ЛATARI®

32-BIT COMPUTER

FALCON 030

OWNER'S MANUAL

IMPORTANT INFORMATION

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, Subpart B of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause interference to radio communications.

The limits are designed to provide reasonable protection against such interference in a residential situation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the affected radio or television.
- Increase the separation between the equipment and the affected receiver.
- Connect the equipment and the affected receiver to power outlets on separate circuits.
- Consult the dealer or an experienced radio/TV technician for help.

MODIFICATIONS

Changes or modifications not expressly approved by Atari Corporation could void the user's authority to operate the equipment.

SHIELDED CABLES

Shielded cables must be used with this equipment to maintain compliance with FCC Regulations.

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Part I: Getting Started

1   The Falcon030

Introduction

Congratulations on the purchase of your Atari computer. The Falcon030 is a
state-of-the-art personal computer, offering uncompromised performance and
affordability. Combining a fast microprocessor architecture with digital signal
processing and true-color graphics capabilities, the Falcon030 is an ideal platform
for today's applications, such as multimedia, desktop publishing, graphic arts,
games, and educational software.

Your Falcon030 is available with the following standard features and options.

Standard Features

- 16MHz 68030 microprocessor

- 32MHz Motorola 56001 Digital Signal Processor (DSP)

- 1MB, 4MB, or 14MB of Random Access Memory (RAM)

- Video color palette of 262,144 (65,536 simultaneous) colors

- 1.44MB PC-compatible internal floppy diskette drive

- An array of ports which include: SCSI, RS232, Parallel, RF, Video, MIDI,
  Cartridge, LAN, Microphone, Headphone, Joystick (expanded), and DSP

- The Atari MultiTOS pre-emptive multitasking operating environment
- A control panel that allows you to customize the different features of your desktop
- A sophisticated desktop that displays your favorite executable files as smart icons, which you can link to a directory, resource files, and custom setups

Options

- 16MHz 68881/2 Floating Point Unit (FPU)
- Internal hard disk drive

Using This Manual

This manual is divided into several parts, which explain in clear, nontechnical language how to use your computer and its operating environment. After you become more familiar with your computer, this manual will continue to be a helpful guide for individual procedures and specific information. Below is summary of the manual's contents.

Part I: Getting Started

Chapter 1, The Falcon030, provides a list of your computer's standard features, and available options. This chapter also gives you simple directions for setting up the computer and connecting peripherals.

Chapter 2, Using Your Computer, explains a number of fundamental concepts, which help you understand how a computer works. This chapter also introduces you to the keyboard, mouse, and floppy disk drive.

Part II: Using the Desktop

Chapter 3, The GEM-Desktop, teaches you how to do basic tasks on the desktop, such as moving the cursor and working with windows.

Chapter 4, A Guided Tour of the Desktop, introduces you to all the desktop's menus, commands, and features. This chapter also explains how to customize your desktop environment using the Control Panel and its various CPX modules.

Chapter 5, Desktop Management, teaches you how to work with directories, folders, and files. This chapter also tells you how to develop and maintain an efficient desktop environment.

Chapter 6, Advanced Desktop Features, introduces you to MultiTOS, your computer's advanced pre-emptive multitasking environment.

Part III: Appendixes, Glossary, and Index

Appendix A, Cursor Control Quick Reference, describes the cursor actions that you can control using the mouse or keyboard.

Appendix B, Advanced Hard Disk Utilities, describes the features of the Advanced Hard Disk Utilities (HDX) program.

Appendix C, Troubleshooting and Maintenance, offers solutions to problems you may encounter while setting up or operating your computer. This appendix also provides guidelines for proper maintenance of your system.

Appendix D, Specifications, summarizes your system's major features and requirements.

Appendix E, Connector Specifications, gives specifications for the various ports and connectors on the system.

Appendix F, Customer Support, tells you where to find more information about your Atari computer and other Atari computer products.

Glossary defines common technical terms used in this manual as they relate to your computer.

Index helps you locate terms and procedures used or explained in the manual.

Special Notations

This manual uses special notations to communicate information efficiently. Following are examples of the special notations as they appear throughout this manual.

Characters enclosed in square brackets ([ ]) represent keys on the keyboard. For example, when this guide instructs you to press [Return], you should press the Return key on the keyboard.

When a procedure requires you to use two or more keys at the same time, the keys are grouped together (e.g., [Control] [X]).

Notes: These contain useful hints and other information relevant to the topic being discussed.

Cautions: These alert you to potential problems and suggest ways to avoid those problems.

Filenames are capitalized. For example, the NEWDESK.INF and DESKICN.RSC files are located on your computer's Language disk.

Part and chapter titles are enclosed in quotation marks and/or appear in bold-face type (e.g., **Chapter 1, The Falcon030,** and **Part I: Getting Started**).

Selectable items appear in a different font than standard text. For example, desktop commands, such as **Open**, **Cancel**, and **OK**.

Setting Up Your System

Setting up the Falcon030 is easy. Use the information in this section to set up your system and any peripheral devices.

Preparing a Workspace

Before going any further, take a moment to prepare a workspace for your computer. Start by finding a flat, stable surface area near an electrical outlet. The surface area should be able to support the weight of the computer, and any device that you want to connecting to it. Be sure to protect the system from dust, grease, extreme temperatures, prolonged exposure to direct sunlight, and high humidity. Use a surge protector to protect the computer against damage caused by abnormal flows of electricity.

Connecting the Mouse

Note: We recommend that you purchase a mouse pad to use with your Atari mouse. A mouse pad provides a clean, even surface that prevents dust and dirt from collecting inside the mouse.

There is a 9-pin plug with two rows of holes on the end of the mouse cord. This plug fits into the joystick/mouse port in one direction only, so you don't need to worry about making a wrong connection.

The mouse connects to the system through the joystick/mouse port, which is one of two ports located underneath the keyboard. (The other port underneath the keyboard is a dedicated joystick port.) You can identify the mouse port by its icon located on the bottom of the keyboard.

Connecting the Monitor

Since there are a variety of monitors available for use with the Falcon030, you should consult the setup instructions that come with your particular monitor.

The Monitor Adapter Block

Before you can use a monitor with the Falcon030, you need to purchase the correct monitor adapter block. The monitor adapter block allows you to use a variety of monitors with the Falcon030. The monitor block is easy to use. Connect one end of the block to the monitor's video adapter cable and the other end to the Video port. For more information about the monitor adapter block, contact an Atari dealer.

Connecting the Power Cable

After you connect the monitor and mouse, use the following instructions to connect the power cable.

1. Connect the power cable's female end to the three-pronged socket on the back of the system.
2. Plug the power cable's male end into a power source, such as a surge protector plugged into a power outlet.

Starting your System

Now that you've connected the monitor, mouse, and power cord, you're ready to start (or boot) your system. The term *boot* comes from the word *bootstrap.* Bootstraps allow you to pull on a boot, just like booting a computer allows you to start your computer's operating system (more on this later).

The ROM chips inside your computer contain the operating system, so you don't need a system disk to start your computer (see **Chapter 2,Using Your Computer** for more information). Although, you can have the computer to read additional startup information, such as the desktop files, from a disk.

You can store startup information on a hard disk or a floppy disk, such as the Language disk that comes with the computer. In either case, if the startup files are available, the computer reads them during bootup.

Note: If you want to learn more about your computer before going further, skip to **Chapter 2, Using your Computer,** *then return to this section when you are ready to start the system.*

The following sections tell you how to boot up your computer. If you want to connect a printer, external drive, or another peripheral device to your computer now, read **Connecting a Peripheral Device** (later in this chapter), before going any further. If you are not connecting any devices, use the following information to boot up your computer.

Starting from a Hard Disk

Your hard disk contains files which allow it to boot up the operating system and display the desktop.

Use the following steps to boot up from the hard disk:

1. Switch on any peripherals attached to the system.

2. Switch on the computer and the monitor.

While the computer is starting the operating system and checking the system memory, you'll see the Atari logo on the upper left portion of the screen. You will also see a bar displayed across the screen. When the system completes the memory test, the bar starts to shrink. The startup process waits for the bar to shrink completely before going on. This provides a necessary timeout for some external peripherals. If there are no external peripherals attached to the computer, press any key to abort the time out. Afterwards, the system displays the desktop.

Note: If the computer cannot find the needed files on the hard disk during bootup, it loads the default desktop, which does not display any hard disk icons. If this occurs, shut off the computer, then switch it on. If the hard disk icons still fail to appear on the desktop, see **Appendix C, Troubleshooting and Maintenance.**

Starting from a Floppy Disk

If your system doesn't contain a hard disk, you'll want to boot the system with a copy of the Language disk in drive A. The Language disk contains files that the computer reads when it starts the operating system. For example, the Language disk contains DESKICON.RSC, the icon resource file, and NEWDESK.INF, which allows you to customize the layout of the desktop area.

Note: As a precaution you should make a working copy of the Language disk. Use the working copy instead of the original disk. See **Copying Files and Folders** *in* **Chapter 5, Desktop Management,** *for information on copying disks.*

Use the following steps to boot up your system from a floppy startup disk:

1. With the computer turned off, insert the working copy of the Language disk into drive A.

2. Switch on any peripherals attached to the system.

3. Switch on the system.

Note: If you are booting the computer from the Language disk and the desktop fails to appear, shut down the computer. Make sure the disk is correctly inserted in drive A, and all cables are properly and securely connected. Start the system again. If the desktop still fails to appear, see **Appendix C, Troubleshooting and Maintenance.**

Connecting Peripheral Devices

Peripheral devices (e.g., printers, external hard disks, etc.) announce their presence to the computer by sending electronic signals. In some cases, peripheral devices share memory with the computer. In general, you should connect and switch on all peripheral devices before booting up your computer. Using this procedure ensures that all the connected peripheral devices initialize properly. See **Precautions** in the following section for more information on connecting peripheral devices.

Connecting a SCSI Device

The SCSI (pronounced *scuzzy*) data transfer protocol is popular among peripheral manufacturers and is employed by many different types of devices.

Use the following steps to connect a SCSI device:

1. Shut down the computer and all peripherals.

2. Connect one end of the SCSI device's interface cable to the port labeled SCSI II on the back panel of the computer.

3. Connect the other end of the interface cable to the port on the SCSI device.
   Note: The cable required may differ from peripheral to peripheral. Make

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sure you have the right cable.

4. Connect the power cable to the power jack on the back of the device.

5. Insert the three-pronged plug into a grounded wall outlet or power strip.

6. Set the SCSI ID Switch according to the following guidelines:

a) If the device is a hard disk, it MUST be set to 0. Other hard disks (if present) MUST be set in sequence (e.g., 0, 1, 2, 3, etc.). No two hard disks can have the same setting.

b) If you are using other devices with a hard disk, use the directions above to set the hard disk, skip a number, then set the remaining device(s) in sequence (e.g., 0, 1, 2, 3, [ ], 5, 6, 7).

c) If there are no hard disks in the daisy-chain (more on this later), start at 0 and set any additional devices in sequence.

Note: Always read the documentation accompanying your SCSI device, or software, before you set the SCSI ID switch.

Daisy-chaining

Daisy-chaining is a way to connect more than one peripheral device to a single port. The first device in the chain connects to the computer, and the rest of the devices in the chain connect to each other. For example, device A would connect to the computer, device B would connect to device A. If you are daisy-chaining a device to the Falcon030, see the manual supplied with the device for more detailed information.

Precautions

Be sure to observe the following precautions when using any SCSI device with your computer.

- Always switch on the SCSI device before switching on the computer.
- Disconnect the SCSI device from the computer, before attempting any modifications to the device.

System Orientation

This guide makes frequent references to various system components and features. Taking a few minutes to familiarize yourself with the layout of your system will save you time when using your computer and this manual.

Front Panel

Following is an illustration and description of the features on the front panel of
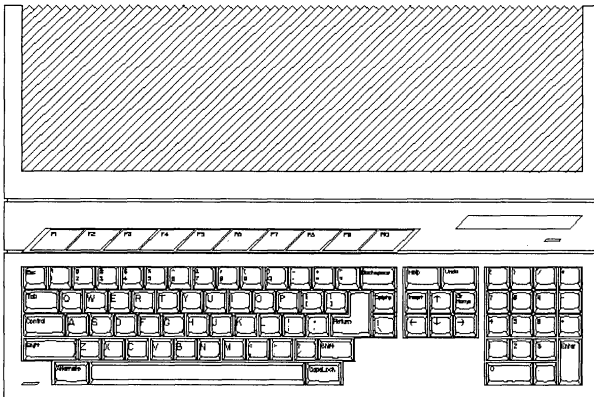
Figure 1-1. The Front Panel

-- Standard keyboard with function keys and numeric keypad

Mouse port, underneath the keyboard, connects Atari mouse.
  (The Mouse port is not visible in Figure 1-1.)

Right Side Panel

Following is an illustration and description of the features on the right side panel.
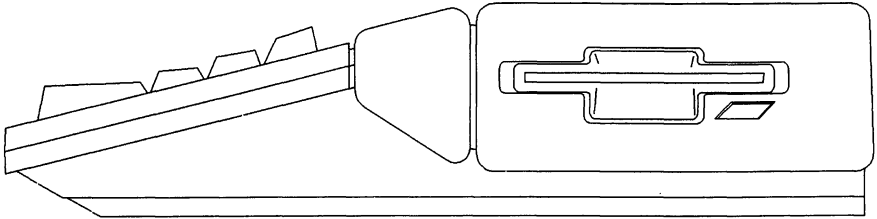
Figure 1-2. The Right Side Panel

-- 1.44MB PC-compatible high-density floppy disk drive

Rear Panel

Following is an illustration and brief description of the features visible on the rear panel.

DSP   Microphone   Video   Printer   Power Switch   Power Jack

Headphone SCSI II   TV   Modem   LAN   Reset Button
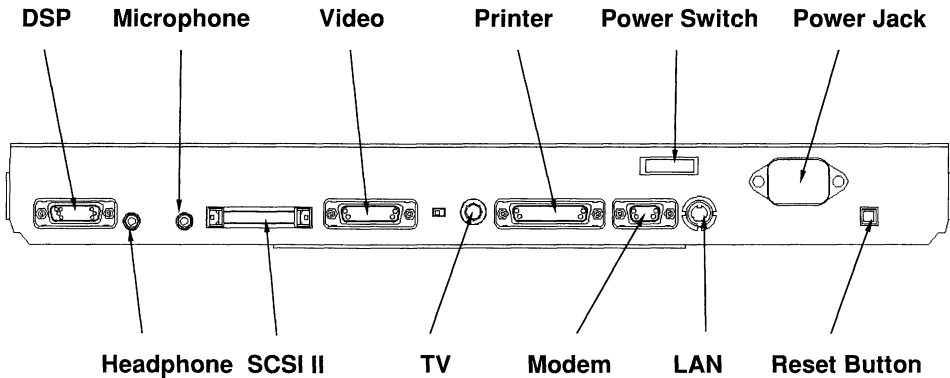
Figure 1-3. The Rear Panel

-- Digital Signal Processing (DSP) port provides an interface to the digital audio chips and the internal DSP for direct input/output of high-speed digital signals.

-- Headphone: Mini-stereo output jack connects headphones or external speakers for sound output.

-- Microphone: Mini-stereo input accepts a signal from a microphone, or a stereo system.

-- SCSI II port with DMA connects SCSI devices to the system.

-- TV (RF modulator) plug allows you to connect the computer to a TV set.

-- Video port connects a variety of monitor types.

-- Printer (parallel) port connects printers, scanners, or other parallel devices.

-- Modem (RS232C) port connects a modem or another serial device.

-- LAN high-speed LocalTalk-calcompatible port allows you to network your Falcon030 with other computers.

-- Power switch turns on the power to the system.

-- Power jack connects the power cord.

-- Reset switch cold-boots the system when depressed.

Left Side Panel

The following is an illustration and description of the features on the left side panel.

MIDI Ports   **Cartridge Slot**   **Joystick Ports**
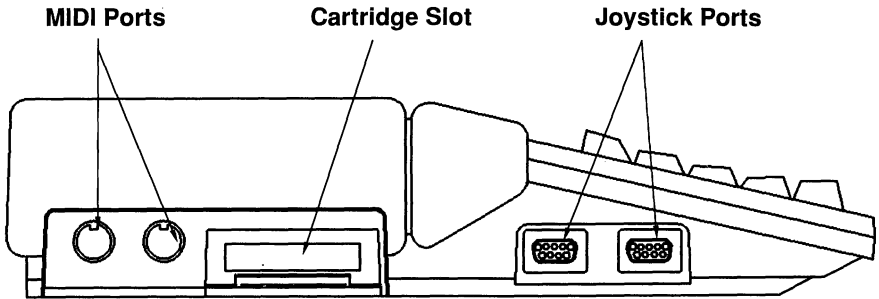
MIDI In and MIDI Out/Thru ports connect other MIDI devices to the computer. (For more information on MIDI see the following Note.)

Cartridge slot accepts program cards, hardware interfaces, etc. The system recognizes the cartridge slot as drive C.

Joystick ports (2) connect a joystick to the computer.

Note: Musical Instrument Digital Interface or MIDI ports allow you to connect your system with other MIDI devices, such as electronic keyboards, sophisticated tape recorders and a host of other electronic devices that communicate using the MIDI standard.

2 Using Your Computer

Learning The Fundamentals

This section is designed to teach you about basic computer-related concepts and technologies. More avanced computer users may wish to skip this section and go directly to **Part II: Using the Desktop.**

How a Computer Works

A computer processes instructions to perform a task. Two examples of instructions are the operating system instructions on your computer's Read Only Memory (ROM) chip, and the instructions in an executable program contained on a disk. Your computer receives these instructions as electronic signals which it then stores as data. The processing and storing of data (sets of electronic signals grouped together) is handled by a system of electronic components and integrated circuits.

Memory

A computer's memory capacity is measured in bytes. Computer language is based on the binary number system; the smallest data unit is one BInary digiT, or BIT. Groups of 8 bits are called bytes. A kilobyte is 1,024 bytes; a megabyte is 1,024 kilobytes.

Your computer uses two types of memory, system memory and storage memory.

System Memory

System memory consists of microchips inside your computer. The computer uses system memory as a temporary work area in which to load and run programs, and a way of storing important information, so that it can be accessed quickly.

There are two types of system memory, Read Only Memory(ROM) and Random Access Memory (RAM).

You cannot write information into a ROM storage area. The information in ROM is permanent, and cannot be erased. ROM chips inside your computer contain operating system information.

Random Access Memory (RAM), consists of memory chips inside your computer that store data while the computer is running. When you turn off the computer, all the information in RAM is erased. RAM is the computer's chalkboard. The computer can quickly and efficiently access programs and data files written into RAM. To permanently save information stored in RAM, you must transfer the information from RAM into storage memory.

Storage Memory

Storage memory is located on storage devices. These devices include floppy disks, standard hard disks, hard disks in removable cartridges, and CD-ROM discs.

Hard Disks

Because of the hard disk's high storage capacity and fast access time, many programs prefer to run off a hard disk.

The Falcon030 is available with an optional internal hard disk, which is ready to work, as soon as you boot up the system.

The hard disk is divided into partitions, which appear on the desktop as drive icons (See **Desktop Elements** in **Part II: Using the Desktop, Chapter 3, The GEM-Desktop,** for more information on drive icons.) Partitions store information independently although they are not physically separate devices.

Floppy Disks

Floppy disks store programs and the information you create (data). Floppy disks store different amounts of data depending on the type of floppy disk; single-sided floppy disks store 357,376 bytes, double-sided floppy disks store 726,016 bytes, and high-density floppy disks store 1,458,176 bytes of data. Information on a floppy disk is read from the disk into RAM, modified if desired, and later saved back to the disk from RAM.

Your computer's 3.5 inch 1.44MB drive uses 3.5 inch high-density, double density, or single-sided diskettes. Each diskette consists of a 3.5 inch rectangular plastic casing holding a circular sheet (disk) of coated material. This material is the magnetic media which holds the data read by the disk drive. Its accessible section is protected by a sliding metal sleeve. Most floppy disks also have a write-protect sliding tab. (For information on floppy disks, see **The Floppy Disk Drive** later in this chapter.)

CD-ROM Discs

CD-ROM discs store information that can be read into RAM for processing. Because CD-ROM disks use a read-only format, you cannot write any additional data onto a CD-ROM disc.

Operating System

Every computer needs an operating system to carry out even the most basic functions. For example, TOS (your computer's operating system) controls the way your computer handles tasks like reading from and writing to disks, translating mouse movement into on-screen cursor movement, and displaying information on the screen.

Graphics Environment Manager

The Graphics Environment Manager (GEM), is an important part of TOS. GEM provides a graphic interface for the computer. This allows a screen display of information as graphic images (e.g., picture icons and windows), as well as letters, numbers, and symbols. For information on TOS, see **Part II: Using the Desktop**.

Getting Acquainted with Your Computer

After your computer is running and displaying the desktop, you'll probably wonder what to do next. Use the information contained in this section to get better acquainted with various parts of your computer system.

The Screen Display-GEM Desktop

When you start your system, the computer reads the startup information from the hard disk or the startup floppy disk and loads that information into RAM. Afterwards, the desktop appears on your screen.

The GEM Desktop is the starting point for almost everything you do with the computer. The basic desktop contains two floppy disk icons, four hard disk icons (if you have a hard disk), and a trash can icon on the left edge of the screen, a menu bar at the top of the screen, and a pointer. (The second floppy icon is for help in copying operations.) For more information on the Desktop, see **Part II: Using the Desktop**.

The Mouse

The mouse allows you control the movement of the pointer. Using the mouse, you can position the pointer anywhere on the desktop.

How the Mouse Works

The mouse consists of several basic parts. The *housing*, which contains the mouse components, has two buttons on top. These buttons are referred to as the *left and right mouse buttons*. The *mouse ball* inside the mouse rolls when you move the mouse. The movement of the mouse ball is translated into the movement of the cursor by *motion sensors* inside the housing. For more information on the mouse, see **Using the Mouse** in **Part II: Using the Desktop, Chapter 3, The GEM-Desktop.**

The Keyboard

The computer 94-key keyboard is similar to a conventional typewriter keyboard in its basic design and function. For example, [Return] acts like the carriage return lever (or key) on a typewriter. Pressing [Return] moves the cursor down the screen.

Most keys automatically repeat when held down. (For information on changing the rate of automatic repeat, see **Control Panel** in **Part II: Using the Desktop,**

Chapter 4, A Guided Tour of the Desktop.
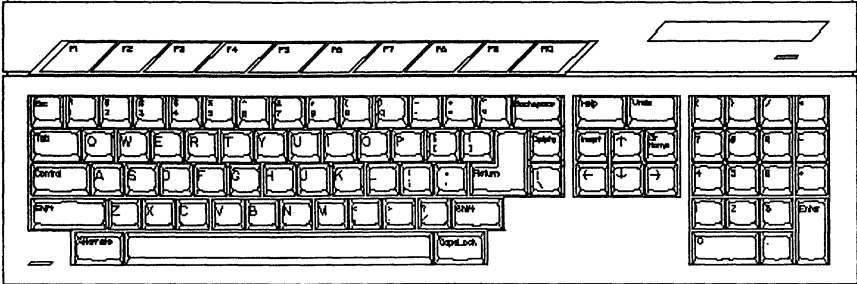
Figure 2-1. The Keyboard

The alphanumeric keys (letters, numbers, and symbols) have the same function as similar keys on a typewriter. For example, pressing [S] produces *s* and pressing [Shift] [S] produces *S*. Pressing [Caps Lock] toggles (switches back and forth) between upper and lower case letters.

There are several keys on the computer's keyboard that perform special functions not found on a typewriter.

For example, you can use [Control], [Alt], and [Shift] in conjunction with some other key to produce a secondary function or code. To do so, you hold down one or more of these keys while pressing the other key (like using SHIFT on a typewriter).

Along the top of the keyboard are ten function keys labeled F1 through F10. Software applications often assign special functions to these keys.

The four arrow keys move the cursor in the direction indicated by the arrow. The cursor is a movable graphic screen symbol (often an arrow, block, or vertical line) that marks where the next action takes place.

Note: The presence of a text cursor indicates that the computer is ready for you to type something.

The numeric keypad is an alternate method for entering numbers and math symbols, producing the same effect as typing the number or symbol from the keyboard. [Enter] acts as [Return].

The Floppy Disk Drive

Your computer's high-density floppy disk drive is format-compatible with MS-DOS version 3.2 and later. This section teaches you how to use the floppy disk drive.

Formatting a Floppy Disk

You must format a new floppy disk before you can store programs and data on the disk. Formatting prepares a floppy disk by completely erasing the disk's contents, checking for damage to the magnetic media, and setting patterns in place to hold information.

Floppy disks formatted by your computer are format compatible with MS-DOS computers. This means information written to a floppy disk formatted on your computer can be read by MS-DOS computers and vice versa.

The Falcon030's high-density floppy disk drive can use high-density, double-sided, or single-sided disks. However, a single-sided disk should not be formatted as double-sided disk, and a double-sided disk should not be formatted as high-

density disk. Disks used for densities or storage beyond
their rating are not dependable.

You can reformat previously used floppy disks. Since formatting erases all
information on a disk, it is sometimes more efficient to reformat a floppy disk
than to delete all of a floppy disk's files. However, do not format a disk one way
and then reformat it a different way later.

*Caution: Formatting a floppy disk permanently erases all information on the
disk. Before you format any floppy disk, be sure to copy any data you want to
save.*

Use the following steps to format a disk.

1. Start the computer. After the screen displays the desktop, insert the floppy disk into
   the floppy disk drive.

2. Select the **Format Floppy Disk** command from the File menu. The
   Copy/Format dialog box appears.

   *Note: Both the Copy and Format operations are combined in one dialog box
   so you can format and then copy disks without returning to the desktop after
   formatting. If you select the Format option and decide to copy a disk
   instead, click on COPY. You can also click on FORMAT after initiating a
   disk copy operation if you must format a disk first.*

3. If you wish the disk to have a label, type in the label. Select a density setting,
   depending on how you want to format the disk.

4. Select **OK**. The floppy disk drive begins formatting the disk. The indicator bar
   displays formatting progress.

5. When the formatting is completed, an alert message displays the disks formatted
   capacity in bytes.

> *Caution: If the formatted disk does not have a reported capacity of 1,458,176 bytes (high-density), 726,016 bytes (double-sided), or 357,376 bytes (single-sided), the disk may be defective. If this is the case, try formatting the disk again. If the problem persists, discard the bad disk and use another disk.*

6. To return to the desktop, select **Cancel**. Or repeat the formatting process with another blank, unformatted floppy disk.

> *Note: If you try to use a disk without first formatting it, the computer displays an alert box. The alert box tells you that the disk drive is not responding, and to please check the disk drive, or insert a correctly formatted disk into the drive. Then you must select Retry (with a formatted disk) or Cancel to tell the drive whether or not to attempt to read that disk.*

Write-Protecting a Floppy Disk

Write-protecting a floppy disk prevents information from stored on the magnetic media.

Most floppy disks have a small write-protect tab in their plastic casing. You cannot write to, format, or erase a write-protected disk. It is a good idea to write-protect disks containing important information so you do not inadvertently erase information from the disk, especially when copying disks with a one-drive system. You can move the write-protect tab back to the unprotected position at any time.

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

Part II: Using the Desktop

3 The GEM Desktop

Basic Desktop Skills

Using the Desktop is easy. The following information and tutorials will help familiarize you with the elements of the desktop. Readers already familiar with TOS's basic desktop applications may wish to skip directly to **Chapter 4, A Guided Tour of the Desktop.**

Most of the basic desktop tasks, such as selecting an item, or opening a window, etc., are easiest to accomplish when using the mouse. If you are not currently using a mouse, see **Controlling the Pointer Using Keystroke Combinations,** later in this chapter. Afterwards, return to this section and substitute the references to the mouse with the appropriate keystroke combinations.

Note: Before going any further place the Language disk, or your working copy of the Language disk, in drive A.

Using the Mouse

Using the mouse, you can move the pointer anywhere on the desktop. In addition to moving the pointer, the mouse allows you to do basic desktop tasks, such as selecting, moving, and copying.

Holding the Mouse

Place your hand over the mouse. Gently grasp the mouse between your thumb and outer fingers. If you're left-handed, you'll probably want to rest your middle finger on the left mouse button. If you are right handed, your index finger should rest on the left mouse button. If neither of these positions feels right, then choose a position that is comfortable for you.

There are several techniques involved in using the mouse. By mastering these few simple techniques, you can easily do basic desktop tasks.

Moving the Pointer

The first basic task you need to learn is how to move the pointer. Moving the pointer is easy. Just move the mouse and the pointer will follow. You'll find that you can move the pointer across the entire screen by rolling the mouse over a small surface area.

Selecting

Selecting an item tells the computer you want to use the it. When an item is selected it highlights, which means it displays on the desktop in different colors from your normal desktop colors. You can select one item or a group of items. Both procedures are discussed in the sections that follow.

Selecting an Icon

There are two types of icons: desktop icons and window icons. Desktop icons include floppy and hard disk drive icons, printer and cartridge icons, and the trash can icon. Window icons include folder and file icons (which can be displayed as either text or icons).

Take a moment to practice selecting an icon. Move the pointer over the drive A icon. Then, click the left mouse button once (this is called single-clicking). If you've done it right, the drive A icon is selected, and appears highlighted. Move the pointer away from the icon, and click on an empty area on the desktop to deselect the icon.

Single-clicking and Double-clicking

Single-clicking selects and highlights. You have already used single-clicking to highlight the drive A icon. Double-clicking combines two single-click actions in quick succession to both select and start a process, such as opening a file or directory.

*Note: Use the Control Panel to adjust the responsiveness of the left mouse button to your clicking speed. For more information, refer to **Control Panel** in **Chapter 4, A Guided Tour of the Desktop.***

Now practice double-clicking. Move the pointer over the drive A icon. Double-click on the icon and the drive A directory appears in a window on the screen. To close the directory, click on the Close button in the upper left corner of the window. For more information on the Close button, see **Windows,** later in this chapter.

Dragging

Dragging with the mouse is easy. All you need to do is select an item and move the mouse while holding down the left mouse button. The selected object(s) follow the movement of the mouse.

When you've dragged the objects to the desired location, release the left mouse button to end the process. You need to drag to perform copy, move, or delete operations.

If you drag a file icon or icons to a new destination and release the left mouse button, the associated file or files will be copied, moved, or deleted, depending on the operation performed.

Dragging an Icon

When you drag icons from one location to another, a ghost outline of all selected icons follows the pointer from the original location to the destination. The pointer shape also changes from a pointer to an outline of a hand until you release the left mouse button.

Practice dragging an icon now by moving the desktop icons into different configurations. If you accidentally drag one icon on top of another icon, a special window called a dialog box will display. Select **Cancel**. The dialog box disappears, and the moved icon returns to the position it occupied before you moved it.

Selecting Multiple Icons

Sometimes you want to select more than one icon at a time to perform delete, copy, move, or other operations. There are two ways to select multiple icons.

The first way is using the rubber-band box to select icons that are grouped together on the desktop or in a window.

Use the pointer to create a box on the screen around the icons you wish to select. The box is called a rubber-band box, because it expands or contracts when you drag the pointer.

You can use shift-clicking to select multiple icons individually instead of having to select items that are physically grouped together. The selected icons do not have to be in sequence on a list, or near each other on the desktop. Both methods of selecting multiple icons can be used on desktop or window icons.

Using the Rubber-band Box

Whenever you drag the pointer, a rubber-band box appears on the screen. The first corner of the rubber-band box is created wherever the pointer is positioned on the screen. The box expands in the direction of pointer movement.

Follow these steps to practice selecting multiple icons with the rubber band box:

1. Position the pointer above and to the left of the drive A icon. Try not to touch the nearby menu heading. If the menu drops down, just retract the menu and try again.

2. Now drag the pointer down and to the right. The rubber-band box appears and expands with the pointer.

3. Surround the drive A and icon with the rubber-band box. Release the pointer. The icon highlights.

4. Move the pointer to a clear area of the desktop and click the left mouse button to deselect the icons.

Using Shift-clicking

Shift-clicking lets you select multiple items that are not next to each other on the desktop, or in sequence in a window.

To practice selecting by shift-clicking, use the following steps to select the drive A and B icons:

1. First, select the drive A icon.

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2. Now hold down [Shift] and position the pointer over the drive B icon. Click the left mouse button. Both the drive A and drive B icons are now highlighted.

Note: You must hold down [Shift] until all desired icons are selected. Once you release [Shift], no further icons can be added to the selected group. If you attempt to select an icon after you release [Shift], all previously selected icons will be deselected.

3. Move the pointer to a clear area of the desktop and click the left mouse button to deselect the icons.

Combining Rubber-banding and Shift-clicking

You can combine rubber-banding and shift-clicking to select a group of icons, then deselect any icons you don't want in the group.

Follow these steps to practice combining the two methods of selecting multiple icons:

1. First, use rubber-banding to select both drive icons.

2. Now use shift-clicking to deselect the drive A icon. Only the drive B icon is highlighted.

3. Use shift-clicking to reselect the drive A icon. Both icons are again highlighted.

4. Move the pointer to a clear area of the desktop and click the mouse button to deselect the icons.

Controlling the Pointer with Keystroke Combinations

You can control the pointer, move, select, copy, etc., using keystroke combinations instead of the mouse.

To use keystroke combinations, hold down the first key listed and press the second key (or if three keys are listed, hold down the first two keys and press the third key).

*Note: Refer to **Appendix A, Pointer Control and Quick Reference,** for a quick reference chart listing the keystrokes for controlling the pointer.*

Moving the Pointer with Keystrokes

Your screen is divided into tiny sections or pixels. When you use keystroke combinations to move the pointer, the pointer moves either one pixel at a time or in multiple pixel jumps. [Alt] [Shift] combined with any arrow key moves the pointer one pixel in the direction of the arrow. Use this combination for fine positioning.

Selecting with Keystrokes

Using the keystroke combination [Alt] [Insert] performs the same function as clicking the left mouse button. To perform a keystroke double-click, hold down [Alt] and quickly press [Insert] twice.

Follow these instructions to practice selecting and initiating a procedure using keystroke combinations:

1. Position the pointer over the drive A icon.

2. Press [Alt] [Insert]. The drive A icon highlights. You have selected the drive A icon. Now move the pointer to an open area of the desktop and press [Alt] [Insert] again to deselect the drive A icon.

3. To practice keystroke double clicking (selecting and opening the drive A window in one maneuver), reposition the pointer over the drive A icon. Hold down [Alt] and quickly press [Insert] twice. A window opens and displays the contents of the disk in drive A.

4. To close the open window, position the pointer over the small box in the upper left hand corner of the window and press [Alt] [Insert]. The window closes.

Dragging with Keystrokes

To drag with keystroke combinations, press [Alt] [Insert] combined with any arrow key to drag a selected icon or group of icons in the direction of the arrow. The pointer must be positioned over the selected icon or group of icons for successful dragging.

Windows

Most of the desktop activity takes place in windows. Windows are small screens within the larger screen display. There are two types of windows, general program windows and desktop windows. The basic difference is that desktop windows display more information than general windows. Figure 3-1, below, is an example of a desktop window.
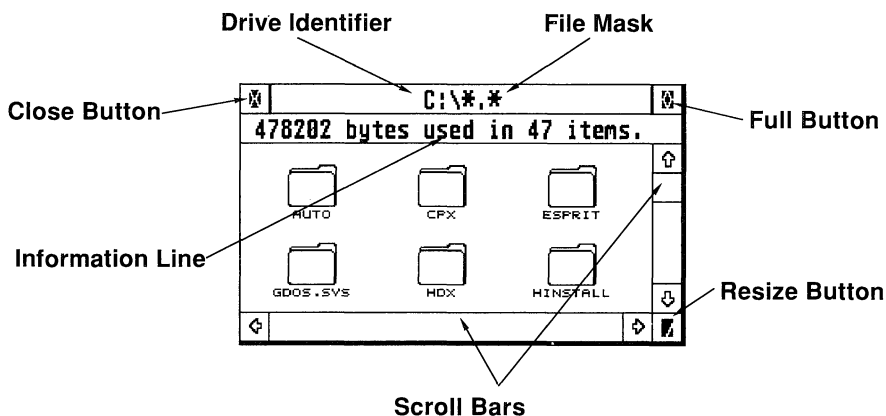
Figure 3-1. Window Elements

The *Drive Identifier* appears in the center of a window's move bar. It shows the drive letter of the open drive, in this case hard disk drive C.

The *File Mask tells* you what type of files are displayed in the window. You can set the File Mask to display all the files in a directory, or you can set up restrictions on the types of files displayed. The window displays an icon for each folder in the directory, and for every file in the directory that matches the file mask setting. For more detailed information on setting the File Mask, see **Set File Mask** in **Chapter 4, A Guided Tour of the Desktop.**

The *Information Line* displays the Bytes Used (total number of bytes of disk space used by the contents of the directory), and Items (the number of files and folders residing within the directory). If some items are selected, the numbers refer only to the selected items. The other elements of a window are explained in the following tutorial sections.

On the right and bottom sides of the window there are *scroll bars* that allow you to view portions of the windows contents, when all of the contents are not visible.

There are several buttons for controlling the window. The *Close button* closes the window when you click on it. The *Full button* resizes the window so that it uses the full screen. The *Resize button* allows you to drag a window to size.

Opening and Closing a Window

Directory windows can be opened in several ways by using the pointer and left mouse button. You can practice opening a window now. First, make sure the Language disk is in drive A, then double click on the drive A icon.

You have opened a window by double clicking on a desktop icon. The contents of the Language disk now appear in the drive A directory window.

Note: If the drive A icon highlights but the window does not open, the computer has not recognized your click as a double-click, but only as a single-click. Move the pointer to a clear area of the desktop and click once to deselect the icon. Try again, and remember that double clicking can be a bit tricky at first. Just keep practicing.

Leave the drive A directory window open for now; you will use it in the next exercise.

Scrolling a Window

Sometimes a single directory contains too many items to display in a window at one time. When this occurs, some directory items remain undisplayed, or hidden. You can view the hidden items by using the scroll bars.

The scroll bars along the bottom and right edges of the window let you scroll the window horizontally (right and left) or vertically (up and down).

If a directory contains more items than will fit in the window, a portion of the scroll bar will be shaded. The scroll box shows the current position and size of the window relative to the total directory display. If there is shaded area above or below the scroll box, more of the directory is available by scrolling the window in the direction of the shaded area.

Practice scrolling a window. Use the drive A directory window that is still open. For this exercise, use the scroll bars to find LINES.PRG, a program that you will be using in the next exercise.

Scroll by positioning the pointer over the scroll arrow that indicates the direction of the hidden contents. Click once. Now click once on the opposite arrow to return to the original window display. The contents of the window scroll by one space.

Now scroll, one window display at a time, by positioning the pointer over the shaded area of the scroll bar. Click once. The previously displayed items are now

hidden, and the screen displays previously hidden items.

Note: You can also scroll using the up and down arrow keys to the right of the main keyboard.

Try scrolling entries continuously by positioning the pointer over the scroll arrow that indicates hidden items. Hold down the left mouse button.

Note: You can also skip over some of a directory's contents by dragging the scroll box to a new position in the scroll bar. The window now displays the contents of that portion of the directory.

When you have found LINES.PRG, leave the window open and go on to the next exercise.

Sizing a Window

Sizing a window is especially useful when you want to display more than one window on the desktop at a time. Practice sizing a window by first opening the program LINES.PRG using the techniques you have already learned.

The Lines program displays a group of lines moving across the screen. When you open LINES.PRG it uses the full window. So you can practice resizing a window by reducing the size of the Lines window.

First find the size box in the lower right corner of the window. Move the pointer over the size box and use dragging to move the size box up and to the left. An outline of the window follows the pointer movement. Release the left mouse button when the window outline is about half of the original window size.

Then locate and select the Full button in the upper right corner of the screen. Selecting the full box expands a window to fill the entire screen.

Just for fun, take a moment to explore the Lines program. Press [Clr Home] and you will see the group of lines reduced to a single object. The lines are now erasing themselves as they go along. Pressing [Clr Home] toggles the erase mode on and off.

You can increase or decrease the line segments of the object by pressing a number key on the keypad. Try pressing the number keys until you find a shape that you like.

There are other ways of controlling the Lines program, which you will learn about later.

If you select the Full box again. The window returns to the most recent size and position. Continue to practice sizing the window. Drag the size box down towards the bottom of the screen to lengthen the window, up to shorten the window, right to widen it, or left to narrow it. When you have finished practicing, leave the window open for the next exercise.

Moving a Window

You can use the move bar to move a window to any screen position below the menu bar.

First, position the pointer over the shaded move bar. Drag the window to a new position on the screen, then release the mouse button. The window displays in its new position.

Let's work with the Lines program some more. Start with the shape you made in the previous exercise. Now add more shapes by pressing [*] on the keypad. If you want fewer shapes press [/]. Finally, press [+] to bring the shapes closer together, or press [-] to split the shapes further apart. Press [Clr Home] if you want Lines to erase the lines as they move along. When you're done, close the Lines window by clicking on the Close box.

The Top Window

When you have more than one window open at a time, the window in front is the top window. You can identify which window is the top window by looking at the move bar. Only the top window's move bar is shaded.

Make any window the top window by positioning the pointer anywhere on the window and clicking the left mouse button.

Open windows may overlap. If they do, the top window is always completely displayed. Top a partly hidden, bottom window by positioning the pointer anywhere on the window and clicking the left mouse button. The bottom window moves to the front of the other windows.

Menus and Pop-ups

Menus and pop-ups allow you to select different options on the desktop or in the Control Panel CPXs. Menus, which display a full range of choices, usually drop down from the menu bar. If you select an item from a menu, a checkmark appears beside the item. Pop-ups are smaller, more specific menus activated by buttons.

Opening a Menu

Each menu heading on the menu bar has its own drop-down menu. If you move the pointer onto the menu bar near one of the headings that menu immediately drops down and displays its command options. Moving the pointer away from the dropped menu to another menu heading causes the new menu to drop down, and the previously displayed menu to retract.

Note: A drop-down menu may have both active and inactive options. Active options are in regular text and produce an action when selected. Inactive options appear as lightened text. Selecting an inactive option causes the menu to retract. Options with a check mark to the left of them are currently selected.

To retract a menu without selecting a command option, move the pointer outside the menu and click on the desktop.

Opening a Pop-up

Pop-ups appear as shadowed buttons when closed, and menus when open.
To open a pop-up, click on a shadowed (pop-up) button with the mouse. A pop-up will appear with a list of selectable items. The currently selected item is indicated by a checkmark. Clicking on any item selects that item. Clicking once more on the selected item closes the pop-up. When you close a pop-up, the current selection appears on the shadowed button.

4 A Guided Tour of the Desktop

The Menu Bar

The top edge of the desktop contains the menu bar. The menu headings are Desk, File, View, and Options. To see the commands within any menu heading, position the pointer over the menu heading. The heading highlights and the menu displays under the selected heading.

When the menu displays you can select an option. Options in black text are active and available for use. Options in light text are inactive. Inactive options are not available for use at the time you display the menu. (See the specific option later in this chapter for more information.)

Most of the commands listed under the menu headings can be selected by using a single keystroke. Each command's keystroke is listed in brackets to the right of the command name. To initiate the command, just press the key indicated. It saves a lot of time if you memorize the keystrokes for the commands you use frequently. You can change the assigned keystroke of a command, or assign a keystroke to a command that does not have one. (Refer to **Desktop Configuration** in this chapter.)

Desk Menu

The Desk menu is divided into sections of selectable menu items. The upper section displays the name of the application you are currently using. Selecting this menu item displays information about the application.

The lower section contains a list selectable menu items that allow you to access desk accessories, such as the Control Panel.

Note: Desk accessories are automatically loaded each time you start up the system. Switching on the computer without active desk accessories frees some RAM and displays the desktop faster.

Following is a detailed description of the different sections of the Desk menu:

Desktop Info

When you display the Desk menu from the desktop, the top section of the menu lists the Desktop Info option. If you select **Desktop Info**, a window listing GEM and MultiTOS copyright data displays.

Control Panel

The Control Panel accessory (XCONTROL.ACC) allows you to modify your system's setup even while your working inside another program. For detailed information on the Control Panel, see **Control Panel** in **Desk accessories,** later in this chapter.

File Menu

The File menu contains options for opening and closing directory windows, selecting all displayed files and folders for an operation, deleting a file or folder, creating a folder, formatting disks, and more. This section explains in detail each File menu option.

Open

The Open command can be performed on a disk icon, cartridge icon, folder, file, or printer icon.

First select the item you wish to open. Then select **Open** from the File menu. The result of the command depends upon which icon is highlighted:

Disk icon or folder The disk or folder directory window appears.

Cartridge icon (drive c) or executable file. The desktop disappears and the program runs.

Printer icon An alert box, which informs you that the icon you attempted to open is a printing device, appears.

Data file If you have installed an application that is linked to the same document type as the data file you are opening, the application automatically opens and loads the data file. If no such application is installed, a dialog box displays, giving you the choices **Show**, **Print**, or **Cancel**. Show displays the contents of the file on the screen as ASCII characters. Print outputs the contents of the file to a printer (if you have a printer connected to your system), and Cancel cancels the command.

Note: An alternative to using the Open menu command is to position the pointer over the icon you wish to open and double-click the left mouse button.

Show Information

When you highlight a floppy disk, logical drive, folder, or file icon and select the **Show Info** option, the screen displays information about the highlighted item.

When you select **Show Info** for a floppy disk or logical drive icon, the Disk Information dialog box displays the following information:

Drive ID The drive's letter identifier.

Disk Label The name you assigned to the drive. (This field may be blank.)

Number of Folders The total number of folders on the disk or logical drive, including folders within folders.

Number of Files The total number of files on the disk or logical drive, including files within folders.

Bytes used The number of bytes used by all files and folders on the disk or logical drive.

Bytes available The available storage space (measured in bytes) left on the disk.

Note: In the Disk Information dialog box, the number of bytes used plus the number of bytes available for a floppy disk or logical drive does not always equal the exact total storage capacity. This is because the computer allocates space for each file in fixed-size blocks, even if the file does not completely fill the last block. The Bytes Available information is an accurate indicator of available unused storage space.

When you select **Show Info** for a file or folder, the File Information dialog box or Folder Information dialog box displays the following information:

Path The top line lists the complete path of the file or folder. If the path is too long to display on the line, you can use the scroll arrows to reveal the hidden part of the pathname.

Name The name of the folder or file. The text insertion cursor appears to the right of the name.

To change the name of a file or folder, press [Esc] to clear the name line. Type in the new name, using eight characters or less. Type a period, then the three character file extension (usually not used in folder names).

Size Size, in bytes of the file or folder. Folder size is the total number of bytes used by all the files within the folder.

Date The date the file or folder was last modified.

Time The time the file or folder was last modified.

Number of Folders The number of folders within the folder. This only applies to folders.

Number of Files The total number of files within the folder, including files within other folders.

Attribute The two choices are Read Only, and Read/Write. If you want to make sure a file remains intact and no changes are made to it, select **Read Only**. You will still be able to display and copy the file, but you cannot modify or delete it. Read/Write allows you to read the file, change it, or delete it. The Attribute field does not apply to folders.

Search

The Search command performs a file search on a floppy disk, logical drive, or folder. When you select **Search**, the Search File dialog box appears.

You must set the parameters of the search by typing in the name of the file for which you are searching. You can also type in part of a filename, and Search matches the typed characters. For example, if you wish to search for all files with the extension .DOC, type a period, then type DOC. Search opens the window containing the first .DOC file it finds and asks you if it should continue the search. If you select **OK**, Search will use the same window to show the next .DOC file, and so on.

When Search can find no more .DOC files, an alert box displays to let you know that no more files are to be found.

Before selecting **Search**, you should highlight the floppy disk, logical drive, or folder upon which you wish the search performed. If no item is highlighted, Search will perform the command upon the active window. If there is no open window on the desktop and no highlighted item, you cannot select **Search** from the menu.

Note: The Search dialog box may cover highlighted icons. Since the files found by Search are highlighted, the window information line displays the number of matches.

Delete

The Delete command deletes all highlighted files and folders. If you highlight a floppy disk or logical drive icon and select **Delete**, all files and folders contained on the corresponding drive will be deleted.

Create Folder

The Create Folder command creates a new folder in the active window. When you select this command, the New Folder dialog box appears. Type in a name for the folder, then select **OK** (or press [Return]). The name of the new folder appears in the directory window.

Note: Certain characters cannot be used within a folder name or extension.
*For a list of illegal characters, see **Files and Filenames** in **Chapter 5, Desktop***
Management.

Close Directory

The Close Directory command closes the top level of the active window. For
example, let's say the top window is a folder window, and that folder resides in
the main directory of drive C. When you select **Close Directory**, the folder's
window closes, and the main directory window displays.

Note: You can also close a directory by selecting the close box in the window's
upper left corner.

Close Top Window

The Close Top Window command completely closes the top window, including
all levels of folder windows and the main directory window. If windows from
other floppy disks or logical drives are open on the desktop, the most recently
opened window becomes the active window.

Bottom to Top

The Bottom to Top command is useful when you have multiple, overlapping
windows displayed on the desktop. When you select this command, Bottom to
Top brings the bottom window to the top of the stack and displays it as the active
window. The current top window is sent to the bottom of the stack.

Select All Items

The Select All Items command selects all files and folders in the top window (see
Note). The files and folders that are hidden, but would be shown by scrolling, are
also selected. However, files that are in the directory but do not match the file
mask parameters are not selected. (See **Set File Mask** in this chapter.)

Note: If the File Mask is *.* (show all items), then all items, including all folders, are selected.

Set File Mask

The Set File Mask command allows you to choose the file type to be displayed in the active window. When you select this command, the Set File Mask dialog box appears. You must fill in the file type parameters, both file name and file extension.

For example, if you want only those files beginning with the letters DESK to appear in the directory list, you would press escape to clear the Name line. Then you would type DESK*.* and select **OK**. The first asterisk after the word DESK means that any file with characters in the filename following the letters DESK should be displayed. The asterisk is known as a wild card character. (See **File Specification** in this chapter). The period is the separation between the filename and the file extension. The second asterisk means any file with a filename that meets the parameters should be displayed no matter what extension the file has. Setting the file mask as described here would display files with different filenames and extensions, such as DESKTOP.INF and DESKACC.DOC, as long as the filename begins with the characters DESK.

The default file mask parameter is an asterisk for the filename and an asterisk for the extension. This means all files are displayed.

Note: Although all folders are visible during a file mask, you can use a file mask to select folders with the same extension.

The parameters selected for the open window remain in effect as long as the window remains open. Once you close the window, the parameters you chose are cleared.

Format Floppy Disk

Formatting prepares floppy disks to accept data. You can format disks as either single-sided, double-sided, or high-density. Used disks can be reformatted.

All disks formatted with TOS are compatible with MS-DOS version 3.2 or later.

To format a floppy disk, insert the disk into a floppy disk drive. Select the floppy disk icon, then select **Format**. For complete information on formatting disks, see **Formatting a Floppy Disk** in **Chapter 2, Using Your Computer.**

View Menu

The View menu lets you choose the way your computer displays files and folders.

You can view files and folders as icons or text. You can display those filenames alphabetically by name (filename or extension), or numerically by date or file size. To modify the display, select the menu option you want. A check next to a option indicates that option is selected.

Options selected from the View menu affect all directory windows. You cannot select one option for one window and a different option for another window.

*Note: When you save your desktop, TOS saves all the View menu choices you made to the NEWDESK.INF file on your startup drive. (See **Save Desktop** in this chapter.)*

Show as Icons or Show as Text

The same directory, with entries displayed both as icons and as text, is shown in the following example.
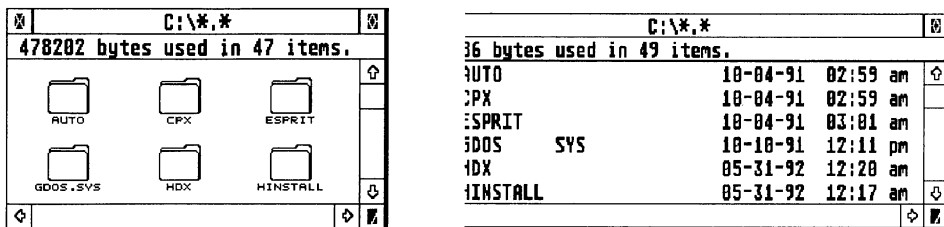
Figure 4-1. Icons and Text

When directory entries are shown as icons, different icons indicate different types of files or folders. The window displays icons in horizontal rows across the desktop. You can choose the shape of desktop and window icons. See **Install Icon** in this chapter.

When directory entries are shown as text, the window displays the filename, file size, and the date and time the file was last modified. A square icon to the left of a filename indicates a folder. The window displays files and folders as vertical text.

Note: A triangle symbol appearing next to a file name indicates a read-only file.

Files and folders displayed as text may be opened, copied, and deleted using the same procedure used with icons.

Sorting by Name/Date/Size/Type

It is sometimes necessary for you to have a list of your files and folders presented in a certain order.

Folders as a group are always listed first, followed by files (Except with the No Sort Option). You can sort your files and folders in the following ways:

Sort by Name Displays files and folders alphabetically.

Sort by Date Displays files and folders chronologically. The most recently created or revised file or folder appears first.

Sort by Type Lists files alphabetically according to their extension type. Files with common extensions are grouped together in alphabetical order by filename.

Sort by Size List files in descending order according to their size.

No sort List files and folders according to the order in which a program would recognize them.

Size to Fit

When you select **Size To Fit**, all items are displayed in horizontal rows starting at the top of the window. Each row is only as wide as the window and will automatically rearrange whenever the window is resized.

Set Color and Style

Set color and style allows you to create a unique desktop environment. You can use Set Color and Style to choose a color and/or fill pattern for both your desktop and for opened windows. When you select **Set Color and Style**, the Set Color and Style dialog box appears.

Note: To modify the window display, the Window box must first be highlighted.

To modify your desktop environment, follow these steps:

1. Highlight the Desktop box.

2. Position the pointer over the solid black Style square and click once.

3. To select a color, position your pointer over the desired color on the color palette and click once. The color displays in the Preview Box. (If you are using a monochrome monitor, position your pointer anywhere on the black section of the color palette and click once.)

4. To select a fill pattern, position your pointer over the desired fill pattern and click once. The fill pattern displays over the color in the Preview Box.

5. Next highlight the Window box and repeat Steps 2 through 4 to modify your window display.

6. Select **OK** to select the chosen options and exit Set Color and Style.

Options Menu

The Options menu includes commands that allow you to save your desktop configuration, install icons, applications, and devices, and print what is displayed on your screen. You can use the Set Preferences option under the Options menu to switch confirmation dialog boxes on or off and set your screen resolution.

Note: When you save your desktop,TOS saves all the Options menu choices you made to the NEWDESK.INF file on your startup disk. (See Save Desktop in this chapter.) Use Save Desktop to save changes made with Options menu commands.

Install Icon

Install Icon allows you to choose the shape of your window and desktop icons. The DESKICON.RSC file on your C drive or floppy startup disk contains a collection of icon shapes. You access this file through Install Icon. Choose from a variety of icons to create an interesting and entertaining desktop.

You can also use Install Icon to change a floppy disk's or logical drive's icon identifier and icon label.

When you select **Install Icon** from the Options menu, the select icon type dialog box displays. You can select either **Desktop** or **Window**. Desktop icons are: device icons (printer, floppy disk drive, logical drive, and cartridge), and the trash can icon. Window icons are folder and file icons.

Desktop Icon

To install a single desktop icon, follow these steps:

1. If you are installing a floppy disk or logical drive icon, type the drive identifier letter. Press [Tab].

2. Type in the name of the floppy disk or logical drive. You can use up to 12 characters. This step is optional; you do not have to assign labels (names) to your desktop icons.

3. Position your pointer over the type of icon you wish to install: Drive, Trash Can, or Printer (see **Using an Installed Printer Icon** later in this section). Click the left mouse button once.

4. Use the scroll arrows to scroll through your icon choices. When the desired icon displays, select **OK** to install. The icon appears on your desktop.

Use the following steps to assign an icon shape to a group of desktop items:

1. From the desktop, use rubber-banding and/or shift-clicking to highlight the group of desktop items.

2. Select **Install Icon** from the Options menu. The Install Desktop Icon dialog box displays. The drive identifier, icon label, and currently assigned icon shape of the first selected desktop item appears in the dialog box.

3. If the Drive box is not highlighted, position your pointer over the Drive box and click the left mouse button once.

4. Use the scroll arrows to display the desired icon shape. To assign that icon shape to the first of the selected group of items, select **OK**. The second item of the selected group displays in the dialog box.

Note: If you do not wish to assign a new icon shape to an item in the selected group, select Skip when that item displays in the dialog box. That item retains its current icon shape.

When you finish selecting the final item in the group, the dialog box disappears. The new icons for all selected items appear on your desktop.

Window Icon

There are two ways in which a window displays items: text and icons. You can assign icon shapes to window items that are currently displayed as text, but the assigned icon shapes will not display until Show as Icons (under the View menu) is selected.

You can assign icon shapes to: a single window item (file or folder), a group of window items, or a specific file type.

To assign an icon shape to a single window item (file or folder), or a group of window items, follow these steps:

1. Open the window containing the desired window items. Highlight a single displayed window item or use rubber-banding to highlight a group of displayed window items.

2. Select **Install Icon** from the Options menu.

The Install Window Icons dialog box displays. The name of the first selected desktop item appears in the dialog box. Either the File or Folder box is highlighted, designating the type of item displayed, and the icon currently assigned to the item is displayed.

3. Use the scroll arrows to scroll through your icon choices. When the desired icon displays, select **Install** to assign the icon shape to the displayed item. The name of the selected group's second item displays in the dialog box, along with that item's current icon.

Note: If you do not wish to assign a new icon shape to an item in the selected group, select Skip when that item's name and current icon displays in the dialog box. That item retains its current icon shape. If you wish to remove the item's currently assigned icon shape, select Remove. The default icon shape for that item type is automatically assigned to that item.

When you have completed the selection process for the final item in the selected group, the dialog box disappears. The new icons for all selected items appear in the window.

You can also assign an icon shape to a file type. After setting the parameters to define the file type, all the files that match the selected parameters will be assigned the specified icon shape. Select the parameters the same way you would set a file mask, typing in the parameters on the Name line of the Install Window Icons dialog box. (See **Set File Mask** in this chapter.)

To assign an icon shape to a specific file extension, follow these steps:

1. With a window open, select **Install Icon** from the Options menu. Select the Window box from the dialog box. The Install Window Icons dialog box displays.

2. Type *. followed by the extension (for example, *.FNT).

3. Use the scroll arrows to display the desired icon shape. To assign that icon shape to the files matching the specified parameters, select **Install**. The dialog box disappears. All files that match the selected parameters will be represented by the selected icon.

Changing the Icon Identifier and Label

To enter a new icon identifier and label for an icon, follow these steps:

1. Highlight the icon you wish to change. Select **Install Icon** from the Options menu. The Install Icon dialog box appears.

2. Type the new Icon identifier letter and press [Tab]. If you wish to retain the current drive identifier, press [Tab] to move the text insertion cursor to the Icon Label line.

   Note: The letters A and B are reserved for floppy disks, and the lowercase letter c is reserved for the cartridge slot. Uppercase letters C through P represent logical drives.

3. Press [Esc] to clear the Icon Label line. Type in the new icon label. You can use up to 12 characters. Select **OK**.

Using an Installed Printer Icon

An installed printer icon helps you print files in the same way as the Print command of the Show/Print dialog box (see **Opening a Data File in Chapter 5, Desktop Management.**).

Drag and position the desired files over the printer icon. If you have a printer properly connected to your system, the information from the file is sent to the printer. (Some files may print only coded or incomplete information.)

After installing a printer icon, use **Save Desktop** to save the installation. The next time you switch on your system, the printer icon appears on your desktop.

Install Application

Using Install Application you can:

- Link an application to data files with a specified extension. You can then process those data files directly from a window, instead of opening the application first.

- Select an autoboot status for any application, so whenever you switch on your computer, the application opens automatically.

- Assign a function key to open any application.

- Specify what default directory to use for any application. The assigned default directory takes precedence over the defaults assigned by the Desktop Configurations.

- Specify a full path or a filename for an application. The specification takes precedence over the defaults assigned by the Desktop Configuration.

- Assign arguments to programs.

Arguments

When you open a program file, you are telling the computer to follow the instructions in that file. The instructions within the program file then take over and run the show until you exit from the program.

Sometimes you need to give the program additional information, such as what to do with a data file. This additional information is called an argument.

Most programs provide ways for the user to input arguments, such as an Open File command in a word processing program. In fact, if you input the name of an existing data file in the Arguments line, and you have your input parameters set in such a way that the program can find the file, the data file will open automatically when you open the word processing program.
But unless you work on one data file almost exclusively, other options such as linking an application to a data file type make arguments of this kind clumsy and unnecessary.

Arguments are used most often with utility programs. These programs often need complex additional instructions such as a code sequence to determine which part of RAM will be used to contain the program instructions. Detailed explanations of the arguments needed, and the correct syntax for those arguments, will be included in the program's documentation.

When you open the Install Application dialog box, the text insertion cursor is already on the Arguments line. Simply type in the arguments and press [Return]. Remember to use Save Desktop to save the argument, otherwise it will be erased when you switch off the computer.

Linking a Document Type to an Application

Normally, the only way you can process a data file is to first open an application that can work with the type of data contained in the file. Then you can open the data file from within the application.

If you attempt to open a data file directly from a window, a dialog box displays informing you that your options are to show or print the file, or cancel the request. You cannot edit the data in the file.

But you can use Install Application to link a data file type (determined by the three character file extension) to an application.

Choose the file type most commonly used by the application. After linking the application with the document type, the linked application automatically opens when you open the document.

Note: You must pay particular attention to assigning correct default directories and parameters to an application when linking a document type to an application. This is especially true when you open the application from its icon on the desktop. Refer to the application's documentation for detailed information on correct default directories and parameters.

To use Install Application to link an application to a data file type, follow these steps:

1. Display the window containing the application you wish to link to a document type. Highlight the desired application. Select **Install Application** from the Options menu. The name of the selected application appears in the Install Application dialog box.

   Note: You can select more than one application at once for this operation. Highlight all the applications you wish to install, then open the Install Application dialog box. After completing the operation on the first selected application, the name of the second selected application appears in the Install Application dialog box.

2. Press [Tab] to move the text insertion cursor to the Document type line. Type in the three character file extension of the file type you wish to link to the displayed application.

3. Select the appropriate Application type.

4. Choose a Default Directory and Parameter.

5. Select **Install** to enter the selected settings.

*Note: When installing multiple applications, selecting Skip causes Install
Application to skip˙over the application identified on the Application name line.
All the current settings are retained.*

Selecting a Default Directory

Every program that works with supporting files (e.g., resource files or help files)
needs a way to look for those files. Desktop Configurations tells your computer
which directory should be the default. This is where the program accesses files if
the program assumes that they are not installed.

Using Install Application to assign a default directory to a specific application
overrides the Desktop Configuration's assignment for that application.
 You can set the default directory to Top Window, or Application (the directory
in which the program resides).

Some programs do not look for files in any location other than the default
directory. For these programs, select **Top Window**, and make sure that the
program file and all supporting files are in the top window.

Selecting Parameters

Before an open application can use a data file, it must first find and open the file.
Most programs enable you to search through all existing directories to locate and
open a desired file.

These programs have no preconceived ideas about the location of files. For these
programs you would choose **Full Path**, so the entire pathname of the file is used
when a file is opened.

Other programs already have pre-existing partial paths. This means that the
program contains a partial pathname that it uses every time the program searches
for a file. A partial pathname consists of the drive identifier, and all applicable
directories. Only the file name and extension is input for the search. All files
must be in the specified directory, or they cannot be located.

Check your program's documentation to determine the program's default path, and make sure all of your data files reside in the correct directory.
Always try Full Path first. Then íf necessary, experiment with other combinations until you find one that works with your application.

Installing an Application to Open from a Function Keystroke

You can install any executable file (program) to open from a function key ([F1] through [F10] at the top of the keyboard).

After you assign a function key to a program, you only have to press the assigned function key to open that program. The assigned key will only open the program from the desktop. Once you are within an application, the function keys perform the tasks assigned to them by the application.

To assign a function key to open an application, follow these steps:

1. Highlight the application.

2. Select **Install Application** from the Options menu.

3. Press [Tab] twice to move the text insertion cursor to the Install as line.

4. Type the number of the function key you wish to assign to the application.

5. Select **Install**.

Installing an Application to Autoboot or Normal Boot Status

If you mainly use your computer for a single purpose using one specific application (such as a database, a word processor, or graphics program), it will save time if you install that application to autoboot. An application installed to autoboot status will open automatically whenever you switch on your computer.

Follow these instructions to install an application to autoboot or to return an application to normal status:

1. Highlight the icon or name of the application you wish to install to autoboot. Select **Install Application** from the Options menu. The Install Application dialog box displays.

2. Select the **Boot Status: Auto** box. (To restore normal boot status to an application installed to autoboot, select the **Boot Status: Normal** box.)

3. Select the appropriate Application type box.

4. Select **Install** or press [Return].

Remember to use **Save Desktop** to save the selected boot status, otherwise it will be erased when you switch off the computer.

Install Devices

The Install Devices command installs desktop icons for all hard disk partitions on all properly configured devices. It also installs a cartridge icon if a cartridge is in the cartridge slot during startup.

Use the following steps to install devices:

1. From the Options menu select **Install Devices**. Icons for all configured devices appear on your desktop. Each icon has a unique drive identifier letter, and each device icon is labeled DEVICE.

   *Note: You can change the shape of your desktop icons. See **Install Icon** in this chapter.*

2. Use the mouse to place the desktop icons where you want them to appear. Select **Save Desktop** from the Options menu. The Save Desktop Dialog box displays. Select **OK**.

The Save Desktop command saves your desktop configuration in a file called NEWDESK.INF. This file stores information about which icons have been installed and the location of each icon on the desktop. See **Save Desktop** in this chapter.

Remove Desktop Icon

If you wish to remove an icon from the desktop, follow these steps:

1. Highlight the icon you wish to remove.

2. Select **Remove Desktop Icon** from the Options menu. The icon disappears from the desktop.

Note: If the highlighted icon represents a data or application file, a dialog box displays and asks you whether you want to delete the file or just remove the icon.

Remember, the information stored on the logical drive represented by a removed hard disk icon is still on the hard disk. To regain access to that information, you can: reinstall a hard disk icon for that logical drive, or press [Alt] and the drive letter.

Set Preferences

The Set Preferences option lets you choose from a variety of different screen-color options.TOS automatically detects which modes are compatible with your monitor, and displays the available choices. TOS will not you select an incompatible screen-color mode. Set Preferences also lets you select monitor resolutions, and whether or not you wish to have alert boxes display during copy, move, delete, and file overwrite operations.

When you select **Set Preferences**, the Set Preferences dialog box appears.

The Set Preferences dialog box offers a full range of screen-color options for several types of monitors. Using the Set Preferences Dialog box allows you to choose a multitude of screen-colors and resolutions. Proper use of the settings described below will allow you to get the best display on your monitor.

Number of Colors Lets you choose between several different screen-color options. When choosing a setting remember that the screen takes longer to redraw when it displays more screen-colors.

Number of Columns Allows you to set the width of the screen display to 40 or 80 characters.

Double Lines/ Interlace Displays more lines on some displays and provides interlace on others.

Compatibility Modes Allows you to call up another dialog box which allows you to select from a list of several different screen resolutions and other options.

Read .INF File

You can have more than one desktop information file on your system, each containing different information (such as installed desktop icons and their placement, and all View and Options menu options). The Read .INF File command allows you to change to a different desktop environment without having to transfer files or reboot.

The default NEWDESK.INF file is in the root directory drive C. You can name the alternate desktop information files anything you like, but the three character extension must be .INF.

With the Read .INF File command, you instruct your Atari computer to read information from a specified alternate desktop information file.

Follow these steps to use the Read .INF File command:

1. Select **Read .INF File** from the Option menu. The Select an INF File dialog box displays.

2. Display and highlight the alternate desktop information file. Select **OK**, or press [Return]. The new information is read into your computer.

Note: If you wish to save the current NEWDESK.INF file before using the READ.INF command, simply change the name of the current file NEWDESK.INF file. This allows you to save your desktop without losing your current setup.

Desktop Configuration

With the Desktop Configuration dialog box you can set the default directory and input parameters for all applications, scroll through assigned function keys, and assign a single keystroke to various menu commands. The Desktop Configuration dialog box also displays the amount of RAM currently available.

Most applications use the default directory and input parameters displayed in the Desktop Configuration dialog box. The exceptions are applications that have been assigned their own specific default directory and input parameters through the Install Applications dialog box. You can find detailed information regarding setting the default directory and input parameters under **Install Applications** in this chapter.

You can use the Function-keys Assignment to display the full pathname of each program that has an assigned function key. Use the right and left scroll arrows to display hidden parts of the pathname, and the up and down arrow keys to scroll through the assigned function keys.

All menu commands can be assigned a keystroke. This enables you to bypass the menu bar and initiate the command by pressing a single key.

Use the Define Single Keystroke up and down arrows to scroll through the menu commands and their keystroke assignments. To change the keystroke of a displayed menu command, type in the desired keystroke. To clear all menu command keystroke assignments, select **Clear All**.

After making changes to the Desktop Configuration dialog box, select **OK** to confirm your choices. Use Save Desktop to save your selections, or they will be erased the next time you switch off your computer.

Save Desktop

You can rearrange the desktop icons and windows to suit your personal preferences and use the Save Desktop option to save the new arrangement. For example, you might want to move the trash can icon, line up the disk icons horizontally, or have the startup screen display several open directory windows.

Save Desktop also saves Option and View menu selections. The computer stores saved configurations and menu selections in a NEWDESK.INF file and places this file on your startup disk or hard disk drive root directory.

Arrange disk and trash can icons by dragging them to new positions on the desktop. You may want to close all windows first to start with a clean desktop.

How you arrange your desktop will depend on your needs, but it's usually a good idea to place the trash can icon away from the disk drive icons to protect against unintentionally dragging files to the trash can instead of to a disk or logical drive icon.

Arrange directory windows on the desktop by opening, moving, and sizing selected windows. You can have up to seven directory windows open at once on the desktop. Select options from the View menu to determine how window items (folders and files) are shown (as text or as icons) and sorted (by name, date, size, or type).

If you show window items as text, you may want to narrow the windows to show only the item's name and extension.

If you leave the windows open when you save the desktop, those windows will open to the same size and position the next time you switch on the computer. The window which is in the foreground when you save the desktop will be the foreground window the next time you switch on the computer.

The size and position of closed windows is also saved when you select **Save Desktop**. The next time you open the window, it will open to the size and position it occupied on the desktop the last time it was opened.

Desk Accessories

The Control Panel is a desk accessory that comes with your system. The following section describes the control panel and its uses.

The Control Panel

The Control Panel coordinates many smaller programs called control panel extensions (CPXs). The initial Control Panel screen displays the names of all currently loaded CPXs. You can open a CPX by positioning the pointer over the desired CPX and double clicking.

The Control Panel also contains a drop-down Options menu. When no CPX is highlighted, the Options menu displays two menu choices: About and Setup. Two additional Options menu choices display when a CPX name in the main Control Panel window is highlighted. The three additional options are Open CPX, CPX Info, and Unload CPX.

To select an option, position the pointer over the Options menu. Then click the mouse button. The Options menu displays. Move the pointer until the desired option highlights. Click the mouse button to select the highlighted option.

Whenever you open a Control Panel or CPX window, you are usually given the following options: Save, OK, or Cancel. Clicking on the close window box is the same as selecting **OK** and then closing the Control Panel.

Selecting **Save** places the currently displayed setting information in a file on the startup disk. Your Atari computer reads this file during startup and load in the saved settings. Select **OK** if you just wish to change a setting for one session. The Control Panel window closes, and the changes remain in effect only until you switch off your computer. The most recently saved settings will be in effect then next time you switch on the computer.

Selecting **Cancel** always returns you to the main Control Panel window.

About...

When you select **About**, Control Panel information (such as version number and copyright date) displays.

Setup...

You can use the Setup dialog box to change a CPX's status (active/inactive), reload CPXs without restarting your computer, set the amount of memory reserved for basic CPX information, and designate a CPX directory path. You can also use the calendar and clock to set the computer's time and date.
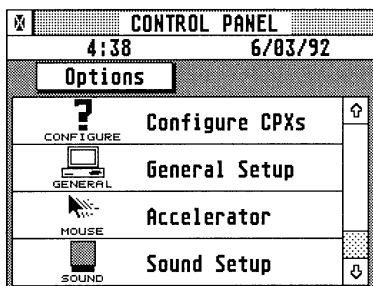
Figure 4-2. The Control Panel

Date and Time

The computer uses the date and time to mark individual files with the date and time they were created or revised. This feature is useful when you want to determine which file was most recently changed or created.

You can use 12/24 Hour Time to set the Control Panel clock to 12 or 24 hour time. This does not affect the way files are dated, only the way the time is displayed in the Control Panel window. To set the clock or calendar, follow these steps:

1. Open the Control Panel. Select **Date** or **Time** by positioning the pointer over the desired selection and clicking the mouse button.

2. Press [Left Arrow] to position the cursor in the window, or press [Backspace] or [Esc] to erase the window. [Backspace] erases the characters in the window one character at a time. [Esc] erases the entire window.

3. Type in the desired time or date.

4. Click on the new time or date.

To change between 12 and 24 hour time, position the pointer over the selection box to the left of the word Time. Click the mouse button. Both the 12 and 24 hour selection boxes display. Move the pointer until the desired box is highlighted. Click the mouse button again.

CPX Mover and Reload CPXs

Only active CPXs are loaded during startup. All active CPXs appear in the main Control Panel Window. If you need to use an inactive CPX, you can use the CPX Mover to change the status of the CPX from inactive to active. Then when you select **Reload CPXs**, the newly active CPX displays in the main Control Panel window.

You can also remove a CPX from the main Control Panel Window by changing the status of the CPX from active to inactive.

To change the status of a CPX, follow these steps:

1. Open the Control Panel. Select **Setup** from the Options menu.

2. Select the **CPX Mover**. The CPX Mover window appears.

```
┌─────────────────────────────────┐
│ ☒        CONTROL PANEL           │
│     4:44              6/03/92     │
│   ┌──────────┐  ┌──────────┐     │
│   │  Active  │  │ Inactive │     │
│   CONFIG   ⇧   COLOR     ⇧       │
│   GENERAL      MODEM             │
│   MACCEL       PRINTER           │
│   SOUND        WCOLORS           │
│   COLORVDI ⇩   PWRSET    ⇩       │
│   ┌─────────────────────────┐   │
│   └─────────────────────────┘   │
│          ┌──────┐               │
│          │ Exit │               │
│          └──────┘               │
└─────────────────────────────────┘
```
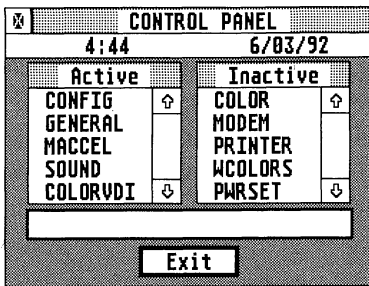
Figure 4-3. The CPX Mover Window

3. Select the desired CPX by positioning your pointer over the name of the CPX and clicking. The CPX highlights, and the appropriate operation appears in the Move box.

   Note: You can select multiple CPXs for the move CPXs operation. Use shift-clicking or rubber banding to highlight more than one CPX. If you use rubber banding, the rubber band box will not actually appear, but it still works the same way.

4. Select the operation by clicking in the Move box.

If you have transferred a CPX from inactive to active status, you must reload before you can use the CPX. To Reload CPXs, follow these steps:

1. Open the Control Panel. Select **Setup** from the Options menu.

2. Select **Reload CPX**. When the confirmation dialog box appears, select **OK**.

Advanced Setup Options

Setting the Minimum Number of Slots and the CPX Directory Path are advanced features of the Setup dialog box. You will probably use these options infrequently.

Minimum Number Of Slots

CPXs are stored in an external memory device (hard disk or floppy disk). During startup or reloading, only basic information about each active CPX (such as the CPX's name and icon) is loaded into RAM. When you actually open an active CPX, the bulk of the file is then loaded into RAM so you can use the CPX. When you close the CPX, the file is erased from RAM until the next time you open it.

Note: CPXs with Resident status do not follow the above pattern, but are copied into RAM at startup time.

Your Atari computer has to know how much RAM to reserve for CPX basic information. When you set the Minimum Number of Slots, you are telling the computer to reserve enough RAM to be able to store basic information for that number of CPXs. If the number of active CPXs at startup time exceeds the Minimum Number of Slots, your computer reserves enough RAM for that number of CPXs. You can select from 5 to 99 slots.

To change the Minimum Number of Slots, follow these steps:

1. Open the Control Panel. Select **Setup** from the Options menu.

2. Use the scroll arrows to display the desired number of slots. Select **OK** or **Save**.

CPX Directory Path

The CPX Directory Path tells the Control Panel where to look for CPX files. You probably want to store all of your CPX files in one folder, and set the directory path to that folder.

But if you store CPX files in more than one place, the CPX Directory Path must be set to the directory that contains the CPX files you wish to use.

Note: If the CPX Directory Path is too long to display in the box, use the left and right scroll arrows to display the hidden sections of the path.

To change the CPX Directory Path, follow these steps:

1. Open the Control Panel. Select **Setup** from the Options menu.

2. Click anywhere on the CPX Directory Path box. The File Selector displays.

3. Use the File Selector to select a new path. When you open a directory, the directory name is added to the File Selector's Directory line. When the desired directory path is displayed, select **OK**. The new path appears in the CPX Directory Path box.

Open CPXs...

You can open a CPX by first highlighting the CPX on the Control Panel main window, and then selecting Open CPXs from the Control Panel Options menu. You can also open a CPX by double clicking on its box in the Control Panel main window.

CPX Info...

When you highlight a CPX and then select CPX Info from the Control Panel Options menu, the CPX Info window displays. The window contains the selected CPX's filename, version number, ID number, and Resident/Non Resident status.

Filename is the CPX's actual filename as it appears on the disk. Version and ID are assigned by the CPX's programmer. Two versions of the same CPX can have the same ID number. In this case, only the most recent version is loaded.

If you have several versions of the same CPX, you can look at the version number to determine which is the most recent version.

You can use Configure CPXs (see **Configure CPXs** in this chapter) to change the resident status of a CPX. You probably want most of your CPXs to have Resident: No status. This means the bulk of the program is stored in external memory (hard or floppy disk) and only read into RAM when you open the CPX.

But if you have a CPX that you use frequently, you may want to give it Resident: Yes status. CPXs that have a Resident: Yes status on startup are read directly into RAM and remain there until you switch off the computer. Resident CPXs run a bit more quickly, but may take up a great deal of RAM.

Note: When you change a CPX's status to Resident: Yes, the status change does not take effect until the next time you start your system. The only time a CPX can be installed into RAM with Resident status is during startup. In the same way, changing a CPX's status to Resident: No status does not actually remove it from RAM until you switch off your system.

Unload CPX...

Unload CPX does not change the status of the CPX to inactive. It simply removes a CPX from the CPX list on the Control Panel main window. You can use Reload CPX to place the CPX back on the list.

Note: You cannot unload a resident CPX.

CPXs

This section provides a general description of the CPXs that come with your Atari computer. As CPXs are constantly being improved for your benefit, the descriptions contained in this section may not correspond exactly to the CPXs that ship with your system.

General Setup

The General Setup CPX allows you to set the keyboard response and repeat rate, the mouse double click response rate, and the audio feedback. It also allows you to toggle on and off options, such as CPU Cache, Sound, and BLiTTER and display system statistics such as the TOS version number and amount of available RAM. Options are selectable through buttons, sliders, and pop-ups. The General Setup CPX is slightly different for each system. Following is a description of the General Setup CPX.

Status

Select the Status box to display the TOS version number, version date, and total the number of available bytes.

Audio Feedback

The computer has two kinds of audio feedback, a click signaling each keystroke and a bell signaling keyboard or mouse errors. To control audio feedback, select the keytop button or the bell button. A gray image means that the sound has been turned off. A clear image means that sound is turned on.

Chip Select

The Chip Select feature allows you to choose among the Blitter and/or Cache options. Click on the status box below Chip Select. The current selection is indicated in the pop-up by a checkmark. To change the current selection, move the pointer until the desired selection highlights, and click on that selection. That setting becomes the current selection and the pop-up closes. The new setting is displayed inside the shadowed status box.

Sound

If you want all sound turned off, position the pointer over the Sound button. Click the mouse button. Move the pointer until the word Off highlights, and click the mouse button again.

Keyboard Response

Every key on the computer keyboard responds when pressed, and every key (except [Shift], [Control], [Esc], [Caps Lock] and [Alt]) repeats its character if held down. The keyboard repeat controls how much time it takes for the keys to repeat when they are pressed, and how quickly they repeat after the repeat process begins.

The upper slider controls how soon a key starts to repeat. Moving the slider to the left makes the keys repeat sooner. Drag the slider to the desired position, then release the mouse button.

The lower slider controls the speed at which the keys repeat. Move the slider to the left to make the keys repeat faster. Drag the slider to the desired position, then release the mouse button.

Test the new settings by turning the sound on, if required, and pressing [Space Bar]. You should hear a click each time you press the space bar. Listen to the clicks to judge the repetition speed of the keyboard.

Double-Click Response

You can adjust your Atari computer's response to double clicking. To slow the computer's response to double-clicking, allowing you to double-click more slowly, select a numbered box nearer to the resting mouse icon. To quicken the com- puter's response to double-clicking (for fast double-clicks), select a numbered box nearer to the running mouse icon.

After setting the double-click response, you can test the setting by double-clicking on the Double-Click Response Test box. When you double-click at the set rate or faster, the box will briefly highlight.

Modem Setup

The serial port(s) on the computer are type RS232 serial ports. By connecting a modem to a serial port, you can communicate with other computers. You can also connect a serial printer or any other RS232 device to the serial port(s).

The Modem Setup CPX lets you configure the computer's serial port(s) to work with your modem or other serial device. Refer to the manual supplied with your peripheral for specific information on which parameters to choose. The parameters needed by the computer with which you are communicating (the remote device) is known as the communications protocol.

Serial Port Selector

The Serial Port Selector allows you to tell the computer which of the available serial ports to recognize as active. Select the port you are using for the connected modem.

Baud Rate

Baud rate is the speed at which data is transmitted. Baud, the standard unit measure of transmission speed, is the number of signal elements per second. The fastest rate available to you is 19,200 baud; the slowest is 50 baud. Set the baud rate to accommodate both your modem and the remote computer's modem. (The baud rate for bulletin board systems is usually listed along with the phone number for the board.)

To set the baud rate, position the pointer over the Baud Rate box. Click once and a pop-up appears. Use the up and down arrows to scroll through the baud rate selections. When the desired baud rate displays, move the pointer to highlight the desired rate. Click the mouse button to select the highlighted rate.

Parity

Whenever computers transmit data through telephone lines, there is a chance that some of the information will become garbled due to imperfections and noise within the lines. Parity is a error checking procedure that computers use to examine information and determine whether data was cleanly transmitted.

The parity bit is added to a group of bits to make the total number of bits transmitted odd or even. Transmission errors can be identified when the number of bits in a group does not match the parity chosen (odd or even). Depending on the modem and the remote device, you will choose either None, Odd, or Even parity. (Refer to the manual supplied with your modem for specific information.)

To set the parity, position the pointer over the shaded Parity box. Click once and a pop-up appears. Use the pointer to highlight the desired parity. Click the mouse button to select the highlighted option.

Bits/Char

Each character is stored in memory as one byte. Usually a byte is made up of eight bits. Depending on bits per character used by the remote device, you may need to change the number of bits per character when transmitting through the RS232 port.

To set the bits/char, position the pointer over the shaded Bits/Char box. Click once and a pop-up appears. Use the pointer to highlight the desired number of bits per character. Click the mouse button to select the highlighted option.

Stop Bits

The stop bit indicates the end of an asynchronous RS232 character. You normally use 1 stop bit, but you may need to use 1.5 or 2 stop bits. To set the number of stop bits, position the pointer over the shaded Stop Bits box. Click once. Use the pointer to highlight the desired number of stop bits. Click the mouse button to select the highlighted option.

Flow Control

You can choose between two flow-control protocols: Xon/Xoff, and Rts/Cts. Flow control protocols are procedures that allow your computer and the remote device to signal one another when to start or stop sending information. Choose the flow control supported by the remote modem.

To select a Flow Control protocol, position the pointer over the shaded Flow Control box. Click once. Use the pointer to highlight the desired flow control protocol. Click the mouse button to select the highlighted option.

Printer Setup

Any program may access the printer configurations set by the Printer Setup CPX. For example, the Print Screen option under the Options menu uses the printer setup information. Other utilities or applications may not. Check the manuals supplied with your programs to see if a program can use the printer setup information.

Note: You cannot configure an Atari SLM laser printer with the Install Printer dialog box. Instead, refer to the Atari SLM Printer User's Manual (supplied with the SLM laser printer) for instructions on changing printer settings.

If you have both an SLM and dot-matrix or daisy wheel printer connected to your computer you may be able to select the printer type within your application. If not, you must turn off one of the printer driver programs.

To configure your printer, display the Printer Setup CPX window. Position your pointer over the shaded box representing the setting you wish to change. Click the mouse button. Move the pointer over the desired setting. When the setting highlights, click the mouse button to select the highlighted setting.

Printer Type

The choices are Dot (dot matrix printers) and Daisy (daisy wheel printers). Select the appropriate box for your printer.

Color

The choices are B/W (duochrome) and Color. Select the appropriate box for your printer.

Pixels/Line

Only dot matrix graphics printers use the Pixels/Line option. Pixel means picture element. On dot matrix printers, a pixel is a dot. Dot matrix printers print a certain number of pixels per line when printing in graphics mode. If you have an Atari dot matrix graphics printer, select 1280. If you have an Epson, or Epson-compatible dot matrix graphics printer, select 960. Both values assume an eight-inch printed line.

Quality

Only dot matrix printers use the Quality option. Select Draft for draft-quality printing. Select Final for letter or near-letter quality printing.

In Draft mode, the printer may make only one pass of the print head when printing. For darker printing, select **Final**. Keep in mind that in Final draft mode the printer generally makes two passes of the print head, thus taking twice as long to print the page.

Note: Do not select Final if your printer does not support near-letter quality printing.

Paper

If your printer feeds paper automatically by means of a tractor or single-sheet feeder, select **Feed**. If your printer accepts only a sheet at a time which you must insert manually, select **Single**. The Single option prevents the printer from printing beyond the end of a page on documents longer than a single sheet.

Port

If you have a parallel printer, select **Printer**. Parallel printers connect to the port marked Printer on the back of the computer. If you use a serial printer, select **Modem**. Serial printers connect to the port marked Modem (the RS232 port) on the back of the computer.

*Note: For most serial printers, Xon/Xoff flow control is set to On. This setting enables the printer to signal the computer to temporarily stop sending data so it can print data it has already received. (See **RS232 Configuration** earlier in this chapter.)*

Color Setup

Depending on your monitor type and the screen resolution you have selected, up to 256 colors canbe used for drawing at one time on your screen.

You can choose the colors you wish touse from a palette of available colors.

Note: Not all Atari computers are capable of displaying all the resolutions described in this section. Check your system's hardware specifications to find out which resolutions it is capable of displaying.

Color Setup allows you to choose which colors from the color palette you wish to have available for use when you assign window colors. See **Window Colors** in this chapter.

Think of the color palette as a collection of inks. The Color Display Box can display up to 16 colors at a time (this does not limit the number of colors your system is capable of displaying).

Modify any pen color according to your personal taste by using the following steps:

1. Select one of the available pens by moving the pointer over the desired pen and clicking the mouse button.

2. Use the RGB scroll bars to add or subtract a color from the pen. Changing the ratio of Red, Green, and Blue will change the color of the highlighted pen. Repeat Steps 1 and 2 for every pen you want to modify.

3. After you modify the color palette, select **Save** to permanently save the palette, **OK** to

select and use the new palette until you switch off the system, **Cancel** to exit the Color
Setup CPX and return to the Control Panel menu (no changes are saved),
or **Reload** to display the most recently saved defaults.

*Note: If you are setting colors while in the True Color mode, you will notice a
blending effect as you move the R,G, and B control bars. This is normal, because the
True Color mode does not redraw every occurance of a particular shade, when that
shade is altered.*

*Note: You can restore the currently displayed color to the condition it was in before
you opened it by pressing [UNDO], or selecting reload.*

True Color

The True Color mode allows your system to display thousands of colors, whether you
are using an ST, VGA, or television as a display.

True color mode displays such a wide range of colors that some images displayed in
True Color have a near photographic quality.

Sound Setup

The Sound Setup allows you to adjust the volume of the CD quality sound output, and
the microphone input. Use the sliders to adjust the sound output to headphones or
speakers.

Window Colors

Window Colors allows you to assign colors and/or patterns to different elements of
desktop windows, depending on which type of display your system uses.
You can assign colors and/or patterns to each element in all foreground and
background windows.

Even though the color palette contains thousands of colors, the number of available colors depends on the selected resolution of the display (on certain models) and whether the display's output is color or duochrome. Refer to the hardware appendices for the exact resolution(s) and color(s) your computer is capable of displaying.

You can choose several options (e.g., border, text, and fill) for each window element. Border allows you to choose the color of the narrow border that sur- rounds each window element. Use Text to choose the color of any text or icon (as in the case of the Full box) that appears within the selected window element. Fill is the background color of the selected element, and you can also choose one of the eight fill patterns appearing directly under the Fill scroll bar. The fill color appears in the selected pattern.

The Mode box allows you to toggle between having text appear directly on the fill pattern, and having text appear within a solid background over the fill pattern. When you assign element colors to the foreground window and select **Save** or **OK**, the new colors are displayed the next time you open a window. Any window that is already open does not reflect the new foreground window element colors.

Before you assign window element colors, choose the color set you wish to use. You can: use the factory assigned default color set, press a function key (1 through 10) to use a Window Colors preassigned color set, or use Color Setup to create a custom color set. Use the following steps to assign foreground and background window element colors:

1. Select a window element for color assignment. A box outlines the selected element.

2. Click and drag the appropriate scroll box to assign Border, Text, and Fill colors to the highlighted window element. Click on the desired Fill Pattern.

3. Select the desired Mode. Repeat steps 1 through 4 until all the desired colors have been selected.

4. Choose **Save** to permanently save the selected window element colors, **OK** to select and use the current colors and/or patterns until you switch off the computer (the next time you

start the computer, the most recently Saved colors and/or patterns appear., Select **Cancel**
to exit Window Colors and return to the Control Panel menu (no changes are saved).

Configure CPXs

Configure CPXs allows you to change the name, choose the displayed text and icon
color, and change the RAM resident status of CPXs.

To configure a CPX, you must first display the name of the desired CPX in the name
line. Use the left and right scroll arrows to scroll through the CPX list.

When the Configure CPXs window displays, the text insertion cursor is already
positioned at the end of the CPX Name line.

To change the name of the displayed CPX, press [Esc] to clear the entire Name line,
or press [Backspace] to erase one character at a time.
Then type in the new CPX name.

To select text and icon colors, use the appropriate scroll arrows to display the
available colors and/or patterns. The name and icon shown on the Name line displays
the color or pattern selection.

You can also set the RAM resident status of the selected CPX. Position the pointer
over the shaded RAM resident box and click the mouse button. A pop-up appears.
Move the pointer to highlight the desired status. Click the mouse button to save the
highlighted selection.

When the desired text/icon color selection displays, and the desired RAM resident
status is selected, click on **OK** or **Save**.

*Note: RAM resident status takes effect only at start up time and when you change
resolutions.*

Accelerator

The Accelerator CPX allows you to adjust the speed at which the on-screen pointer responds to the movement of your mouse. The Accelerator also contains a screen saver.

There are three mouse Accelerator settings: Off, Fast, and Super Fast. Choose **Off** if you do not wish to increase the response speed of the pointer. Select **Fast** or select **Super Fast** to increase the pointer response speed.

To select a new pointer response speed, position the pointer over the desired setting and click the mouse button.

The Screen Saver automatically darkens the screen after a set period of inactivity. To activate the Screen Saver, select the Screen Saver box. When the Screen Saver is active, the Screen Saver Delay slider and the Modem Recognition icon appear as solid objects on the screen. When the Screen Saver is inactive, the Screen Saver Delay slider and the Modem Recognition icon appear as outlines.

When the Screen Saver is active, it automatically darkens the screen after a period of mouse and keyboard inactivity. You can set the number of minutes of inactivity in two ways. You can use the clock icons on either side of the Screen Saver Delay slider as scroll arrows, or you can drag the scroll bar. Release the mouse button when the desired number displays in the scroll bar.

Modem Recognition allows you to choose whether or not you want the Screen Saver to recognize modem activity. If the Modem Recognition is on, the Screen Saver recognizes modem activity and will not activate. If the Modem Recognition is off, the Screen Saver ignores modem activity and activates after the set delay period of keyboard and mouse activity has passed.

5 Desktop Management

Working with Directories, Folders, and Files

Directories and folders provide a way to group files together for organization and storage. Maintaining an organized folder and directory structure helps you locate files and creates an efficient working environment, both for you and for your computer.

A collection of information grouped together is called a file. A program or application file contains instructions for the computer. A data file contains information to be used or edited by the program or application.

Identifying a Directory, Folder, or File

The root directory is the first directory displayed when you open a disk icon. When you open a root directory, only the Disk Identifier and file mask appear in the window's move bar. For example, the move bar of the root directory of drive A would display the following:

A:*.*

When you open a folder, the folder's name is added to the move bar. If you opened a folder called LETTERS that resided in the root directory of drive A, the move bar would display the following:

A:\LETTERS*.*

Displaying a Directory or Folder

You can view the contents of a directory or folder by opening the icon, displaying its contents.

To open a directory or folder, position the pointer over the desired icon, then double-click the left mouse button or highlight the desired icon and select the **Open** command from the File menu. Once the window displays, you can select other files and folders from the list.

Directories and folders contain data files, program files, and other folders. If you have a number of related files, you can place them inside one folder to keep them together. You can also put folders and files within other folders. You can create a folder using the Create Folder command. (See **File Menu,** in **Chapter 4, A Guided Tour of the Desktop.**)

Files and Filenames

There are two types of files. Executable files (also called programs or applications) contain instructions for the computer to carry out. Most of the time the instructions contained in executable files are used to work with information in data files. A data file is a collection of information that contains no instructions for the computer. You can place files in root directories and folders. If you choose to display your folders and files as icons (see **View Menu,** in **Chapter 4, A Guided Tour of the Desktop.**), you will have as many icons in a directory as you have folders and files in that directory. The name of the file or folder will display under its icon.

Filenames and Extensions

Files are identified by filenames. You can (must) name the files you create, and you can change the names of existing files.

The filename is made up of two parts: the name and an optional three-character extension. In the following example, the name is SAMPLE and the extension is .PRG.

```
SAMPLE.PRG
|   |
|   extension (optional; a period (.) and up to three characters)
|
name (mandatory; up to eight characters)
```

The following characters cannot be used within a file name or extension:

```
Period (.)
Quotation Marks
Forward slash (/)
Back slash (\)
Brackets ([ or ])
Vertical Break Bar (| )
Less-than Symbol (<)
Greater-than symbol (>)
Plus Sign (+)
Colon (:)
Semicolon (;)
Comma (,)
Asterisk (*)
Question Mark (?)
```

Filenames usually refer to the information contained in the file, such as TAXES for tax information, or TAXES90, TAXES91, and TAXES92 for a series of tax information files.

Some files must have specific extensions. For example, the .PRG extension tells
your computer that the file is an executable GEM application. If you remove the
extension .PRG from the filename, the computer will not recognize the file as an
application.

Applications often use a specific file extension. This extension is automatically
assigned to any file the application creates. For example, word processors often use
.DOC or .TXT as an extension for documents. See the documentation supplied
with the application for more information.

Each of the following executable file types has a unique file extension by which it
can be recognized. These extensions should be used only for executable files:
.PRG, .TTP, .TOS, .GTP, .ACC, and .APP. Files with any of those extensions
cannot be opened if the extension is deleted or changed.

These six extensions and their definitions are listed below:

.ACC A GEM Desktop accessory. The system accesses .ACC files which appear
under the Desk menu. Use accessories by selecting them from the Desk menu. You
can have up to six active accessories on the system at a time.

.APP A GEM application. An .APP file is a GEM application and will usually
take advantage of the GEM environment by using windows, icons, and drop-down
menus.

.GTP A GEM-Takes-Parameters application (see .TTP)

.PRG GEM application. (See .APP.)

.TOS A TOS application. A .TOS file is a non-GEM application. It does not use
the GEM environment and may not even use the mouse.

.TTP A .TTP (TOS-Takes-Parameters) application. A .TTP file is a .TOS file that
expects some typed parameters (data that will control the program's operation).
When you open a .TTP file, an Open Application dialog box appears requesting you
to enter some parameters. Consult the .TTP program's documentation for more
information.

Note: When you sort files by type, they are arranged alphabetically by their extensions.

Pathnames

A pathname tells the computer where to find a file or folder. Pathnames begin with the appropriate drive identifier, and then list each applicable folder, starting with the folder residing in the root directory (e.g., A:\ or B:\, etc.) and ending with the folder that contains the file or folder.

The final element of a pathname is the name and extension of the file or folder. The move bar displays the complete pathname of the displayed file or folder.

Let's build an example. You have a file in drive A which contains all 1992 sales and marketing reports for all sales regions. But you are interested in finding the July 6th sales report from the western sales region.

First you open the disk icon for floppy drive A. A window opens, displaying drive A's root directory. The move bar displays only the drive identifier and file mask. The file mask is the *.* following the backslash:

   A:*.*

*Note: For a full explanation of file masks, please refer to Set **File Mask**. The asterisks in the file mask above are known as wild card characters. Wild card characters are explained in the section on File Specification in this chapter.*

One of the items in the displayed root directory is a folder called SALES. When that folder is opened, the name of the folder is added to the pathname. The pathname then consists of the Disk Identifier and the folder name like the example below:

   A:\SALES*.*

The window now displays the contents of the SALES folder. One of the items in the displayed directory is a folder called WESTERN. When that folder is opened, the name of the folder is added to the pathname. Now the pathname looks like this:

A:\SALES\WESTERN*.*

In the displayed directory of the WESTERN folder you find the file you are looking for, called JULY_6.DOC.

If you opened that file from within an application, the following entire pathname may display in the move bar:

A:\SALES\WESTERN\JULY_6.DOC.

The file mask is replaced by the actual file name and extension.

Note: An underline character separates JULY from 6. Since the space character is an illegal character in file or folder names, the underline character is sometimes used to simulate a space.

Opening a File

When you open a program file, the computer carries out the instructions contained in the file. This is also called starting or running the program.

There are many ways to open a program file from the desktop. You can position your pointer over the file's name or icon (located either in a window or on the desktop) and double-click the left mouse button. You can highlight the file, then: select the **Open** option under the File menu, or press the assigned command key (the default command key for opening a file is [O]). You can also use an assigned function key to open the program. (See **Open** under File Menu in the previous chapter.)

(Other methods of opening a program file are explained in the Install Application section under Options menu in the previous chapter.)

File Selector

The File Selector is a special dialog box that can only be accessed from within a program. You will use the File Selector for loading and saving files. Many applications programs use the File Selector dialog box (see Figure 5-1).
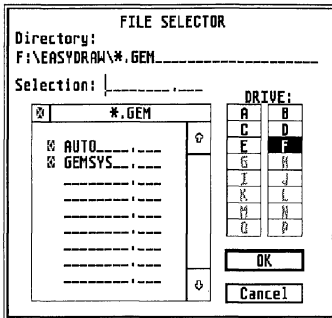
```
                 FILE SELECTOR
 Directory:
 F:\EASYDRAW\*.GEM_____

 Selection: |_____.___    DRIVE:
   ⊠ |      *.GEM          ┌───┬───┐
                           │ A │ B │
                           ├───┼───┤
                           │ C │ D │
     ⊠ AUTO___.___   ⇧     ├───┼───┤
     ⊠ GEMSYS__.___        │ E │ F │
     _____.___          ├───┼───┤
     _____.___          │ G │ H │
     _____.___          ├───┼───┤
     _____.___          │ I │ J │
     _____.___          ├───┼───┤
     _____.___          │ K │ L │
     _____.___          ├───┼───┤
                           │ M │ N │
                           ├───┼───┤
                           │ O │ P │
     _____.___          └───┴───┘

                           ┌─────────┐
                           │   OK    │
                           └─────────┘
     _____.___   ⇩      ┌─────────┐
                           │ Cancel  │
                           └─────────┘
```

Figure 5-1. The File Selector Dialog Box

When you display the File Selector dialog box, the Directory field displays the current directory's pathname. The pathname consists of a disk identifier, folder name(s), and a file specifier.

The Selection field shows the currently selected file (if one has been selected) and can be edited like the Directory field.

The directory window shows the current directory's folders and files that can be accessed by the application. The folders are listed first in the directory window, and then all files are listed. (For further information on sorting see **Sorting Files and Folders** in this chapter.)

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If the directory contains more files than it can display in the window at one time, scroll the window to view the hidden files. (See **Scrolling a Window**, in **Chapter 3, The GEM-Desktop.**)

The drive selector shows the currently selected drive.

Note: When you make a change within the File Selector dialog box, related fields automatically show that change. For instance, if you change the drive with the drive selector, the drive letter in the Directory field also changes.

Selecting A File

Place the pointer on the filename you wish to select. Select a file by one of these methods:

- Click the left mouse button and select **O.K.**
- Double-click the left mouse button.
- Enter the filename on the selection field, then select **O.K.**

Selecting A Directory

From the directory window, open a folder directory by selecting the folder name. The current directory window's folder appears at the top of the directory, marked with a folder symbol. To close a folder directory, select the close box button. The current directory's pathname appears in the Directory Field.

From the directory field, you can select a directory by typing that folder's pathname. To do this, erase the Directory Field, type the new pathname,and press [Return]. The pathname contains a disk identifier, and may also contain folder names and file specifications.

Selecting a Drive

You can select a drive from the drive selector or the Directory line.
To select a drive with the drive selector, position the pointer over the target drive's
letter. Click the left mouse button to view the drive's directory.

Note: The drive letter is part of the disk drive identifier, which includes a letter
specifying a drive, a colon (:), and a backslash (\).

The File Specification

The file specification in the Directory field is a search criterion that may include
letters, numbers, and special characters called wildcards (* and ?). The file
specification determines which files appear in the directory window. By editing the
file specification, you can choose which files or types of files to display.

The file specification is similar to a filename. It contains a mandatory name of up to
eight characters and an optional extension of up to three characters. A file
specification uses the asterisk (*) and the question mark characters as wildcards.

An asterisk in a file specification stands for all characters and combinations of
characters, and can replace an entire name or extension. For example, the file
specification *.* calls for the display of all filenames with all extensions.

Often, a file specification has an asterisk for the name, but specifies an extension.
For example, the file specification *.DOC shows all filenames with the .DOC
extension in the directory window. This file specification would not show:

   FINANCE.TXT

The asterisk must be the last character in the name or extension of a file
specification. For example, the file specification TAX*.DOC is valid, but the file
specification T*X.DOC is not valid.

A question mark in a file specification replaces a single character. For example, the file specification MEMO?.LET specifies all files which begin with MEMO, have any character in the fifth position of the file's name, and which have the extension .LET. This file specification would not display the files:

BID.LET
MEMO33.LET
MEMO1.DOC

The file specification ????????.??? is equivalent to *.* .

You can combine wildcards and characters. For example, ?IL*.T?T and F*.T* are both valid file specifications which would display FILE.TXT.

To change a file specification, edit the specification in the Directory field, then update the directory window by pressing [Return].

Opening a Data File

You can open the application file first (see **Opening a Program File** in this section) and then open the data file using the File Selector. Or you can save a step by using Install Application to link the data file type (identified by the three-character extension) to an application. If the data file type is linked to an application, you can use one of the four methods for opening a file (see **Opening a Program File** in this chapter) as if you are opening the data file from the desktop. The computer will open the selected file.

Note: You can also open a file by dragging a data file over the icon for the program file.

If you attempt to open a data file whose file type is not linked to an application, the Show/Print dialog box displays.

Select **Show** to display the data file on screen. If the file contains readable text, the text displays. If the file is longer than one screen, the message -*More*- appears at the bottom of each screen of text. You can scroll through the file in the following ways:

One screen at a time by pressing [Spacebar] or the left mouse button.

One half-screen at a time by pressing [D] or [Control] [D].

One line at a time by pressing [Return].

Note: You can only scroll forward. You cannot scroll back through text that you have previously viewed.

If you press the left mouse button or [Space Bar] while scrolling text by the screen or half-screen, the screen continues to scroll until it displays a full or half-screen, beginning from where you last pressed the left mouse button. The End-of-File message appears when the screen has displayed the entire contents of the file. To return to the desktop anytime before the End-of-File message appears, press the right mouse button, [Q], [Control] [C], or [Undo].

File and Folder Management

Copying, moving, deleting, and other file and folder operations allow you to better organize your disk space. If you maintain good file and folder organization, you conserve disk space and create an efficient working environment.

Copying Files and Folders

You can copy window items (files and folders) onto a floppy disk, logical drive or folder.

When you copy a folder, the subdirectory information and all the folder's contents (files and other folders) are copied to the new location.

To copy a window item, select the item and drag it to its new position on the desktop. You can drag a window item to another window, disk icon, or folder icon. The item's destination icon will highlight when the item is positioned on top of the destination icon.

Note: If you drag a data file on top of an application, the application will run. The data file will be used as a parameter and will open automatically.

When you begin a copy operation on a single or on multiple window items, the Copy File(s) dialog box appears. You must select **OK** to continue the copy procedure. Working with a single floppy drive, you will need to switch disks occasionally to complete the procedure. The computer provides alert dialog boxes to tell you when to switch disks. The Copy File(s) dialog box shows the name of the destination folder, and displays each item's name as that item is copied.

*Note: The Copy File(s) dialog box will not appear if the File Copies confirmation option has been turned off. See **Set Preferences** for more information on the File Copies confirmation option.*

You can halt the copy operation by pressing [Undo] while the bee icon displays. On a single disk drive system, press [Undo] while the source disk is in the drive. When the Abort Operation dialog box appears, select **Yes** to halt the operation, or **No** if you wish to continue copying.

To copy an entire disk, drag the disk icon to the copy destination (floppy disk, logical drive, or folder). Copying a disk icon to a folder adds the contents of the disk to the folder without disturbing the contents of the folder.

If the destination folder's window is open, copying a file or folder updates the displayed directory.

Name Conflict During Copying

A name conflict occurs when you attempt to copy a window item to a floppy disk, logical drive, or folder that already contains an item of the same name. Depending on the File Overwrites confirmation setting (see **Set Preferences** in **Chapter 4, A Guided Tour of the Desktop.**), the Name Conflict alert dialog box appears, warning you that a name conflict occurred. If you wish to replace the existing item with the item of the same name, select **Copy**.

You could also choose to change the name of the window item you are copying so a name conflict does not occur when you continue the copy operation.
You can change the item's name from within the Name Conflict alert dialog box. The text insertion cursor is already positioned at the end of the Copy's Name line. Press [Backspace] to clear the Copy's Name line one character at a time, or press [Esc] to clear the entire field. Now type in the new file or folder name and select **Copy** or press [Return] to continue the copy operation. The original item remains intact, and the copied item appears in its destination under the new name. When copying multiple window items, select **Skip** if a name conflict occurs and you wish to skip over that particular item, but you wish to continue the copy operation on the other selected items.

Moving Files and Folders

Moving a window item allows you to transfer that item to a new location, deleting the item from its initial location.

To move window items, highlight one or more items. Then hold down [Control] as you click on and drag the items to a new location. The Move File(s) dialog box appears, showing you the number of items involved in the Move operation.

Select **OK** to complete the move. To cancel the move operation, select **Cancel**. When you select **OK**, the Move File(s) dialog box shows the destination folder (if there is one) and the name of the item moved.

You can halt a move operation in progress by pressing [Undo] while the bee icon displays. When the Abort Operation dialog box appears, select **Yes** to stop the operation.

Renaming Files and Folders

You can rename files and folders with the File Information dialog box. The Show Information command displays the File Information Dialog Box.
For more complete instructions, (see **Show Information,** in **Chapter 4, A Guided our of the Desktop).** Filenames can have from one to eight characters. Optionally, filenames are followed by a period and a three-character extension. Folders can have from one to eight characters, and usually do not have an extension.

Note: As a general rule, you should avoid modifying the three-character extension. A change in the extension may prevent the system or an application from using program, resource, data, and other files correctly.

Deleting Files and Folders

You can delete unwanted window items to free up room on a disk or in a folder. There are two ways to delete window items. You can highlight the desired item and drag it into the trash can icon on the desktop. The trash can icon highlights and the Delete File(s) dialog box displays. You can also highlight the desired item and choose **Delete Item** from the File menu or use an assigned keystroke for Delete. When the Delete Folders/Items dialog box appears, you can confirm or cancel the delete operation. To continue the operation and delete the item, select **OK**.

*Note: If the Delete File(s) dialog box does not appear, the File Deletes confirmation option has been turned off. See **Set Preferences** for more information*

on the File Deletes confirmation option.

You can halt a delete operation in progress by pressing [Undo] while the bee icon displays. Deleting files is a fast operation, so you must act quickly to halt the process. When the Abort Operation dialog box appears, select **Yes** to stop the delete operation. This will not retrieve those files already deleted.

Note: You cannot delete a file if its read/write status is set at Read Only. Also, you cannot delete a folder containing a Read Only file. To change the read/write status of a file, select the file, select **Show Info** *from the File menu, and then select* **Read/Write** *or* **Read Only**.

Updating a Directory

Being able to update a displayed directory is useful when you are working with floppy disks. If you insert a disk into drive A and display that disk's directory, and then remove that disk and insert a new disk into drive A, the window does not automatically display the new disk's directory. You can update the directory displayed in the window by pressing [Esc]. Your computer will read the directory of the disk that is currently in the drive, and display that directory in the window.

Displayed directories update automatically after you copy, move, or delete a file or folder, or copy or format a disk.

6   MultiTOS

MultiTOS is Atari's exclusive multitasking environment. A multitasking
environment can run a number of programs simultaneously, which makes it more
powerful and exciting to use than a conventional operating environment (more on
this later). Incorporating a list of features unparalleled by any other operating
system, MultiTOS is a completely new and innovative way of interfacing with your
Atari computer.

The Advantages of MultiTOS

Using MultiTOS, you can use your computer and programs more efficiently. For
example, if you initiate a time-consuming process, such as a file compression
routine, you can run a word processor and type a letter, while the file compression
routine carries on in the background.

MultiTOS has an inherent set of advantages over other multitasking operating
environments. For example, MultiTOS accomplishes true pre-emptive multitasking,
dynamic prioritization, and memory protection.

MultiTOS's pre-emptive multitasking allows your computer to simultaneously run
programs that were not originally designed to multitask. Where other multitasking
environments force the user to manually allocate and reallocate system resources,
MultiTOS dynamically prioritizes system resources for each application.

MultiTOS's memory protection defines the memory boundaries of each active program, which keeps one active program from interfering with another active program's memory.

Using MultiTOS you can easily:

- Run multiple programs and desk accessories simultaneously
- Cut and paste information between applications
- Move, resize, and scroll background windows without leaving the current (foreground) application
- Monitor the use of system resources by any active program, anytime
- Keep track of all the active programs

New Features

MultiTOS offers a host of new features. However, users already familiar with TOS will find MultiTOS just as easy to use. This section describes the new features offered by MultiTOS.

Multitasking

The foremost feature of MultiTOS is its ability to run multiple programs simultaneously. Through memory allocation and memory protection, each program running under MultiTOS can work concurrently, without using memory designated for another application.

To provide the most efficient use of system resources, MultiTOS's dynamic prioritization constantly adjusts the amount of processing time allocated to a program. For example, if there are many applications running on the desktop, MultiTOS allocates processing time to allow for all tasks to run.

MultiTOS use Inter-Process Communications (IPCs), such as messages, pipes, etc., to pass information. Applicatons that use the same IPCs can share information with MultiTOS.

Expanded Desk Menu

One of the first things you'll notice about MultiTOS is its expanded desk menu. The expanded desk menu not only lists the usual selectable items, but also lists the desktop and every active program as selectable items. The foreground application is indicated by a checkmark.

Adoptive Menu Bars

MultiTOS adopts the menu bar of whatever application is running in the foreground. When the foreground application doesn't have its own menu, MultiTOS uses the desktop's menu.

Foreground and Background Applications

MultiTOS allows you to have a foreground application and a number of background applications running simultaneously. The exact number of open applications depends on the amount available memory. The foreground application runs in the top window and a background applications run in the bottom windows.

Note: Whichever application is in the foreground receives input from the keyboard.

MultiTOS allows you to choose the top window by selecting or *topping* it . For more information on topping see Choosing the Foreground Application later in this chapter. When you top a window, MultiTOS displays the menu associated with the foreground application, if that application has its own menu.

Bottom windows are active, but cannot receive input from the keyboard unless they are topped. Background processes can run independently, until they need input from user (see **Running an Application in the Background,** later in this chapter).

MultiTOS allows you to move, resize, and scroll bottom windows without topping them.

More Desktop Control

MultiTOS gives you more control over the appearance of the desktop. It allows you to manipulate windows in the background, as well as the foreground. You can move, resize, and scroll any window, without changing the foreground application.

Ease of Use

Although MultiTOS is a versatile and powerful multitasking environment, it maintains the easy-to-use functions established by its predecessor TOS. In case you need help, MultiTOS contains on-line help menus that contain a wide variety of information. To access the on-line help, just press [Help].

Launching Applications

To launch a program in MultiTOS double-click on an executable program file in a directory folder, or on the desktop. (You can use variations of this method by installing the application on the desktop. See **Install Application** in **Chapter 4, A Guided Tour of the Desktop.**) Once you launch a program, you can leave the program while it is running, and open another program.

MultiTOS allows you to open as many programs as the amount of available RAM will allow.

Running an Application in the Foreground

MultiTOS is a versatile operating system which offers several ways to easily choose which application runs in the foreground.

The Desk menu displays a list, which includes the foreground application (designated by a checkmark) and every application running in the background. Any application you select from the Desk menu becomes the new foreground application.

Selecting an application from the Desk menu is just one way to choose the foreground application.

Note: You can always access the desktop from any application by selecting Desktop in the Desk menu.

Topping a bottom window is another way of changing the foreground application. When you have multiple windows open on the desktop, topping a bottom window makes it the new top window , and causes the application responsible for the window to become the foreground application.

Running an Application in the Background

You will want to run some tasks, such as file compression or any other time-consuming application, in the background. Tasks that you run in the background should not require frequent keyboard input, because only the foreground application can receive input from the keyboard. Many applications after implementing an initial set of commands run independently of user input, until they require more user input or finish the task at hand.

To run an application in the background, just launch the application in the foreground using one of the techniques described earlier. If necessary, enter any required commands or arguments. Start the process, then choose another

foreground application. The background process continues until it requires input from you, or until it is completed.

Part III: Appendixes, Glossary, and Index

A Pointer Control & Quick Reference

The following table lists mouse functions and keystroke combinations. You may copy this page and post it near your computer for quick reference.

Action	Mouse	Function Keystrokes
Move pointer.	Roll mouse in desired direction.	[Alt] any arrow key moves pointer eight pixels in the direction of the arrow. [Alt] [Shift] any arrow key moves pointer one pixel in the direction of the arrow.
Select item.	Position pointer on item. Click left mouse button.	Position pointer on an item. Press [Alt] [Insert].
Select and open item.	Position pointer on item. Double-click left mouse button.	Position pointer over item and press [Alt] [Insert] twice.
Drag item.	Select item. Hold down left mouse button. Roll mouse in desired direction.	Position pointer on an item. Hold down the [Alt] [Insert] keys and use arrow keys to move the item.
Right button functions.	Click right mouse button.	Press [Alt] [Clr Home].

B Advanced Hard Disk Utilities

This appendix contains information about the Atari Advanced Hard Disk Utilities disk. It applies to both the internal SCSI and external SCSI or ACSI hard disk drives. The formatting information in Appendix B does not apply to IDE drives, which are preformatted by the manufacturer.

This disk contains programs and files that allow you to:

- Park and Unpark the read write heads
- Install or remove the hard disk driver file
- Format and partition the hard disk
- Erase the contents of a logical drive
- Extend the system-wide folder limit
- Mark bad sectors on the hard disk
- Create an extended partition scheme

Parking and Unparking the Read/Write Heads

Whenever you move your computer, you should park the hard drive heads to prevent damage to the hard disk and the data it contains. Parking the hard disk drive heads moves the read/write heads of the drive away from the disk media.

Parked heads cannot damage the disk media during moving or shipping. The Atari Advanced Hard Disk Utilities include two types of head parking programs.

One type parks the disk heads of all hard drives connected to your system. The other parks the disk heads of individual units.

Caution: If you fail to close all hard disk windows before parking the drive heads you may damage data on your hard disk.

Parking Drive Heads on All Units

To park the hard disk drive heads on all hard disks connected to your system, run SHIP.PRG from a floppy disk in drive A.

Note: SHIP.PRG will not park the heads of a Megafile 44 Removable Hard Disk Drive.

With a directory of the Atari Advanced Hard Disk Utilities disk displaying, follow these instructions to run SHIP.PRG.

1. Open the HDX folder.

2. Close all other open windows.

3. Run SHIP.PRG.

4. Switch off your hard disk units as soon as the desktop appears.
   Parking Drive Heads on Selected Units

To park a specific hard drive, you must select a physical unit to be parked. With your hard disk utilities disk in drive A or B, follow these instructions to park the heads on individual physical units:

1. Run the HDX program.

2. Close all other open windows.

3. Select the Ship option on the Disk menu.

4. A dialog box displays, asking you if the hard disk drive to be parked is an ACSI drive or a SCSI drive. Select the appropriate drive type. Click on **OK** to continue.

5. When the Select physical unit(s) dialog box appears, select the physical units that are to have their heads parked. Select **OK**.

   Note: You can select any physical unit connected to your system (formatted or not). The unit number boxes of connected devices appear shadowed.

6. An alert box message appears on screen offering you a last chance to cancel the head parking procedure. Select **OK** to park the heads.

7. A final alert box appears, instructing you to turn off your hard disk. Select **OK** and switch off the power to your disk drive(s).

Note: If you are preparing to move your entire system, switch off your computer at this time.

Unparking the Drive Heads

The next time you start your system the drive heads are automatically unparked.

Installing and Removing the Hard Disk Driver File

The HINSTALL.PRG program installs or removes the hard disk driver file. The hard disk driver allows you to start your system from your hard drive.

Installing the Hard Disk Driver

Display the directory of the HINSTALL folder. Follow these steps to install the hard disk driver:

1. Run HINSTALL.PRG.

2. Select **Install** from the File menu.

3. Select a logical drive for the operation. You can only select logical drives that are highlighted in shadowed boxes. Select **OK**.

4. From the displayed dialog box, select **OK** to install the driver, or **Cancel** to abort the operation.

Removing the Hard Disk Driver

Display the directory of the HINSTALL folder. Follow these steps to remove the hard disk driver:

1. Run HINSTALL.PRG.

2. Select **Remove** from the File menu.

3. Select a logical drive for the operation. You can only select logical drives that are highlighted in shadowed boxes. Select **OK**.

4. From the displayed dialog box, select **OK** to install the driver, or **Cancel** to abort the operation.

Bypassing the Hard Disk Driver

As an alternative to removing the hard disk driver, you can simply bypass the driver.

To do so, perform a keyboard warm-boot or press the reset button. When the Atari logo (Fuji) appears, hold down [Alternate] for a few seconds and the system bypasses the hard disk driver.

Formatting and Partitioning the Hard Disk

Caution: The HDX Format and Partition options described in this chapter completely erase all data on your hard disk. Back up all of your valuable files before proceeding.

Formatting

You will probably never have to reformat your hard disk. The hard disk has already been formatted at the factory. Formatting the hard disk creates magnetic patterns called tracks and sectors. The process also marks and logs bad sectors, areas on the disk with surface damage or other imperfections. Data stored in these areas could be corrupted or lost. During hard disk operations, the computer avoids sectors marked and logged as bad.

The formatting process also automatically divides the hard disk into storage areas called partitions or logical drives.

If your system contains an internal hard disk, it will be preformatted by Atari. Formatting erases all information from a disk and prepares the disk to accept data. You may need to format the hard disk if the factory format becomes erased due to mishandling or if the hard disk develops bad sectors.

Display the directory of the HDX folder. Follow these instructions to format a hard disk:

1. Select HDX.PRG. Then select the **Format** option from the Disk menu.

2. Read the alert message that appears on screen. If necessary, back up all your data before proceeding. Select **OK** to continue.

3. A dialog box displays, asking you if the hard disk drive to be formatted is an ACSI drive or a SCSI drive. Select the appropriate drive type. Select **OK** to continue.

4. Select a physical unit (hard disk drive) for formatting. If you are formatting only the internal hard disk, select **UNIT 0**. If you are formatting an additional hard disk, select a unit that corresponds to the hard disk's DIP switch settings. (See your hard disk drive owner's manual for information about DIP switch settings.) Units in shadowed boxes are the units that are connected to your system.

```
┌─────────────────────────────────────────┐
│                                           │
│    ⚡ Select The Physical Unit ⚡          │
│                                           │
│   ┌────────┐ ┌──────┐ ┌──────┐ ┌──────┐  │
│   │ UNIT 0 │ │UNIT 1│ │UNIT 2│ │UNIT 3│  │
│   └────────┘ └──────┘ └──────┘ └──────┘  │
│   ┌──────┐ ┌──────┐ ┌──────┐ ┌──────┐    │
│   │UNIT 4│ │UNIT 5│ │UNIT 6│ │UNIT 7│    │
│   └──────┘ └──────┘ └──────┘ └──────┘    │
│                                           │
│      ┌────────┐      ┌──────────┐         │
│      │   OK   │      │  CANCEL  │         │
│      └────────┘      └──────────┘         │
│                                           │
└─────────────────────────────────────────┘
```
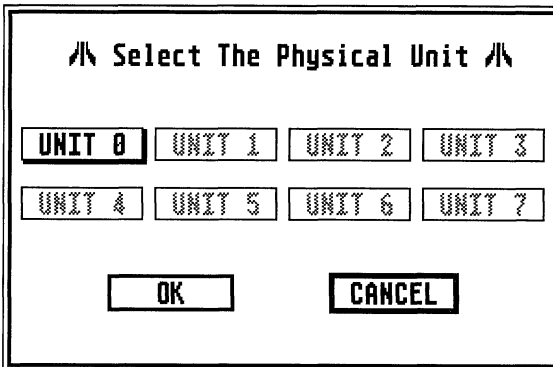
Figure B.1: The Select Physical Unit Window

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Select **OK** to continue. A dialog box may appear, displaying a list of hard disk unit types.

  5. Select the hard disk type showing your drive's model name.

  6. Select **OK** to continue.

  7. Read the alert message that appears on screen.

Select **OK** to format the unit. A message appears informing you that formatting is in progress.

Note: When the partitioning message disappears, the formatting operation is complete.

When the formatting is complete, the Format option automatically initiates the Markbad and Partitioning options. To find out more about these functions, refer to the sections on Marking Bad Sectors and Partitioning.

The default partition quantity and size is determined by the hard disk drive model.

Partitioning

If your computer contains an internal hard disk drive, it will already be partitioned. Partitioning a hard disk is a process that divides the disk into sections. Setting a partition size tells the hard drive how much storage capacity to assign to each partition. You can use the factory-set partition capacities or change the storage capacity of each partition to suit your fiie organization needs.

Partitioning divides your physical hard disk into data storage areas called logical drives. Each logical drive is pre-installed and will automatically appear on your desktop unless you repartition the disk.

Partitioning allows you to store and access your data efficiently by allowing you to group files and folders in different logical drives.

Use the Partition option to create partitions in sizes best suited to your disk storage needs. The Partition option lets you use an editing menu to set the size of each partition or select a suggested partitioning scheme without having to reformat your disk.

Note: When you repartition your hard disk, you must use the Install Devices command to install desktop icons for the logical drives.

Selecting a Unit to Partition

Display the HDX folder. Follow these instructions to partition a hard disk:

1. Select HDX.PRG from the HDX folder. Then select the **Partition** option from the Disk menu.

2. A dialog box displays, asking you if the hard disk drive to be formatted is an ACSI drive or a SCSI drive. Select the appropriate drive type. Select **OK** to continue. The Select a physical unit dialog box displays.

3. Select a physical unit for partitioning. To partition your hard disk, select the unit number of the device you want to partition. Only units in shadowed boxes can be selected. Select **OK** to continue.

4. Select a partitioning scheme.

There are two ways to select a partitioning scheme. You can use the Choose a Partition Scheme dialog box to choose from preset partitioning schemes. Or you can use the Edit Partition Scheme dialog box to create a customized partitioning scheme. The following sections fully describe each method.

Selecting a Partitioning Scheme

After you select a physical unit for partitioning, the Edit Partition Scheme dialog box displays.

Use the Edit Partition Scheme dialog box to create a customized partitioning scheme. If you wish to select a preset partitioning scheme, click on Menu to display the Choose a Partition Scheme dialog box.

From the Choose a Partition Scheme dialog box you can click on the Edit box to return to the Edit Partition Scheme dialog box.

Creating a Customized Partitioning Scheme

The Edit Partition Scheme dialog box displays information about the selected unit's current partition scheme.

```
╔══════════════════════════════════════╗
║ ⁄⁝ Edit partition scheme of the unit ⁄⁝ ║
║                                      ║
║     Total # of Partition(s): 4       ║
║              Memory Left: 0Mb        ║
║   ┌──────────────────────────┬─┐     ║
║   │                          │⇧│     ║
║   │ #1  [ 11.5Mb ] [⇩][⇧]    │ │     ║
║   │                          │ │     ║
║   │ #2  [ 11.5Mb ] [⇩][⇧]    │ │     ║
║   │                          │ │     ║
║   │ #3  [ 11.5Mb ] [⇩][⇧]    │ │     ║
║   │                          │ │     ║
║   │ #4  [ 11.5Mb ] [⇩][⇧]    │ │     ║
║   │                          │⇩│     ║
║   └──────────────────────────┴─┘     ║
║ [⇦ MENU][ UNDO ][  OK  ][CANCEL][EXPERT ⇨] ║
╚══════════════════════════════════════╝
```
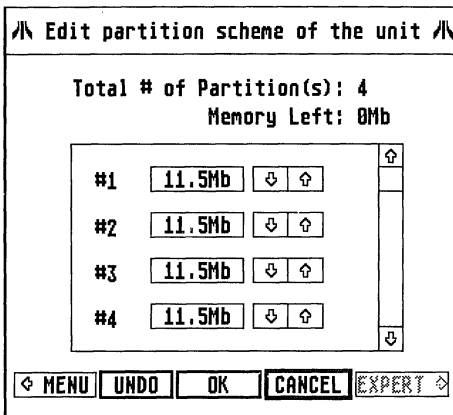
Figure B.2: The Edit Partition Scheme Dialog Box

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Information lines appear at the top of the dialog box. The Total line displays the current total number of partitions. The Left line displays the number of megabytes on your disk that have not yet been assigned to any partition.

Each partition's size is displayed to the right of the partition number in the edit box. Minimum partition size is 1 megabyte. Maximum partition size is determined by the capacity of your hard disk. You can allocate all of the memory on your hard disk to one partition. For example, a 40 megabyte hard disk can have a single partition containing all 40 megabytes of memory.

Use the scroll bar to scroll through partition boxes. To view the 28 partitions you can click on the shaded area of the scroll bar to scroll through four partitions at a time.

Click on the partition box you wish to create or edit. Then click on the up and down arrows to the right of the partition size box to increase or decrease partition size. Clicking on an unused box creates a new partition.

Note: There must be available bytes listed on the left line before you can increase the size of any partition. 1 megabyte or more must appear in the left box before an unused partition can be activated.

You can select **Menu** to display the Choose a Partition Scheme dialog box. This dialog box allows you to choose preselected partitioning schemes.

To return to the most recent partition scheme, select **Undo**. Selecting **OK** initiates the partitioning process.

If you want to return to the HDX.PRG main menu, select **Undo**.

The Expert option is shaded and cannot be selected unless you have more than four partitions. You need to use the Expert option only if you plan to use more than one operating system. If you are planning to use more than one operating system with the same hard disk, see Extended Partition Schemes.

Selecting a Preset Partitioning Scheme

The Choose a Partition Scheme dialog box appears when you select **Menu** from the Edit Partition Scheme dialog box.

```
┌─────────────────────────────────────┐
│                                     │
│  ┌───────────────────────────────┐  │
│  │   Choose a partition scheme:  │  │
│  │  ┌──────────┐  ┌──────────┐   │  │
│  │  │ 11-11-11-11 │  │ 13-13-9-9 │   │  │
│  │  ┌──────────┐  ┌──────────┐   │  │
│  │  │ 15-15-7-7 │  │ 17-17-5-5 │   │  │
│  │  ┌──────────┐                │  │
│  │  │ 19-19-3-3 │                │  │
│  │                               │  │
│  │  ┌──────┐ ┌────────┐ ┌──────┐│  │
│  │  │  OK  │ │ CANCEL │ │Edit ◇││  │
│  │  └──────┘ └────────┘ └──────┘│  │
│  └───────────────────────────────┘  │
└─────────────────────────────────────┘
```
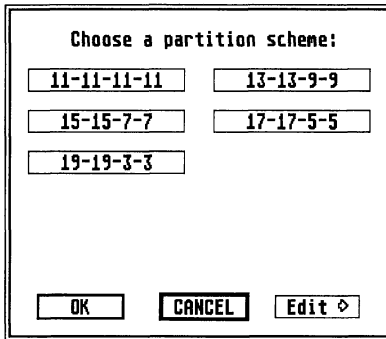
Figure B.3: The Choose Partition Scheme Dialog Box

The Choose a Partition Scheme dialog box provides a list of suggested partitioning schemes. Select the scheme you want from the list. Select **Edit** to return to the Edit Partition Scheme box.

After you select a partitioning scheme, select **OK** to partition the disk.

Erasing the Contents of a Logical Drive

You can erase all data from a selected logical drive with the Zero option of the HDX program. Erasing (or zeroing) a logical drive is useful if you want to clear the drive to make room for new data or if you want to erase damaged data from a logical drive without reformatting (and thus erasing) the entire hard disk.

Display a directory of the HDX folder. Follow these steps to erase the contents of a logical drive.

1. Select HDX.PRG. Then select the **Zero** option from the Disk menu.

2. Read the alert box that appears on screen. Select **OK** to continue.

3. Select a drive for zeroing from the Select the Logical Drive dialog box. Select **OK** to continue.

4. An alert box appears giving you a final chance to quit the program before proceeding. Select **OK** to continue.

Extending the System-wide Folder Limit

You can run FOLDER100.PRG to extend the number of folders your system recognizes. Though most users will be able to create as many folders as they wish without problems, you can still use FOLDR100.PRG to extend the folder limit even further.

To use this program, display the AUTO folder directory on drive C containing the FOLDR100.PRG file. Then change the 100 in the filename to any value between 001 and 999 using the Show Info option from the File menu. The value you enter is the number of folders beyond 40 you can now access. For example, to extend the limit to 240 folders, you would change the filename to FOLDR240.PRG.

The FOLDR program must be stored in the AUTO folder of the startup disk (partition C on the hard disk if physical unit 0 is the startup disk).

The new folder limit takes effect when you reboot your system. During the boot procedure, a message appears that shows how many extra folders you have designated and how many bytes of RAM are allocated to the extra folders. Each folder uses 132 bytes of RAM.

Marking Bad Sectors

Error messages stating that the data on your disk may be damaged might indicate the presence of bad sectors on your disk. If such error messages frequently appear, you should check your hard disk for bad sectors. This process identifies and flags defective areas on the hard disk. Hard disks may develop defective spots after the drive has been in use. Once these spots have been logged with Markbad, they will not be used for your hard disk operations.

The Atari Advanced Hard Disk Utilities disk includes two versions of Markbad. One version is run automatically during the HDX Format option. This version operates on the entire selected physical unit and erases all data on the disk during formatting.

The other version operates on the selected logical drive when you run the HDX Markbad option. This version helps you preserve data by letting you decide whether or not to erase data containing bad sectors. Both versions of Markbad display a log of any bad sectors found. The cumulative tally of bad sectors in the log appears during subsequent Markbad operations.

Note: You can use the HDX Markbad option on hard disks formatted with a previous version of HDX.

Display the directory of the HDX folder. Follow these steps to mark bad sectors on selected logical drives:

1. Select HDX.PRG. Then select the **Markbad** option from the Disk menu.

2. Select a logical drive from the Select the Logical Drive dialog box.

```
┌─────────────────────────────────────────┐
│                                         │
│       Select the logical drive          │
│                                         │
│   [  C:  ]  [  D:  ]  [  E:  ]  [  F:  ] │
│                                         │
│   [  G:  ]  [  H:  ]  [  I:  ]  [  J:  ] │
│                                         │
│   [  K:  ]  [  L:  ]  [  M:  ]  [  N:  ] │
│                                         │
│   [  O:  ]  [  P:  ]                     │
│                                         │
│       [   OK   ]      [ CANCEL ]         │
│                                         │
└─────────────────────────────────────────┘
```
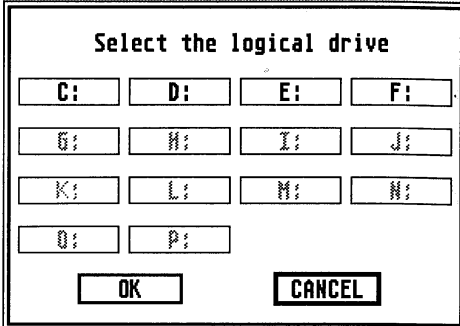
Figure B.4: The Select Logical Drive Dialog Box

Select **OK** to continue.

3. While Markbad scans the logical drive for bad sectors, a message appears telling you that the program is marking bad sectors. If bad sectors are found in a file, select a course of action for the file from the Logical Drive Markbad dialog box. This box displays the name of the file, the address location of the bad sector and cluster in the logical drive, and your choices for a course of action.

Note: The Logical Drive Markbad dialog appears only when Markbad flags bad sectors in allocated clusters. An allocated cluster is a cluster that has been assigned to a file.

Select **Delete File** to erase the file or **Skip Over Bad Sector** to preserve the undamaged portions of the file. Select **Ignore Bad Sector** to leave the file unchanged. (Select **Ignore Bad Sector** if you want to examine the file before taking action.)

If bad sectors are found in a subdirectory file, select a course of action for the subdirectory from the Logical Drive Markbad box. This box displays the name of the subdirectory, its address location, and your choices for a course of action.

4. Select **Delete Directory Only** to delete the directory structure and save the deleted directory files to the root directory. All files saved to the root directory will be named *TMPnnnn* where *nnnn* stands for the starting hexadecimal cluster address of the file. Select **Delete Directory And Files** to delete the directory structure and all of its files. Select **Ignore Bad Sector** if you don't want to take any action at all.

Note: If a bad sector is found in a lost cluster, an alert box appears giving you the option of marking the cluster. A lost cluster is a segment of data that is unaccounted for and inaccessible to the system.

5. When Markbad finishes scanning the disk, a Logical Drive Markbad tally box with the total count of newly found bad sectors and the count of all previously found bad sectors appears.

Organizing and Maintaining your Hard Disk

The larger storage capacity of a hard disk means that careful folder and file organization is more important than ever. When planning and using your folder structure, keep the following tips in mind.

- Use folder names that describe the types of files in the folders
- Limit the number of files in the root directory
- Delete unwanted files to free up disk space for new files

Backing Up the Hard Disk

It is important to frequently back up your hard disk data. Otherwise, accidentally deleted or damaged files will be lost forever. As a general rule, it is good practice to back up new or modified files after each session at your computer.

To back up your data, regularly copy important files or folders onto floppy disks and store them in a safe place. In addition to the copy option, you can use one of the many hard disk backup programs available through your Atari dealer or Atari user groups (see **Customer Support.**)

Optimizer Programs

An optimizer program checks the structure of your hard disk and rearranges files and free space on the disk. The multiple sectors of each file are grouped together. Contiguous free space is placed either at the top of the disk (to increase the speed of writing new files to the disk) or at the bottom of the disk (to increase the speed of accessing existing files). Back up your data, then use a file optimizer program regularly to increase the speed and efficiency of your hard disk drive and to reduce the possibility of data corruption and loss.

Use one of the many hard disk optimizer programs available through your Atari dealer or Atari user groups (see Customer Support).

Extended Partition Schemes

Creating an extended partition scheme is an option for advanced users. You will probably never need to use this option in the normal operation of your computer.

There are four slots on your hard disk that keep track of partition information. You can fill each slot with a standard partition, and have each partition represented on your desktop by a logical drive. Or you can fill one of the four slots with an extended partition to obtain more than four logical drives.

An extended partition is subdivided into more than one partition. This allows you to have more than one logical drive representing that slot.

Note: To store system startup data the first partition must be a standard partition. This partition is always assigned to the first slot. You cannot select the first slot to contain the extended partition. You must use one of the three remaining slots to contain your extended partition.

Supporting MultiTOS as your primary operating system, HDX.PRG will automatically choose slot number two to contain your extended partition. However, if you plan to use more than one operating system, it may be useful to choose the specifics of the partition assignments. Some operating systems will not recognize an extended partition scheme. The partitions you use with these operating systems must be standard partitions.

The Expert option of the Edit Partition Scheme dialog box allows you to choose which slot will contain the extended partition, and which of four slots will contain standard partitions.

The Select the extended partition scheme dialog box displays the current extended partition scheme. The Partition section on the left side of the dialog box shows the partition number, size, and range of each partition.

The Extended Partition Range dialog box on the right side of the dialog box allows you to choose which slot will contain the extended partition scheme. The Extended Partition Range dialog box displays each slot's range of partitions.

All four slots of the Extended Partition Range box contain partition information. The first slot contains partition one. The second slot contains the extended partition, which is subdivided as partitions two through eight. The partitions included in the extended partition are always highlighted. The third slot includes partition nine, and the fourth slot contains partition ten. Slots one, three and four contain standard partitions.

Other Advanced Hard Disk Utilities Disk Files

- HDX.RSC is a GEM resource file used by HDX.PRG.
- WINCAP is a text file the includes information used by HDX.PRG.
- HINSTALL.RSC is a GEM resource file used by HINSTALL.PRG.
- SHDRIVER.RAW is used with HINSTALL.PRG to create SHDRIVER.SYS, the hard disk driver file that directs your system to start from a hard disk.

C Troubleshooting and Maintenance

Troubleshooting

If you run into problems while operating your computer, don't panic. You can probably fix it yourself. This section describes some common problems and suggests solutions.

Note: The most common and easily fixed problem is failure to switch on the power to the computer. Always check this first before exploring other possibilities.

The Computer Will Not Start Up

If the power light will not come on or the screen stays dark, follow these steps:

1. Shut down the computer and all attached peripherals (e.g., external drives, printer etc.).

2. Make sure the the the power cable is securely fastened.

3. Check your wall socket or power strip by plugging in a desk lamp or appliance.

4. Switch on all peripherals, then start up the Falcon030.

5. Check the contrast adjustments on the monitor. Turn up the adjustment knob if necessary.

No Desktop

If the Power LED comes on, the screen brightens, but the desktop does not display, you may have a bad desk accessory file in your startup disk or folder.

To bypass the desk accessory, warm boot the system (i.e., press [Control] [Alt] [Delete]) then hold down [Control] for a few seconds after the Atari logo appears on the screen.

The system warm boots, but bypasses the software (e.g., Auto folder, desk accessories etc.) Disable the files that are suspect, then try starting up the system again.

Software Problems

If you have problems with an application, it may be that the software contains imperfections (bugs). Try clearing the memory by cold booting your system (pressing [Control], [Alt], [Right Shift], [Delete]). Reopen the application. If this helps, it may mean the application experienced a momentary failure.

If you still experience problems, make a new working copy of the application from the original application disk onto a newly formatted floppy disk. Try running the application from the new copy.

If you are running the application from a hard disk, remove the questionable file from the hard disk and copy it again from the original application disk back onto the hard disk. If this works, the problem is probably with the original working copy of the application file. If none of your disks work properly, you may need to replace your original application disk.

You may find that some older programs (especially games) do not run properly with the Cache option turned on. If you think this may be the problem, make sure the Cache option is off before running the program.

Bombs

Sometimes applications develop errors that are potentially damaging to the computer's operating system. When such an error occurs, MultiTOS detects the error and terminates the program. In most cases, MultiTOS will also clean up the memory affected by the terminated program, and return to the desktop. However, during extreme program failures, as a signal to you, MultiTOS displays one or more bombs across the screen and attempts to recover from the error.

To protect the computer's operating system, immediately perform a keyboard cold-boot when you see bombs displayed. If the problem recurs, discontinue using the program.

The Hard Disk Drive

Some symptoms identify the hard disk drive as the source of the problem. If you have an external hard disk many problems can be easily remedied using the Advanced Hard Disk Drive utilities.

Optional Internal IDE Hard Disk

If your system contains an IDE hard disk, the hard disk will require a different formatting and partitioning procedure. The internal hard disk is already prepared for you and should be accessible immediately after starting the system. If the system cannot recognize the hard disk for some reason, such as a corruption of data, take the following steps to correct the problem:

Common Problems

Use the following table to identify and correct common hard disk drive problems.

Problem	Suggested Solution
Hard disk drive icon C does not appear when you switch on your system.	If you are starting your system from a floppy disk drive, make sure the startup disk contains AHDI.PRG in the AUTO folder. If you are starting your system from the hard disk, AHDI.PRG must be copied to the AUTO folder on drive C. If you have AHDI.PRG in the proper folder and the system still does not display disk icon C, you may need to reformat the drive. (See Formatting in Appendix B.)

Problem	Suggested Solution
The system will not start from the hard disk.	Run the hard disk driver installation program (HINSTALL.PRG.) If the problem continues, the hard disk should be backed up and reformatted. (See Internal IDE Hard Disk in this Chapter.)
An application program will not start from the hard disk.	The program contains garbled data or was not designed to start from a hard disk.
	Try starting your system from the floppy disk drive with a working copy of the program. Attempt to run the program from the program disk. If it still will not run, contact the program's manufacturer for more information.

Identifying and Replacing or Erasing Corrupted Data

If you still have problems, your hard disk may have developed unusable data. Unusable data appears altered or is unusable. Try erasing individual bad files and replacing them with valid backups. If replacement is not possible, follow these steps to try and recover data:

1. Run the Markbad option of the HDX program on the Atari Advanced Hard Disk Utilities disk (as described in Marking Bad Sectors) in each logical drive containing unreadable data. Recover as much data as possible.

2. Back up the data recovered from the logical drive onto floppy disks.

3. Erase all data in the problem logical drive(s) with the Zero option of the HDX program and run Markbad on the logical drive again.

4. Copy the data you backed up on to the logical drive.

If the main drive (drive C) contains unreadable data, you may not be able to start your system from the hard disk. Use a working copy of the Atari Advanced Hard Disk Utilities as a floppy startup disk to start the system. Follow the steps above, then install the hard disk driver as described in this appendix.

Error Messages

If an error message appears while you run one of the Atari programs from the Atari Advanced Hard Disk Utilities disk, the problem is usually something easily remedied. If you aren't sure what to do when an error message appears, read the message carefully for a suggested solution. If there is no suggested solution, find the message in the alphabetical list below and try the solution suggested.

Error Message	Program/ Option	Suggested Solution
Bad Sector List is corrupted! [OK]	HDX Format Partition Zero Markbad	See message.

Error Message	Program/ Option	Suggested Solution
Cannot create driver destination! [OK]	HINSTALL	Your root directory may be file at full. You need to delete data to make room for the driver file.Or, your root directory may be corrupted. If so, back up as much data as you can and reformat the drive.
Cannot find format parameters for disk type <disk type name> [OK]	HDX	Make sure the original WINCAP file is on the disk with HDX.
Cannot find partition scheme <selected partition scheme> [OK]	HDX	This partition scheme is not a Partition recognized by HDX. Make sure you are using your original WINCAP file.
Cannot format <selected unit>! Try checking all connections and reformatting. [OK]	HDX Format	Warning: Do not modify the WINCAP file. Doing so may destroy the disk. Make sure your hard disk is securely connected. Then reformat the drive.

Error Message	Program/ Option	Suggested Solution
Cannot open drive source file! OK]	HINSTALL Install	Make sure the SHDRIVER.RAW file is on the disk with HINSTALL.PRG.
Cannot partition <selected unit>! Try reformatting. [OK]	HDX Partition	See message.
Cannot read Bad Sector List from the disk! Try backing up the disk and reformatting. [OK]	HDX Format Partition Zero Markbad	See message.
Cannot read Boot Sector from the logical drive. Try backing up the disk and reformatting. [OK]	HDX Zero Markbad HINSTALL Install	See message.
Cannot read File Allocation Table from the logical drive! Try backing up the disk and reformatting. [OK]	HDX Partition Zero Markbad	See message.
Cannot read from directory! Try rerunning Markbad on this logical drive when the current Markbad is completed. [OK]	HDX Markbad	See message.

Error Message	Program/ Option	Suggested Solution
Cannot read Root Directory entries from the logical drive! Try backing up the disk and reformatting. [OK]	HDX Markbad	See message.
Cannot read Root Sector from the disk! Try backing up the disk and reformatting. [OK]	HDX Partition HINSTALL Install Remove	See message.
Cannot save any more files in the root directory! Deleting the remaining lost clusters of the subdirectory will free up disk space. [OK] [CANCEL]	HDX Markbad	When the Markbad option found a bad sector in a sub-directory, you directed the program to save the deleted directory's files to the root directory. There is no more room in the root directory for the files. Either select OK to delete the rest of the directory's files or select CANCEL to use a disk utility that can recover the directory's files.
Cannot write Bad Sector List to the disk! Try backing up the disk and reformatting. [OK]	HDX Format Partition Zero Markbad	See message.

Error Message	Program/ Option	Suggested Solution
Cannot write Boot Sector to the logical drive! Try backing up the disk and reformatting [OK]	HDX Zero Install	See message.
Cannot write driver file to destination!	HINSTALL Install	HINSTALL cannot write to the root directory of the drive. Try backing up the hard disk and reformatting it.
Cannot write Header to the logical drive! Try backing up the disk and reformatting. [OK]	HDX Zero	See Message.
Cannot write Root Directory entries to the logical drive! Try backing up the disk and reformatting. [OK]	HDX Markbad	See message.
Cannot write to Directory! Try rerunning Markbad on this logical drive when the current Markbad is completed. [OK]	HDX Markbad	See message.
Driver file does not exist! [OK]	HINSTALL Remove	The driver file SHDRIVER.SYS has not been installed or is missing.

Error Message	Program/ Option	Suggested Solution
File Allocation Table is corrupted! Try backing up the logical drive and zeroing. [OK]	HDX Markbad	Back up the logical drive, erase its data with the HDX Zero option, run Markbad, and restore your data.
Format parameters in the root sector are corrupted! Please reformat the disk. [OK]	HDX Partition	See message.
HDX.RSC [OK]	HDX	The HDX.RSC file is either missing or damaged. Copy the HDX.RSC file from the original Atari Advanced Hard Disk Utilities disk onto your working copy of the disk.
No menu items available for this disk's capacity [OK]	HDX Partition	Use the Edit Partition Scheme dialog box to set partition sizes.
Not enough system memory. Cannot continue. [OK]	HDX HINSTALL	Your computer's memory capacity is too low to run these programs. You need a minimum of 512 kilobytes of system memory.
Reserved sectors are bad! Try backing up the disk and reformatting it. [OK]	HDX Format Partition	See message.

Error Message	Program/ Option	Suggested Solution
Selected partition scheme is for a bigger capacity unit. Please select another one. [OK]	HDX Partition	See message.
Too many bad sectors to record. Try backing up the disk and reformatting. [OK]	HDX Markbad	See message.
Too many logical drives! You cannot have more than 14 logical drives. [OK]	HDX Format Partition	You cannot have more than 14 logical drives on your system. Repartition disks as necessary.
Unrecognized boot sector! Either this logical drive's boot sector is corrupted, or another utility was used to partition this disk. [OK]	HDX Zero Markbad	Before you can use Zero or Markbad, you must back up your hard disk (if necessary) and reformat with HDX format.
WINCAP file not found! Cannot continue. [OK]	HDX	Copy the WINCAP file on the Advanced Hard Disk Utilities disk to the disk from which you are running HDX.
Your system will have to reboot when you quit HDX, for new disk information to take effect.	HDX Format Markbad	No action required. Your system will reboot when you quit HDX, so the disk parameters you changed can take effect. Any data in RAM will be lost.

C-12   Troubleshooting and Maintenance

Preventive Maintenance

To ensure top performance from your Falcon030 computer system, follow the guidelines in this section.

Caring for the Computer

- Avoid dusty or greasy work areas.
- Keep all components out of direct sunlight.
- Avoid smoking near the computer system.
- Always switch off the system before cleaning it. Clean the outside of components with a soft, slightly damp, lint-free cloth only. Do not use cleansers, abrasives, or solvents.
- To ship or store the system, repack it in the original factory packing materials.

Caring for Floppy Disks

- Do not insert or remove disks while the floppy drive's busy light is lit.
- Keep disks away from sources of magnetism (such as monitors, televisions, electric motors, and telephones).
- Never touch or clean a disk's magnetic recording surface inside the plastic casing.

Caring for the Mouse

Your Atari mouse is designed to last through years of use as long as it's handled properly. Follow these guidelines for mouse care:

- Don't drop the mouse.
- Don't let the mouse hang by its tail.
- Keep the surface on which you move the mouse smooth and clean.

Cleaning the Mouse

You'll need to clean the mouse periodically to ensure its proper operation. Follow the steps below:

Turn the mouse upside down in your hand with its tail pointing toward you.

2.   Place two fingers on the arrows on either side of the roller opening on the bottom of the mouse. Push down and away from you until the roller panel pops loose. Remove the panel.
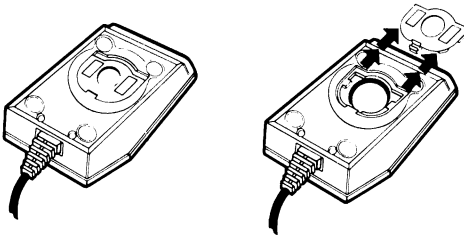
3.   Holding one hand over the mouse, turn the mouse over so the roller drops into your hand.

4.   Use a soft, clean, dry cloth to wipe the roller clean. DO NOT USE cleaning fluid or a lint-creating tissue.

Gently blow into the roller housing to get rid of dust.

6.   Replace the roller in its housing. Reinsert the roller panel, then push it down and backwards until it locks in place.

A Final Note

Your Falcon030 system is designed for low maintenance and high reliability. But like anything electronic and mechanical, the equipment can break down.

C-14   Troubleshooting and Maintenance

If you experience problems that appear serious, take the computer (or any other component) to an authorized Atari service center. For the location of the nearest Atari service center, contact your Atari dealer or Atari Customer Support. (See *Appendix F: Customer Support).*

D Falcon030 Specifications

System Architecture
- CPU: Motorola 68030 operating at 16 MHz
- 3.84 MIPS performance at 16 MHz
- On-chip demand-paged memory management
- Separate on-chip 256-byte instruction and data caches
- Independent address and data buses for increased performance.
- Pipelined architecture
- BUS: 32-bit data; 32-bit address
- FPU: Optional Motorola 68881/2 operating at 16 MHz
- RAM: 1-, 4-, or 14-MB configurations
- ROM: 512 KByte internal; 128 KByte external cartridge

Digital Signal Processor
- Motorola 56001 DSP operating at 32 MHz
- 16 MIPS performance at 32 MHz
- 32 KWords of zero wait-state RAM
- DSP connector allows easy connection of low-cost 19.2K baud fax/data modems, voice-mail systems, direct-to-disk digital audio recorders, JPEG/MPEG image compression, etc.

Expansion Bus
- Internal direct processor slot for 386SX PC emulation, DMA coprocessors, etc.
- Optional processor socket for other coprocessors

Sound
- Eight 16-bit digital audio DMA record and playback channels with up to 50-kHz sampling rate.
- Stereo 16-bit digital DMA audio output
- Stereo 16-bit digital DMA audio input
- SDMA sound/DMA coprocessor

Graphics
- Super VGA: 640 x 480 256 colors
- True color 16-bit mode: allows display of up to 65,536 colors.
- Accepts external video sync signal to allow high-quality genlocking
- Overlay mode for easy video titling and special effects
- Optional overscan
- 262,144 possible colors
- Hardware-assisted horizontal fine scrolling
- BLiTTER graphics coprocessor

Standard Ports
- SCSI II port with Direct Memory Access (DMA)
- High-speed LocalTalk-compatible LAN port
- Connector for analog RGB color (VGA or ST) or composite video
- RS232C serial port
- Bi-directional parallel printer port (also suitable for image scanners)
- Cartridge port (128 KByte capacity)
- MIDI IN / MIDI OUT
- Stereo microphone input: miniature stereo plug
- Stereo audio out: miniature stereo plug
- Two 9-pin joystick connectors
- Two 15-pin enhanced digital/analog controller and light pen connectors

Data Storage
- 1.44-MB floppy disk drive
- MS-DOS format compatible
- Optional internal IDE hard drive

User Interface
- Standard QWERTY keyboard layout; low-profile, sculptured ergonomic design
- 94/5 keys; ten function keys; separate numeric and cursor keypads
- Keyboard processor to reduce CPU overhead
- Two-button mouse supplied as standard

System Software
- Pre-emptive multitasking with adaptive prioritization (MultiTOS)
- Inter-process communication through MultiTOS messages and pipes
- Hierarchical file system with subdirectories and pathnames
- Icon-based graphical user interface with self-explanatory command functions
- On-line help
- TOS   operating system in ROM
- Multiple window user interface with icons and drop-down menus
- NewDesk desktop and eXtensible Control panel allows customization by user

E Connector Specifications

DSP Connector

DB26 Female

```
 9 /●●●●●●●●●●\  1
18 |●●●●●●●●●●●| 10
26 \●●●●●●●●●/  19
```
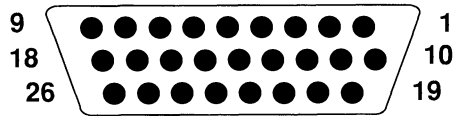
SCSI Connector

SCSI II Female

```
25 /⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍\  1
50 \⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍/ 26
```
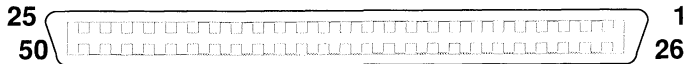
Pin	Signal	Pin	Signal
1-10	GND	37	Not Connected
11	+5V	38	+5V
12-14	Not Connected	39	Not Connected
15-25	GND	40	GND
26	SCSI 0	41	ATN
27	SCSI 1	42	GND
28	SCSI 2	43	BSY
29	SCSI 3	44	ACK
30	SCSI 4	45	RST
31	SCSI 5	46	MSG
32	SCSI 6	47	SEL
33	SCSI 7	48	C/D
34	Parity	49	REQ
35-36	GND	50	I/O

Serial Port

DB9 Male

```
1 \●●●●●/ 5
6 \●●●●/ 9
```
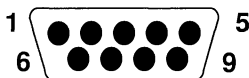
Pin	Signal
1	Carrier Detect
2	Receive
3	Transmit
4	Data Terminal Ready
5	GND
6	Data set ready
7	Request to Send
8	Clear to Send
9	Ring Indicator

Parallel Port

DB25 Female

13 ●●●●●●●●●●●● 1
25 ●●●●●●●●●●●● 14
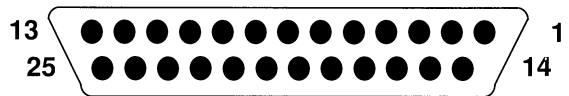
Pin	Signal
1	Strobe
2	Data 0
3	Data 1
4	Data 2
5	Data 3
6	Data 4
7	Data 5
8	Data 6
9	Data 7
10	Acknowledge
11	Busy
12-16	Not Connected
17	Select
18-25	GND

Monitor Connector

DB19 Male

```
10 ⎛ ● ● ● ● ● ● ● ● ● ● ⎞ 1
11 ⎝  ● ● ● ● ● ● ● ● ● ⎠ 19
```

Pin	Signal
1	Red
2	Green
3	Blue
4	Mono/Overlay
5	GND
6	Red GND
7	Green GND
8	Blue GND
9	Audio out
10	GND

Pin	Signal
11	GND
12	Composite Sync/Video
13	Horizontal Sync
14	Vertical Sync
15	External Clock Input
16	External SYNC Enable
17	+12V
18	M1
19	M0

SCC Connector
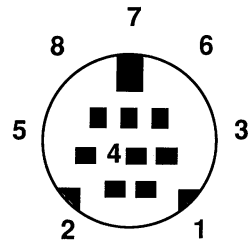
8-pin Mini DIN Female RS - 422

Pin	Signal
1	Handshake Output (DTR RS 423)
2	Handshake Input or External Clock
3	- Transmit Data
4	GND
5	- Received Data
6	+ Transmitted Data
7	General-purpose Input
8	+ Receive

Enhanced Joystick

DB15 Male

```
 5 ( ● ● ● ● ● )  1
10 (               )  6
15 ( ● ● ● ● ● ) 11
```
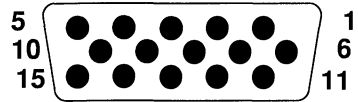
Port A

Pin	Signal
1	UP 0
2	DOWN 0
3	LT 0
4	RT 0
5	PAD0Y
6	FIRE 0 / LIGHT GUN
7	VCC (+5 VDC)
8	Not Connected
9	GND
10	FIRE 2
11	UP 2
12	DOWN 2
13	LT 2
14	RT 2
15	PAD0X

Port B

Pin	Signal
1	UP 1
2	DOWN 1
3	LT 1
4	RT 1
5	PAD1Y
6	FIRE 1
7	VCC
8	Not Connected
9	GND
10	FIRE 3
11	UP 3
12	DOWN 3
13	LT 3
14	RT 3
15	PAD1X

MIDI Port

DIN 5 Female
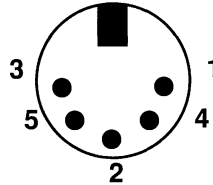
MIDI OUT

Pin	Signal
1	Thru Transmit
2	GND
3	Thru Loop Return
4	Out Transmit
5	Out Loop Return

MIDI IN

Pin	Signal
1	Not Connected
2	Not Connected
3	Not Connected
4	In Receive
5	In Loop Return

F Customer Support

Atari Corporation welcomes inquiries about your Atari computer products. We also provide technical assistance. Write to Customer Relations at an address listed below.

Atari user groups also provide outstanding assistance. To receive a list of Atari user groups in your area, send a self-addressed, stamped envelope to an address below.

In the United States, write to:

Atari Corporation
Customer Relations
P. O. Box 61657
Sunnyvale, CA 94088

In Canada, write to:

Atari (Canada) Corp.
90 Gough Road
Markham, Ontario
Canada L3R 5V5

In the United Kingdom, write to:

Atari Corp. (UK) Ltd.
P. O. Box 555
Slough
Berkshire SL2 5BZ

Please indicate User Group List, Technical Assistance, or the subject of your letter on the outside of the envelope.

Glossary

.ACC The desk accessory extension.

ACSI Atari Computer System Interface. ACSI is a hardware and software control procedure used to connect devices to the computer's Hard Disk port (DMA channel).

active window The window on GEM Desktop that is currently available for desktop operations such as selecting, copying, moving, and deleting items. The active window is the only window that you can scroll, update, move, or resize.

alert box A dialog box designed to bring something to your attention. Alert dialog boxes are punctuated with stop signs, question marks, or exclamation points.

.APP An executable GEM program file extension.

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

back up To make an archive copy of a disk or file. Backing up disks ensures that information is not lost if the disk is accidentally damaged or erased.

baud The standard unit 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.

bee icon The icon displayed on screen whenever the computer transfers or retrieves information from the disk drive. You cannot proceed to another action while the bee icon is on screen.

bit The smallest unit of computer data (a binary digit). Eight bits equal one byte. (See byte.)

boot Initial system load procedure. If the procedure for loading your system is in ROM, booting is accomplished by switching on your system. (See coldstart and warmstart.)

boot disk A disk containing the system files needed to boot a computer.

busy light The light on a disk drive indicating that the drive is reading from or writing to a disk.

byte A unit of computer data. Each byte consists of eight bits, providing 256 possible values. For example, the letter ä'is stored in memory as one byte. (See bit and kilobyte.)

cache A special coprocessing circuit found in most Atari TOS computers that greatly improves the speed operations.

CD-ROM drive A computer-controlled device that reads high-capacity optical discs and sends the output to the computer.

click To quickly press and release a mouse button. A click on the left mouse button selects items on the desktop. (See double-click and shift-click.)

clock/calendar The file-dating feature built into the computer and set from the Control Panel.

close box The small box in the upper left corner of an active window, used to close the current window.

coldstart Booting the computer by switching the power off and on or pressing [Control] [Alt] [Right Shift] [Delete]. A coldstart can be initiated while the computer is running by switching off the power for 10 seconds, then switching it back on. A coldstart completely initializes the system. (Compare to warmstart.)

configure To customize the computer system to your preferences by setting colors, baud rate, confirmation, and so on.

control panel A desk accessory used to alter and set many of the system's features and options, such as the color palette, mouse and keyboard response, and the clock/calendar.

copy A command used to duplicate the information in a file, folder, or disk.

current directory The directory currently displayed in a window, as specified by the pathname in the move bar.

cursor A marker that appears on the screen to indicate the position of the next action. Text cursors are usually either a blinking block or a solid vertical line. The mouse pointer is sometimes called a cursor.

daisywheel printer A type of printer that uses a rotating wheel to impact characters against a ribbon and onto the paper.

data file A collection of information used by an application. Data file icons look like sheets of paper with one folded corner.

default A value, option, or setting that the computer automatically selects until you direct it otherwise. For example, items on the desktop are shown as icons, by default, unless you change the option in the View menu.

desk accessory An application loaded into memory from the startup disk when you switch on your computer. Desk accessories can be accessed either directly from the desktop or from an application that uses the menu bar format. Desk accessory files are identified by the .ACC extension.

desktop The main screen for the computer. It includes (but is not limited to) the menu bar, two disk icons, and the trash icon.

destination disk The disk that information is written to during a copy procedure.

dialog box An interactive message box that the computer uses to communicate with you. To exit a dialog box, you must acknowledge the message or choose an option.

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

disk drive The most common data storage device. The computer uses the disk drive to read information from or write information to a disk.

disk identifier The letter in a pathname indicating which disk is in use. The letter is always followed by a colon (:) and a backslash (\). A disk identifier appears by itself in the move bar of a directory window when the root directory displays.

diskcopy A procedure that duplicates data from one disk to another disk.

DMA port A high-speed peripheral port for attaching a hard disk drive, CD ROM drive, or other DMA device to the computer. DMA is an acronym for Direct Memory Access. (See ACSI.)

document A collection of data you create or modify using an application. Documents can contain text, graphics, or both. Also called a file. (See file.)

document type See extension.

dot matrix printer A type of printer that forms characters and graphics by printing small dots.

double-click Two quick clicks on a mouse button. A double-click on the left mouse button opens a file, disk, or folder.

double-sided Allowing use of both sides of a disk. A double-sided disk has both sides of its magnetic media certified as safe for storing data. A double-sided (high-density) disk can store up to 1,458,176 bytes of data. A double-sided disk drive can read, write to, and format both single- and double-sided disks. (Compare to single-sided.)

drag To move an item on the desktop. To drag, point the mouse pointer at an item, press and hold down the left mouse button, and move the mouse. While the item is being dragged, a ghost outline of the item appears on the desktop.

drop-down menu A list of options that appears below a menu heading when you touch the menu bar heading with the mouse pointer.

editable text field A dashed line in a dialog box where you can type characters.

expansion connector An internal connector that permits installation of additional specialized hardware with your computer. The signals provided include a direct extension of the microprocessor bus.

extension The characters to the right of the period in a filename. Extensions that represent the file type are mandatory. An extension can have up to three characters (letters and numbers). Some common extensions are .ACC, .APP, .PRG, .TOS, .GTP, and .TTP.

file A collection of information that can be stored on a disk or in the computer's memory.

file selector A dialog box, opened from an application, that lists files and folders. The File Selector dialog box can be accessed from the application.

file specification The search criteria used in a file selector.

filename The name of a file, made up of a mandatory name and an extension, separated by a period. (See extension and filename.)

floppy disk A magnetic medium used to store information generated on a computer. The disk is made of material similar to audio tape.

folder A subdirectory for storing files and other folders. A folder appears as a folder icon (manila folder) on the desktop, or with a folder symbol (small box) next to its name when shown as text.

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

full box The small box in the upper right corner of a window, used to change the size of a window alternately between a smaller screen and a full-screen.

function keys The keys [F1] through [F10] along the top edge of the computer keyboard. Many applications use these keys to perform special actions.

GEM The portion of TOS that creates and manages all the windows, icons, menus, and graphics features of the computer. GEM is an acronym for Graphics Environment Manager.

hard disk A device used to store data on a magnetic surface. A hard disk drive can store far more data than a floppy disk drive, and can read and write information many times faster.

hardware The actual physical apparatus of your computer system. (Compare to software.)

icon A picture on the desktop that represents a disk, file, folder, or procedure. The disk icon looks like a filing cabinet; the data file icon looks like sheets of paper with one corner folded; the program file icon looks like a small desktop; the folder icon looks like a manila folder; the trash icon looks like a trash can; and the bee icon looks like a bee.

information line The line at the top of a directory window immediately below the move bar, telling how many bytes are used by the items listed in the directory, and how many items there are.

initialize To set the computer to its starting configuration.

input/output (I/O) The communication process that takes place between the computer and a peripheral device such as a disk drive or printer. Input is information the computer receives (that is, it is sent in); output is information the computer transmits (that is, it is sent out).

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

kilobyte 1,024 bytes of data. (See Byte.)

laser printer A high-speed, high-resolution printer that electrophotographically produces an image on paper. The Atari SLM804 is a laser printer.

megabyte 1,024 kilobytes of data. The abbreviation for megabyte is MB. (See kilobyte.)

memory The internal or external media that the computer uses to store data and programs. There are two kinds of computer memory: RAM (Random Access Memory) and ROM (Read-Only Memory). RAM loses its data if the power is turned off; ROM retains its information whether the computer has power or not.

menu bar A bar at the top of the desktop. When you first start up your system, the headings on the menu bar are Desk, File, View, and Options. Other application programs may have different headings in the menu bar.

MIDI A standard interface designed to connect a computer to a number of electronic musical devices. MIDI is an acronym for Musical Instrument Digital Interface.

modem A device that enables you to connect your computer directly to telephone lines in order to establish a communication link with other computers and on-line information networks. Also, the port on the computer for connecting a modem or other serial device. Modem is a contraction of MOdulator/DEModulator.

monitor See video display.

mouse A small, hand-manipulated device connected to your computer that controls the movement of a pointer on the desktop. As you slide the mouse, a small roller on the bottom tracks the movements. The mouse has two buttons. The left button is used for most desktop operations. The right button is used with some applications.

move To move files or folders from their original locations to a different folder and/or disk.

move bar The bar at the top of an active window. Use the move bar to drag a window to a new location on the desktop.

MS-DOS Microsoft Disk Operating System. An operating system used with IBM PCs and compatibles. Floppy disks formatted on your Atari computer are compatible with PC systems using MS-DOS and 3--inch floppy drives.

MultiTOS Atari's multitasking operating system.

name The identifying name of a file. A name is mandatory and can have up to eight characters (letters and numbers).

NEWDESK.INF The file that holds your customized desktop data. NEWDESK.INF must be in the root directory of the boot disk in order for the computer to read it during booting.

option An item in a drop-down menu that enables you to manipulate the desktop and the elements on it.

parallel port An interface which accepts the simultaneous transmission of more than one bit. (See serial port.)

parameter Data given to a program that controls its operation.

pathname The list of items that specifies the path through the subdirectories on the disk to the current directory. A pathname consists of a disk identifier and a string of folders separated by backslashes (for example A:\document\text\). It may also contain a file specification.

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

pixel A dot on the computer's video display. Pixels are arranged in a grid, and set to 640 x 400 dots per grid. Pixel is short for picture element.

pointer The small image on the screen that moves when you move the mouse. The mouse pointer is usually an arrow, but it may change to other shapes such as a bee icon during certain procedures.

.PRG A GEM application file extension.

program A detailed and explicit set of instructions for accomplishing some purpose, expressed in a language that can be read by a computer. (See also Application.)

program file A file that contains an applications program. The program file icon looks like a small desktop. Double-click the left mouse button on a program file to execute the program.

prompt Any symbol or message on screen indicating that the computer is awaiting input from the user.

RAM The part of the computer's memory 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. RAM is an acronym for Random Access Memory.

RGB The color signals that the computer produces to create its special color display. The combinations of different intensities each of red, green, and blue enable you to create thousands of colors with most Atari TOS computers.

ROM The part of the computer's memory containing the operating system. ROM never changes, and retains its information with or without power to the computer. ROM is an acronym for Read-Only Memory.

root directory The first directory displayed when you open a disk. The root directory is specified by the disk identifier alone (such as A:\).

RS232 An industry-standard connection for serial peripherals. The RS232 port on the back of the computer is labeled Modem.'This port is sometimes referred to as the serial port.

scroll Scrolling allows different areas of a window to be displayed. You can scroll left, right, up, or down.

scroll bar One of two bars that border an active window on the bottom and right edges. The scroll bars contain the scroll arrows and are shaded if part of the window's contents cannot be seen. The larger the shaded portion, the greater the percentage of the window's contents that is hidden from view.

sector A section of a track on a hard or floppy disk. Sectors are usually 128, 256, 512, or 1024 bytes long. On a floppy disk, the sectors are 512 bytes long. (See track.)

selecting Clicking the left mouse button on an icon, file, or menu option. Selected icons and files highlight to indicate the selection.

serial port An interface which accepts the transmission of data one bit at a time. (See parallel port.)

shift-click Clicking with the mouse button while holding down the [Shift] key.

single-sided Allowing use of one side only of a floppy disk. A single-sided disk has only one side of its magnetic media certified as safe for storing data. A single-sided disk can store up to 357,376 bytes of data. A single-sided disk drive can read, write to, and format only single-sided disks, or double-sided disks that have been formatted as single-sided. (Compare to double-sided.)

size box A small box at the lower right corner of a window, used to change the window's size or shape.

sizing The process of changing the size or shape of a window.

software The instructions used by your computer to process data. (Compare to hardware.)

source disk The disk from which information is copied during a Diskcopy procedure.

startup disk A disk that usually contains desk accessories, applications, and a desktop configuration (DESKTOP.INF) file. Insert a startup disk in the floppy drive before the computer is switched on.

subdirectory A directory inside a directory; often called a folder. (See root directory.)

.TOS The TOS application file extension.

track One of the circular sections of a disk that can store data. Each track is made up of smaller sections called sectors. (See sector.)

trash can GEM Desktop icon used to permanently delete files or folders from the desktop.

.TTP The TOS-takes parameters file extension.

video display A device containing a video screen that you and your computer use to communicate.

warmstart (warm-boot) Rebooting the computer by pressing the Reset button on the back of the computer or pressing [Control] [Alt] [Delete]. A warmstart only partially initializes the system. (Compare Coldstart.)

wildcard A question mark (?) or asterisk (*) character used in a file specification to specify the search criterion. ?'replaces one character; *'replaces all characters to the end of the first name or extension.

window The work area that the computer uses to display files and folders or to run programs. Multiple windows can be open on the desktop at one time.

write-protect To mechanically prevent a disk from being formatted, erased, or written to. To write-protect a disk, move the write-protect tab so you can see through the notch.

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