is already on the disk, write with a felt-tipped pen. (Writing on the disk with a hard-tipped pen or pencil can harm the media.) Store the original disks and always use the backup copies as your working disks.

The CONFIG.SYS and AUTOEXEC.BAT Files

After you switch on the computer and before MS-DOS displays the A> prompt, the system goes through a process called initialization. During initialization, MS-DOS is installed, and then it checks the system for the information it needs in order to operate.

CONFIG.SYS and AUTOEXEC.BAT are two special files you can create that tell MS-DOS how you want it to operate. MS-DOS will read these files during initialization.

Note: Newly created or modified CONFIG.SYS and AUTOEXEC.BAT files take effect after you restart the PC. To modify an existing file, use the MS-DOS EDLIN text editor (described in the **MS-DOS User's Reference**).

CONFIG.SYS

The CONFIG.SYS file tells MS-DOS how to use certain devices. To create CONFIG.SYS, type the following at the A> prompt:

```
COPY CON CONFIG.SYS [Enter]  
DEVICE = ANSI.SYS [Enter]  
[F6] [Enter]
```

The first line creates and names the file. The second line enables an ANSI standard terminal, required by many applications programs. The third line saves the file to disk.

Note: CONFIG.SYS can also be used to configure the Atari PC to handle non-standard disk drives. For complete information, see the **MS-DOS User's Reference**.

AUTOEXEC.BAT

AUTOEXEC.BAT tells MS-DOS what commands to automatically execute when you start up your system. Having an AUTOEXEC.BAT file saves you the trouble of entering routine commands each time you begin working on your computer. To create the AUTOEXEC.BAT file, type the following at the A> prompt:

```
COPY CON AUTOEXEC.BAT [Enter]
```

This line creates and names the file. Now you can add any command to the file by typing the command on a separate line and pressing [Enter]. For example, the line

```
DIR [Enter]
```

displays a list of files in the current directory every time you start up your system. Other useful commands to add to the AUTOEXEC.BAT file are CHKDSK, PATH, CHDIR, and commands for executing specific applications. (For more information on these and other commands, see **Chapter 3** or the **MS-DOS User's Reference**.)

When your AUTOEXEC.BAT file contains the lines you want, press [F6] [Enter]. This saves the file to disk.

You can make other .BAT (batch) files to run often-used commands. To do that, create the .BAT file, adding commands to it that you want to run as a group. Then run the commands by entering the first name of the file (without the .BAT extension) at the prompt.

For example, you may find that you often print the same groups of files from different directories, each time entering separate PRINT commands for each group, like this:

```
PRINT \TABLES\*.OAK  
PRINT \PAYROLL\TEMP\*.CHK  
PRINT \ADS\RADIO\WKEND.TXT
```

An easier way to print the groups of files is to add the three command lines to a batch file named, for example, P.BAT. When you want to print the files, simply enter P (the filename without the .BAT extension) at the system prompt.

Note: Refer to the **MS-DOS User's Reference** for more information on AUTOEXEC.BAT and batch files in general.

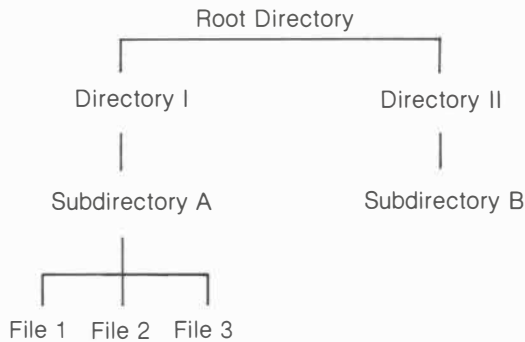
The Tree Structure of Directories and Files

Files are collections of information, such as programs or documents you create using programs. Directories are groups of files.

When you first start up your PC, a root directory already exists which contains most of the MS-DOS commands. Each new directory you create is a branch of the root directory. Once a directory exists, you can create other directories within it; these are called subdirectories.

The following chart is an example of how a disk could be organized. It shows a root directory, two directories each containing a subdirectory, and three files contained in one of the subdirectories. The organization of directories and files is called a tree structure.

A Tree Structure of Directories and Files



Filenames

Files and directories are identified by their filenames. When you create a file or directory, you must name it in order to save it and to list and identify it later. Filenames are used along with commands to send instructions to MS-DOS.

A filename has two parts: the name and the extension.

SAMPLE.EXE
| extension (optional; up to three characters)
| name (mandatory; up to eight characters)

A name can have up to eight characters (letters, symbols, or numbers). An extension is optional and can have up to three characters. (Directories do not usually have extensions.) A period always divides the extension from the name. The following characters can NOT be used in a name or extension:

. " ' / \ [] : | < > + = ; , * ?

In addition, the names and extensions listed below are reserved by MS-DOS for special purposes and can only be used for those purposes:

	Names	Extensions
AUX	LPT1	.APP
COM1	LPT2	.BAT
COM2	LPT3	.COM
COM3	NUL	.EXE
CON	PRN	.SYS

Names can be clues to the specific information in the file, such as TAXES for tax information, or TAXES85, TAXES86, TAXES87 for a series of tax information files. Extensions often indicate the type of a file. For example, .TXT may indicate a document file created with a word processor.

In many cases you can specify a set of filenames by using two special characters called wildcards: the asterisk (*) and the question mark (?). Wildcards are used when you want to perform the same operation, such as copying or deleting, on a group of files.

An asterisk in a filename stands for all characters and combinations of characters, and can replace an entire name or extension. For example, the wildcard designation

.

means all filenames. A filename can often have an asterisk as the name while spelling out the extension. For example,

***.DOC**

means all filenames with the .DOC extension, such as

LETTER.DOC
ATARI.DOC
MOM.DOC

The asterisk must be the last character in the name or extension.
For example,

TAX*.BAS

is valid, but

T*X.BAS

is not.

The question mark in a filename stands for all single characters.
For example,

MOM?.LET

means all files that begin with MOM, have any character in the fourth position of the name, and have the extension .LET, such as

MOM1.LET

MOM4.LET

MOMZ.LET

but not

JACK.LET

MOM33.LET

MOM1.DOC

Note: Not all commands or programs can accept filenames specified with wildcards. For more information, see the **MS-DOS User's Reference** or the documentation supplied with your application.

Changing the Drive Designation

Sometimes you'll need to change the drive designation in the MS-DOS command line, depending on the drive you want to access.

If you have a one-drive system, that drive can act as both drive A and drive B. To change the drive designation, type the following at the A> prompt:

B: [Enter]

MS-DOS responds by asking you to "Insert a new disk for drive B; and strike Enter when ready." Replace the disk in drive A with the one you want to use for drive B and press **[Enter]**. The MS-DOS prompt is redisplayed as B>.

To restore drive A as the working drive, type

A: [Enter]

at the prompt.

Swap disks when MS-DOS asks you to, then press **[Enter]**. The MS-DOS prompt reappears as A>.

If you have a multi-drive system, you can access drive A, drive B, or drive C. At the MS-DOS prompt, type the letter of the new drive followed by a colon. Then press **[Enter]**. For example, to access drive B, type:

B: [Enter]

The MS-DOS prompt is redisplayed as B>.

Atari PC Special Features

Changing System Speeds

The Atari PC can process information in either PC mode or turbo mode. PC mode runs at 4.77 MHz; turbo mode runs at 8.0 MHz. In turbo mode, the PC is able to perform operations such as arithmetic calculation and saving and retrieving information more quickly.

When you switch on your PC, it is automatically set to turbo mode if you haven't installed the optional numeric data processor (8087 chip). When turbo mode is on, the turbo indicator light on your computer is lit.

If you have installed the numeric data processor, the PC defaults to standard PC mode when you switch it on. If your 8087 chip operates at 5 MHz, you must stay in PC mode. If your 8087 chip operates at 8 MHz or faster (8087-2 or 8087-1) you can enable turbo mode after switching on your PC.

GEM Desktop, GEM Write™, and GEM Paint™ (as well as many other programs) can run in turbo mode. Other programs, such as games or copy-protected software, may run only in PC mode. Some applications will require a specific mode; other applications will let you choose the mode you prefer. In those cases, you may have to experiment to find which mode works best with a specific application.

To enable turbo mode, type

TURBO ON [Enter]

or

[Ctrl] [Alt] [1]

or

[Ctrl] [Alt] [keypad +]

at the system prompt. To disable the mode, type

TURBO OFF [Enter]

or

[Ctrl] [Alt] [2]

or

[Ctrl] [Alt] [keypad -]

at the prompt.

To run turbo mode automatically when you start up your system, add

TURBO ON [Enter]

to your AUTOEXEC.BAT file.

Selecting Monitor Display Modes

Your Atari PC includes a built-in video display subsystem and video display commands that let you select a screen resolution and colors (display modes) according to your monitor type and software. Generally, modes with higher resolution offer fewer colors, and modes with more color selections offer lower resolution.

To set your display mode, first determine what monitor type (color, monochrome, or enhanced display) you have connected to your system. Then refer to **Monitor Display Mode Commands** in **Chapter 3** for information on display modes allowed by each monitor type and the screen resolution and colors available with each mode.

When selecting software to run on your PC, check whether the program can be operated in a display mode available to you. For example, some programs can operate in EGA mode only, so you won't be able to use them with a monochrome monitor.

Setting the Key Click Feature

The PC's key click feature provides an audible response (key click) as you type. To turn on the feature, type

CLICK ON [Enter]

or

[Ctrl] [Alt] [<]

at the MS-DOS command line.

To turn off key click, type

CLICK OFF [Enter]

or

[Ctrl] [Alt] [>]

at the command line.

Installing the Mouse for Use with Non-GEM Programs

Installing the mouse driver file (MOUSE.COM) enables you to use the mouse in other applications besides GEM Desktop. To install the mouse, type

MOUSE [Enter]

at the MS-DOS prompt. You can also install the mouse by entering

MOUSE

in the AUTOEXEC.BAT file.

CHAPTER 3 INTRODUCTION TO MS-DOS COMMANDS

Commands

Commands are instructions to MS-DOS. They are typed next to the system prompt on the command line and activated by pressing **[Enter]**. (Typing a command and pressing **[Enter]** is called entering the command.) Commands can be typed in uppercase or lowercase letters and must be spelled correctly in order for MS-DOS to read them.

The later sections of this chapter describe the most frequently used MS-DOS commands. You can practice with the command examples or use this chapter as a reference for specific commands. To practice with the examples, make sure you have a copy of MS-DOS Disk 1 in drive A, and that it is not write-protected. The **A>** prompt should be displayed on screen and you should be in the root directory of the disk. If you're not sure you're in the root directory, type

```
CD \[Enter]
```

This command puts you in the root directory. (A backslash immediately following a command always designates the root directory.)

Note: For complete information on MS-DOS commands, see the **MS-DOS User's Reference**.

Parameters

Some commands are typed alone. Other commands are typed with further instructions, called parameters, which are either optional or required in order to complete the command. Parameters can tell MS-DOS where to look for information by directing it to one or several of the following: a specific drive, directory, subdirectory, or file.

When a drive, directories, and filename are included as parameters, they are listed in a specific order and separated from each other by backslashes (\). The drive is listed first, followed by the directory and subdirectories. The filename is always listed last. This type of listing is called a pathname. For example:

A:\MAILBAG\JULY87\LETTER.TXT

is a pathname. A: means the disk in drive A; the first backslash designates the root directory; MAILBAG is a directory in the root directory; JULY87 is a subdirectory in the MAILBAG directory; and LETTER.TXT is a file in the JULY87 subdirectory.

Certain special parameters, called switch parameters or switches, control exactly how MS-DOS performs the command. Switch parameters always begin with a forward slash (/). For example, when the DIR command (which lists a directory) is entered with its /w switch parameter, the screen output is displayed in a wide format (five columns) instead of the default narrow format (one column).

Command Syntax

The syntax of each command tells you what parameters and switches can be used with the command and whether or not they are required. Each command description in this chapter shows the command's syntax including its most often used switches.

Certain characters are used in syntax to separate and describe the parameters. These characters are indicators only and are not typed with the parameter. The characters and their uses in syntax are listed below:

Character	Name	Use
[]	Square brackets	Indicates optional parameters.
< >	Angle brackets	Indicates needed information.
...	Ellipsis	Indicates an item can be repeated.

An example of syntax follows. It shows the syntax for the command DIR and gives an explanation of its parameters:

Syntax: DIR [<drive:>][<pathname>][/p][/w]

Example: DIR A:\MAILBAG\JULY87/p/w

Parameter	Explanation
[<drive:>]	The square brackets indicate that the drive parameter is optional. Use it only if you want to access a drive other than the working drive (given in the MS-DOS prompt). The angle brackets indicate that you must type in a valid drive designation (A:, B:, or C:).
[<pathname>]	The square brackets indicate that the pathname parameter is optional. Use it to list any directory, subdirectory, or filename other than the working directory. Items listed in the pathname must be separated from each other with backslashes (\).
[/p]	The /p (pause) switch is optional. It tells MS-DOS to display the directory one screenful at a time, pausing between displays. If the switch is omitted and the directory is longer than one screenful, it will scroll up off-screen as it is displayed.
[/w]	The /w (wide) switch is optional. It tells MS-DOS to display the directory in a five column format, rather than the default format of one column.

Follow these guidelines for typing commands and parameters correctly:

- Include all required punctuation characters. Drive letters must be followed by a colon (for example, A:), and a backslash (\) must separate all items in a pathname from each other.
- Commands and parameters can be entered in any combination of upper- and lowercase letters. For example, diR/P is just as valid as DIR/p.
- A space must always separate the command from the drive parameter. DIR B: is valid; DIRB: is not.
- A space between the command and any parameter other than the drive parameter is optional. For example, DIR/p and DIR /p are both valid.
- Spaces between a series of parameters are optional. For example, DIR/w/p and DIR /w /p are both valid.
- The order of switches is usually not important. For example, DIR/w/p and DIR/p/w are both valid.
- A command and its parameters together can have a maximum of 126 characters and spaces.

Editing Commands

To edit a command line before pressing [Enter], use the [Backspace] ([←]) key to erase characters to the left of the cursor, then retype.

If you enter a misspelled command or a command with incorrect syntax at the system prompt, MS-DOS displays a message telling you that it is unable to interpret the command. The usual solution is to re-enter the command (although you can also edit the command with the MS-DOS editing keys described in the **MS-DOS User's Reference**).

Preparing Disks

FORMAT

The FORMAT command prepares a new disk to receive information by dividing it into the tracks and sectors where information will be stored. You only need to format a disk once.

Warning: FORMAT erases all data on a disk. If your disk contains files you want to save, use the COPY command to copy them to another disk before proceeding.

Syntax: FORMAT <drive:> [/v] [/s]

Example: **FORMAT A:/v/s**

The switch parameter /v (volume name) lets you enter a name for the disk. The switch parameter /s (system files) copies the system files to the newly formatted disk so you can use it as your startup disk.

To format a disk and copy the system files to it, follow these steps:

1. With MS-DOS Disk 1 in drive A, switch on your system as explained in **Chapter 1**. At the MS-DOS prompt, enter
FORMAT/s
2. When prompted, remove the startup disk and insert a new disk. Press [Enter].
3. MS-DOS displays its progress as it formats the disk, tells you when formatting is complete, and then writes the system files to the new disk.
4. When copying is complete, MS-DOS displays the amount of storage available on the new disk and asks you if you want to format another disk. Enter [Y] to format another disk, or [N] to return to the MS-DOS command line.

When used with the double-sided drives available for the Atari PC, FORMAT will automatically format disks as double-sided.

You can also use FORMAT to erase an entire disk all at once rather than individually erasing each item on the disk with the DEL and RMDIR commands.

DISKCOPY

The DISKCOPY command copies the entire contents of one disk (the source disk) to another disk (the target disk). If the target disk has not been formatted, DISKCOPY formats it before copying.

Syntax: DISKCOPY [<source drive:>] [<target drive:>]

Example: DISKCOPY A: B:

Warning: DISKCOPY erases all information previously recorded on the target disk. If the target disk contains files you want to keep, copy them (using COPY) to another disk before using DISKCOPY.

To copy disks with DISKCOPY, follow these steps:

1. Insert the source disk (the disk to be copied) into drive A. Have a target disk (the disk to be copied to) ready for each disk you're going to copy. Do not write-protect the target disks.
2. If you have one drive, enter

DISKCOPY

If you have two drives, enter

DISKCOPY A: B:

3. MS-DOS will ask you for the source disk. Leave the disk to be copied in the drive and press any key.
4. Next, MS-DOS will ask for the target disk. If you have one drive, remove the source disk and replace it with the target disk, then press any key. You may be asked to swap the source and target disks several times.

If you have two drives, insert the target disk into drive B and press any key.

5. When formatting and copying are complete, MS-DOS will ask if you want to copy another disk. If you do, press [Y]. When MS-DOS asks for the source disk, remove the disk from drive A, replace it with the next disk you want to copy, and press any key. Then repeat step 4.

If you do not want to copy another disk, press [N].

Note: The target disk must have the same storage capacity as the source disk in order for you to successfully copy from disk to disk using DISKCOPY.

Creating and Copying Files

COPY

The COPY command lets you create files by copying their filenames from the keyboard. After a file is created, you can use COPY to copy it from one directory to another on the same disk or from a source disk to a target disk.

Creating Files

Although you will usually create files with your applications programs, you can also create files with the COPY command by copying filenames and file contents from the keyboard. This is called copying from a device. When the device is the keyboard, it is referred to as CON (for CONsole) in the command line.

Syntax: COPY CON <filename>

Example: COPY CON LETTER.TXT

To create the file LETTER.TXT, follow these steps:

1. Make sure you're in the root directory of drive A (to get to the root directory, enter CD \). Now enter

COPY CON LETTER.TXT

2. Type a line or two of text.
3. Press [F6] or [Ctrl] [Z] followed by [Enter] to finish and save the file.

Note: To edit a file created with COPY CON, use a word-processing program or the MS-DOS EDLIN text editor (described in the **MS-DOS User's Reference**).

Copying a File to a Directory

You can use COPY to copy a file from the root directory to an existing directory on the same disk.

Syntax: COPY <pathname> <pathname>

Example: COPY \LETTER.TXT MAILBAG

For example, you might have a directory called MAILBAG on the disk in your working drive. To copy the file LETTER.TXT from the root directory to the MAILBAG directory, enter:

```
COPY \LETTER.TXT MAILBAG
```

Notice that the source and destination pathnames must be separated by a space.

Note: To copy a group of files at once, use wildcards in the pathname (for example, *.TXT).

Copying Files from Disk to Disk

You can use COPY to copy files from a source disk to a target disk.

Syntax: COPY <drive:> <pathname> <drive:> [<pathname>]

Example: COPY A:LETTER.TXT B: \LEGAL\

To copy the file LETTER.TXT from one disk to the root directory of another disk, follow the steps below. If you have one drive, follow steps 1 and 2. If you have two drives, follow steps 3 and 4.

1. If you have one drive, make sure the source disk (the disk containing the file) is in the drive. Enter

```
COPY A:LETTER.TXT B:
```

2. When MS-DOS asks you for disk B, remove the source disk and insert a formatted target disk (the disk you want to copy the file to) into the drive. Then press any key. You may be asked to swap the source and target disks several times during copying.
3. If you have two drives, insert the source disk (the disk containing the file) into drive A. Insert the target disk (the disk you want to copy the file to) into drive B.

4. Enter

COPY A:LETTER.TXT B:

When copying is finished, MS-DOS tells you how many files were copied.

Note: To copy a group of files at once, use wildcards in the pathname (for example, *.TXT).

Viewing, Renaming, and Erasing Files

TYPE

The TYPE command displays file contents for you to review. You cannot edit a file displayed with the TYPE command.

Syntax: TYPE <pathname>

Example: TYPE \ LETTER.TXT

Entering the example above at the MS-DOS prompt displays the file LETTER.TXT in the root directory.

When you use TYPE to display a file larger than one screen, the file will scroll up as it is displayed. To freeze a screen, press [Ctrl] [Num Lock] or [Ctrl] [S]. Press [Space Bar] to resume the display.

REN (REName)

The REN command changes the filename of a file or group of files.

Syntax: REN <pathname> <new filename>

Example: REN \LETTER.TXT RESUME.DOC

Entering the example above changes the filename LETTER.TXT in the root directory to RESUME.DOC. Notice that the pathname and new filename parameters must be separated by a space.

You cannot rename a file with a filename that already exists in the same directory. If you try to do so, MS-DOS tells you that a file with that filename already exists.

To rename a group of files at once, use wildcards in the pathname and new filename. For example, to rename

**TAXTEXT.85
TAXTEXT.86
TAXTEXT.87**

to

```
IRSTEXT.85  
IRSTEXT.86  
IRSTEXT.87
```

enter

```
REN TAXTEXT.* IRS*.*
```

Note: REN does not rename directories. If you want a directory to have a new name, you can create a new directory and copy files from the old directory to it. Then erase the old directory and its contents.

DEL (DELeTe) and ERASE

The DEL and ERASE commands erase one or more files. You can use either command; they both work in exactly the same way. Use these commands carefully; once you erase a file you cannot restore it.

Syntax: DEL <pathname>
ERASE <pathname>

Example: DEL \RESUME.TXT
ERASE \RESUME.TXT

Entering either of the examples above at the MS-DOS prompt erases the file RESUME.TXT from the root directory.

To delete a group of files at once, use wildcards in the pathname (for example, RESUME.*).

Working with Directories

DIR (DIRectory)

The DIR command displays a list of some or all files in a directory.

Syntax: DIR [<pathname>][/p][/w]

Example: DIR /p/w

To display all files in the current directory one screenful at a time, enter

```
DIR/p
```

The first screenful will look something like this:

Directory of A:/

ANSI	SYS	1651	6-21-87	12:00p
COMMAND	COM	23791	6-21-87	12:00p
KEYBSP	COM	3187	6-21-87	12:00p
RESTORE	COM	6012	6-21-87	12:00p

Strike a key when ready ...

Press any key to view the next screenful.

Here's another example: to see a wide (five column) list of all files with the .COM extension in the root directory of the working drive, enter

DIR *.COM/w

The display will look something like this:

Volume in drive A is STARTUP
Directory of A:

APPEND	COM	ASSIGN	COM	COMMAND	COM	FORMAT	COM	MODE	COM
MORE	COM	SYS	COM						

7 file(s) 49152 bytes free

MKDIR (MaKe DIRectory)

The MKDIR command is used to make and name new directories, and to create levels of directories in your tree structure of directories.

Directories can have names of up to eight characters. They usually do not have extensions. (See **Filenames** in **Chapter 2** for rules on naming directories.)

Syntax: MKDIR [<pathname>]<directory name>

Example: **MKDIR \MAILBAG\ADDRESS**

Follow these steps:

1. Make a new directory named MAILBAG by entering

MKDIR MAILBAG

2. Make a subdirectory named ADDRESS in the MAILBAG directory by entering

MKDIR \MAILBAG\ADDRESS

Note: MD is the abbreviation for MKDIR. For example: MD MAILBAG.

CHDIR (CHange DIRectory)

The CHDIR command changes the current working directory. It can also be used to display the current directory. Each drive in the system can have a different current directory.

Syntax: CHDIR <pathname>

Example: CHDIR \MAILBAG

The example above accesses the MAILBAG directory in the working drive and makes it the current working directory.

To display the name of the current directory, enter the command followed by the working drive. For example:

CHDIR A:

Note: CD is the abbreviation for CHDIR. For example: CD \MAILBAG.

RMDIR (ReMove DIRectory)

The RMDIR command removes a directory from the disk. Removing a directory erases it completely.

Syntax: RMDIR <pathname>

Example: RMDIR \MAILBAG\ADDRESS

This example will erase the ADDRESS subdirectory from the MAILBAG directory.

You must erase all files (with DEL or ERASE) from a directory before you can erase the directory. This protects you from accidentally erasing files you want to keep. To preserve the files, copy them (with COPY) to another directory before erasing them.

You cannot remove a directory while it is the working directory.

Note: RD is the abbreviation for RMDIR. For example: RD \MAILBAG.

TREE

The TREE command displays the pathnames of all directories on the specified disk. Use TREE to see how a disk is organized.

Syntax: TREE [/f]

Example: TREE/f

The switch parameter /f (file) asks MS-DOS to display a list of all files on the working disk.

Change to the root directory (enter CD \) and enter the example above to display all directories on the disk and the files they contain.

PATH

The PATH command tells MS-DOS where to look for command files or executable (program) files (files with the .COM or .EXE extensions) that are not in your current directory.

Syntax: PATH [<drive:>][<pathname>];[<drive:>]
[<pathname>];[...]

Example: PATH A:\;A:\COMMANDS

Entering the example above tells MS-DOS to look for command and program files in the root directory and COMMANDS directory of the disk in drive A. Notice that search parameters must be separated from each other by semicolons (;).

To search the root directory of the current disk, enter

```
PATH \
```

To search the root directory of a specific disk, add the drive parameter to the PATH command. For example, if you're currently in drive A, entering

```
PATH B:\
```

searches the root directory of the disk in drive B.

You can add the PATH command to your AUTOEXEC.BAT file. For example, if you have a directory named WORDPROC that contains word processing applications, adding PATH \WORDPROC to your AUTOEXEC.BAT file lets you enter commands in WORDPROC from any directory.

Enter

PATH;

to delete any parameters previously set with PATH.

Checking Disks, Directories, and Files

CHKDSK (CHeCK DiSK)

The CHKDSK command reports the total amount of system memory, how disk space is currently allocated, and which files, if any, are damaged or fragmented.

Syntax: CHKDSK [<drive:>][<pathname>][/f][/v]

Example: **CHKDSK B:/f/v**

The switch parameter /f (fix) tells MS-DOS to correct any errors detected by CHKDSK; the switch parameter /v (view) tells MS-DOS to display the filenames of the files it checks.

Entering the example above checks the disk in drive B. A disk check report looks something like this:

Volume MS-DOSDISK created Jan 16, 1987 2:47p

362496 bytes total disk space

45056 bytes in 3 hidden files

2048 bytes in 2 directories

304128 bytes in 37 user files

11264 bytes available on disk

655360 bytes total memory

610816 bytes free

When CHKDSK reports that files are fragmented, it means that the files are stored in different, non-contiguous sectors of the disk. There's nothing wrong with the files; it only takes MS-DOS somewhat longer to find and read them. You can easily place files in contiguous sectors by copying them to a blank, newly formatted disk.

You should correct any errors CHKDSK reports (refer to the **MS-DOS User's Reference** for information on CHKDSK error messages). Continuing to work after CHKDSK reports bad sectors or other errors could make your disk errors worse. It's a good idea to add CHKDSK/f to your AUTOEXEC.BAT file in order to avoid working on damaged disks. CHKDSK will give you a system status report when you start up your system. If errors are reported, copy your usable disk contents to a new disk and discard the damaged disk.

Printing Files

PRINT

The PRINT command sends files to a printer. To use this command, make sure you have a printer connected to your system and ready to print.

Syntax: PRINT <pathname> [/t]

Example: PRINT \ LETTER.TXT

Entering the example above prints the file LETTER.TXT in the root directory. You can specify up to ten files to print with one PRINT command by using wildcards in the pathname.

PRINT stores the file or files to be printed in a print queue buffer so you can continue working while printing is underway.

Once printing begins, you can stop it at any time by re-entering the command and adding the switch parameter /t (terminate). Doing this also empties the print queue buffer. For example, entering

PRINT LETTER.TXT/t

stops printing the file LETTER.TXT. To resume printing, re-enter the PRINT command and your parameters. Printing begins from the top of the file.

The first time you use the PRINT command after starting up your system, MS-DOS asks you for the name of the list device (printer). If you have a parallel printer, press **[Enter]** to accept PRN as the list device. If you have a serial printer, enter COM as the list device.

MODE

The MODE command is used primarily to tell MS-DOS whether you have a parallel or serial printer or a serial communication device (modem).

Syntax: MODE <printer identifier> <parallel port number>

Example: **MODE LPT1**

Parallel printers are identified as LPT; serial printers are identified as COM. MODE must be correctly set in order for your computer to be able to use your printer.

To make sure your printer is always set to the correct mode, add the MODE command and the correct parameter to your AUTOEXEC.BAT file.

Note: For information on using MODE for a modem and other parameters, refer to the **MS-DOS User's Reference**.

Monitor Display Mode Commands

Your Atari PC includes a graphics display subsystem that emulates the modes of a variety of other graphics display cards. These modes correspond to monochrome, color, or enhanced display monitors and different screen resolutions. Screen resolution is measured in pixels, or screen dots. The more pixels in your screen resolution, the crisper the images are in your screen display.

Selecting the correct display mode command lets you run applications programs that were developed for a particular mode. If you are unsure which mode is appropriate for your applications program, check the manual supplied with the program.

The modes you can use are determined by your monitor type and the software you will be using. For example, if you have an EGA monitor and software developed for EGA, you will want to use EGA mode for best performance. However, to use some older software packages on your EGA monitor, you may have to select CGA or MDA mode. Find your monitor and its available commands in the following table:

Monitor	Available Commands
Atari EGA	EGA.COM, CGA.COM, HGC.COM, MDA.COM, PALETTE.COM, HCOLOR.COM, CURSOR
Color	EGA.COM, CGA.COM, PALETTE.COM, CURSOR
Monochrome	MDA.COM, EGA.COM, HGC.COM, CURSOR

Warning: Make sure the switches on the back panel of the computer are set correctly for your monitor type as described in **Chapter 1**.

You can enter any of the following mode commands:

Command	Screen Resolution
EGA.COM	640 pixels x 350 lines x 16 selected colors from a palette of 64
CGA.COM	640 pixels x 200 lines in monochrome or 320 pixels x 200 lines x 4 colors (automatically selected by your applications program)
MDA.COM	80 characters x 25 lines of monochrome text
HGC.COM	720 pixels x 348 lines in monochrome graphics mode Eighty 9 x 14 pixel characters x 25 lines in monochrome text mode

You can change to EGA, CGA, and MDA modes by entering the mode command name by itself. For example, to change to CGA mode, enter

CGA

To use HGC mode, enter

HGC FULL

This command provides two complete HGC graphics pages. (The command variation, HGC HALF, provides only one graphics page, leaving more video memory space available for future expansion.)

When your system is in EGA mode, you can use PALETTE.COM when you want to specify which 16 of the 64 colors you want to use. For a menu of colors you can select, enter

PALETTE

Use the [Up Arrow] and [Down Arrow] keys to move to the address of the color you want. Use the number keys to assign a number (1 to 16) to the color. When you finish selecting colors, press [Esc], then respond to the enable palette save prompt. Press [Y] to save the palette and keep it in effect when using software with another palette or doing a warmstart with [Ctrl] [Alt] [Del]. Press [N] if you want the software you use to keep its own palette and if you want the system default palette restored when you restart the system.

If you already know the addresses of the colors you want, you can enter them directly from the command line. For example, to select the first 16 colors and save the palette, enter

```
PALETTE c1 c2 c3 c4 c5 c6 c7 c8 c9 c10 c11 c12 c13 c14 c15 c16 /s
```

Omit /s if you don't want to save the palette.

If you select HGC mode on an EGA monitor, you can use HCOLOR.COM to select a shade for the dot color. (You cannot use this command when using HGC with a monochrome monitor.) For a menu of available shades, enter

HCOLOR

Use [Pg Up] and [Pg Dn] to view the selections. Type the number of the shade you want. Press [Esc] to save the change and exit, or [Q] to quit without saving the change.

A Few Other Useful Commands

CURSOR

The CURSOR command lets you decide whether to have a blinking or non-blinking cursor on the MS-DOS command line.

Syntax: CURSOR [NOBLINK] [BLINK]

Example: CURSOR NOBLINK

When you turn on your system, the cursor will appear as a blinking bar. If you'd like a non-blinking cursor, enter the example above on the command line.

To restore the blink, enter

CURSOR BLINK

on the command line.

PROMPT

The PROMPT command may be used to add the date, time, current directory, and other information to the system prompt.

Syntax: PROMPT [\$D][\$T][\$N][\$P][\$__]

Example: PROMPT \$D\$__\$T\$__\$N\$P

In the PROMPT syntax, D stands for date, T for time, N for the working disk, P for the working directory, and __ for a line break. Each parameter is preceded by a dollar sign (\$).

Entering the example above creates a three-line prompt that displays the date, time, working drive, and working directory.

You can add the PROMPT command and its parameters to your AUTOEXEC.BAT file so it will automatically be in effect when you start up your system.

CLS (Clear Screen)

The CLS command erases everything on screen and displays the system prompt at the top of the screen.

Syntax: CLS

Common MS-DOS Error Messages

Sometimes MS-DOS displays an error message when you start up your system or enter a command. There's usually no reason to be alarmed. In most cases you'll simply need to load the proper disk or re-enter the command.

The following is an alphabetical list of common error messages with an explanation of what they mean and a description of the action you should take when you see them. (For a complete list of error messages, refer to the **MS-DOS User's Reference**.)

<type> <action> drive <x>

Abort, Retry, Ignore

MS-DOS is unable to read or write to the specified drive because of some problem. The problem (type), whether it occurred while the drive was trying to read or write (action), and the drive letter (x) are specified in the first line of the message.

The most common reasons for this message are that you are specifying a drive that isn't loaded with a disk or a drive that doesn't exist. Sometimes the problem type suggests what action to take (for example, "Write-protect error" means you should remove the write-protection from the disk). Remedy the problem and then respond by entering [R]. If you like, you can enter [A] to stop the command and return to the MS-DOS command line.

Bad command or filename

You entered a command or filename that MS-DOS cannot recognize. If you're entering an external command (a command MS-DOS doesn't keep in memory) or feel certain the file exists, run the DIR command to make sure it's on the current disk (or in your execution PATH). Also, make sure the command or filename is spelled correctly before you enter it.

Bad or missing Command Interpreter

MS-DOS was unable to start up because it could not find the COMMAND.COM file. Either COMMAND.COM is missing or damaged or a startup disk is not loaded. Make sure a valid startup disk is loaded in drive A before you switch on your system.

File not found

See the explanation for "Bad command or filename."

Insert disk containing COMMAND.COM in Drive A and strike any key when ready

This message may appear when you exit a program. It tells you that MS-DOS couldn't find COMMAND.COM. Reload COMMAND.COM by following the instructions in the message.

Internal stack error

Enter the following line in the CONFIG.SYS file:

STACKS = 16, 128

Invalid drive specification

The drive you specified is not recognized by MS-DOS. Make sure all drives on your system are correctly installed and the cables secure, then re-enter the drive specification.

Invalid number of parameters

You specified an incorrect number of parameters. Check the command syntax and re-enter the command.

Invalid parameter

You entered an incorrect parameter with the command. Check the command syntax and re-enter the command.

Invalid path or filename

You specified a pathname or filename that does not exist on the current disk. Make sure the pathname or filename exists and is spelled correctly.

Non-system disk or disk error

Replace and strike any key when ready

Either the startup drive does not contain a disk, or the disk in the startup drive does not contain the system files. Make sure the proper disk is loaded and strike any key to continue.

Syntax error

You incorrectly entered a command. Check the command syntax and re-enter the command.

APPENDIX A SYSTEM MAINTENANCE

In Case of Problems

If you run into problems operating your Atari PC, don't panic. Chances are the difficulty is something you can easily remedy.

Check These First

If your Atari PC just won't work—for instance, the power light won't come on or the monitor screen has no display—check these areas:

- **Power Switches** Check that the computer, monitor, and all peripherals with power switches are switched on, and the brightness and contrast controls on your monitor are properly adjusted.
- **Cable Connections** Test all cables to make sure they're correctly and securely connected. Check the integrity of electrical outlets by plugging in a working desk lamp or other appliance.
- **Keyboard and Mouse** If either your keyboard or mouse doesn't respond, it may be that it is not operational with the application you're using. With GEM Desktop, the keyboard generally doesn't respond except when you are naming items in a dialog box or using the mouse control keys. When you're working at the MS-DOS command line or in a program operated from the keyboard, the mouse isn't operational.
- **Extra RAM** After installing extra memory chips, check the amount of RAM displayed during startup. If the total amount of RAM (the standard 512 kilobytes plus the amount you installed) isn't shown, switch off and disconnect your system and carefully reseat the RAM chips.

Hardware Problems

If something goes wrong with your hardware, your Atari PC will beep during startup and display error codes. When this happens, note the beeps and error codes and identify them from the tables below. Try to fix the problem by checking the areas in the section **Check These First** on the previous page. If the problem persists, contact an authorized Atari service center.

Beeps	Typical Problem
One short beep	Normal operation; no problem
No beep, continuous beep, or short repeating beeps	Power supply
One long beep and one short beep	System board
One long beep and two short beeps	Monitor cable, display, video subsystem
One short beep and the drive busy light stays on	Disk drive or floppy controller

Error Codes	Problem Area
010–019	Undetermined problem
020–030	Power supply
101–199	System board
201–203	Memory (RAM)
301–304	Keyboard
401–432	Monochrome monitor
501–548	Color monitor
601–626	Floppy disk drive
700–799	Numeric data processor
901	Parallel printer connector
1101	Serial connector
1401	Printer (general)
1404	Dot matrix printer
1700 series	Hard disk
2400 series	Enhanced graphics adapter

It Just Won't Work

If you experience operating problems that you can't resolve, take your Atari PC system to an authorized Atari service center. For the location of the nearest center, contact your Atari dealer or see **Customer Support** at the end of this manual.

Caring for Your PC System

Follow the guidelines in this section to ensure continuing excellent performance from your Atari PC.

Hardware Care

- Set up your system on a sturdy, level surface away from dust, grease, extreme temperatures, direct sunlight, moisture, and high humidity.
- Avoid smoking near your system and keep liquids away from the components. Don't let small items drop between the keys on the keyboard.
- Always switch off your computer and peripherals before connecting or disconnecting components.
- When you switch off the computer, wait at least ten seconds before switching it on again.
- Switch off your system before cleaning it. Clean only the outside of the components, using a soft, slightly damp, lint-free cloth. Do not use cleansers, abrasives, or solvents.
- To ship or store your system, repack it in the original packing materials. Replace protective inserts in the disk drives.

Software Care

- Switch on your computer before inserting disks into the disk drives. Remove the disks before switching off the computer.
- Insert and remove disks from the drive only when you're sure the drive's busy light is off.
- Store your disks upright in their protective envelopes away from extreme heat, moisture, direct sunlight, and sources of magnetism (monitor, TV, electric motor, telephone, and so on).
- Never touch a disk's magnetic media. Don't bend disks or use paper clips on them.

APPENDIX B INSTALLING EXTRA RAM AND THE NUMERIC DATA PROCESSOR

Your Atari PC can accommodate extra RAM and a numeric data processor. The extra RAM increases the system's memory to 640 kilobytes and the numeric data processor speeds calculations. You can obtain these chips from your Atari dealer.

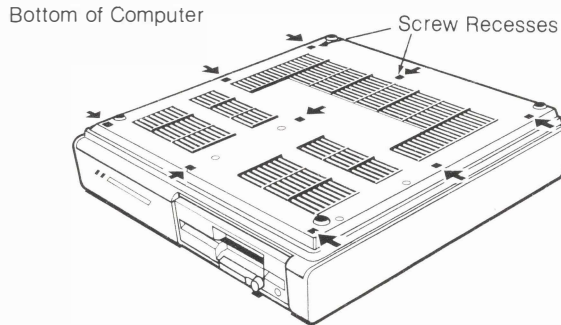
Installing these chips involves removing the covers of the computer and the internal shield hatch and installing microchips on the motherboard. While the installation is not difficult, you should take care to follow the instructions exactly.

Warning: If you perform any operation or modification to the inside of your computer other than those described in this or other Atari PC product manuals, Atari Corporation reserves the right to disclaim warranty for your Atari PC or any other adversely affected component.

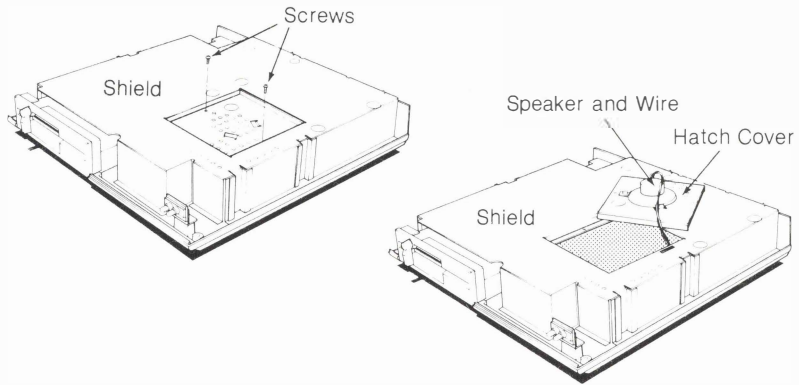
Removing the Covers

To remove the computer and shield hatch covers, follow these steps:

1. Be sure your computer is switched off, unplugged, and disconnected from all other peripherals.
2. Gently turn the computer bottom side up. With a Phillips screwdriver, unscrew and remove the nine screws in the square recesses on the bottom of the computer's housing.



3. Carefully turn the computer right side up while holding the bottom panel in place. Set the computer down. Remove the cover by lifting it straight up.
4. The chip sockets are in an opening, or hatch, in the metal shield that protects the motherboard. Remove the two screws on the hatch cover with a small Phillips screwdriver. Hook your finger through the hatch cover hole, gently lift it off, and lay it on top of the shield. Take care not to disconnect the speaker and wire attached to the motherboard and the underside of the hatch cover.



Installing the Chips

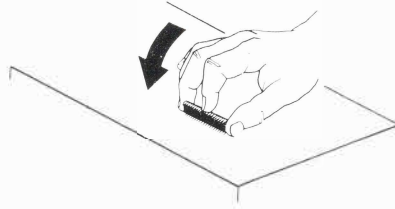
The hatch can hold four 64 kilobyte x 4 RAM chips. You should install all four chips. You can also install any of the following Intel numeric data processors:

8087 (5 MHz)
8087-2 (8 MHz)
8087-1 (10 MHz)

Note: If you install the 5 MHz numeric data processor, you will not be able to use the PC's turbo mode.

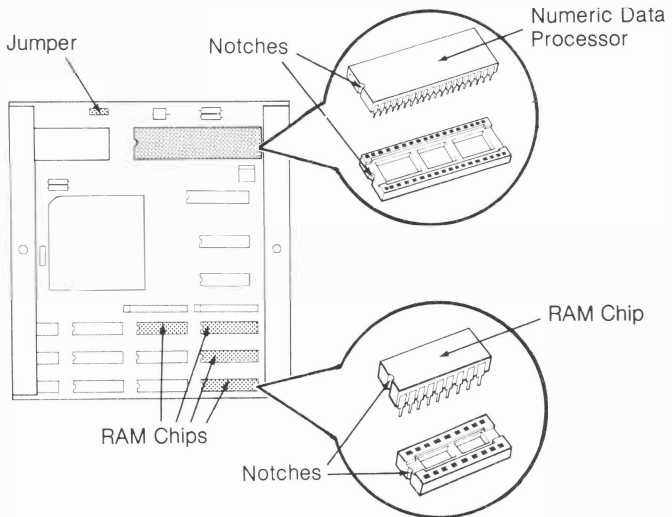
Follow these steps to install the chips:

1. To ensure a good fit, press the pins on one side of a chip against a flat surface to bend them slightly towards the center of the underside of the chip. The pins should be at a 90-degree angle with the top of the chip. Bend the pins on the other side of the chip in the same way. Repeat for each chip you are installing.



2. Find the correct socket in the illustration below for the chip you're installing. Facing the front of the computer, hold the chip so the notch is on the left (the notch on the chip should match the notch on the socket). Line up the pins on the chip with the holes in the socket and gently push the chip into the socket. Be careful not to bend the pins. (If you do bend the pins, gently remove the chip and carefully bend the pins back into their original position. Then reinsert the chip.) Repeat for each chip you're installing.

Chip Sockets Inside Hatch



3. If you installed a numeric data processor, locate the jumper (W3) to the left of the 8087 chip. You must move this jumper so that it doesn't connect the two pins when you install the chip. Use your fingers or a tool such as needle-nose pliers to remove the jumper and replace it in the position shown in the illustration.

Jumper in Original Position



Jumper in Position with 8087 Chip Installed



4. Replace the hatch and computer covers and reinstall all screws.

The PC automatically tests the installed RAM at startup. After installing additional RAM, you should see the message

640 KB RAM GOOD

whenever you switch on the system with a coldstart. If you don't see that message, carefully disassemble your system and make sure the RAM chips are inserted correctly.

Warning: To prevent electrical shock, DO NOT remove the metallic shield under the PC computer cover under any circumstances. Obtain all servicing (except for installing extra RAM and the numeric data processor) from an authorized Atari dealer or service center. Before removing the cover of your computer or performing any operation to its interior, it is absolutely required that you disconnect the computer's power cord.

APPENDIX C

ATARI PC SPECIFICATIONS

Computer

Processor	8088
Clock Rate	4.77 MHz standard; 8.0 MHz turbo mode
Memory:	
RAM	512 kilobyte standard; 640 kilobytes with extra RAM chips (four 64 kilobyte x 4 dynamic RAM, 41XX-15 or equivalent)
ROM	32 kilobytes
Ambient Temperature	Operating or idle: 41 to 113°F (5 to 45°C) Storage: -4 to 149°F (-20 to 65°C) Transport: -40 to 149°F (-40 to 65°C)
Relative Humidity (noncondensing)	Operating or idle: 20 to 80% Storage or transport: up to 95%
Power Supply	Internal
Power Consumption	Maximum: 95 watts
Operating System	MS-DOS version 3.2
Interfaces	Keyboard jack External floppy disk drive port Parallel printer port Serial port Monitor jack Mouse port
Dimensions	Height: 2.75 in. (7 cm) Width: 13.5 in. (34.3 cm) Depth: 16 in. (40.5 cm)
Weight	9.5 lb. (4.3 kg)

Internal Disk Drive

Tracks	40
Sector Size	512 bytes
Storage Capacity	360 kilobytes
Rotational Speed	300 RPM
Data Transfer Rate	250 kilobytes/second
Step Rate	Less than 6 microseconds
Controller	765, support for supplied internal floppy disk drive and two additional external floppy disk drives

Video Graphics Adapter

Monitor Types	Monochrome display Color display Enhanced display
Display Modes:	
EGA	Monitor: EGA Screen resolution and colors: 640 pixels x 350 lines x 16 selected colors from a palette of 64 Typical character cell size: 8 x 14 pixels
CGA	Monitors: EGA, color Screen resolution and colors: 640 pixels x 200 lines in monochrome or 320 pixels x 200 lines x 4 colors (automatically selected by applications program) Typical character cell size: 8 x 8 pixels
MDA	Monitors: EGA, monochrome Screen resolution: 80 characters x 25 lines of text Character cell size: 9 x 14 pixels
HGC	Monitors: EGA, monochrome Screen resolution and colors: 720 pixels x 348 lines in monochrome graphics mode or 80 characters x 25 lines in monochrome text mode Typical character cell size: 9 x 14 pixels

Keyboard

Features	IBM PC AT layout; IBM PC XT™ protocol compatible; 84 keys including 56 typewriter keys, 10 function keys, and 18 keypad keys
Dimensions	Maximum height: 1.5 in. (3.8 cm) Width: 17.75 in. (45 cm) Depth: 7.75 in. (19.5 cm)
Weight	3.5 lb. (1.6 kg)

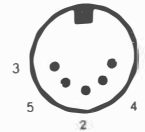
APPENDIX D

ATARI PC CONNECTOR

PINOUT SPECIFICATIONS

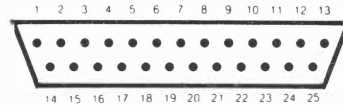
Keyboard

- 1 — Clock
- 2 — Data
- 3 — Reset
- 4 — Ground
- 5 — + 5 VDC



Serial

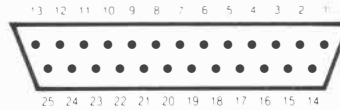
- 1 — Chassis Ground
- 2 — OUT Transmit Data
- 3 — IN Received Data
- 4 — OUT Ready to Send (RTS)
- 5 — IN Clear to Send (CTS)
- 6 — IN Data Set Ready (DSR)
- 7 — Ground
- 8 — IN Carrier Detect
- 20 — OUT Data Terminal Ready (DTR)
- 22 — IN Ring Indicator (RI)





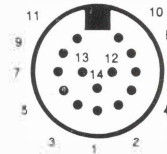
Printer

- 1 — OUT Strobe
- 2 — OUT Data 0
- 3 — OUT Data 1
- 4 — OUT Data 2
- 5 — OUT Data 3
- 6 — OUT Data 4
- 7 — OUT Data 5
- 8 — OUT Data 6
- 9 — OUT Data 7
- 10 — IN Ack
- 11 — IN Busy
- 12 — IN Paper Error
- 13 — IN Select
- 14 — OUT Auto Feed
- 15 — IN Error
- 16 — OUT Initialize Printer
- 17 — OUT Select Input
- 18–25 — Ground



Floppy Disk Drive

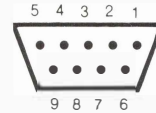
- 1 — IN Read Data
- 2 — OUT Side Select
- 3 — Ground
- 4 — IN Index
- 5 — OUT Drive Select 1
- 6 — OUT Drive Select 2
- 7 — Ground
- 8 — OUT Motor On
- 9 — OUT Direction
- 10 — OUT Step
- 11 — OUT Write Data
- 12 — OUT Write Gate
- 13 — IN Track 0 Detect
- 14 — IN Write Protect





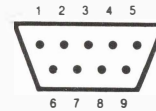
Monitor

- 1 — Ground
- 2 — Secondary Red (the internal DIP switch allows this output pin to be grounded for use with older CGA and MDA compatible monitors)
- 3 — Primary Red
- 4 — Primary Green
- 5 — Primary Blue
- 6 — Secondary Green/Intensity
- 7 — Secondary Blue/Monochrome Video
- 8 — Horizontal Sync
- 9 — Vertical Sync



Mouse

- 1 — XB Quadrature Signal
- 2 — XA Quadrature Signal
- 3 — YA Quadrature Signal
- 4 — YB Quadrature Signal
- 5 — Center Button (optional, switch closure to ground)
- 6 — Left Button (switch closure to ground)
- 7 — VCC
- 8 — Ground
- 9 — Right Button (switch closure to ground)

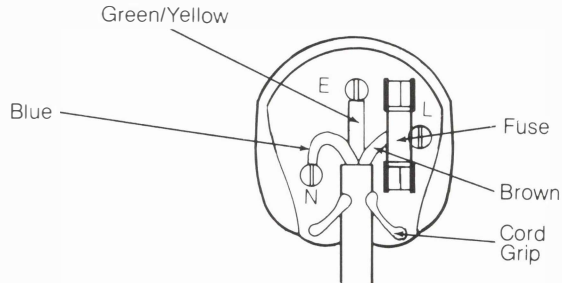


APPENDIX E POWER CONNECTION IN THE UNITED KINGDOM

In the United Kingdom, the Atari PC operates on $\sim 240\text{V}$ 50 Hz mains supply.

The wires in this mains lead are colored in accordance with the following code:

Green/Yellow	— Earth (E)
Blue	— Neutral (N)
Brown	— Live (L)



If the colors of the wires in the mains lead of this appliance do not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The wire colored GREEN/YELLOW must be connected to the terminal in the plug marked by the letter E or by the safety earth symbol \equiv , or colored GREEN, or GREEN/YELLOW.

The wire colored BLUE must be connected to the terminal marked with the letter N or colored BLACK. The wire colored BROWN must be connected to the terminal marked with the letter L or colored RED.

If a 13-amp (BS1363) plug is used, a 3-amp fuse must be fitted, or if any other type of plug is used, a 3- or 5-amp fuse must be fitted either in the plug, adapter, or on the distribution board.

GLOSSARY

access To retrieve data from storage.

alphanumeric keys The letter, number, and symbol keys on the PC keyboard. The alphanumeric keys are positioned on the keyboard just as they are on a standard typewriter keyboard.

application A program written to solve a specific problem or produce a specific result, and that can be executed by a computer. That is, the computer is "applied" to the task. (See **program**.)

AUTOEXEC.BAT AUTOmatically EXECuted BATch file. A file you create that automatically executes the commands it contains during system startup.

back up To make an archive copy of a disk or file. Backing up disks safeguards data on the disks from damage or loss.

batch file A file containing one or more commands, providing a convenient way to run those commands by entering the batch file name at the system prompt. Commands in the file execute sequentially until the file ends.

baud The standard unit of measure of transmission speed of data through a modem, calculated in signaling elements per second.

baud rate The speed at which data are transmitted from one source to another, usually from one computer through a modem to another computer.

bit The smallest unit of computer memory capable of representing ON or OFF. Eight bits equal one byte. (See **byte**.)

boot To begin the computer's operation. Booting is usually accomplished by switching on your system. (See **coldstart** and **warmstart**.)

boot disk The disk you use when you boot your Atari PC. The boot disk must contain the system files. (See **system files**.)

busy light The light on a disk drive that indicates it is reading from or writing to a disk.

byte A unit of computer memory. Each byte consists of eight bits and is a unique character within the computer. For example, the letter "a" is stored in memory as one byte. (See **bit** and **kilobyte**.)

CGA Color Graphics Adapter. One of the available monitor display modes. CGA can be selected by the applications programs that use it, and gives you a maximum screen resolution of 640 pixels x 200 lines in monochrome, or 320 pixels x 200 lines x 4 colors. (Compare to **EGA**, **HGC**, and **MDA**.)

coldstart Booting the computer by switching on the power. A coldstart is initiated while the computer is running by switching off the power for ten seconds, then switching it back on. A coldstart completely initializes the system. (Compare to **warmstart**.)

commands Instructions for controlling MS-DOS or running programs.

CONFIG.SYS A file you can create that allows the operating system software to be configured to your needs and recognize peripherals.

configuration A particular arrangement of peripherals on a computer system, or software installed to your preferences.

control keys Single keys or key combinations used to control computer operations. For example, the keys [Ctrl], [Alt], and [Del], when pressed simultaneously as a key combination, restart the system.

copy To duplicate the information in a file, directory, or disk.

cursor A marker that appears on the screen to indicate the position of the next action. The standard MS-DOS command line cursor is a blinking horizontal bar.

data file A collection of information used by an application.

default A value, option, or setting that the computer automatically selects unless you direct it otherwise.

device See **peripheral**.

directory A list of files. (See **root directory**, **subdirectory**, and **working directory**.)

disk drive The primary data storage device for your Atari PC. The computer uses the disk drive to retrieve information from or store information on a disk.

DISKCOPY A command that duplicates data on one disk to another disk.

display mode commands Commands that change screen resolution and the number of available colors. (See **CGA**, **EGA**, **HGC**, and **MDA**.)

double-sided Having both sides of a disk's magnetic media certified as safe for storing data. A double-sided 5¼-inch disk can store up to 360 kilobytes of data; a double-sided 3½-inch disk can store up to 720 kilobytes.

EGA Enhanced Graphics Adapter. One of the available monitor display modes. EGA gives you a maximum screen resolution of 640 pixels x 350 lines x 16 selected colors from a palette of 64 colors. (Compare to **CGA**, **HGC**, and **MDA**).

EGA video subsystem The chip on the Atari PC's motherboard that lets you have EGA screen resolution and color selection. (See **EGA**.)

enter To instruct MS-DOS to run a command. To enter a command, type the command on the MS-DOS command line and press [Enter].

error message An on-screen message indicating that MS-DOS or an application is unable to process a command.

extension The file type appended to the name of a file and separated from it with a period (.). An extension is optional and can have up to three characters. Some common extensions are .DOC, .TXT, and .BAT.

file A collection of information that can be stored on a disk or held temporarily in RAM.

floppy disk The magnetic media used to store programs and information generated on the Atari PC. The media is made of material similar to audio tape and is encased in a protective covering. The Atari PC's internal disk drive uses 5¼-inch floppy disks; the optional connection of a 3½-inch floppy disk drive to the PC lets you also use 3½-inch disks.

format To set the patterns on a floppy disk that enable it to store information. Formatting erases any information previously stored on the disk.

function keys The keys [F1] through [F10] along the left edge of the Atari PC keyboard. These keys are used for special purposes in many applications.

GEM Graphics Environment Manager. A graphics-based operating environment that lets you run GEM Desktop and other GEM-based applications programs.

GEM Desktop A screen graphics representation of a desktop used for running GEM applications and some MS-DOS commands.

GEM Paint A design and paint program you can run from GEM Desktop.

GEM Write A word-processing program you can run from GEM Desktop.

HGC Hercules® Graphics Card. One of the available monitor display modes. HGC gives you a screen resolution of 720 pixels x 348 lines in monochrome graphics mode, or eighty 9 x 14 pixel characters x 25 lines in monochrome text mode. (Compare to **CGA**, **EGA**, and **MDA**.)

initialization The process that sets the computer to its starting configuration.

interface An electronic connection that allows communication between the computer and a peripheral.

interface cable A cable that connects the computer to a peripheral, or a peripheral to another peripheral.

kilobyte 1,024 (2¹⁰) bytes of memory. (See **byte**.)

MDA Monochrome Display Adapter. One of the available monitor display modes. MDA gives you a screen resolution of 80 characters x 25 lines. (Compare to **CGA**, **EGA**, and **HGC**.)

megabyte 1,024 (2¹⁰) kilobytes of memory. (See **kilobyte**.)

memory The electronic circuits that the Atari PC uses to store data and programs. There are two kinds of computer memory: RAM and ROM. RAM loses its data when the computer loses power; ROM retains its data whether the computer has power or not. (See **RAM** and **ROM**.)

modem MODulator/DEModulator. A device that enables you to establish a communication link between your computer and other computers and online information networks via telephone lines.

monitor See **video display**.

motherboard The integrated circuit board inside the Atari PC that includes the processor chip, RAM chips, the video subsystem, and provisions for additional chips.

mouse A small, hand-manipulated device connected to your Atari PC that controls the movement of a pointer on the desktop. The mouse is used with GEM applications and other programs that can be operated with a mouse.

MS-DOS Microsoft Disk Operating System. The software that coordinates all computer operations on the Atari PC.

MS-DOS command level The MS-DOS command line. Commands are entered from the MS-DOS command level unless they can be selected from within an application such as GEM Desktop.

MS-DOS command line The line on screen containing the MS-DOS prompt, where you enter the names of MS-DOS commands and programs you want to run.

numeric data processor An optional chip that performs math calculations (such as calculating spreadsheets) normally done by the system's main processor. This processor has instructions that are carefully tuned for fast and accurate floating point calculations.

parallel interface An industry-standard interface connecting parallel printers and other parallel peripherals. The parallel interface port on the back of the Atari PC is labeled "Printer."

parameter Further data entered with a command that specify how the command will operate.

pathname The list of items that specify the path through the directories on the disk to the current directory. A pathname consists of a string of directories and subdirectories separated by backslashes (for example: \ DOCUMENT \ TEXT).

PC mode The Atari PC's standard operating speed of 4.77 MHz. (Compare to **turbo mode**.)

peripheral Any kind of exterior device, such as a disk drive, monitor, or printer, that you connect to your computer.

pixel A dot on the Atari PC's video display. Pixels are arranged in a grid, and set according to your monitor type and selected display mode. Pixel is short for picture element.

program A detailed and explicit set of instructions for accomplishing some purpose, expressed in a language that can be read by a computer. (Compare to **application**.)

prompt Any symbol or message on screen indicating that the computer is awaiting input from the user. The basic MS-DOS prompt is A > followed by a blinking horizontal bar.

RAM Random Access Memory. The part of the computer's memory that is used to write data to and read data from a disk. When you work with your computer, the information displayed on the monitor screen is in RAM. Information stored in RAM is lost when you switch off the computer. The Atari PC has 512 to 640 kilobytes of RAM depending on whether additional RAM chips have been added.

resolution The number of pixels on a monitor screen. More pixels mean crisper screen images. You can change the resolution with the display mode commands. (See **display mode commands**.)

ROM Read Only Memory. The part of the computer's memory that is permanently recorded on a chip on the computer's motherboard. ROM contains the information needed to start and operate the computer and its peripherals; cannot be altered; and retains its factory programmed information with or without power to the computer. The Atari PC has 32 kilobytes of ROM.

root directory The first or main directory on every disk. In MS-DOS, the root directory is indicated by a backslash (\).

scroll To display data that is longer than one screenful by rolling it up or down the screen.

sector A section of a track on a disk. On Atari PC disks, the sectors are generally 512 bytes long. (See **track**.)

serial interface An industry-standard interface for connecting modems and other serial peripherals. A serial interface sends data one bit at a time. The serial interface on the back of the Atari PC is labeled "Serial."

software The programs and applications you run on your computer. (Compare to **hardware**.)

source disk The disk that information is written from during a DISKCOPY procedure. (Compare to **target disk**.)

subdirectory A directory of files one or more levels down from the root directory. In the MS-DOS tree-structured filing system, a number of subdirectories may be created as branches of the root and other directories. (See **root directory**.)

switch parameters Options that can be used with commands to control exactly how MS-DOS performs the command. A forward slash (/) always precedes each switch parameter included with a command.

syntax The form used to enter commands correctly. Syntax tells you what elements follow a particular command, whether they are required or optional, and what punctuation must be used.

system files The files COMMAND.COM, IO.SYS, and MSDOS.SYS, which you must have on disk to be able to boot from it in MS-DOS. IO.SYS and MSDOS.SYS do not appear in any directory listing because they are hidden files.

system prompt The prompt on the command line that indicates that MS-DOS is ready to accept a command. For example, A > is the default prompt for drive A.

target disk The disk that information is written to during a DISKCOPY procedure. (Compare to **source disk**.)

track One of the patterns on a disk that contains the data written on the disk. Each track is made up of smaller sections called sectors. (See **sector**.)

tree structure The method MS-DOS uses for organizing directories. A tree-structured filing system has levels of directories that branch out from the root directory.

turbo mode The Atari PC's fast (8.0 MHz) operating speed. In turbo mode your system saves and retrieves data more quickly than in standard PC mode. (Compare to **PC mode**.)

video display A video screen device used for viewing computer entries and responses.

warmstart Rebooting the computer by pressing [Ctrl] [Alt] [Del]. A warmstart only partially initializes the system. (Compare to **coldstart**.)

wildcard A question mark (?) or asterisk (*) character used in command syntax to specify the search criteria. ? matches one character; * matches any character to the end of the first name or extension.

working directory The directory currently accessed. To identify the working directory, enter CD at the MS-DOS prompt. Each drive on your system can have a different (independent) working directory.

write-protect To mechanically prevent a disk from being written to. To write-protect a 5¼-inch disk, place a write-protect tab over the notch. To write-protect a 3½-inch disk, move the write-protect tab so you can see through the notch.

INDEX

A

A > prompt, 17, 31
alphanumeric keys, 14
[Alt] key, 14
ANSI standard terminal, 21
[Arrow] keys, 14, 47
AUTOEXEC.BAT file, 21-22, 27, 29, 43, 44,
45, 48

B

B > prompt, 26
back panel, computer, 15-16
[Backspace] key, 9, 14, 34
backup disks, 8, 20
.BAT files, 22

C

[Caps Lock] key, 14, 15
caring for the system, App. A
CGA command, 46
CGA mode, 46, App. C
CHDIR command, 22, 41
CHKDSK command, 22, 43-44
CLICK command, 28
CLS command, 28
coldstart, 11
command line, 10, 14, 17, 26, 31, 47, 48
command syntax, 32-33, 34
commands, 17, 22, 23, 24, 31-48
 editing, 13, 14
 entering, 31, 33
computer, 5-6, 9, 15
 back panel, 15-16
 connecting, 6
CONFIG.SYS file, 21
connecting
 additional floppy disk drives, 11-13
 peripherals, 15
 the system, 6-8
connectors, 15
 external floppy disk drive, 11, 12,
 16, App. D
 external hard disk drive, 16
 keyboard, 8, 16, App. D

 monitor, 7, 16, App. D
 mouse, 8, 16, App. D
 pinouts, App. D
 power, 6, 11, 12, 16
 printer (parallel), 16, App. D
 serial, 16, App. D

control keys, 14
COPY command, 21, 22, 34, 35, 36-48, 41
copying
 disks, 20
 files, 34, 37, 38
creating files, 36

[Ctrl]

[Num Lock], 14, 38
[PrtSc], 14
[S], 14, 38
[Scroll Lock], 14

[Ctrl][Alt]

[<], 14, 28
[>], 14, 28
[1], 27
[2], 27
[Del], 14, 47
[keypad +], 14, 27
[keypad -], 14, 27

[Ctrl] key, 14

cursor, 10, 14, 34, 48
CURSOR command, 46, 48

D

date prompt, 9
DEL command, 35, 38, 41
[Del] key, 14
DIR command, 22, 32, 39-40
directory, 23, 24, 32, 37
 changing, 41
 checking, 43-44
 creating, 40
 displaying, 39-40, 41-42
 erasing, 41
 naming, 39, 40
disk A, 17
disk B, 17

DISKCOPY command, 20, 35-36
disk, floppy, 17-18
 3½-inch, 17, 18, 19
 5¼-inch, 5, 17, 18, 19
 backup, 8, 20
 checking, 43-44
 erasing, 35
 errors, 43-44
 formatting, 17, 20, 34-35
 inserting, 9, 18
 removing, 18
 storing, 20, App. A
 write-protecting, 19
disk drive, 5, 9, 17, 21, 26, 32
 3½-inch, 11, 12, 13
 5¼-inch, 11, 12
 external floppy, 11-13, 16, 17
 internal floppy, 5, 13, 17
 internal hard, 16
 port, 11, 12, 16, App. D
drive A, 10, 17, 20, 26, 31
drive B, 17, 26
drive C, 26
drive designation, 17, 33
 changing, 26
drive latch, 9, 18

E

8087 chip, 6, 27
 installing, App. B
EGA command, 46
EGA mode, 6, 28, 46, App. C
[End] key, 14
[Enter] key, 10, 22, 26, 31, 34
entering commands, 31
ERASE command, 39, 41
erasing
 disks, 35
 files, 39
error messages, 44, 49-50
[Esc] key, 14, 47
extension, 23-25, 40
external expansion, 11-13, 15-16

F

/f switch, 42, 43
[F2] key, 13
[F3] key, 13
file, 10, 23, 24
 copying, 34, 37-38
 creating, 36
 dating, 10
 erasing, 39, 41
 fragmented, 43
 naming, 24
 renaming, 38-39
 viewing, 38
filename, 23-25, 32
FORMAT command, 34-35
formatting disks, 17, 20, 34-35
function keys, 13

G

GEM Desktop, 6, 27
GEM Paint, 27
GEM Write, 27

H

hard disk drive, 16
hardware
 care, App. A
 problems, App. A
HCOLOR command, 46
HGC command, 46-47
HGC mode, 46-47, App. C
[Home] key, 14

I

indicator lights
 [Caps Lock], 15
 disk drive, 18
 [Num Lock], 15
 power, 9
 [Scroll Lock], 15
 turbo mode, 27
initializing the system, 8, 11, 21
[Ins] key, 14

K

- key click, 14, 28
- key combinations, 14
- keyboard, 6, 13-15, 36
 - connecting, 8
 - jack, 8, 16, App. D
- keys
 - alphanumeric, 14
 - [Arrow], 14, 47
 - control, 14
 - function, 13
 - numeric keypad, 15
 - numeric keys, 15

L

- labeling disks, 20

M

- magnetic media, 17, 18
- MDA command, 46
- MDA mode, 46, App. C
- MKDIR command, 40
- MODE command, 45
- modem, 45
- monitor, 6, 7, 9, 16, 45-46
 - color, 6, 7, 45, 46
 - connecting, 7, 16
 - EGA, 6, 7, 28, 45, 46
 - jack, 7, 16, App. D
 - monochrome, 6, 7, 28, 45, 46, 47
- monitor display modes, 28, 45-47
 - commands, 45-47
 - CGA, 46, App. C
 - EGA, 6, 28, App. C
 - HGC, 46, App. C
 - MDA, 46, App. C
- monitor type selection switches, 7, 16, 46
 - setting, 7
- mouse, 6, 29
 - connecting, 8
 - port, 8, 16, App. D
- MOUSE command, 29
- MS-DOS, 9, 10, 17, 20, 21, 24, 26, 31, 32, 34
- MS-DOS disk, 8, 9, 17, 20, 31
- multi-drive system, 17, 26, 37

N

- name, 23-25, 40
- [Num Lock] key, 14, 15
- numeric data processor, 6, 27
 - installing, App. B
- numeric keypad, 15
- numeric keys, 15

O

- one-drive system, 17, 26, 37

P

- /p switch, 33, 39
- PALETTE command, 46-47
- parallel interface, 16
- parameters, 31-32
 - syntax, 32-33
- PATH command, 22, 42-43
- pathname, 32, 37, 38, 42
- pausing a command, 14
- PC mode, 14, 26-27
- peripherals, 9, 15-16
 - connecting, 15
- [Pg Dn] key, 14, 47
- [Pg Up] key, 14, 47
- power jack
 - computer, 6, 16
 - floppy disk drive, 11, 12
- power switch, 6, 16
- preparing disks, 34-36
- PRINT command, 22, 44
- print queue buffer, 44
- printer, 16, 44
 - naming, 44-45
 - port, 16
- printing, 14, 44
- PROMPT command, 47
- [PrtSc] key, 14

Q

- [Q] key, 47

R

RAM, 6, 19
RAM chips, additional, 6
 installing, App. B
REN command, 38-39
RMDIR command, 35, 41
root directory, 23, 31, 32, 37, 38, 39, 40, 42

S

/s switch, 34, 47
screen resolution, 45, 28, 45-46
[Scroll Lock] key, 14
scrolling, 14, 33, 38
sector, 17, 34
serial devices, 16, 44
 port, 16
setting up the system, 5, App. A
[Shift] key, 14
[Shift] [PrtSc], 14
software care, App. A
source disk, 20, 35-36, 37
[Space Bar] key, 38
specifications, 59
storing, disks, App. A
subdirectory, 23
 creating, 40
switch parameters, 32
switching off the system, 11, 13, 15
switching on the system, 8-10, 13, 27
 from an external drive, 13
 problems, 9, App. A
[Sys Req], 15
system maintenance, App. A
system prompt, 10, 17, 26, 31, 34, 48
system speeds, 17
 changing, 26-27
system status report, 43-44

T

/t switch, 44
[Tab] key, 14
target disk, 20, 35-36, 37
time prompt, 10
track, 17, 34
TREE command, 42
tree structure, 23, 40
TURBO command, 27
turbo mode, 14, 26-27
TYPE command, 38

U

United Kingdom, 67
unpacking the system, 5

V

/v switch, 34, 43

W

/w switch, 32, 33, 40
warmstart, 14, 47
wildcards, 24-25, 37, 38, 39, 44
working directory, 41
working disk, 8, 42
working drive, 26, 33, 40, 41
write-protect notch, 9, 17, 18, 19
write-protecting disks, 19

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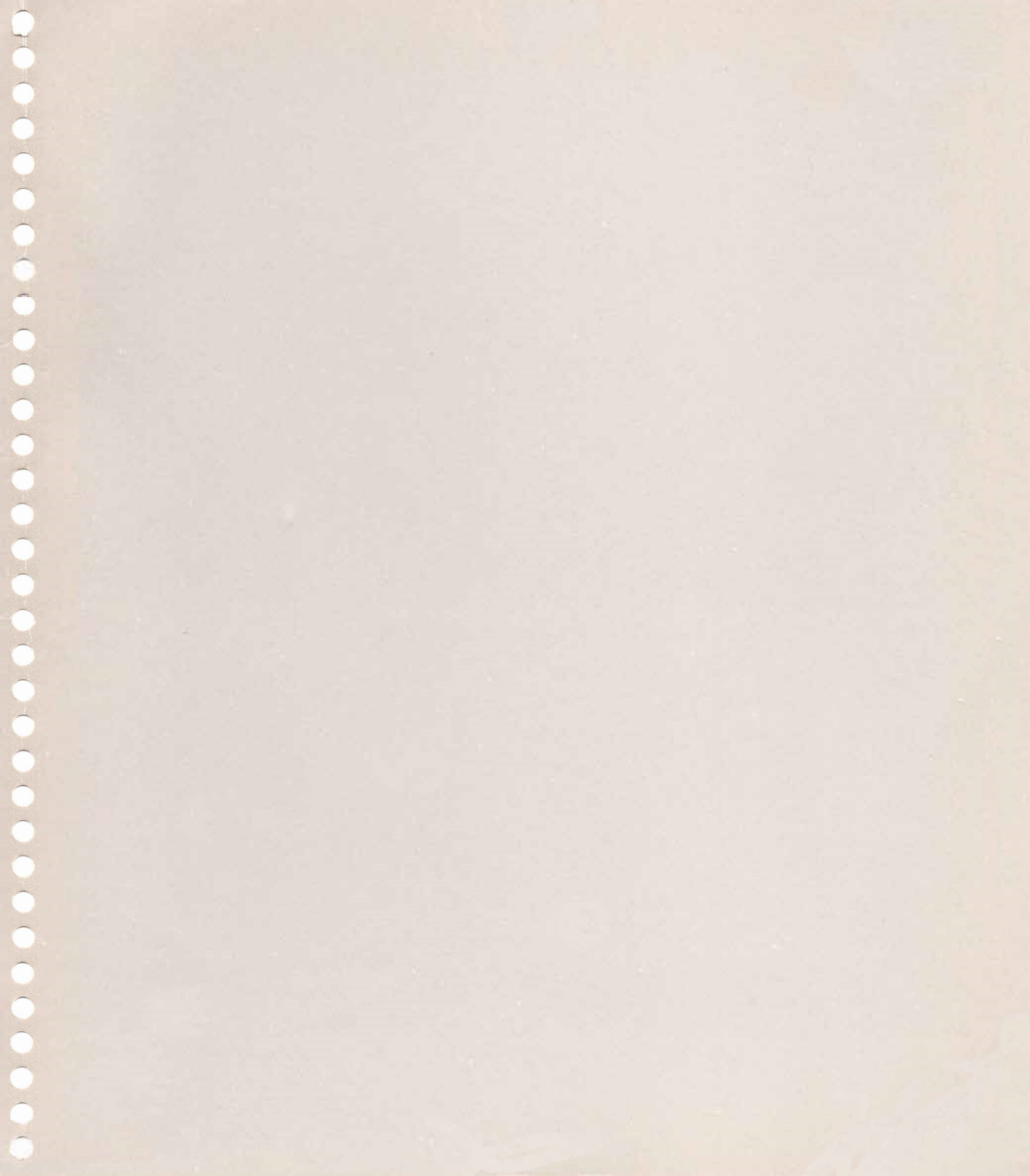
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C100901-001
C033301-0A1
Printed in Taiwan
K. I. 10. 1987