

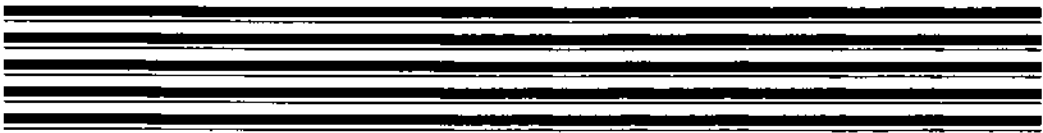
*Using The*  
**AMIGA<sup>®</sup> Workbench**



Commodore<sup>®</sup>



# *Using The AMIGA® Workbench*



Commodore®

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Part no. 368244-01; Rev. 1, First Printing, July 1991.

# About Your Documentation

Three standard documents are included with your Amiga:

**1. Quick Connect – How to Set Up the Amiga**

This booklet, which folds out into a large poster, shows you how to connect your Amiga equipment and any peripherals, such as a monitor or printer. You can hang this poster in a convenient spot while you follow the set up instructions.

**2. Introducing the Amiga**

This manual describes the major components and features of your Amiga, and tells you what to expect when you first turn on the computer. The manual also introduces you to the Amiga **Workbench™**, which is the software interface that lets you interact with your computer through graphic symbols appearing on the screen. The expansion capabilities of the Amiga are also covered.

**3. Using the Amiga Workbench**

This manual explains how to use the software packaged with your computer. The manual begins with a tutorial aimed at the first-time user. Subsequent chapters explain the Workbench software in detail. An introductory chapter covering the basics of AmigaDOS is also included.

Here's what's in each chapter and appendix:

**Chapter 1, Tutorial**, takes you step-by-step through the elementary tasks involved in using your Amiga.

**Chapter 2, Basic Operations**, expands on the tutorial to provide a more detailed explanation of how the Amiga works.

**Chapter 3, Preferences**, tells you how to properly set your Amiga to work with monitors, printers, and other peripheral devices and how to customize your Workbench screen (e.g., by changing colors and type fonts).

**Chapter 4, *The Workbench Programs***, explains all the programs on the Workbench disk, like Say, which lets you enter text for the Amiga to speak.

**Chapter 5, *The Extras Programs***, explains all the programs on the Extras disk, like GraphicDump, which lets you print out screen images.

**Chapter 6, *MEMacs***, explains the MEMacs text editor which is included on the Extras2.0 disk.

**Chapter 7, *Introducing AmigaDOS***, introduces you to the basic concepts behind AmigaDOS. The discussion includes a description of the Shell, a keyboard-based interface that lets you run programs and perform basic operations through typed commands. Several of the most common AmigaDOS commands are also explained.

**Appendix A, *Troubleshooting***, contains a list of possible problems and suggested solutions.

**Appendix B, *Printers***, lists many of the printers that can be used with the Amiga, as well as the standard printer escape sequences.

**Appendix C, *Fountain***, explains the Fountain program on the Extras2.0 disk. This program allows you to use outline fonts with your Amiga.

The *Glossary* defines important terms used throughout the manual.

# How To Use This Documentation

If you have never used an Amiga before, read *Quick Connect* and *Introducing the Amiga*. Then read Chapters 1 through 3 in this manual. Finally, as you need or want more detailed information on the Amiga's operations and specific features, read the remaining chapters.

If you have used an Amiga before, you should first read *Quick Connect* and *Introducing the Amiga*. In this manual, you may want to skip the tutorial, but you should read the other chapters as needed to learn what's new about Workbench.

## A Word About Symbols and Type Styles



This symbol draws attention to instructions that must be read carefully in order to avoid damage to your system.

### **Bold words**

Words that appear in bold are defined in the glossary.

### Screen Output

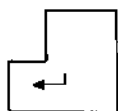
Words that appear in this style can be one of two things: input you must type at the keyboard or output that is shown on the Amiga screen.

# A Word About Keys

All references to alphabetical keys are shown in uppercase letters. Unless otherwise specified, do not press Shift. If the instructions read "Press Q," simply press the Q key. If an uppercase letter must be used, it will be specified in the instructions.

Non-alphanumeric keys are shown as they appear on the keycap (Ctrl, Esc, Del, Alt, Help).

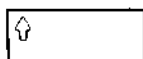
The Amiga keys are referenced by their position: left Amiga ( **A** ) and right Amiga ( **A** ). Several keys on the keyboard have arrows on the keycaps. The list below shows the keycap and the name used for that key:



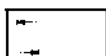
Return



Backspace



Shift



Tab

The group of arrow keys to the left of the numeric keypad are the cursor keys. The keys are referenced by the direction of their arrow: up cursor, down cursor, left cursor, and right cursor.

At times, you need to press a sequence of keys. In these instances, the keys are separated by a hyphen and shown in the order they should be pressed, such as Ctrl-O. This means you must press, and hold, the Ctrl key, then press the O.

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### Glossary

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# **Chapter 1. Tutorial**

This chapter introduces you to the Amiga® system and the **Workbench™** software by telling you how to:

- turn on your machine
- use the mouse
- choose options from menus
- make backup copies of your floppy disks
- prepare floppy disks for data storage
- organize your files on a disk

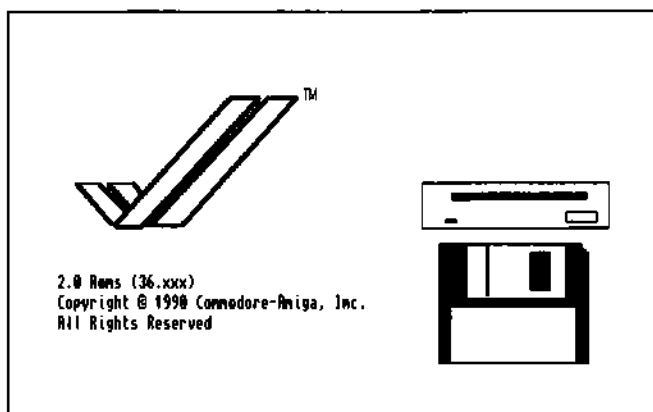
When you finish this tutorial you will know enough about your Amiga computer to begin using application software, such as spreadsheets, word processors, desktop publishing or graphics programs.

Don't worry if it seems that some ideas are not explained in full detail. Chapter 2, "Basic Operations," provides more complete explanations.

## **Getting Started**

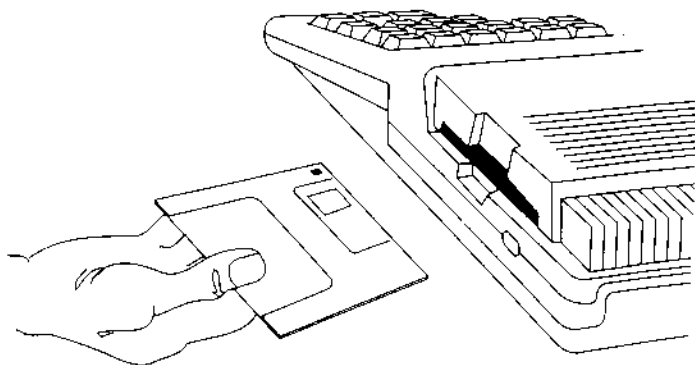
Turn on the power to your computer as shown in your *Introducing the Amiga* manual. The power light on the front of your machine signals that the power is on. You must also turn on the power to your monitor. Read the documentation that came with your monitor for instructions.

An animated screen will appear showing a floppy disk being inserted into a disk drive.



This is your signal to insert the Workbench2.0 disk into the disk drive.

- 1. Insert the Workbench2.0 disk into the disk drive, metal end first, with the labeled side facing up .***

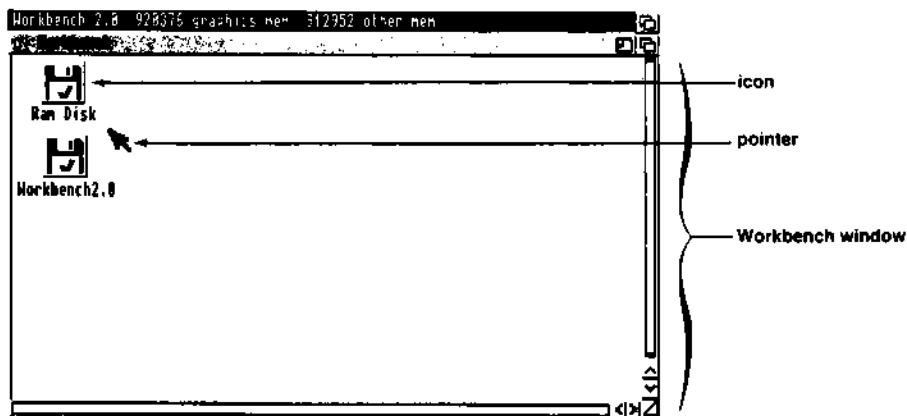


The process of turning on your computer and loading information from a disk containing the Amiga operating system is known as **booting** your computer—from the old expression “pulling yourself up by your bootstraps.” It refers to the process of reading the information needed to start the system from a storage device, such as a floppy disk, into the computer’s memory.

The disk drive light comes on as the Amiga starts reading the information on the disk. Never remove a floppy disk from the drive while the disk drive light is on.



The first thing that you’ll see on your monitor is some introductory information, such as copyright notices and the name and version numbers of the software. After a few seconds, the introductory screen is replaced by the Workbench screen. It is through this screen that you access the programs on the Workbench2.0 disk.



*RAM stands for Random Access Memory.*



*You can change the shape and color of the pointer with the Pointer editor in the Prefs drawer (explained in Chapter 3).*

A **window** (an area on the screen that accepts and displays information) fills most of the screen. This window, called the Workbench window, contains two **icons**. Icons are images that represent various items, such as disks or files.

The icon with the word Workbench2.0 underneath represents the actual Workbench2.0 disk that is in your disk drive. Whenever you insert a disk into the drive, an icon representing that disk appears in this window.

The icon labeled **Ram Disk** represents a section of the Amiga's internal memory that is available for temporary data storage. The Ram Disk acts like a floppy disk in that you can store information in it and retrieve information from it. However, the computer can access information on the Ram Disk much faster than information on a floppy disk.

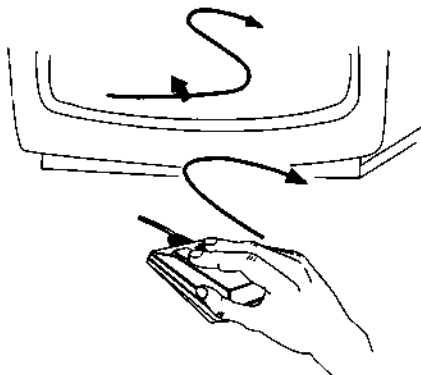
The contents of the Ram Disk are erased when the Amiga is turned off.

There is also a **pointer** on the screen. The pointer is controlled by the mouse. By placing the pointer over objects on the screen and pressing a mouse button, you can start programs, exit programs, copy disks, rearrange your screen, and much more.

## Using the Mouse

The mouse controls the movement of the pointer. When you move the mouse across your table or desk, the pointer will move across the screen.

1. *Hold the mouse with your thumb and little finger resting on either side of the mouse. Put your index and middle fingers over the mouse buttons.*



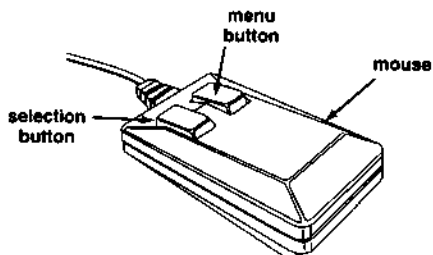
2. *Without pressing either button, slide the mouse across your desk.*

As you move the mouse, the pointer moves in the same direction. If you run out of room before getting the pointer where you want it, lift the mouse, put it down where there is more room, and continue moving it.

Lifting the mouse does not move the pointer.

To work with an icon, you must first point to it. When pointing to an icon, the tip of the pointer must be over the icon. The tip is where the pointer's "hot spot" is located.

Once you have the pointer in the right spot, you use a mouse button to send an instruction to the computer. There are two buttons on the mouse:



The left mouse button is the **selection button**; the right mouse button is the **menu button**. How to use the mouse buttons is explained in the following sections.

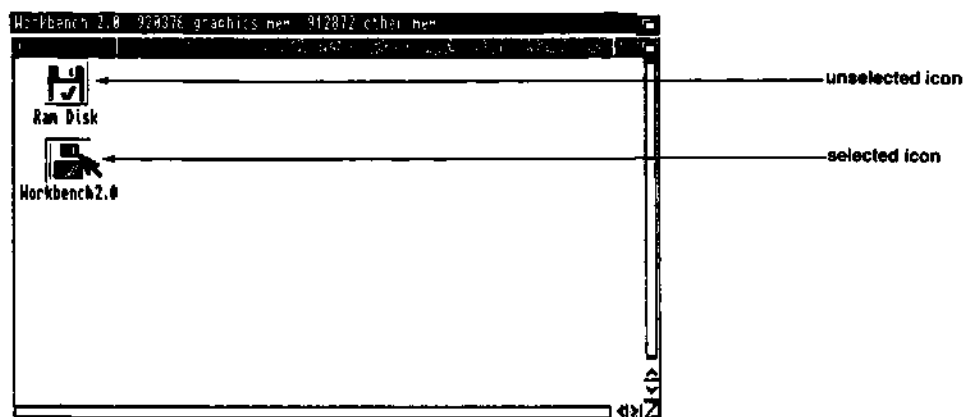
## The Selection Button

*Throughout this chapter, you are reminded that the selection button is on the left, and the menu button is on the right. These reminders only appear in this chapter.*

Pressing and releasing a mouse button is known as **clicking**. Clicking the selection button while pointing to an icon is known as **selecting** an icon. When an icon is selected, it becomes available for use and changes its appearance in some way.

For instance, the Workbench2.0 icon, along with the other icons in the Workbench window, is enclosed in a box that appears to be raised above the screen.

1. **Point to the Workbench2.0 disk icon, and press and release the selection (left) button.**



When the Workbench2.0 icon is selected, it appears to sink into the screen. An icon will remain selected until you click on another icon or on an empty part of the screen.

2. *While the Workbench2.0 disk icon is selected, point to it, hold down the selection (left) button, and move the mouse.*

A copy of the icon will move across the screen. When you release the mouse button, the icon will move to the new location. This is known as **dragging**.

You can drag any icon by pointing to it, holding down the selection button and moving the mouse. You can also drag windows and screens. This is explained further in a later section.

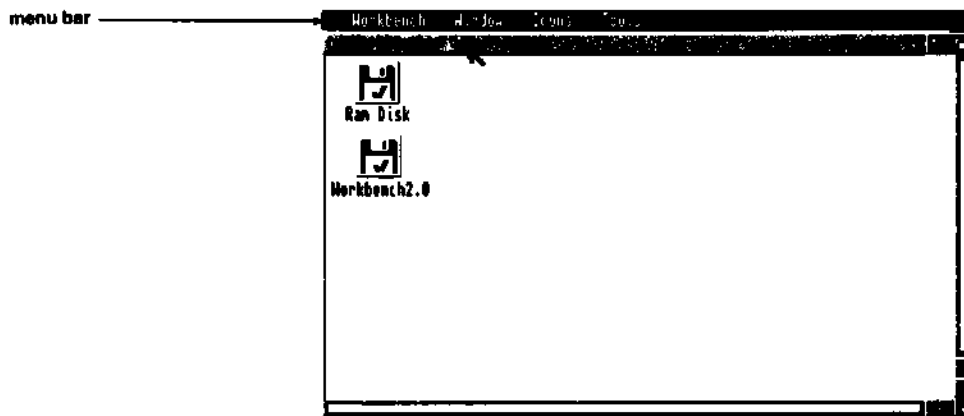
*If you accidentally click the mouse button twice, a new window will appear on the screen. Don't worry about this. Just leave it there, and continue on with the tutorial.*

## The Menu Button

The right mouse button is the menu button. When this button is held down, a **menu bar** appears across the top of the screen. The menu bar shows the headings of any **menus** that are available to you. A menu is a list of options, known as **menu items**, that is provided by the software you are using.

### 1. Hold down the menu (right) button.

The menu bar appears across the top of the screen. It consists of four menu headings: Workbench, Window, Icons, and Tools. Each of these menus is explained in detail in Chapter 2.



The next section of this tutorial explains how to choose an item from a menu.

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**Quick Review**

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- Moving the mouse moves the pointer across the screen.
- The left mouse button is the selection button. Pressing and releasing the selection button while pointing at an icon makes that icon available for use. This is known as selecting an icon.
- Holding down the selection button while moving the mouse drags the selected icon to a new location on the screen.
- The right mouse button is the menu button. Holding down the menu button causes the menu bar to appear.

## **Using Menus**

Most programs allow you to interact with the Amiga through menus. For instance, you can rename an icon or copy a file by choosing menu items from the Workbench menus. While menus may vary from program to program, the steps involved in choosing a menu item are the same for all Amiga software.

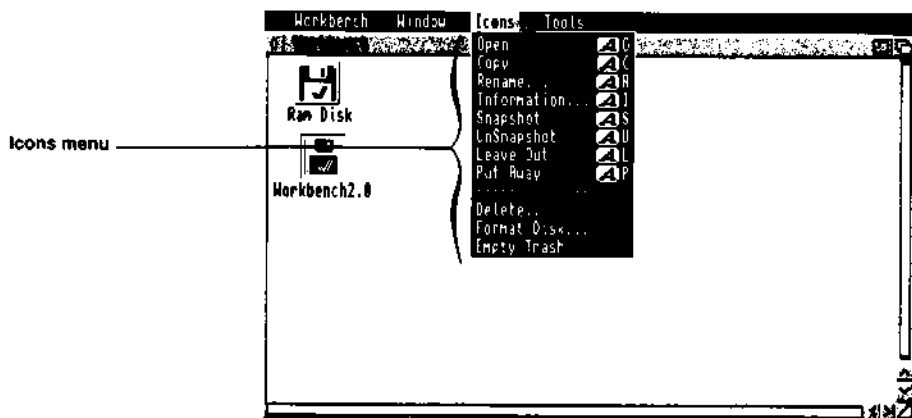
The following example shows you how to choose a menu item from the Icons menu.

1. ***Point to the Workbench2.0 icon on your screen, and click the selection (left) button.***

The icon will change color and will appear to sink into the screen. This indicates that the icon is selected. (If the icon is still selected from Step 3 of the “Using the Mouse” section, it will already be highlighted. Selecting it a second time has no effect.)

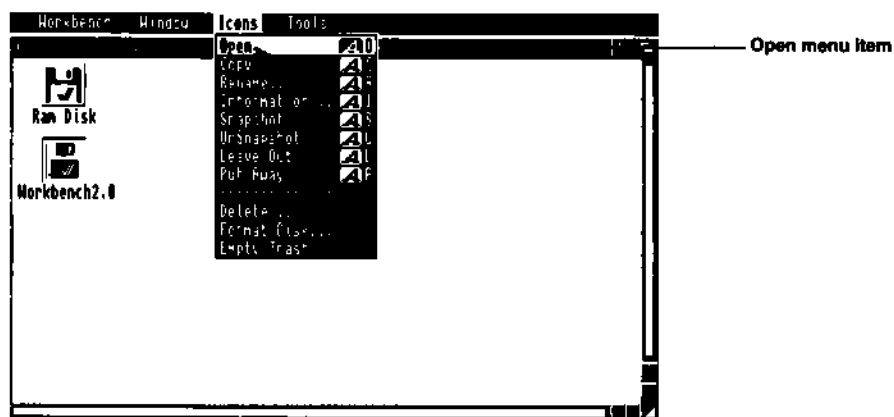
2. ***Hold down the menu (right) button, and point to the Icons heading in the menu bar.***

A list of options, known as menu items, will appear.



3. ***Without releasing the menu (right) button, move the pointer down to the Open menu item.***

Notice that when you point to Open, it is highlighted.



**4. While *Open* is highlighted, release the mouse button.**

The Workbench2.0 disk window will appear on the screen.

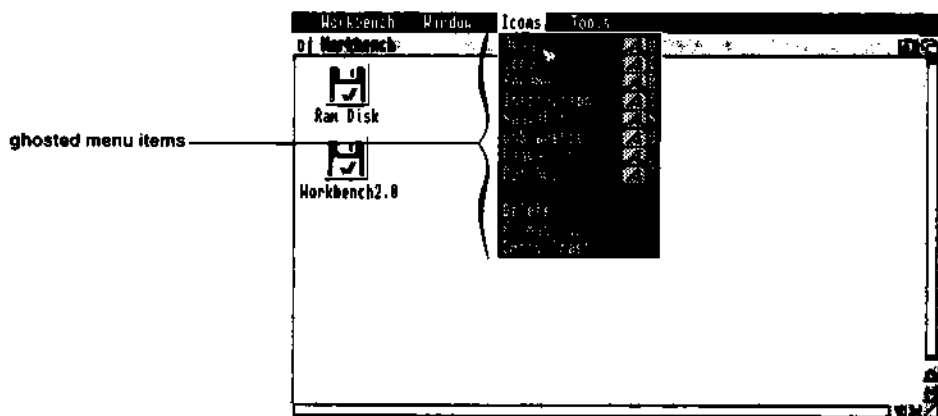
**Mouse shortcut:** Another way to open an icon is to point to the icon and **double-click** (quickly click twice) the selection (left) button.

You don't always need to use the mouse to choose a menu item. You can often get the same result by pressing two keys on the keyboard — right Amiga and a corresponding letter. Keyboard shortcuts are shown to the right of the menu item.

For instance, to choose Open from the Icons menu, you can press right Amiga-O. (Press right Amiga, keep holding it down, press O, then release both keys.)

## Ghosted Menu Items

At certain times some menu items are not available for use. The unavailable items are displayed less distinctly than the others. These items are **ghosted** and will not be highlighted when the pointer passes over them.



Usually menu items are ghosted because something on the screen must be selected before the menu can be used. For instance, if you haven't selected an icon, you cannot choose any of the menu items in the Icons menu.

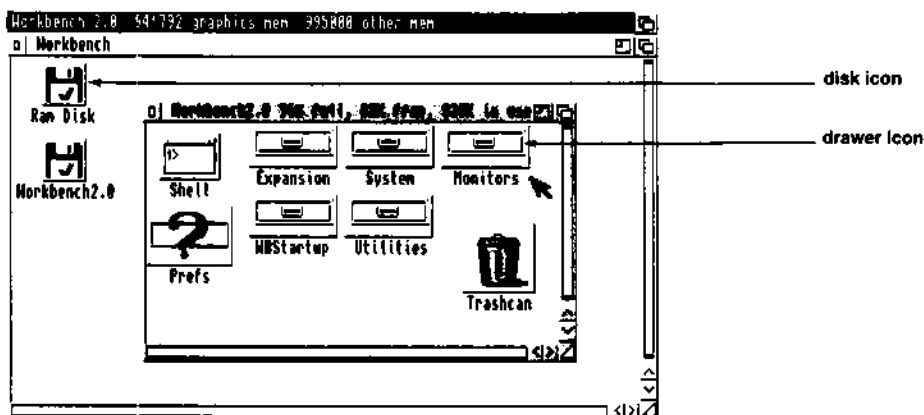
### Quick Review

- Before choosing a menu item, the icon, window, or screen that you want to work with must be selected.
- To choose the menu item, hold down the menu (right) button, highlight the menu item by pointing to it, and release the menu button.

## Working with Windows

When you open a disk icon, a window appears. A window is a rectangular area on the screen that displays information, such as graphic images and text, and allows you to work with that information. If you were following the steps explaining how to use the menus, you should have two windows on your screen: the Workbench window and the Workbench2.0 disk window.

The Workbench window contains icons for the Ram Disk and for any floppy disks that have been inserted into a disk drive.

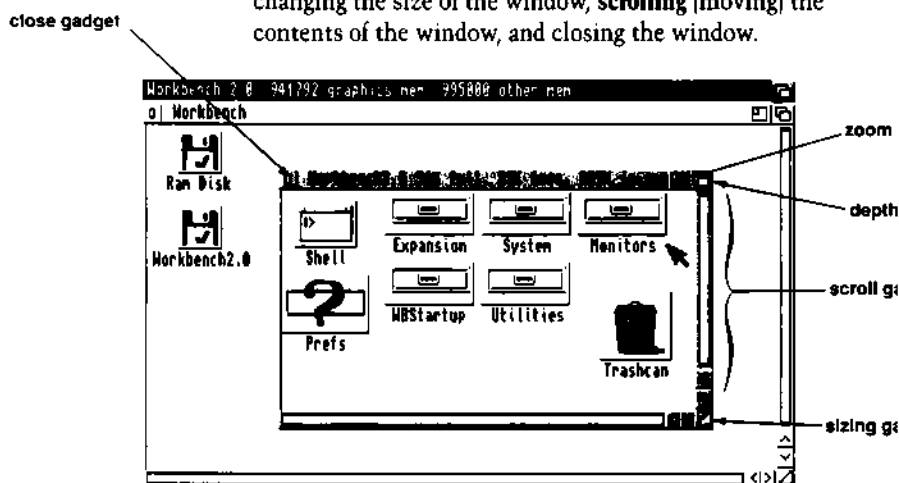


The Workbench2.0 disk window contains several **drawer** icons. Drawers are subdivisions of a disk that are used to organize the information on that disk. Opening a drawer icon also opens a window.

The Amiga computer is **multitasking**. This means that it is possible to have more than one program running at a time. For instance, you could have a calculator, a clock and an animation all open and running at the same time. This usually results in several windows open at once, with the windows overlapping each other.

However, only one window at a time can accept input from you. This is known as the **active window**. The frame of the active window is a different color from the other windows on the screen.

Take a look at the border of the Workbench2.0 disk window. It contains several boxes, known as **gadgets**, that let you control the window in many ways, including moving the window, changing the size of the window, **scrolling** (moving) the contents of the window, and closing the window.



These are some of the most common gadgets found on windows on the Amiga. Depending on the software you are using, windows can contain any combination of these gadgets. Some application programs may open windows that contain gadgets for controlling special features of the program. For instance, a window in a paint program may have gadgets that let you choose colors, brushes, magnifications, or other specialized functions.

The gadgets in the Workbench window are briefly explained in the following sections. Complete information on the standard system gadgets is available in Chapter 2.

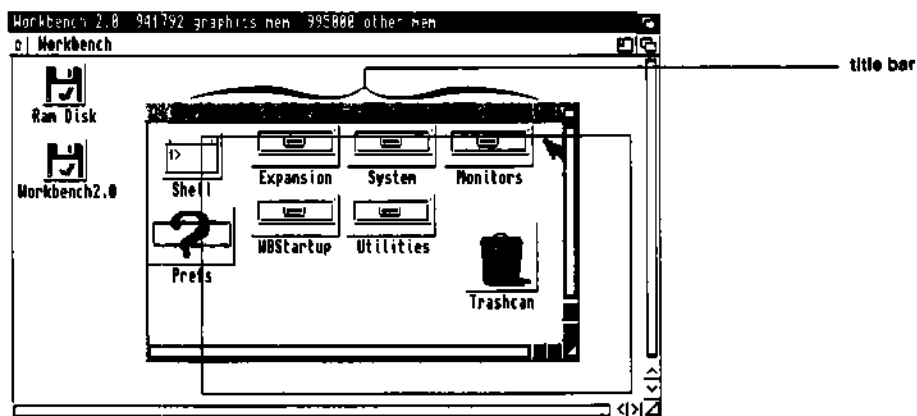
## The Title Bar

The **title bar** identifies each window. The title bar of the Workbench2.0 disk window contains the name of the window and information as to the amount of data contained on the Workbench2.0 disk. When a drawer icon is opened, the title bar of the drawer window displays the name of the drawer.

You can also use the title bar to drag a window across the screen.

1. *Point to the title bar of the Workbench2.0 disk window.*
2. *Hold down the selection (left) button, and move the mouse.*

An outline of the window will appear and will move in the same direction as the mouse.



3. *Release the mouse button.*

The window will move to its new location.

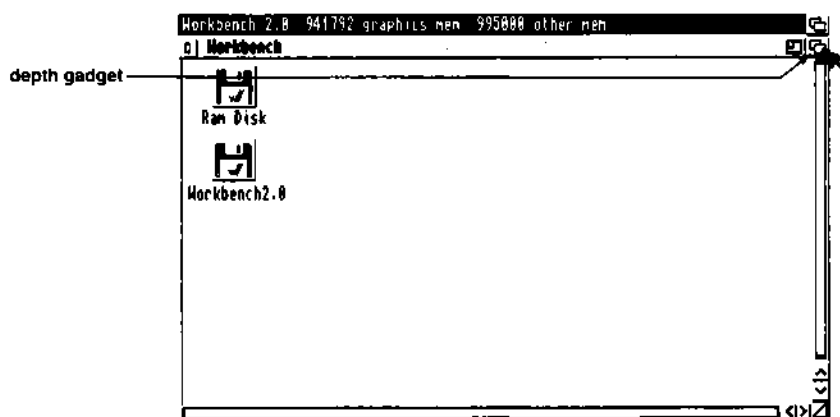
## The Depth Gadget



The **depth gadget** lets you move a window to the front of the screen or push it behind any other open windows. This is useful when you have several windows open and the one you need is not at the front of the screen. If you've been following along with this tutorial, there should be two windows open on your screen: the Workbench window and the Workbench2.0 disk window.

1. *Point to the depth gadget in the Workbench window, and click the selection (left) button.*

The Workbench window moves to the front of the screen. The Workbench2.0 disk window has not been closed. It is just hidden behind the larger Workbench window.



2. *Point to the depth gadget on the Workbench window, and click the selection (left) button again.*

The Workbench window will be pushed to the back of the display, and you will be able to see the Workbench2.0 disk window again.

The action of the depth gadget depends upon the window's location. If the window is behind another window, selecting the depth gadget brings it to the front of the screen. If the window is at the front of the screen, selecting the depth gadget sends it to the back. You can also send a window to the back of the screen, regardless of its current position, by holding down Shift and selecting the depth gadget.

## The Zoom Gadget

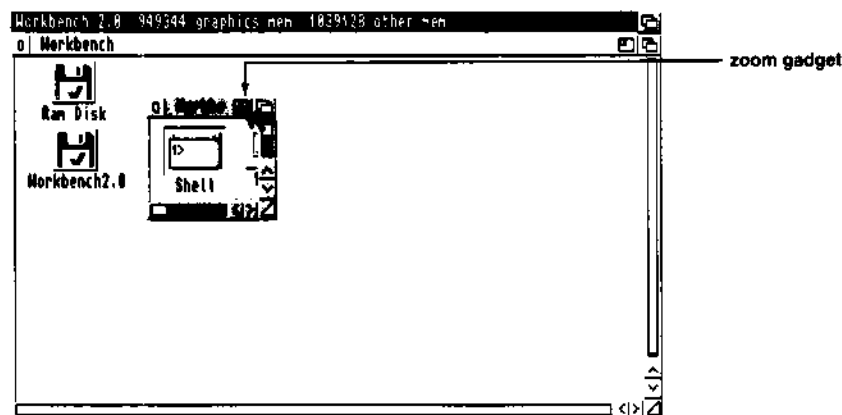


The **zoom gadget** changes the size of a window. This is helpful when you have several windows open on the screen. You can move unneeded windows out of the way by making them smaller with the zoom gadget.

Selecting the zoom gadget on the Workbench2.0 disk window reduces the size of the window.

1. **Point to the zoom gadget in the Workbench2.0 disk window, and click the selection (left) button.**

The Workbench2.0 disk window becomes smaller.



**2. Click on the zoom gadget again.**

The Workbench window returns to its previous size and position.

In general, if a window is small when it is opened, selecting the zoom gadget will make it large. If a window is large when it is opened, selecting the zoom gadget usually makes it smaller. If you change the size or position of a window, the window will use that new size or position when the zoom gadget is selected.

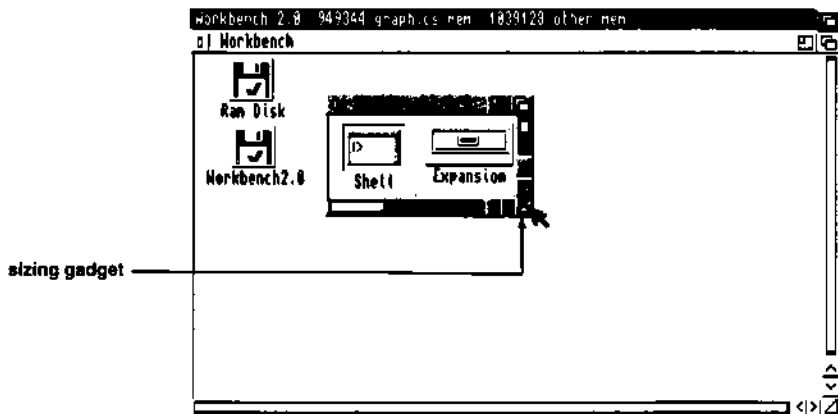
## The Sizing Gadget



Another way to change the size of a window is by using the **sizing gadget**. This is an easy way to change a window's size so that you can see other information on the screen.

- 1. Point to the sizing gadget in the lower right corner of the Workbench window.**
- 2. Hold down the selection (left) button, and move the pointer up and to the left.**

The window becomes smaller as you move the mouse.



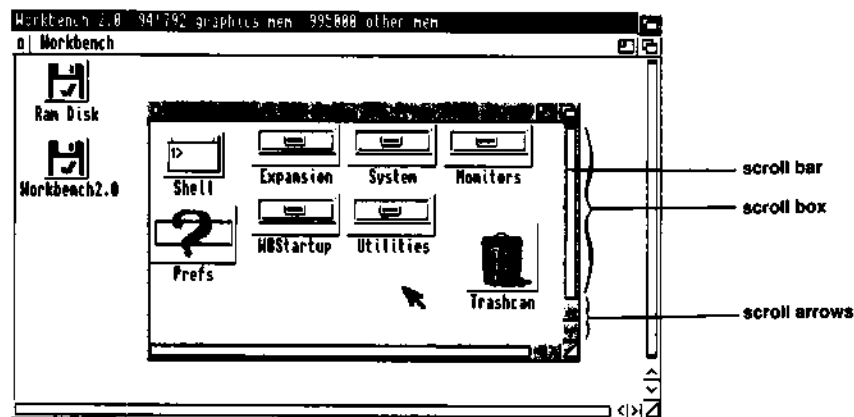
### 3. Release the mouse button.

The window stays the smaller size.

You can enlarge the window by pointing to the sizing gadget and moving the pointer down and/or to the right.

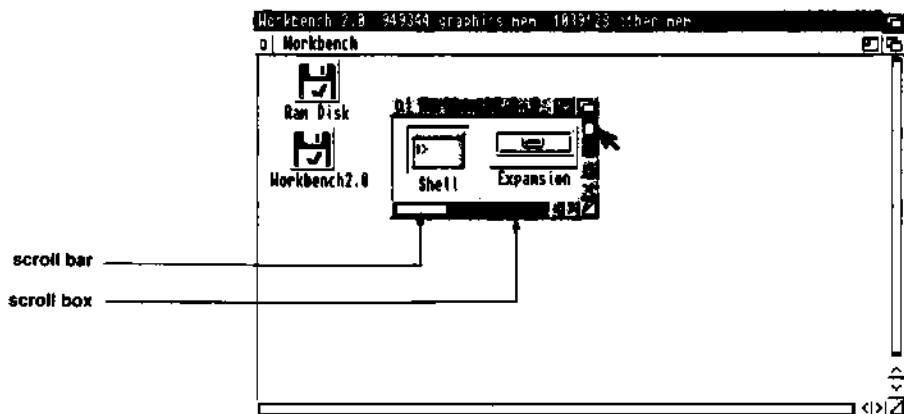
## The Scroll Gadgets

When a window is small, you cannot always see all its icons. You can tell whether all the icons are visible by looking at the **scroll gadgets** that run along the right side and bottom of the window. The scroll gadgets are made up of scroll boxes, scroll bars and scroll arrows.



The **scroll bars** are the highlighted areas inside the **scroll boxes**. The bars change size depending on how much of the window's contents are visible. When the scroll bar completely fills a scroll box, all of the icons are visible.

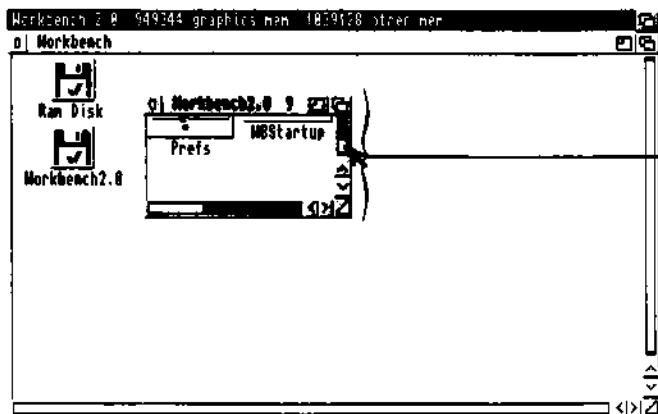
When some of the icons in the window are not visible, the scroll bars shrink and only fill part of the scroll box.



By dragging the scroll bars, you can see the hidden icons without changing the size of the window. If you were following the steps on how to use the sizing gadget, your Workbench2.0 disk window should be small, as shown above. If not, use the sizing gadget to make the window smaller.

1. **Point to the scroll bar along the right side of the window.**
2. **Hold down the selection (left) button, drag the scroll bar down, and release the mouse button.**

Drag the scroll bar into the empty space of the scroll box. For instance, if the bottom of the scroll box is empty, drag the scroll bar down into the bottom of the box. When you release the mouse button, you will see the icons from the bottom of the window.



bottom left  
corner of  
window is  
visible

3. *Point to the scroll bar in the bottom of the window.*
4. *Hold down the selection (left) button, and drag the scroll bar to the right.*

When you release the mouse button, you can see the icons from the right side of the window.

The location of the scroll bar indicates what part of the window is currently visible. For instance, if the scroll bar is in the lower portion of the vertical scroll box, you are looking at the bottom of the window.

Another way to move the scroll bar is to point in the empty area of the scroll box and click the selection (left) button. The scroll bar will move to the empty area.

The **scroll arrows** also allow you to scroll through the viewing area of the window. The direction of the arrow determines in which direction the viewing area will move.

1. *Point to one of the scroll arrows in the lower right corner of the Workbench2.0 disk window.*
2. *Click the selection (left) button.*

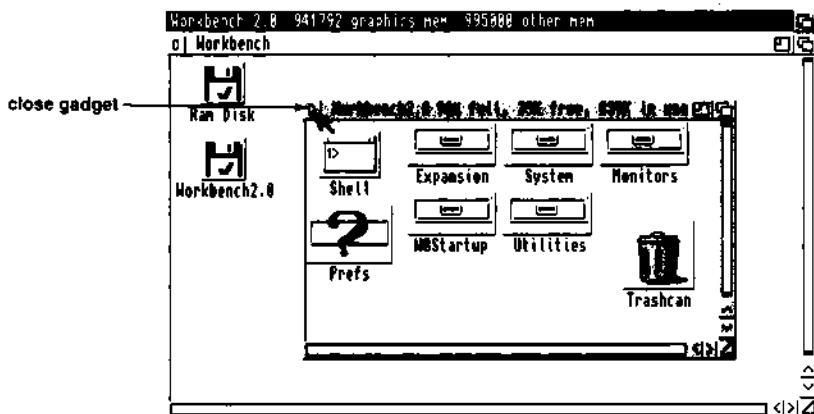
The viewing area will move in the direction of the arrow. If you hold down the selection (left) button, the viewing area will move more quickly.

## The Close Gadget



When you are finished working in a window, you can use the **close gadget** to remove it from the screen.

1. *Point to the close gadget in the Workbench2.0 disk window.*



2. *Click the selection (left) button.*

The Workbench2.0 disk window disappears.

*A requester is a message from the system. It is a box that appears on the screen and has gadgets that let you select a course of action.*

Be especially careful of the close gadget on the Workbench window. When you select this gadget, a **requester** asks you if you are sure you want to quit the Workbench. If you close that window, you cannot access any of the Workbench programs.

**NOTE:** You do not want to close the Workbench at this time. Cases in which you may want to do so are explained later in this manual.

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**Quick Review**

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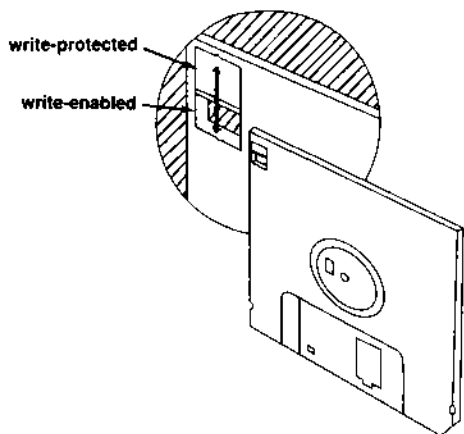
- The title bar displays the name of the window and information about its contents. By pointing to the title bar, holding down the selection (left) button and moving the mouse, you can drag a window to another area of the screen.
- Selecting the depth gadget of the front-most window moves that window behind any other open windows. If a window is behind another window, selecting its depth gadget brings it to the front of the screen. Holding down Shift and selecting the depth gadget sends a window to the back of the screen.
- Selecting the zoom gadget changes the size of a window. Selecting it again returns the window to its previous size and position.
- By dragging the sizing gadget, you can expand or shrink the size of a window.
- Dragging a scroll bar enables you to see the hidden areas of a window. Another way to move a scroll bar is by pointing to the empty area of the scroll box and clicking the selection (left) button.
- Selecting a scroll arrow moves the viewing area of the window in the direction of the arrow. Pointing to a scroll arrow and holding down the selection (left) button moves the viewing area more quickly.
- Selecting the close gadget removes a window from the screen.

## Making Backup Copies of Disks

One of the most important things for you to do is to make **backup** copies of all your disks. A backup copy is simply a duplicate of an original disk. It is important to use the backup as your everyday working disk and to store the original disk in a safe place. This way if the working disk is ever damaged, you can make another copy from the original disk.

Most application software allows you to make a backup copy. Generally when you purchase a program, it includes a licensing agreement. Be sure to read the agreement to learn exactly how many copies you are allowed to make. Making and distributing unlicensed copies of disks is a copyright violation (also known as software piracy) and is illegal.

To copy your Workbench2.0 and Extras2.0 disks, you need two blank 3.5 inch disks that are **write-enabled** (able to accept information). This means that the small plastic tab in the corner of the disk must be covering the hole.



When copying your disks, you'll notice that the Amiga often instructs you to insert disks into specific disk drives. It refers to these drives by their **drive names**. The Amiga's internal disk drive is known as DF0:. If you attach an external drive to the computer, that drive is known as DF1:. A second external drive is DF2:, and so on.

If you tell your Amiga to copy the disk in DF1:, it will copy whatever disk is in drive DF1:. (A colon must always follow the drive name.) Be careful when specifying a drive name when saving or copying files. Make sure you know which disk is in which drive or you could accidentally save or delete files on the wrong disk.

When copying your disks, you will review most of the basics that you have just learned. If you only have one floppy drive, please read the next section. If a second floppy drive has been added to your computer, skip ahead to the section titled "Using Two Disk Drives," on page 1-29.

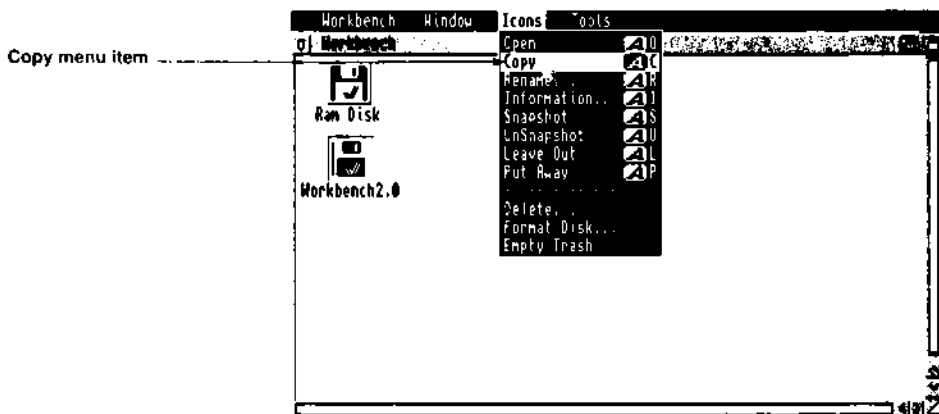
## Using One Disk Drive

When you use only one disk drive to copy your disk, the system reads information from the Workbench2.0 disk (the **source** disk) into the Amiga's internal memory. Then, you have to remove the Workbench2.0 disk from the disk drive and insert a blank disk (the **destination** disk). The information is then written to the blank disk. This is known as a disk **swap**. You may have to swap disks several times before the copy is completed. The steps involved are outlined below.

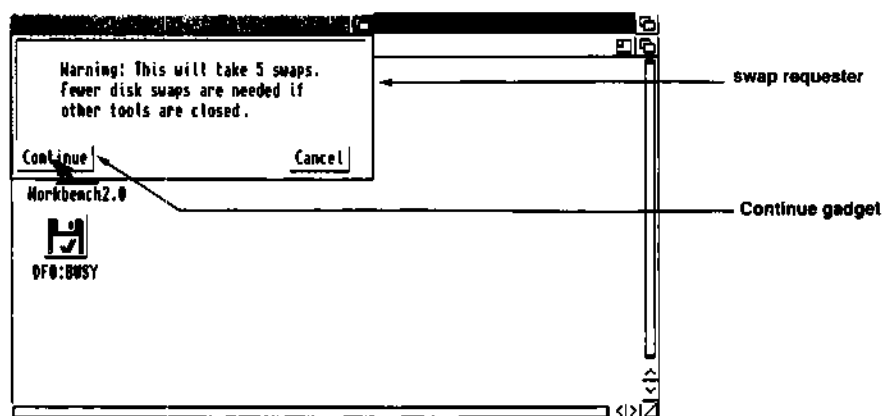
1. *The Workbench2.0 disk should be in the internal disk drive, known as DF0:.*
2. *Point to the Workbench2.0 icon, and click the selection (left) button.*

**3. Hold down the menu (right) button.**

The menu bar appears.

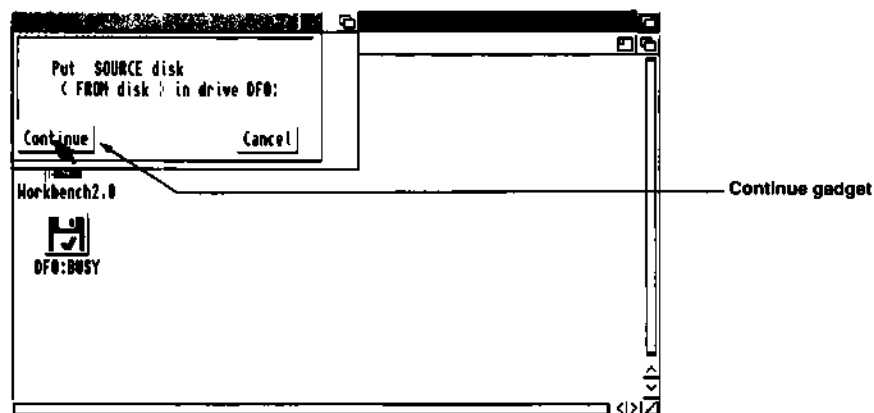
**4. Point to the Icons menu, move the pointer down to the Copy menu item, and release the menu button.**

A requester appears and shows how many times you will have to swap the disks. The number of swaps depends on the amount of memory available to the system. If you have enough memory that the disk copy will take fewer than 5 swaps, this requester may not appear.



5. *Point to the Continue gadget, and click the selection (left) button.*

A second requester asks you to insert the source disk, Workbench2.0, into drive DF0:, the internal disk drive.



*A cylinder is a physical division of a disk. The 3.5 inch disks used with the Amiga have 80 cylinders numbered 0-79.*

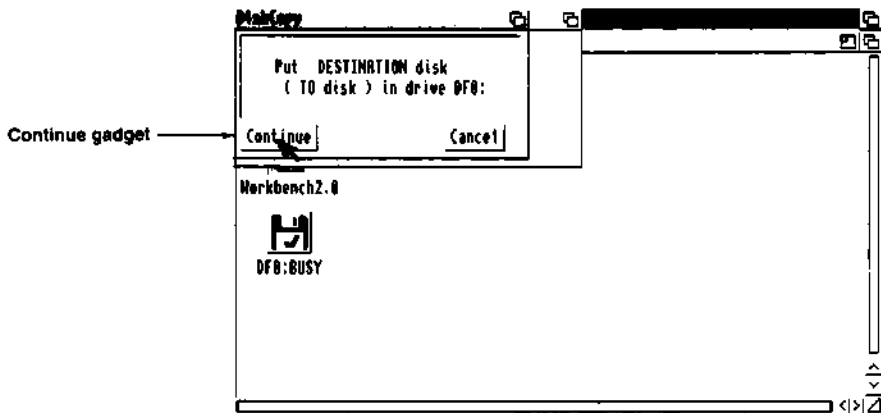


6. Since the disk is already in the drive, simply point to the Continue gadget in the requester, and click the selection (left) button.

The text in the requester will show how many cylinders have been read and how many are left.

After the Amiga has read as much information as it can from the source disk, a third requester instructs you to insert the destination disk into drive DF0:.

Make sure the disk drive light is out before removing the Workbench2.0 disk from the drive.



7. Put your blank disk into the drive, then select the Continue gadget.

Point to the Continue gadget in the requester, and click the selection (left) button. The data that was read into memory is copied to the blank disk.

To finish copying the disk, follow the requesters that appear, and switch back and forth between the Workbench2.0 disk and the backup disk as many times as requested by the system. (Be sure the drive light is out before removing a disk from the disk drive.) When the copy is finally finished, the message **Disk Copy Finished** appears in the requester.

**8. Remove the backup disk from the drive and put an adhesive label on it.**

Write the name of the disk on the label.

The procedure is the same for copying the Extras2.0 disk except for one small detail. After you choose Copy from the Icons menu, a requester asks you to insert the Workbench2.0 disk into any drive. The Amiga must load the DISKCOPY program on the Workbench2.0 disk before it can begin copying the Extras2.0 disk.

At this point, be sure to use your original Workbench2.0 disk. A second requester asks for the Extras2.0 disk, and from there the procedure follows the steps outlined above. Always be sure to read the exact text in a requester and follow the instructions.

The backup disks are named `copy_of_Workbench2.0` and `copy_of_Extras2.0`. You'll learn how to rename the disks on page 1-34.

## Using Two Disk Drives

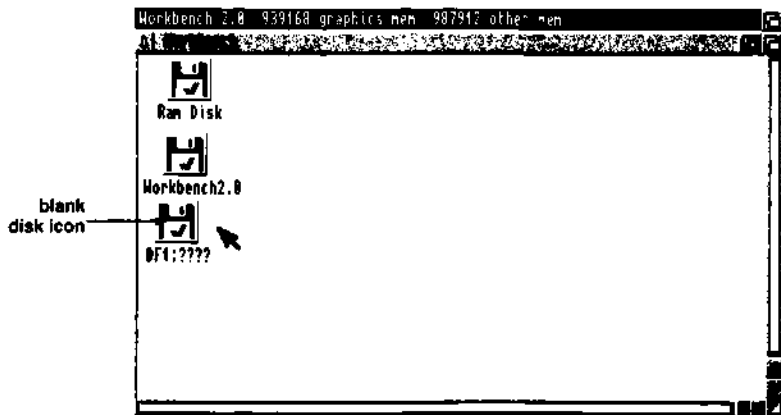
When only one floppy drive is available, the system reads information from the **source** disk (the disk that is being copied) into the Amiga's internal memory. Then the source disk is removed from the disk drive, and the **destination** disk (the blank disk) is inserted. The information in memory is then

copied to the 'blank disk. This is known as a **disk swap**. The disks may have to be swapped several times, depending on how much memory is available.

When you have a second disk drive added to your Amiga, you can save time by putting the Workbench2.0 disk (the source disk) into one drive and the blank disk (the destination disk) into the other. This way the Amiga can copy directly from one disk to the other. You do not need to swap disks, and the disk duplication proceeds much faster. The steps involved are outlined below.

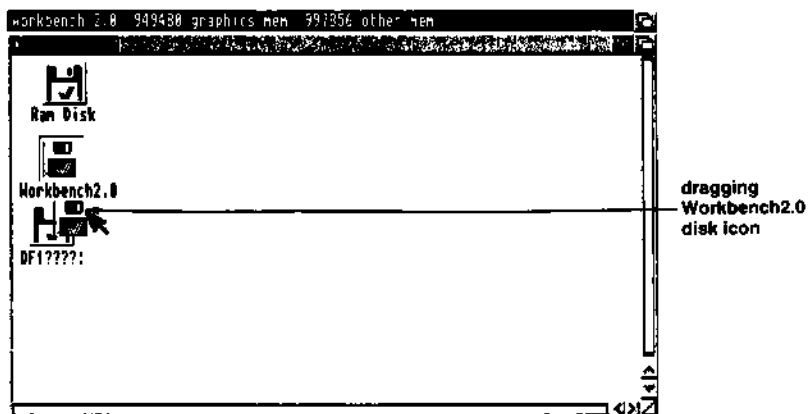
1. ***Insert the Workbench2.0 disk into the Amiga's original internal drive, known as DF0:.***
2. ***Insert the backup disk into your second drive.***

A new disk icon appears on the screen. Since it is a brand-new disk, the icon is labeled DF1:???. At this point, there is no information on the disk. Therefore, the computer sees it as an unknown disk.



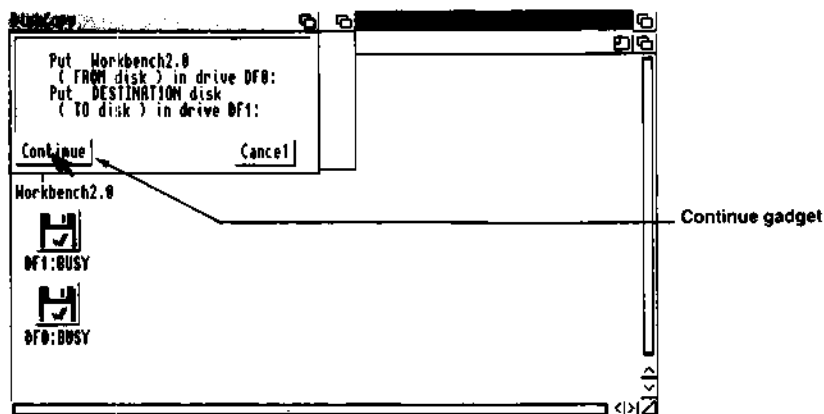
3. ***Point to the Workbench2.0 disk icon, and press the selection (left) button.***

4. Continue to hold down the selection (left) button, and drag the Workbench2.0 disk icon over the icon for the blank disk.



5. Release the mouse button.

A requester will ask you to insert Workbench2.0 into drive DF0: and to insert the destination disk into your second drive.



*A cylinder is a physical division of a disk. The 3.5 inch disks used with the Amiga have 80 cylinders, numbered 0 to 79.*

- 6. Since the disks are already inserted, simply point to the Continue gadget in the requester and click the selection (left) button.**

The Amiga will read the information on the Workbench2.0 disk and copy it to the destination disk. A requester shows the number of **cylinders** that have been copied and the number of cylinders left to be read.

- 7. When the disk copy is finished, make sure that both drive lights are out and remove the backup disk from the drive.**

- 8. Put an adhesive label on the new backup disk.**

Write the name of the disk on the label.

The procedure is the same for copying the Extras2.0 disk except for one small detail. After you drag the Extras2.0 disk icon over the blank disk's icon, a requester asks you to insert the Workbench2.0 disk into any drive. The Amiga needs to load the DISKCOPY program from the Workbench2.0 disk before it can begin copying the Extras2.0 disk. A second requester asks you to replace the Extras2.0 disk, and from there the procedure follows the steps outlined above.

The backup disks are named `copy_of_Workbench2.0` and `copy_of_Extras2.0`. You'll learn how to rename the disks in the next section.

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**Quick Review**

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**With one disk drive:**

Select the icon for the disk to be copied. Choose Copy from the Icons menu. You'll have to swap back and forth between the source disk (the disk being copied) and the destination disk. Follow the instructions in the requesters that appear on the screen. When the Disk Copy Finished message appears, wait for the disk drive light to go out, then remove the disk from the drive.

**With two disk drives:**

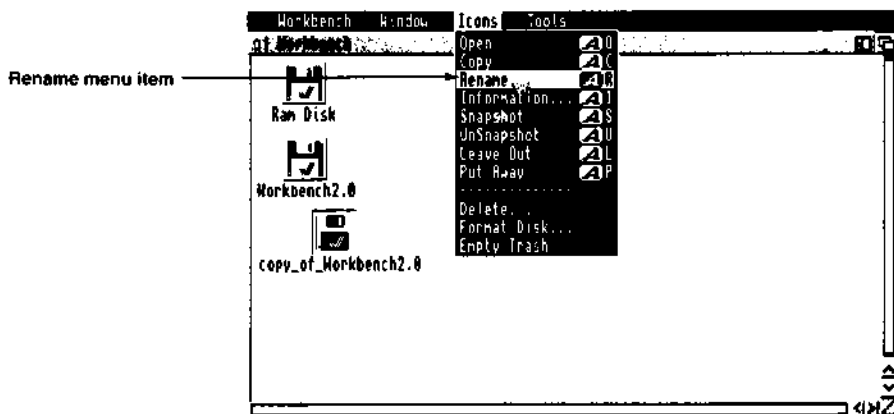
Drag the icon for the disk to be copied over the icon of the destination disk. A requester will appear confirming that the disks are in the appropriate drives. Select Continue, and the disks will be copied. Be sure all disk drive lights are out before removing the disks from the drives.

## Renaming Your Backup Disks

After copying your Workbench2.0 and Extras2.0 disks, you should rename the backup disks, removing the words `copy_of_` from the names. To rename a disk:

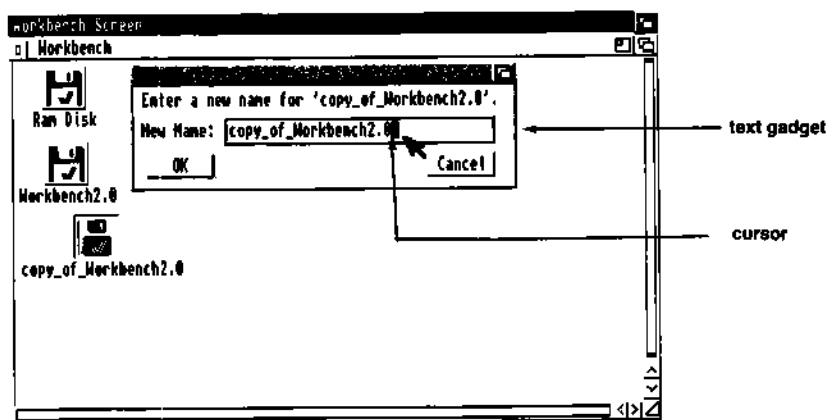
1. Put the `copy_of_Workbench2.0` disk in the disk drive.
2. Point to the `copy_of_Workbench2.0` icon, and click the selection (left) button.
3. Hold down the menu (right) button, point to the Icons menu heading, then move the pointer down to the **Rename** menu item.

Rename is highlighted.



4. Release the menu (right) button.

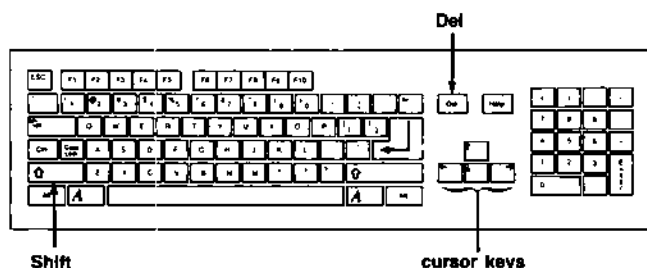
A requester will appear containing the words `copy_of_Workbench2.0`.



#### 5. Delete copy\_of\_.

Move the cursor to the beginning of the text gadget. To do this you can use the left cursor key, press Shift-left cursor, or click on the C in copy. Then use Del to erase copy\_of\_. Each time you press Del, the character under the cursor will be deleted.

Be sure to erase the underscore before the W.



#### 6. Press Return.

The requester disappears and the disk icon is now named Workbench2.0.

Follow the same steps to rename copy\_of\_Extras2.0 to Extras2.0.

## Rebooting the Amiga

Now that you have a working copy of your Workbench2.0 disk, you can **reboot** the computer with that disk. Reboot is the term used to describe the process of resetting the Amiga without turning the power off. Rebooting eliminates any data stored on the Ram Disk and abruptly terminates any programs that are running.

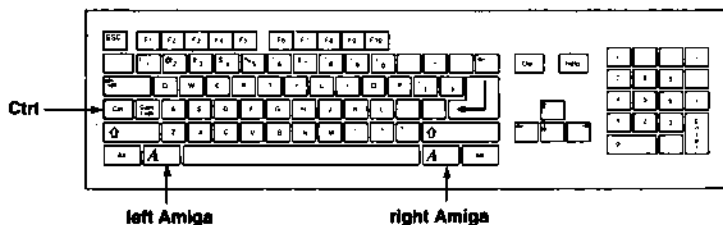
1. *Insert your working copy of the Workbench2.0 disk into a disk drive.*

If your Amiga has more than one floppy disk drive, it does not matter which drive you use. Each drive is checked for a **bootable** disk. (A bootable disk is one that contains the files the Amiga needs to start operation.)

However, if a bootable disk is not found in any drive, the animated screen is displayed. At this point, a bootable disk must be inserted into drive DF0: in order for the Amiga to boot. The Amiga will not check any of the other drives after the initial search.

2. *Wait for the disk drive light to go out, then hold down **Ctrl** (Control), left **Amiga**, and right **Amiga**.*

All three keys must be held down at the same time.



Just as you should never remove a disk from the drive while the floppy drive light is on, you should also never reboot or turn off the computer when a floppy disk or hard disk drive light is on. Be sure to wait for all disk activity to stop.



The Workbench screen will appear just as it did when you booted with the original Workbench2.0 disk. Once you have rebooted with your working copy of Workbench, store the original disk in a safe place.

## Using Application Software

**Application** software refers to the programs available for use with your Amiga, such as databases, video and sound programs, or educational packages. When you purchase application software, be sure to read the documentation included with the software to learn how to use the program.

Some application software is supplied on a bootable disk. This means that you can insert the program disk into the Amiga's disk drive, turn on (or reboot) the Amiga, and get started. You usually do not need to use the Workbench2.0 disk.

Just as you made a backup of your Workbench2.0 disk, you should always make a backup of your program disks. (Most application software will allow you to do this, although some programs may be copy-protected. Some programs may also place restrictions on your right to make backups. Please

consult your license agreement packaged with the application.) Store the original program disk in a safe place, and use the copy as your working disk. This way if anything ever happens to damage the disk, you can make another copy from the original.

When you boot with a program disk, the program may automatically start (this is common when loading games, animated demonstrations, etc.), or you may be presented with a Workbench screen. If a Workbench screen appears, you may need to open the program disk icon, then another program icon to get started. Again, this procedure varies, so be sure to read the documentation packaged with the program.

No matter what type of application software you are using, you will undoubtedly want to save your work. In general, it is a good idea to save your work on disks other than the program disks. You should also make a copy of your original program disk(s), and use the copy as your working disk.

For instance, when using a word processing program, you will want to keep your **data** files on a separate disk, or data disk. Your data files contain the documents you create with your word processor. One reason for using a separate disk is that there may not be much extra room on the program disk.

Another reason is to safeguard your program disk against accidental damage. If possible, you should keep the disk **write-protected**. The small plastic tab in the corner of the disk should not be covering the hole. This way you can't erase or write over any files stored on the disk.

## Formatting a Disk

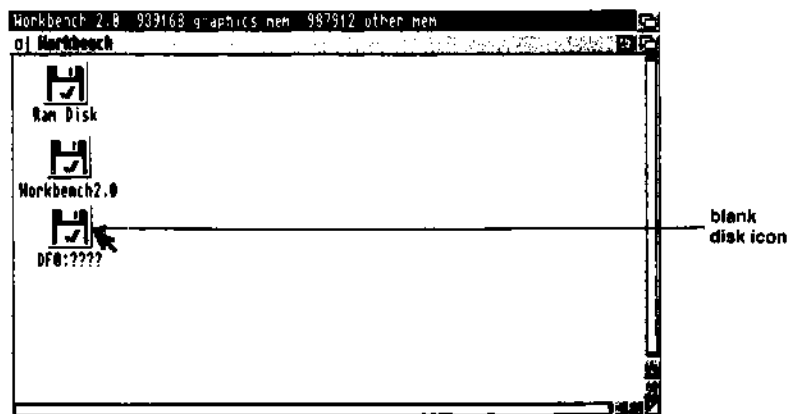
Before you can store data on a disk, you must first **format** the disk. The magnetic surface of a blank disk is one large continuous area. When a disk is formatted, the Amiga's operating system (AmigaDOS) divides that area into manageable sections so that it can easily find stored information. An easy way to do this is with the Format Disk menu item in the Icons menu.

The following steps explain how to format a blank disk. You may want to try this now so that you know how to do it in the future. Or, you may want to come back to this section when you need a formatted disk. It might be a good idea to format at least one disk now, so that you have one readily available when you need it.

*You can also use **Format Disk** to erase the contents of a disk.*

### 1. Insert a blank disk into the disk drive.

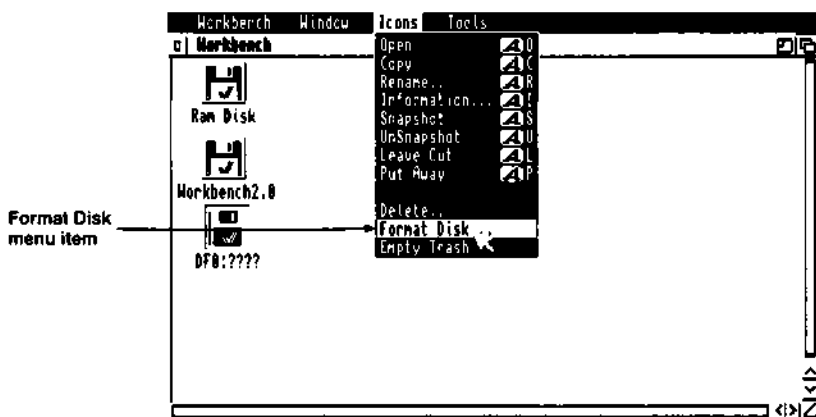
The disk icon is labeled DF0:???. (If the disk is in an external drive, it will be labeled DF1:???.) Make sure the disk is write-enabled.



2. *Point to the disk icon, and click the selection (left) button.*

The icon will be highlighted.

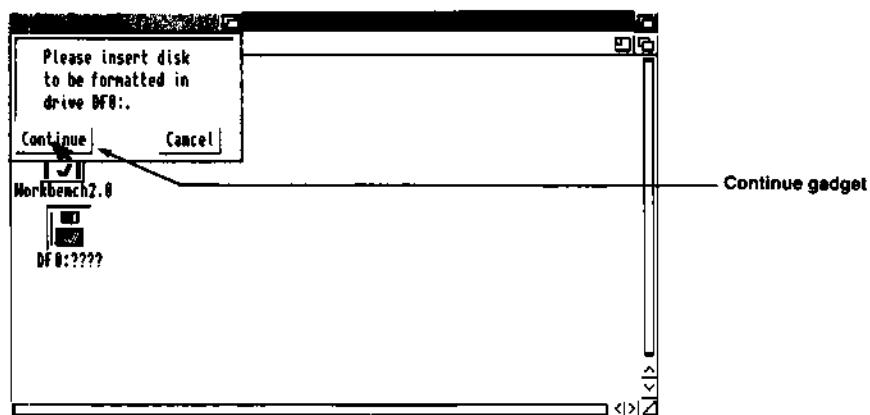
3. *Hold down the menu (right) button, point to the Icons menu, move the pointer down to Format Disk, and release the menu (right) button.*



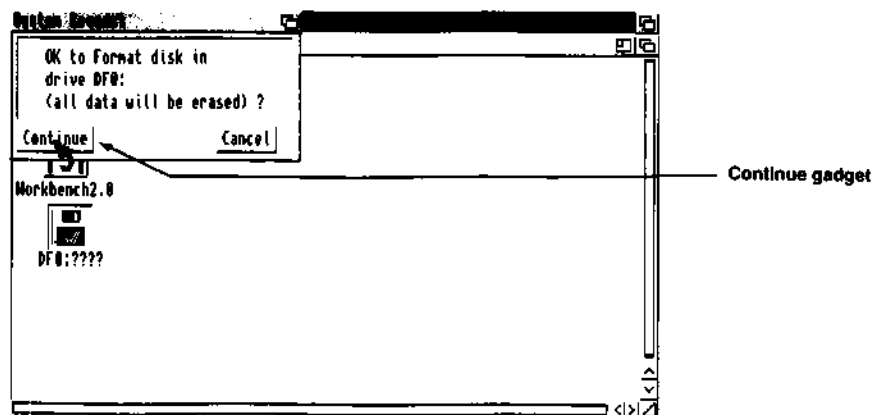
4. *A requester will ask you to insert the Workbench2.0 disk in any drive. Insert the Workbench2.0 disk, point to the Continue gadget, and click the selection (left) button.*

The Amiga must load a program from the Workbench2.0 disk before it can format the blank disk.

5. *A requester asks you to insert the disk to be formatted into the disk drive. Remove the Workbench2.0 disk, and insert the blank disk. Point to the Continue gadget and click the selection (left) button.*



Next, a requester asks you if it is OK to format the disk in the disk drive. It also reminds you that any data on the disk will be erased.

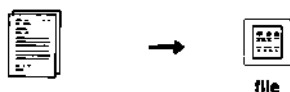
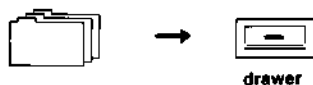
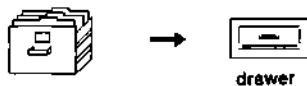
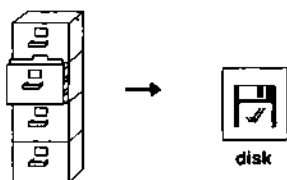


6. Point to the Continue gadget in the requester, and click the selection (left) button.

Once the formatting process begins, you'll see text in the requester showing the cylinder of the disk that is being formatted and verified. When the disk is formatted, its disk icon is labeled Empty. You can change this to any name you like by using the Rename item in the Icons menu.

## Organizing Information on a Disk

To store information on a disk in a logical manner, disks are generally divided into drawers. Think of a disk as a filing cabinet. You wouldn't take all your papers and throw them into the cabinet. You would put drawers in the cabinet. Then you would organize the papers into folders and put the folders in the drawers.



A formatted blank disk does not contain any drawers. If you were to store all of your files on the formatted disk without creating any drawers, it would be like throwing your papers into the drawerless file cabinet. When you opened the disk window, all the file icons would be in the disk window. If you had many icons on the disk, you would have to scroll through the window until you found the correct icon. This could be quite tedious and time consuming. Instead you should create some drawers, then put your files into them.

Let's assume that you have several business reports you want to keep on disk. Perhaps for each month you produce several reports pertaining to payroll, inventory, sales, office expenditures, etc. Here's how you might organize them:

First, you should give your disk an appropriate name. For this example, we'll name it Reports. To name the disk, use the Rename item in the Icons menu.

**1. *Insert the formatted disk into the disk drive.***

The formatted disk is labeled Empty.

**2. *Select the Empty disk icon.***

Point to the icon, then click the selection (left) button.

**3. *Hold down the menu (right) button, point to the Icons menu heading, then move the pointer down to the Rename menu item.***

Rename is highlighted.

**4. *Release the menu button.***

A requester containing the word Empty appears on the screen. Use Backspace to erase the word Empty. Type the name Reports.

**5. *Press Return.***

The disk icon is now labeled Reports.

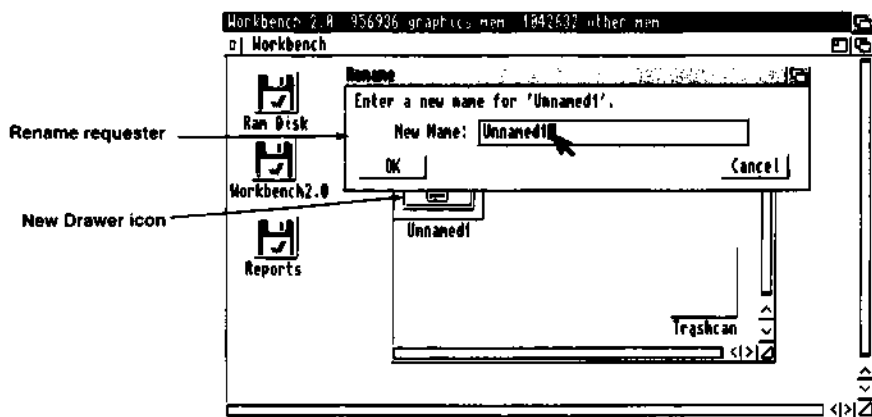
Next, you might create four drawers pertaining to the four quarters of the year: Quarter1, Quarter2, Quarter3, and Quarter4. You can create drawers with the New Drawer menu item in the Window menu.

1. **Open the Reports disk window by double-clicking on the disk's icon.**

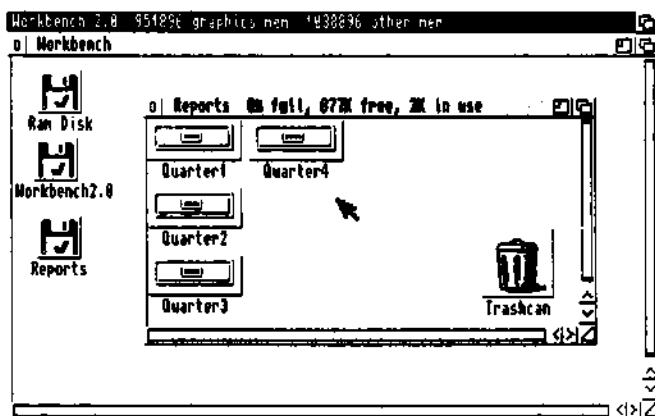
The Reports disk window appears on the screen.

2. **Select the Reports disk window, then choose New Drawer from the Window menu.**

A new drawer, labeled Unnamed1, appears in the Reports disk window. A Rename requester also appears to let you change the name of the drawer.



Follow step 2 to create each additional drawer. Your window would look like this:



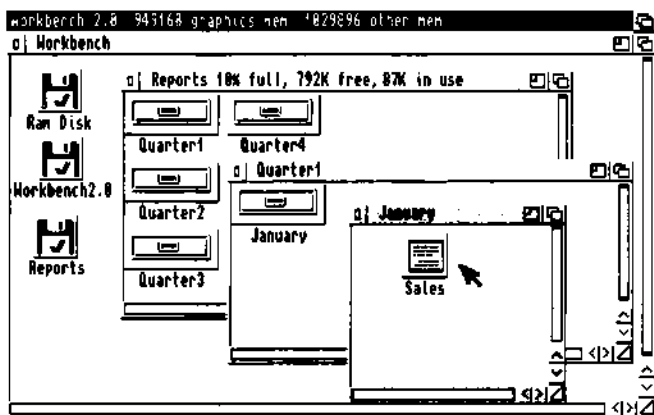
You can store files in any of these drawers, but you might also want to create some drawers within those drawers corresponding to the different months of the quarter.

For example, within the Quarter1 drawer, you might want drawers for January, February, and March. Again, you can use the New Drawer menu item.

1. **Open the Quarter1 window by double-clicking on its drawer icon.**
2. **Select New Drawer from the Window menu.**

A drawer icon labeled Unnamed1 will appear in the Quarter1 window. A Rename requester also appears so you can change the name of the drawer. For this example, name the drawer January.

Create two additional drawers for February and March in the same way. When you wanted to save the Sales report for January, you would put it in the January drawer within the Quarter1 drawer.



## Paths

When a program asks you for the name of a file, you must specify the complete **path** to the file. The path specifies the disk name, or location, and all of the drawers that lead to the specified file.

The manner in which you refer to files varies from program to program. Some programs may provide separate boxes (called text gadgets) in which you can enter the disk name, any drawer names, and the filename. However, sometimes you may need to enter the complete path on one line.

To correctly reference the path, you must type:

1. The name of the disk followed by a colon. For instance,

Reports:

You can also substitute the disk's volume name with the disk drive name — DF0:, DF1:, or DF2:. However, if you do this, be sure the correct disk is in the drive that you specify.

2. To put a file in the disk window, not in a drawer, specify the filename after the colon. For instance,

Reports:Sales

The icon for the Sales file would be in the Reports disk window.

3. To put the file in a drawer, you must first specify the drawer name, followed by a slash, then the filename:

Reports:Quarter1/Sales

The icon for the Sales file would be in the Quarter1 window. You would first have to open the Reports window, then the Quarter1 drawer.

4. However, in this example, there is another drawer — January. To put a file in the January drawer, you must specify each drawer, followed by a slash, then the filename:

Reports:Quarter1/January/Sales

The icon for the Sales file would be in the January window. You would first have to open the Reports window, the Quarter1 window, then the January drawer.

The chart on page 1-49 gives several examples of how to determine path names.

**Quick Review**

To correctly specify a path, you must type:

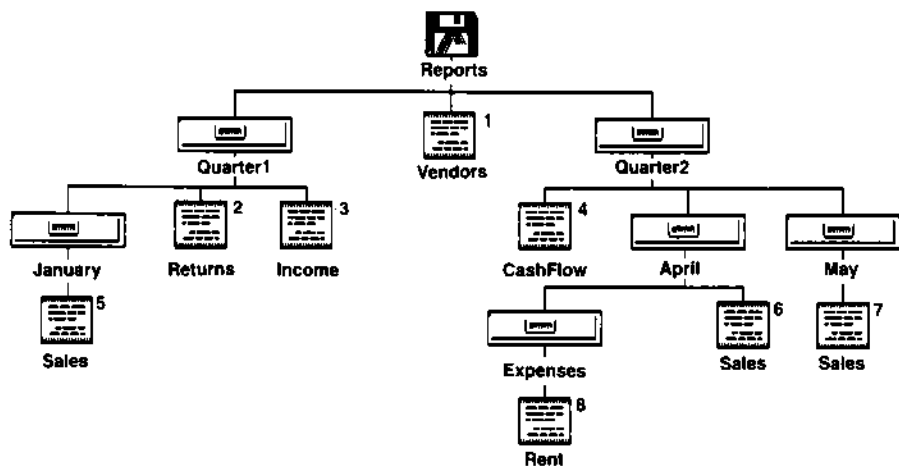
1. The disk name or drive name followed by a colon, such as Reports: or DF0:.
2. The complete sequence of drawer names. Each drawer name must be followed by a slash.
3. The filename.

## Naming Files

When choosing names for your files and drawers there are a few rules you must adhere to:

- A filename can be up to 31 characters long.
- Colons (:) and slashes (/) are not allowed within the name. They are reserved to separate disk names and drawer names when specifying a path to a file.
- Beware of using spaces before or after filenames as they are hard to see on the screen and can be confusing.
- Uppercase and lowercase differences between file names are not recognized. This is known as *case-indifference*. However, the Amiga will use the case you specified when displaying the filename.
- You cannot have two files with the same name in the same drawer. If you already have a file named Sales within the Quarter1 drawer, you cannot create a second file also named Sales. The Amiga will replace the original Sales file with the new file of the same name.
- You can have two files with the same name in different drawers. For instance, you could have files named Sales both in the January drawer of Quarter1 and the February drawer. As long as the paths to the files are different, you will not have a problem.

### Sample Path Chart



The chart above illustrates a typical disk arrangement. If you were to open the Reports disk icon, you would see the Quarter1 and Quarter2 drawers and the Vendors file in the Reports disk window.

If you were to open the Quarter1 drawer, you would see the January drawer and the Returns and Income files in the Quarter1 drawer window. Open the Quarter2 drawer, and you would see the April and May drawers and the CashFlow file, and so on.

It is possible to have several files on one disk with the same name. For instance, in this example there are three files called Sales. However, each Sales file is in a different drawer. So long as the correct path to the file is specified, you do not have to worry about replacing one Sales file with a different Sales file.

The list below shows the correct path to each of the files in the chart:

- 1 Reports:Vendors
- 2 Reports:Quarter1/Returns
- 3 Reports:Quarter1/Income
- 4 Reports:Quarter2/CashFlow
- 5 Reports:Quarter1/January/Sales
- 6 Reports:Quarter2/April/Sales
- 7 Reports:Quarter2/May/Sales
- 8 Reports:Quarter2/April/Expenses/Rent



## Chapter 2. Basic Operations

In the tutorial, you learned the basics about using your Amiga, such as using the mouse to move the pointer, using menus, and making backup copies of disks. This chapter reviews what you learned in the tutorial and presents some more detailed information explaining:

- the Workbench system
- additional mouse techniques
- how to respond to requesters
- the features of the Workbench screen
- special features of windows
- standard gadgets used on the Amiga
- the different types of icons
- the four Workbench menus

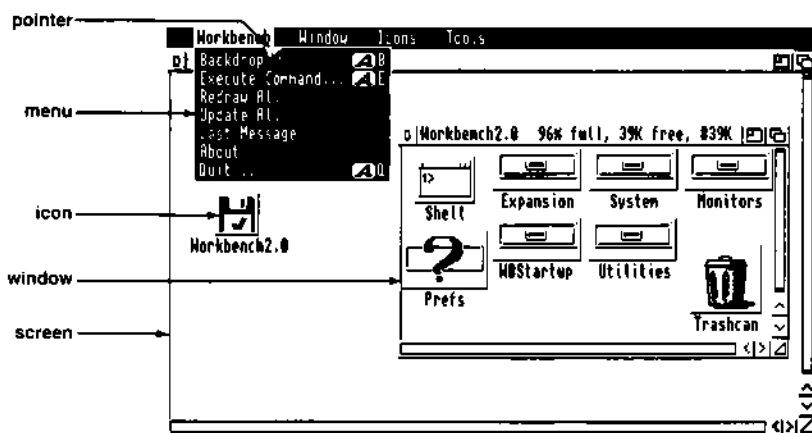
If you were following the steps outlined in the tutorial, you should have rebooted your Amiga with the backup copy of your Workbench2.0 disk. *If you are a new user and have not read Chapter 1, you should do so before starting this chapter.*

The information in this chapter is presented in independent, easy-to-reference sections. Each section contains both explanatory text and, in most cases, a step-by-step demonstration. For instance, if you need to know about a particular gadget in a window, you can look in the "Windows" section where there is a subsection explaining that gadget.

When you have finished with this chapter, you will be ready to use the programs included on the Workbench2.0 and Extras2.0 disks.

## The Workbench System

The Amiga works with a screen/window/icon/menu/pointer system that is available to all applications. This system is known as the Workbench. Below is a brief explanation of each of these elements:



- screen    An area of the display with the same video attributes. This includes the number of pixels on each line, the number of colors, and the color palette. Screens are as big as the display area (sometimes larger). Several screens can be open at once.
- window    A rectangular area on a screen that can accept or display information. Several windows can be open on a screen at once, but only one window at a time can accept information. Many programs are run in windows. For instance, you can have a word processing window and a spreadsheet window open at the same time on the Workbench screen.

- icon      A small picture that represents disks, drawers, files or programs stored on floppy disks, hard disks, or on other storage devices.
- menu     A list of options from which you can choose a specific operation, such as copying a file, renaming an icon, or organizing the contents of a window.
- pointer   An image that you can move across the screen by moving the mouse. When you move the pointer over an icon or to certain areas of the screen, you can then use the mouse buttons to send a message to the Amiga.

All of these elements combine to provide the icon-based environment that you use to interact with your Amiga. It is this environment that is known as the Workbench.

You can compare the Amiga Workbench to a carpenter's workbench. When a carpenter is building a cabinet, he spreads his tools and his materials out upon his workbench and then proceeds to build the cabinet upon that same surface.

In a similar way, the Amiga Workbench provides you with a computerized work surface. Think of the pointer, menus and windows as your tools and of the programs on the Workbench2.0 disk, or any other application software, as your materials. You use your tools and materials on the Amiga Workbench to build or create a file, whether it's a text file from a word processing program, an animation file from a video program, or a data file from a spreadsheet program.

The main visual component of the Workbench is the Workbench screen. Even if you are using a commercial application, chances are that the first screen you see will be the Workbench screen. Sometimes an application will start with a specialized screen, but the Workbench screen is usually present somewhere in the background.

The floppy disk that contains the basic Amiga software is called the Workbench2.0 disk, and when you open this disk the window that appears is called Workbench2.0. This results in several elements sharing the Workbench name, but they are all parts of the Workbench environment.

## **Mouse Techniques**

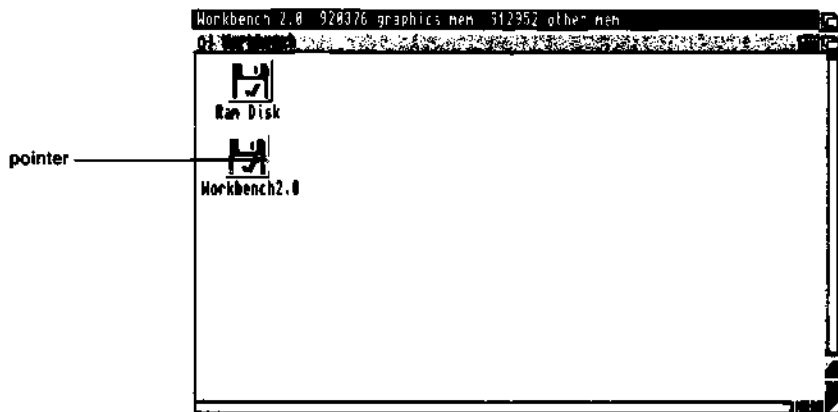
*Click = press and release*

*Hold down = press continually*

*Point = move pointer tip so that it is over an object on the display*

The mouse lets you communicate with your Amiga by moving and positioning a pointer then pressing one of the mouse buttons. Even though there are only two buttons, there are many operations that you can perform.

When an instruction tells you to click the mouse button, it means to press and release the button. **Holding down** the mouse button means to press the button until you are told to release it. To point to an icon, use the mouse to move the pointer so that its tip is inside the icon's box, as shown below:



In Chapter 1, the word right or left was specified in instructions telling you to press a mouse button. Throughout the rest of the manual, however, the buttons will be referred to by their correct names. The left button is the selection button, and the right button is the menu button.

## **The Selection Button**

The left mouse button is the selection button. With this button, you choose, or select, the icons, windows, or screens that you want to use. You can also use the selection button to move, or drag, items around the screen.

### **Selecting**

You need to select an icon, window, or screen before you can work with it. For instance, when an icon is selected, you can make a copy of it, change its name, and even delete it.

All icons are surrounded by a box. When an icon is not selected, the box appears raised above the screen or window surface.

When you select an icon, the box appears to sink into the screen or window surface. Some icons may change color or shape when selected. Drawer icons may change from a closed drawer to an open drawer.

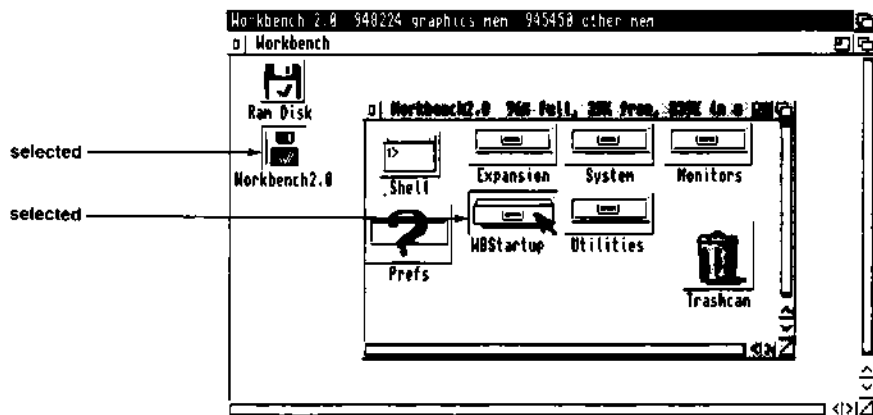
To select an icon:

**1. Point to the icon.**

Make sure the pointer tip is within the icon's box.

**2. Click the selection button.**

The icon will change to show that it is selected.



If you click the selection button while the pointer is elsewhere on the screen or window, the icon will no longer be selected and will return to its original appearance.

To select a screen or window:

**1. Click the selection button while the pointer is inside the screen or window, but not over an icon.**

When a window is selected, the frame surrounding the window changes color. When a Workbench window is selected, the frame of that window is highlighted and the amounts of available memory are displayed across the top of the screen.

## Selecting Multiple Icons

At times you may want to select several icons at once. When multiple icons are selected, you can treat them as a single entity. You can delete, move, or copy the entire group in one operation. There are three ways to select multiple icons: **drag selection**, **extended selection**, and the Select Contents menu item [explained on page 2-55].

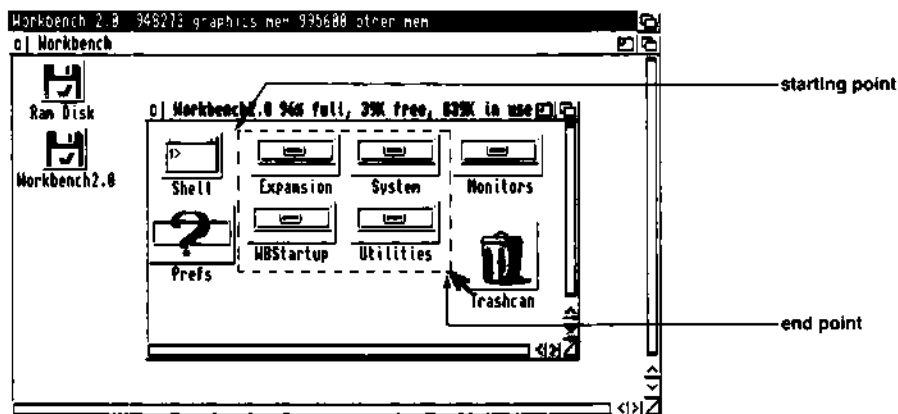
Drag selection is a way to select several icons at once by using the mouse to draw a box around them. To do this:

1. *Move the pointer just outside of the outermost icon you want to include in the box.*

Do not let the pointer touch any icons.

2. *Hold down the selection button, and move the mouse.*

As you move the mouse, a dotted box will be drawn.



3. *When the box encloses the icons that you want to select, release the mouse button.*

All of the icons inside the dotted box will be selected.

Extended selection is useful when the icons you want to select are not in a group that you can enclose in a box. To use extended selection:

- 1. Select the first icon.**
- 2. Hold down Shift.**
- 3. Select the other icons.**

While holding down Shift, point to each icon and click the selection button.

- 4. Release Shift.**

Each icon you have clicked on will be selected.

*You can adjust the time allotted for a double-click with the Input Editor, explained on page 3-6.*

## **Double-clicking**

Double-clicking means clicking the selection button twice in rapid succession. When you point to an icon and double-click the selection button, a window appears or a program is started.

## **Dragging**

Dragging is the act of moving an icon, window, or screen.

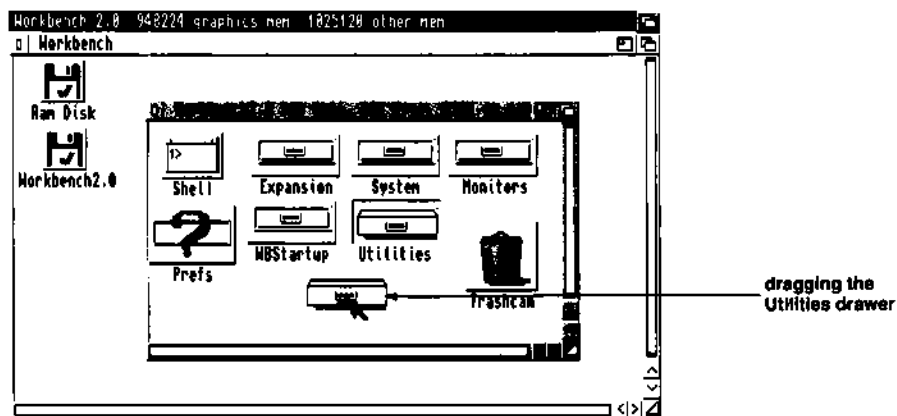
### **Dragging an Icon**

You can move an icon into another window by dragging it out of the original window and into a new window. You can also copy and delete icons by dragging them to certain areas on the screen or in a window. (This is explained in the "Icons" section.)

To drag an icon:

1. *Point to the icon.*
2. *Hold down the selection button, and move the mouse.*

A copy of the icon will move with the pointer.



3. *Release the selection button when the icon is positioned where you want it.*

If you have selected several icons, you can drag all of the icons at once. Hold down Shift, point to one of the icons, hold down the selection button, and move the mouse. All the selected icons will move as you move the mouse.

## Dragging a Window

When you have several open windows on the Workbench screen, they may overlap each other. You can move the windows around by dragging them. This helps you see the information presented in all the windows.

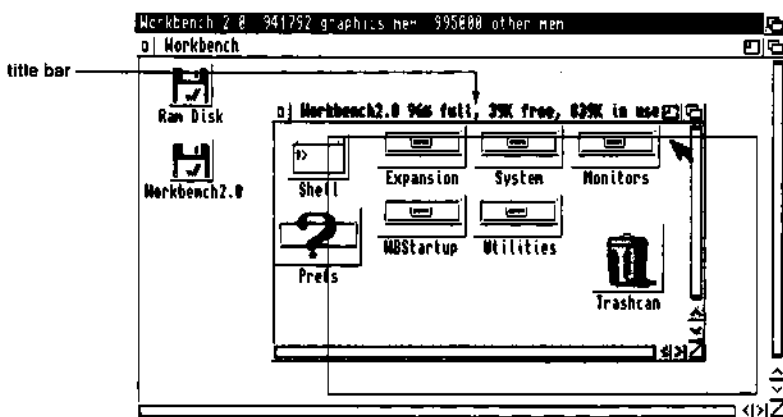
To drag a window:

1. *Point to the top border of the window, but make sure the pointer is not over any of the square gadgets at either corner of the border.*

This area is known as the window's title bar.

2. *Hold down the selection button, and move the mouse.*

An outline of the window appears and moves across the screen.



3. *Drag the outline to where you want the window, then release the selection button.*

When you release the selection button, the window appears in the new location.

## Dragging a Screen

It is possible to have more than one screen open at a time. For instance, you can have your Workbench screen, a terminal program screen that lets you communicate with other computers, and a text editor open at the same time. You can see parts of each screen by dragging them.

To drag a screen:

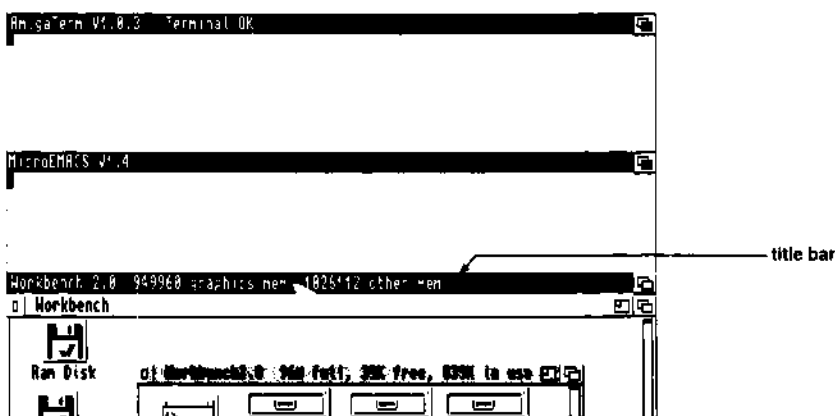
1. *Point to the screen's title bar.*

This is the area across the top edge of the screen.

2. *Hold down the selection button.*

3. *Move the mouse down.*

To expose a screen, you can only drag the front screen down, not up. However, if a screen is larger than the monitor's display area, you can drag it up or down or side-to-side so that you can see all areas of the screen.



An alternative method for dragging a screen is to hold down left Amiga, then hold down the selection button and move the mouse up or down. It does not matter where the pointer is positioned.

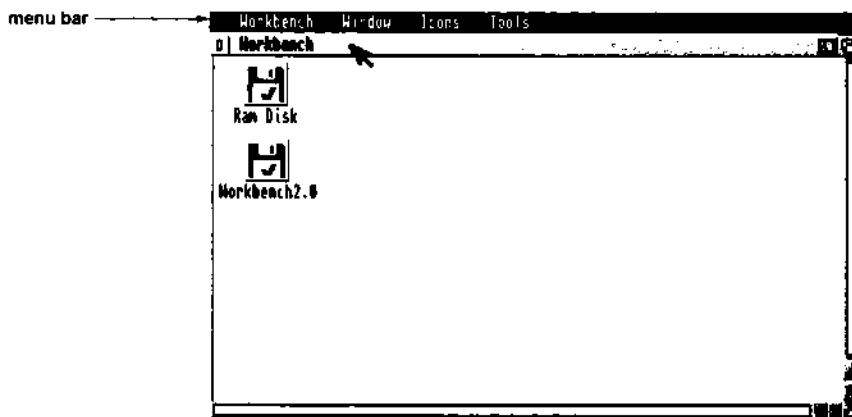
## The Menu Button

The right mouse button is the menu button and is used to display menus and to choose items from them.

You can also use the menu button to cancel an operation that is being performed with the selection button, such as drag selection. Cancelling is described at the end of this section.

### Using Menus

To see the available menus, hold down the menu button, and menu headings will appear across the top of the screen. The Workbench has four menus: Workbench, Window, Icons, and Tools.

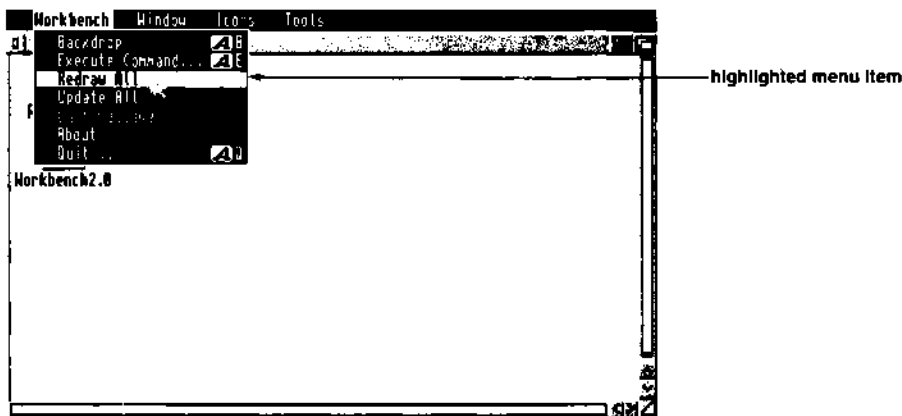


To see the items in a menu, keep holding down the menu button and point to the different menu headings. When the pointer touches any part of the heading, the available items will be listed beneath the heading.

To choose a menu item:

1. *Continue to hold down the menu button.*
2. *Move the pointer down the menu.*

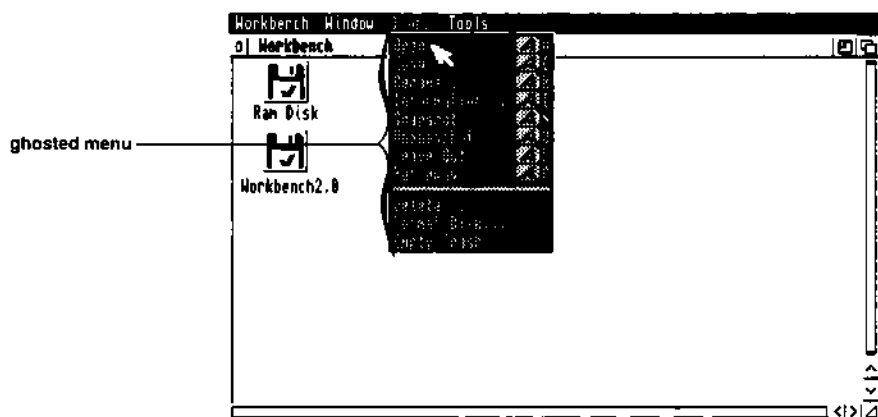
As you point to each available menu item, it will be highlighted.



3. *When the menu item you want to choose is highlighted, release the menu button.*

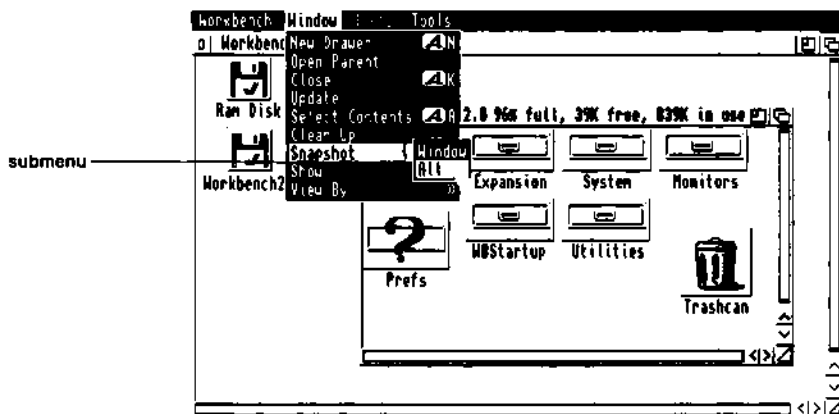
Not all menu items are available at all times. The unavailable items are ghosted (not displayed clearly) and will not be highlighted when the pointer passes over them.

Sometimes menu items are ghosted because something on the screen needs to be selected. For instance, all the items in the Icons menu are ghosted if an icon on the screen is not selected.



Some menu items may have **submenus**. Submenus are additional options that appear to the right of the menu item. (If a menu item has a submenu there will be a >> after the item name.) You must choose an option from the submenu list to use the menu item.

For instance, when you point to the Snapshot menu item in the Windows menu, a submenu appears. You must choose either Window or All to use Snapshot (explained on page 2-56).



To choose an option from a submenu:

**1. Point to the main menu item.**

The menu item will be highlighted, and the submenu will appear to the right of the menu item.

**2. Keep holding down the menu button, move the pointer to the first item in the submenu, then move down the list to the item you want to choose.**

The submenu item will be highlighted.

**3. Release the menu button.**

## Cancelling

You can cancel an operation being performed with the selection button by clicking the menu button *while still holding down the selection button*. The following operations can be cancelled: selecting, dragging, drag selection, and changing the size of a window. Some examples of cancelling follow.

If you have several icons selected, and you want to cancel the selection of all of them, click on an empty area of the screen.

To cancel the selection of one icon:

**1. Point to the icon.**

**2. Hold down Shift and the selection button, then click the menu button.**

If you are dragging an icon or a window across the screen, and you decide you want to leave it in its original location, click the menu button before releasing the selection button. The operation will be cancelled, and the icon or window will remain in its original position.

You can cancel drag selection in the same way. If you are selecting several icons, click the menu button *without releasing the selection button* to cancel the operation. None of the icons will be selected.

**===== Using the Amiga without a Mouse =====**

All mouse actions can be accomplished with the keyboard. You can use the keyboard to move the pointer, select icons, and choose menu items. [A description of the keyboard can be found in your *Introducing the Amiga* manual.] The chart below outlines the keyboard methods:

<b>Operation</b>	<b>Mouse Method</b>	<b>Keyboard Method</b>
Moving the pointer	Move the mouse.	Hold down an Amiga key and a cursor key. (Hold down Shift to move the pointer faster.)
Selecting an icon, window or screen	Point to an icon, window or screen.	Point to an icon, window, or screen.
	Click the selection button.	Hold down left Amiga and left Alt.
Dragging	Point to an icon or title bar.	Point to an icon or title bar.
	Hold down the selection button.	Hold down left Amiga and left Alt.
	Move the mouse.	Use the cursor keys to move the pointer.
	Release the selection button.	Release all keys.

Operation	Mouse Method	Keyboard Method
Drag selection	Hold down the selection button.	Hold down left Amiga and left Alt.
	Move the mouse to draw a box around the icons.	Use the cursor keys to move the pointer to draw a box around the icons.
	Release the selection button.	When the box is drawn, release all keys.
Choosing a menu item	Hold down the menu button to display menus.	Hold down right Amiga and right Alt to display menus.
	Point to a menu heading.	Keep holding down keys, and use the cursor keys to point to a menu heading.
	Point to a menu item.	Keep holding down keys, and use the cursor keys to point to a menu item.
	Release menu button.	Release all keys.
Cancelling	Hold down menu button while selection button is pressed.	Hold down right Amiga and right Alt while left Amiga and left Alt are pressed.
The keyboard equivalent to clicking the left mouse button is to press left Amiga and left Alt.		
The keyboard equivalent to clicking the right mouse button is to press right Amiga and right Alt.		

## **Requesters**

Before you begin to examine the individual aspects of the Workbench system, take a few minutes to learn about requesters.

A requester is a small window opened by a program, like Workbench, when it needs a response from you. You will come across requesters repeatedly as you start to use the various parts of the Workbench, like menus, windows and icons. When a requester window appears, it is immediately brought to the front of the display and is automatically selected.

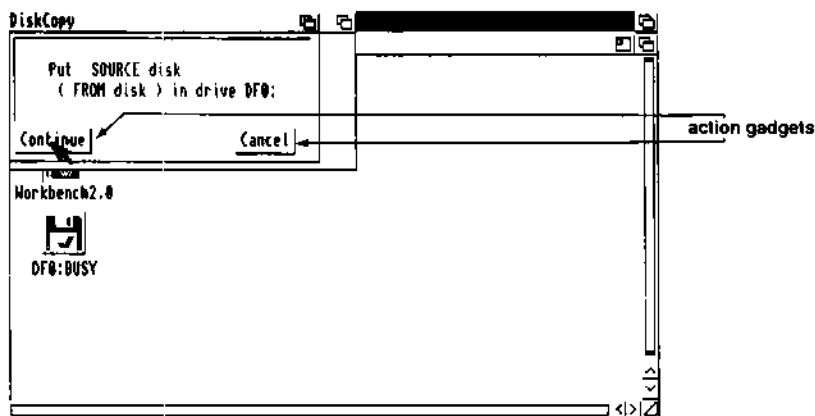
Requesters are often the result of a menu choice. Several of the menu items are followed by three dots ( . . . ) to indicate that they generate requesters.



A requester will always contain text explaining what you must do. Be sure to read the text in the requester before selecting a gadget or entering text.

## Action Requester

Some requesters ask you to choose between two options. For instance, it may ask you if you are sure you want to proceed with an operation or if you want to cancel the operation.



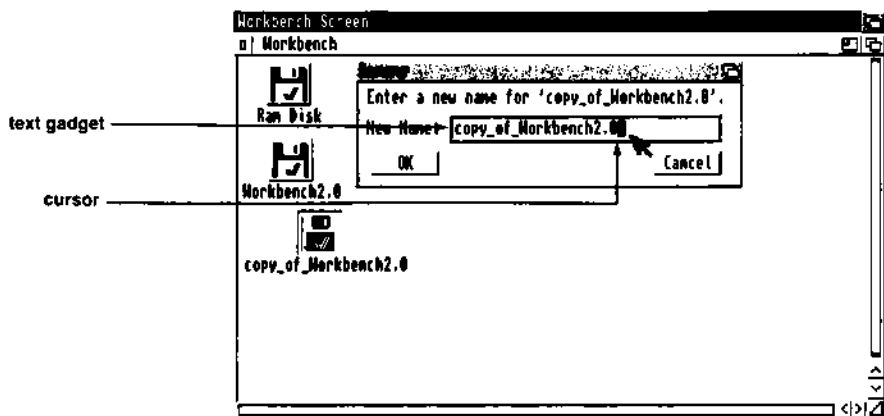
These requesters contain two **action gadgets**. One gadget lets you proceed with an operation. It is usually labeled OK, Continue, or Retry. The other gadget is a Cancel gadget and stops the operation without performing any action. To choose one of the options, select the appropriate gadget.

**Keyboard Shortcut:** To select the gadget that lets you proceed (OK, Continue, or Retry), press left Amiga-V. To select the Cancel gadget, press left Amiga-B.

*You can change these keys with the IControl editor explained in Chapter 3.*

## Text Requester

Another type of requester is one that asks you to enter text. This type of requester contains a **text gadget**, a rectangular box that allows you to enter text. For instance, the following requester appears when you choose the Rename menu item.



When the requester appears the text gadget is automatically selected. When you type at the keyboard, the text appears to the left of the **cursor** (the small, highlighted box inside of the text gadget).

If you click the selection button while the pointer is somewhere else on the screen, the requester may no longer be selected. To enter your text, you will have to move the pointer inside of the text gadget, and click the selection button.

Sometimes text gadgets will contain information that needs to be changed. For instance, when you choose the Rename menu item, the text gadget may contain the current name of the icon. Some keyboard shortcuts for editing text within a text gadget are listed below:

Del	Erases the character highlighted by the cursor.
Backspace	Erases the character to the left of the cursor.
right Amiga-X	Erases all the text in the gadget.
right Amiga-Q	Retrieves what was in the gadget before the text was changed.
Shift-left cursor	Moves cursor to the beginning of the line.
Shift-right cursor	Moves cursor to the end of the line.
Shift-Del	Erases the character highlighted by the cursor and all characters to the right of the cursor.
Shift-Backspace	Erases all the characters to the left of the cursor.

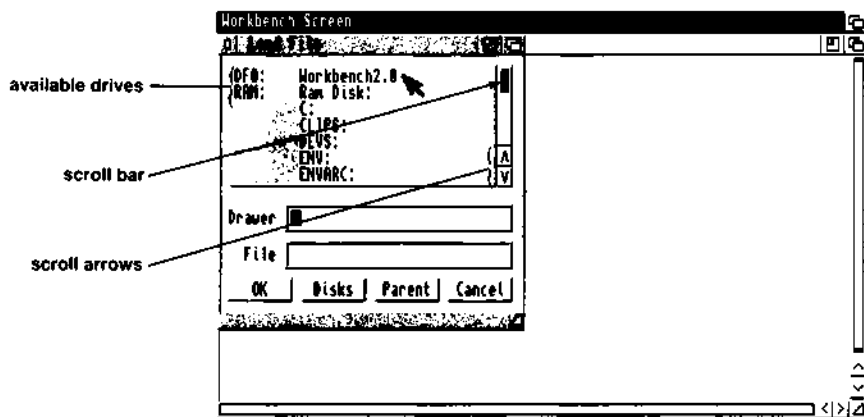
When the text in the gadget is correct, press Return. (With some programs, you may also need to select an action gadget.) The requester will disappear, and the action will be carried out.

## File Requester

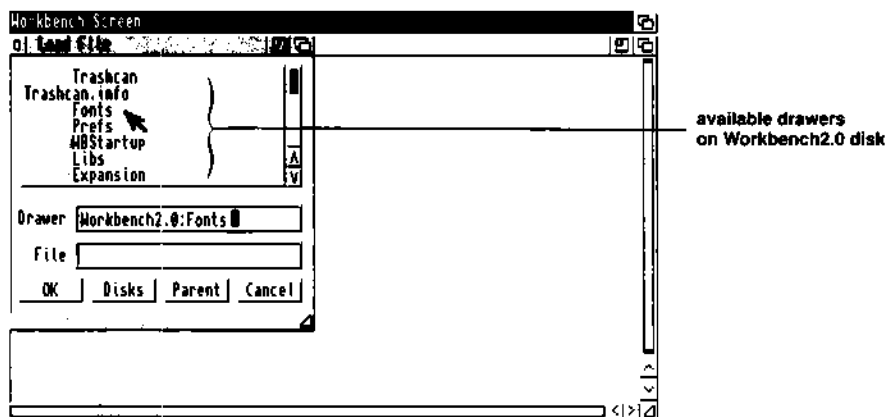
Another type of requester is one that allows you to enter the name of a file. These requesters often appear so you can specify a file from which to read or to save information.

A file requester usually contains a list of the files on the Workbench or boot disk. To read through the list, drag the scroll bar up or down or select the scroll arrows. If the file you want to use is in a different drawer or on another disk, the gadgets in the requester allow you to look for that file.

Select the Disks gadget, and a list of available floppy drives, hard disk partitions and assigned volumes will be displayed. (Assigned volumes are explained later in this manual.)



To list the available files and drawers on a disk, point to the disk's name and click the selection button. The display will change to list the files and drawers on that disk.



If the file is in a drawer, point to the name of the drawer, click the selection button, and a list of files in the drawer appears. When the correct filename is displayed, point to the filename and click the selection button.

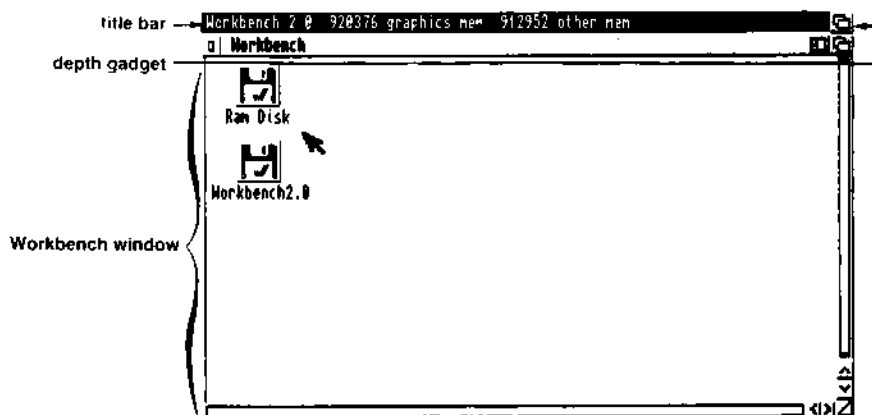
When you select a disk or drawer from the list, its name appears in the Drawer text gadget. When you select a filename, it appears in the File gadget. You can also type the correct disk, drawer and file names directly into the text gadgets. Click inside the text gadget, and a cursor will appear. You can then type the proper names.

The Parent gadget returns you to the **parent** drawer of the currently displayed list of files. The parent drawer is the drawer that is one level above the currently shown drawer. For instance, if you're looking at a list of files in the Utilities drawer, selecting the Parent gadget will return you to the list of drawers and files on the Workbench2.0 disk.

Once the correct filename is displayed, select the OK gadget. If you change your mind and want to exit the requester, select the Cancel gadget.

## The Workbench Screen

The Workbench screen provides the background for your work. Icons and windows appear on this screen.



### Title Bar

The top border of the screen is known as the title bar. When a Workbench window is selected, the title bar shows the name of the screen, as well as how much memory is available. Graphics mem refers to available **Chip RAM**. The amount of Chip RAM in your system determines how much memory is available for graphics and digitized sounds. Other mem refers to all other available RAM including any expansion, or **Fast**, RAM.

When you hold down the menu button, the menu bar is displayed. The menu bar lists the menu headings. Available menu headings are shown clearly, while unavailable menu headings are ghosted.

## Workbench Window

When you boot your Amiga, the Workbench window fills the Workbench screen. This window contains icons for any floppy disks that have been inserted into a drive and the Ram Disk. Depending on your system's configuration, it is possible that there may be other icons in the window.

Although the Workbench window looks and acts like a window, it is an essential part of the Workbench screen. When the Workbench window is selected, the Workbench screen is also selected.

## Moving the Workbench Screen

Since the Amiga is multitasking, it is possible to have multiple screens open at the same time. For instance, you can be running a graphics program on the Workbench screen and a terminal program connecting you to an electronic bulletin board on another screen. In this case, you will have to move the Workbench screen in order to see the other screen. There are several ways to move the Workbench screen.

One way to drag the screen is by pointing to the title bar, holding down the selection button, and moving the mouse. Another way is to hold down left Amiga and the selection button, point anywhere on the screen or Workbench window and move the mouse up or down.

The small box in the upper right corner of the Workbench screen is its depth gadget. You can click on this gadget to move the Workbench screen behind or in front of other screens.

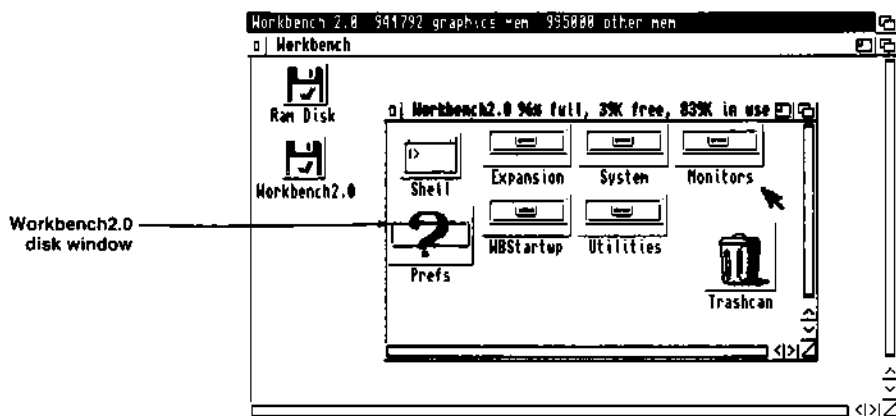
You can also move the Workbench screen with the keyboard. Pressing left Amiga-N moves the Workbench screen *in front of* all other screens. Left Amiga-M moves the front screen *behind* all other screens.

*You can customize this action to a key of your choice with the IControl editor explained in Chapter 3.*

*These keys can also be changed with the IControl editor.*

## Windows

A window is an area of the screen that displays and accepts information. There are many different types of windows. You've already seen the Workbench window that appears when you boot your Amiga. Double-click on the Workbench2.0 disk icon, and a window appears displaying the contents of the Workbench2.0 disk.

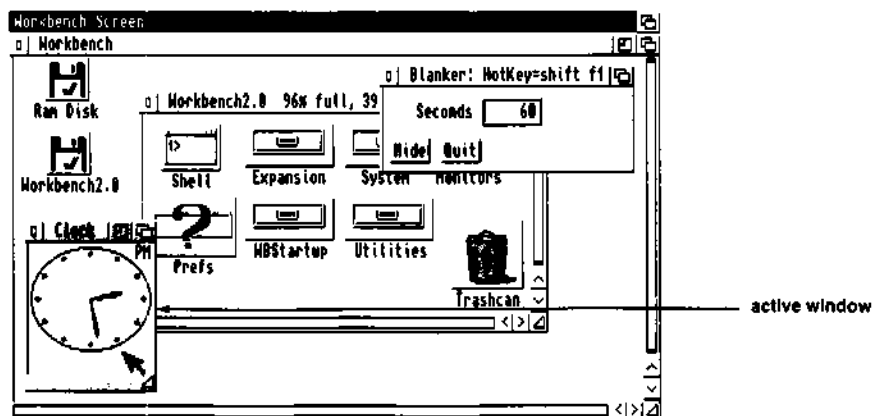


*Often when a window fills the screen, it is referred to as a screen. Technically, this is incorrect. Although it may fill the screen, it is still a window.*

Many of the programs on the Workbench2.0 disk create windows when their icons are opened. You may find that much of the commercial software you purchase also opens windows.

New windows open on the front of the screen. While several windows can display information simultaneously, only one window at a time can accept information. This window is

known as the selected, or active, window. When a window is selected its border, or frame, is a different color from the other windows on the screen.



To select a window, point anywhere inside the window or its title bar, and click the selection button. Clicking the selection button while the pointer is outside of the window will deactivate the window. It will no longer be selected.

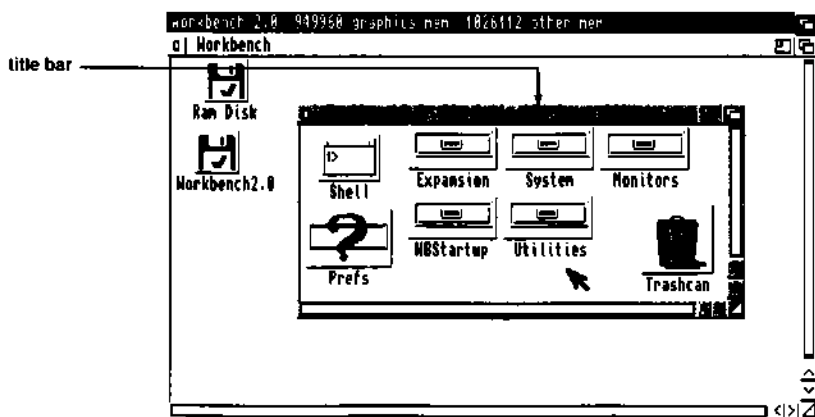
When you have several windows open on one screen, it often results in windows overlapping each other. When you want to look at the contents of a particular window, you may need to move other windows around so that you can see the one you want. Most windows have gadgets to allow you to perform these actions. Gadgets are the boxes and bars in a window's border. Some of the most common gadgets are explained in the following sections.

*Different programs may use different gadgets. When a program uses a unique gadget, it is usually explained in the program documentation.*

## Title Bar

Across the top of each window is a title bar that shows the name of the window. For Workbench windows, the name will be the same as the name of the icon that was opened to create the window.

For instance, when you open the Workbench2.0 disk icon, the window will have a title bar that looks something like this:



*One kilobyte (K) =  
1,024 bytes*  
*One megabyte (MB) =  
1,024 kilobytes*

The information in this title bar identifies how much data is on the disk. It states what percentage of the disk is *full*, how many kilobytes are *free* (available for storage), and the number of kilobytes that are *in use* for existing data.

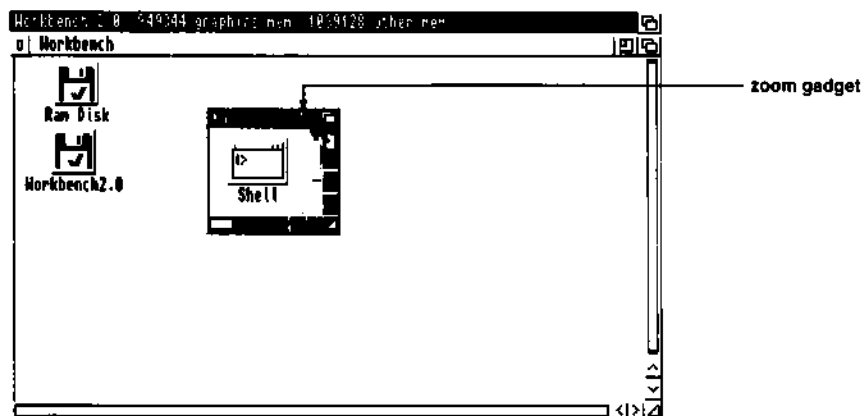
When you open a drawer icon, the title bar only displays the name of the drawer.

As explained earlier, you also use the title bar to drag a window.

## Zoom Gadget



Selecting the zoom gadget changes the size of a window. In some cases, as with the Workbench 2.0 disk window, the window becomes smaller.



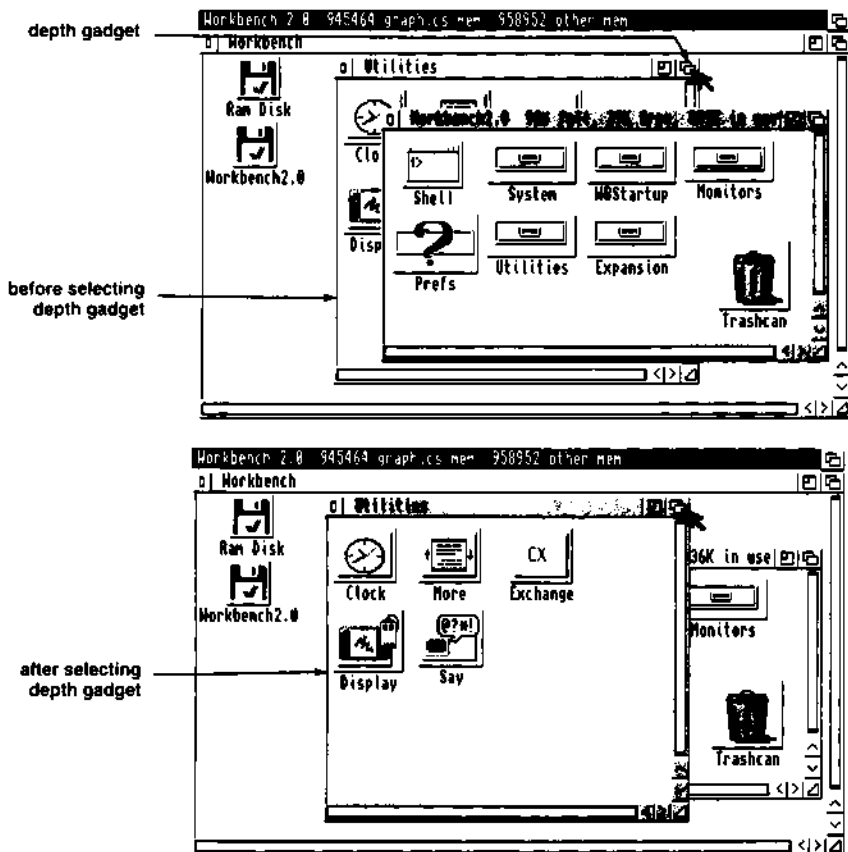
Selecting the zoom gadget a second time returns the window to its previous size and position. If you change the size of a window, the window will return to that new size and position the next time it is zoomed in and back.

## Depth Gadget



When you have several windows overlapping each other on the screen, you can move them back and forth with the depth gadget. If a window is front-most on the screen (not obscured by other windows), selecting this gadget pushes that window behind all the other windows.

Selecting the depth gadget on any window other than the front-most window, brings that window to the front. For instance, if you have three windows open on the screen, selecting the depth gadget of the middle window will bring it to the front of the screen.

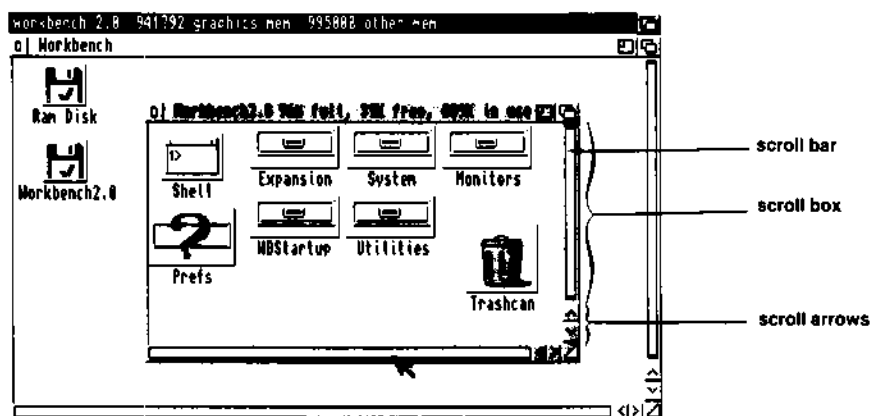


If you hold down Shift and select the depth gadget, the window will move behind all the other windows.

## Scroll Gadgets

Sometimes a window is not large enough to show all of its icons. You can see the window's contents without changing its size by scrolling the window. Scrolling refers to moving the viewing area of a window so that you can see unexposed icons.

Most windows have two scroll gadgets, one along the right edge of the window and one along the bottom. The scroll gadget is made up of a scroll box, a scroll bar, and scroll arrows.

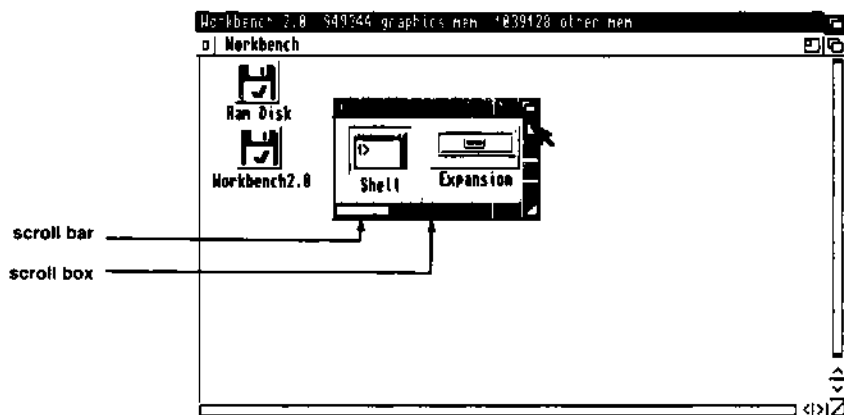


The scroll bar is the highlighted rectangular area inside of the scroll box. The size of the scroll bar indicates how much of the window is visible. If the entire window is visible, the scroll bar fills the entire scroll box. However, if the scroll bar only fills half of the scroll box, only half of the window is visible. By dragging the scroll bar to the empty area of the scroll box, you can see the obscured icons.

The position of the scroll bar reflects which portion of the window is visible. For instance, if the scroll bar is in the upper half of the vertical scroll box, you can see the icons in the top of the window.

To drag a scroll bar:

1. *Point at the scroll bar.*
2. *Hold down the selection button.*



3. *Use the mouse to drag the scroll bar to an empty area of the scroll box.*

The viewing area of the window will move in the same direction as the scroll bar.

Another way to move the scroll bar is to point to an empty area of the scroll box and click the selection button. The scroll bar will move to the area where you have pointed.

You can also use the scroll arrows to scroll the viewing area of a window whether or not all the icons are visible. This can expose empty areas of the window into which icons can be moved.

To use a scroll arrow:

1. *Point to a scroll arrow.*
2. *Click the selection button.*

The viewing area of the window will shift in the direction of the arrow.

To move the contents more quickly, hold down the selection button while pointing to a scroll arrow.

## Sizing Gadget

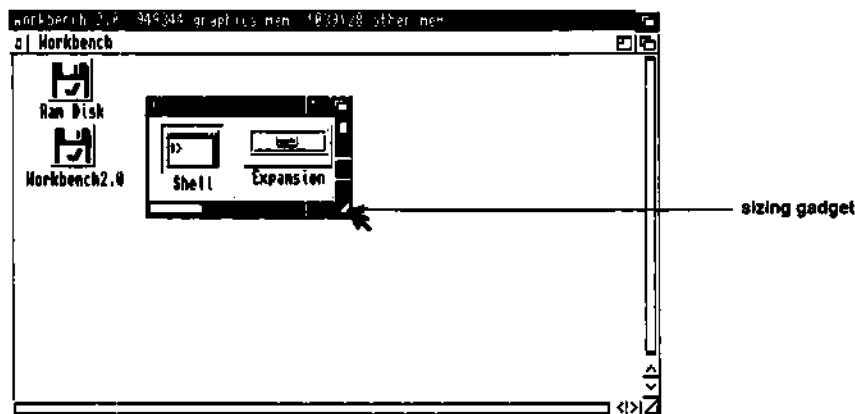


As its name implies, the sizing gadget lets you change the size of the window — making it larger or smaller as needed.

To change the size of a window:

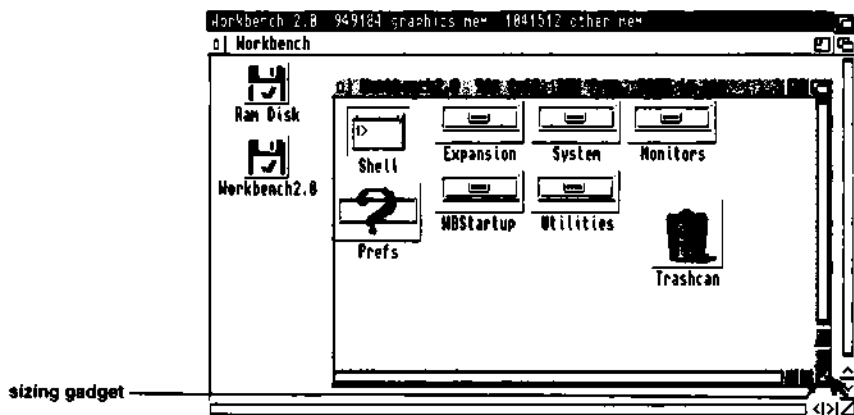
1. *Point to the sizing gadget.*
2. *Hold down the selection button, and move the pointer towards the upper left corner of the screen.*

The window will become smaller.



3. *Point to the gadget again, hold down the selection button, and move the pointer towards the lower right corner of the screen.*

The window will become larger.



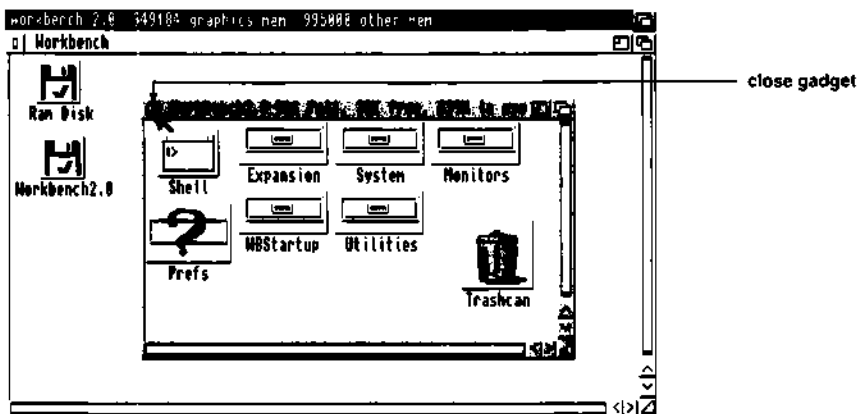
When you have sized the window, release the selection button.

You can cancel the sizing operation by pressing the menu button before releasing the selection button.

## Close Gadget



Selecting the close gadget closes the window. When you are through working in a window, select the close gadget, and the window will disappear.



If you select the close gadget on the Workbench window, a requester will ask you if you really want to quit the Workbench. If you select OK, all Workbench functions will be closed, including any Shell windows started from an icon. *You cannot close the Workbench if you have any programs running.*

In order to leave a Shell window open, you must start one with the NEWSHELL command. There are two ways to do this:

1. *Open a Shell from the icon, then type NEWSHELL at the prompt.*
2. *Use the Execute Command menu item in the Workbench menu.*

Type NEWSHELL in the text gadget.

To get the Workbench back, type LOADWB [load Workbench] at the Shell prompt and press Return.

## **Additional Gadgets**

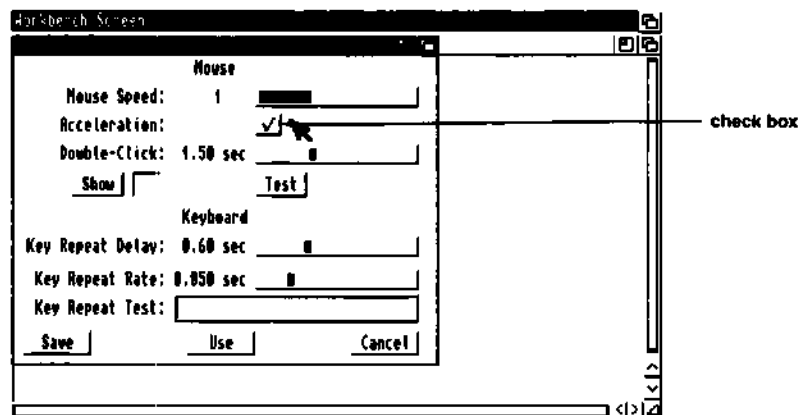
In previous sections, you learned about the various gadgets that appear in requesters and in the borders of Workbench windows. However, there are several other types of standard gadgets used by Amiga programs. You will encounter these gadgets as you proceed through this manual and learn about the programs on the Workbench2.0 disk. This section briefly describes these gadgets and how to use them. When a gadget is used in a program window, the documentation explaining that program will also explain the exact function of the gadget.

*NOTE:* Many of the examples used in this section refer to editors in the Prefs drawer. Don't worry if you do not understand the concept behind an editor; they are further explained in Chapter 3, "Preferences". Right now you should only be concerned with learning how to use the different types of gadgets.

## Check Box



**Check boxes** let you turn an option on or off. For instance, the Input editor uses a check box to allow you to turn on the Acceleration option.



When the option is on, the box contains a check mark. If the option is off, the box is empty.

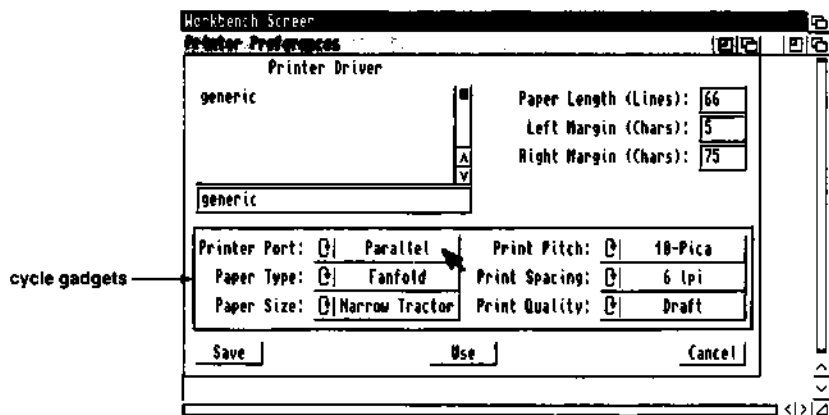
To change the setting:

1. *Point to the check box.*
2. *Click the selection button.*

## Cycle Gadget



A **cycle gadget** lets you select one option from a list of options. The complete list is not shown, only the selected option is displayed. For instance, the Printer editor contains cycle gadgets that let you select your printer specifications.



To see the available options:

1. *Point to the cycle gadget and click the selection button.*

The next option in the list will be displayed.

2. *Keep clicking the selection button until you return to the first option that was displayed.*

When you return to the first option, you will know that you have read through all the available choices.

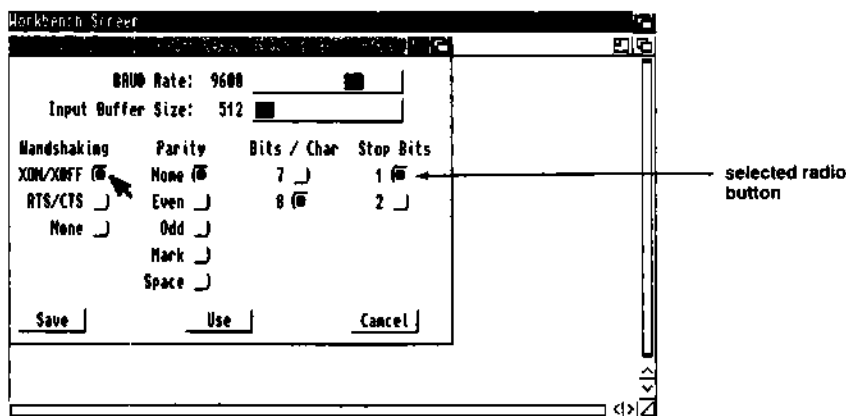
To select an option:

1. *Keep selecting the cycle gadget until the option you want to use is displayed.*

## Radio Button



A **radio button** also allows you to select one option from a list. However, in this case, the entire list is visible and each option has a radio button next to it. For instance, the Serial editor uses radio buttons to let you select the appropriate settings for sending information through the serial port (fully explained in Chapter 3).



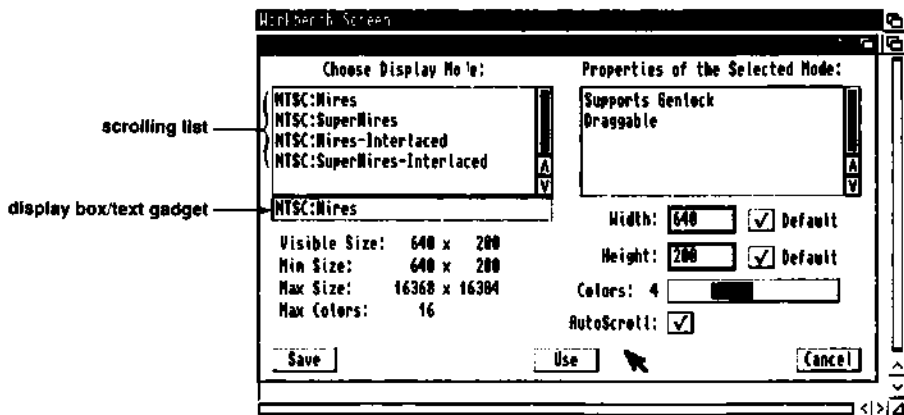
The radio button next to the selected option will be highlighted, and it will appear that the button has been pushed into the screen. The other buttons in the list will remain one color and will appear to be raised above the screen.

To select a radio button:

1. Point to the radio button next to the option of your choice.
2. Click the selection button.

## Scroll Gadget

Scroll gadgets used within windows are very similar to the scroll gadgets contained in the border of the Workbench windows.



However, this type of scroll gadget allows you to select from options displayed in the **scrolling list**. It may also have a **display box** or text gadget underneath the scrolling list that shows the selected option.

The scroll gadget shown above is from the ScreenMode editor. This gadget allows you to choose the type of screen display you will use.

A scroll gadget can only show a limited number of options at a time, but there may be many more from which you can choose. The available choices will be shown in the scrolling list. You can tell if all the options are shown by looking at the

scroll bar. If all the options are visible, the scroll bar fills the entire scroll box. If the scroll bar only fills part of the scroll box, not all of the options are visible.

**To scroll through the options:**

- 1. *Point to the scroll bar.***
- 2. *Hold down the selection button.***
- 3. *Move the mouse so that you drag the scroll bar through the scroll box.***

**To choose an option:**

- 1. *Scroll through the list until the option you want to choose is displayed.***
- 2. *Point to your choice.***
- 3. *Click the selection button.***

Your choice will be highlighted. When you release the button it will appear in the display box or text gadget underneath the scroll area.

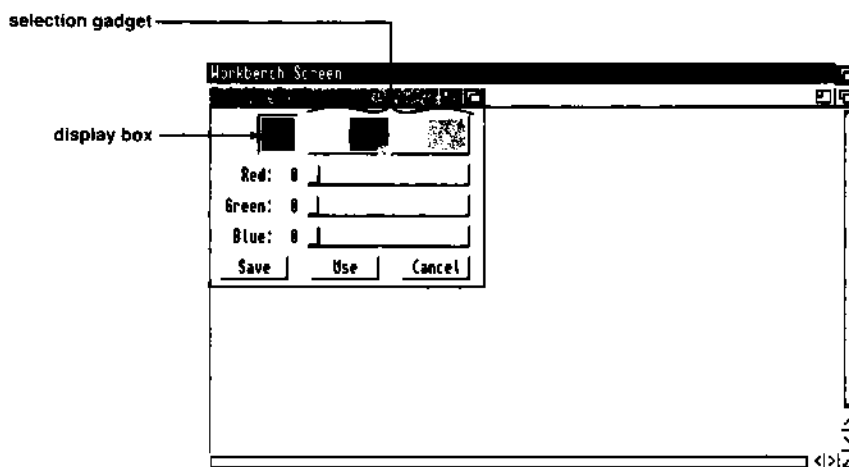
A display box is a rectangular box, similar in appearance to a text gadget, but you cannot enter information in it. A display box only reflects the choice you made with the scroll gadget.

When a text gadget is underneath the scroll gadget, you can sometimes enter a choice not displayed in the scrolling list, such as a new filename for saving information.

Whether or not the scroll gadget uses a display box or text gadget depends on the individual program.

## Selection Gadget

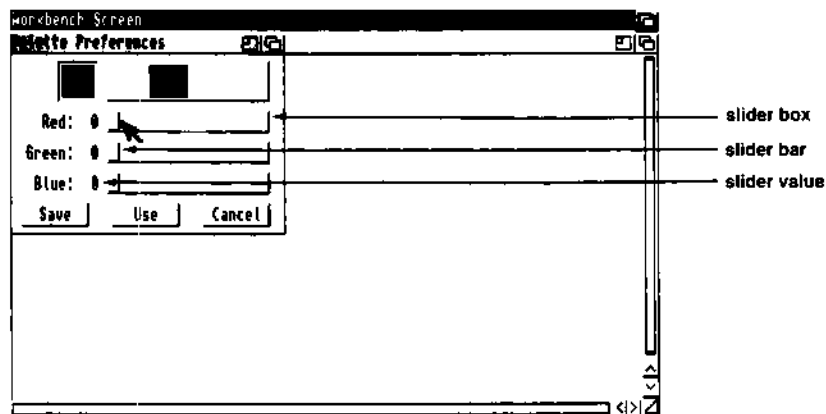
A **selection gadget** lets you select from several displayed options. The Palette editor uses a selection gadget to let you select a color to change.



In this case, you simply point to the color you want to use, and click the selection button. The selected option will appear in the display box to the left of the selection button.

## Slider Gadget

Slider gadgets allow you to select a value within a given range. They are similar to scroll gadgets in that you drag a slider bar through a slider box to select a specific value.



The sliders shown above allow you to change the colors of the Workbench.

The **slider value** is shown to the left of the slider. This is the value associated with the current position of the slider bar.

To change the value:

1. *Point to the slider bar.*
2. *Hold down the selection button and move the mouse to the right or left.*

The slider value will change as the bar moves.

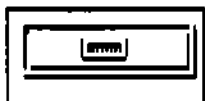
3. *When the desired value is shown, release the selection button.*

## Icons

Icons are pictures on the screen that represent disks, drawers, and files. Icons provide quick access to information stored on a disk. The Workbench uses several types of icons:



A **disk icon** represents any disk that is available or accessible by the Workbench. Disk icons are located in the Workbench window. When you open a disk icon, a window appears on the screen.



A **drawer icon** represents a subdivision of the disk storage area. When you open a drawer icon, a window appears.



A **tool icon** represents a specific program. For example, the Clock icon in the Utilities drawer is a tool. When you open a tool icon, the program is started.



A **project icon** represents a file where information created or used by a tool is stored. The Mode\_Names icon in the WBStartup drawer is an example of a project. When you open a project icon, the associated tool, if any, is also opened. The tool will then begin to operate on the project.



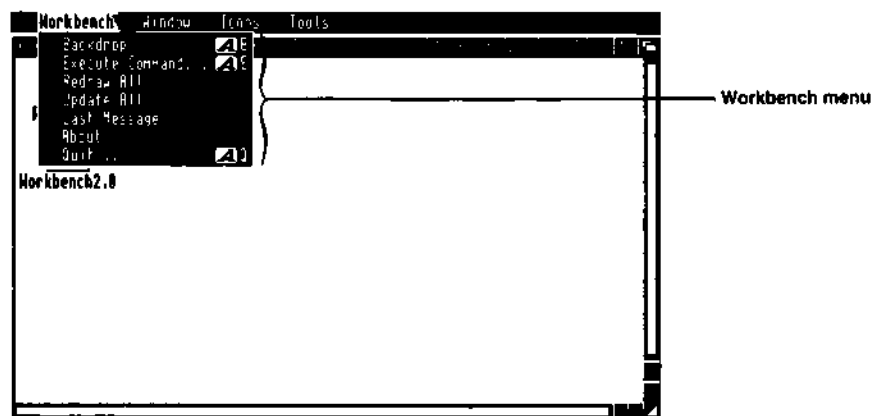
The **Trashcan** represents a place on the disk that is used to store unwanted items until you choose to remove them from the disk.

Every icon on your screen, whether it's a disk, drawer, project, tool, or trashcan, has a corresponding file that contains the information that produces the icon's image. These files are called **.info** files.

For instance, the Clock icon, in the Utilities drawer, represents the Clock program. There are two files in the Utilities drawer: Clock, which contains the data to run the program, and Clock.info, which contains the data that creates the Clock icon.

## The Workbench Menu

The Workbench menu pertains to the Amiga's general operations as well as to all open windows on the Workbench screen. You can use the Workbench menu to update the screen display or see which version of the software you are using.



To the right of many of the menu items are keyboard shortcuts. These shortcuts allow you to choose the menu item without using the mouse. Simply hold down right Amiga, then press the specified letter key. You do not have to use the mouse at all. In this manual, the keyboard shortcuts are shown along the right margin.

## Backdrop

**AB**

When you choose Backdrop, the Workbench window disappears and the disk icons appear on the Workbench screen. The disk icons are no longer in a window. This is useful when you have several windows open, and you need to move through them frequently. It eliminates the need to keep moving the Workbench window out of the way.



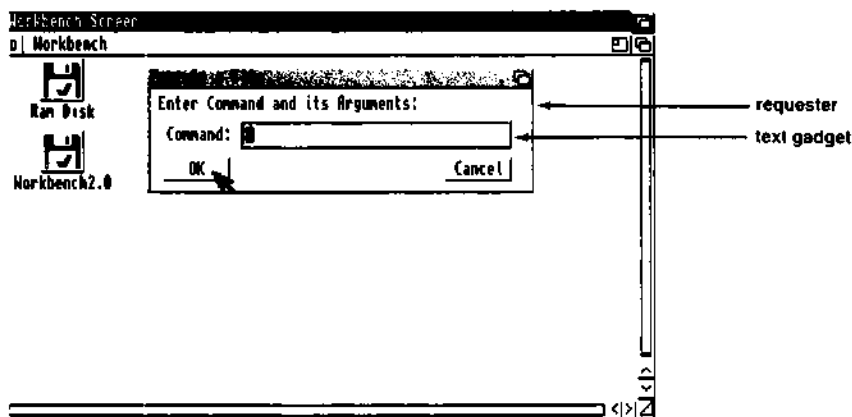
When Backdrop is chosen, a check mark appears to the left of the menu item. To return to the Workbench window, choose Backdrop again. If you choose Backdrop, then turn off or reboot your computer, the Workbench window will reappear. To save your Backdrop selection, use the Snapshot menu item in the Windows menu (explained on page 2-56).

## Execute Command...

A/E

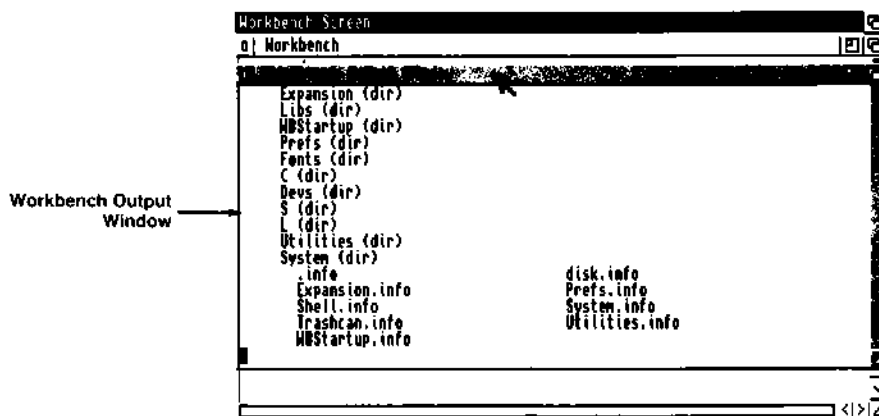
**NOTE:** This menu item is provided for users who are familiar with AmigaDOS.

This menu item allows you to **execute** (start) an AmigaDOS command without opening a Shell window. (Some basic AmigaDOS commands are explained in Chapter 7, "Introducing AmigaDOS.") When you choose **Execute Command**, a requester prompts you to enter the command and its arguments.



When you type the command, it appears in the requester's text gadget. After you've entered the command, select the **OK** gadget (or press **Return**) to execute it. If you select the **Cancel** gadget, the requester will disappear without executing the command.

In cases where the command results in output, the Workbench Output Window is automatically opened on the front of the screen.



The window will remain on the screen until you select its close gadget.

If you choose Execute Command a second time, the text gadget will display the previously entered command. You must delete the old command before entering a new command. The output will be shown in a new Workbench Output Window, even if another output window is already open on the screen.

## Redraw All

Redraw All redraws all open windows on the Workbench screen in case of a disturbance to the Workbench. On rare occasions a program may cause part, or all, of the screen to be disrupted. If this occurs, choosing Redraw All may help to restore the windows to their proper appearance.

## **Update All**

Update All redraws each open window, updating its appearance to reflect the current state of the window. If you are only communicating with the Amiga through the Workbench, you probably will not use this menu item too often. However, if you are using both the Shell and the Workbench, you will find this option quite helpful.

If you have several windows open and have been using the Shell to make changes to the contents of the disk, the changes will not be immediately reflected in the windows. For instance, if you were using the Shell to delete files and their icons, the icons would remain in the windows until you closed the windows and re-opened them, or chose Update All from the Workbench menu.

## **Last Message**

Sometimes you will see a message flash across the title bar; it may be either an information or an error message. Some examples of common error messages are: object not found (the file you are looking for is not on the disk), disks are incompatible types (appears if you try to drag a floppy disk icon over the Ram Disk icon or hard disk icon), the Trashcan cannot be moved (appears if you try to drag the Trashcan out of its window).

Some messages flash briefly, others remain until you press the selection button. In order to see the last message, select the Workbench window and choose Last Message from the Workbench menu. The message will be shown in the title bar.

## About

The About menu item opens a requester which shows the internal version number of the Workbench and Kickstart software as well as copyright information. Select the OK gadget to close the requester.

## Quit...

AQ



This operation is not recommended unless you are an experienced Shell user.

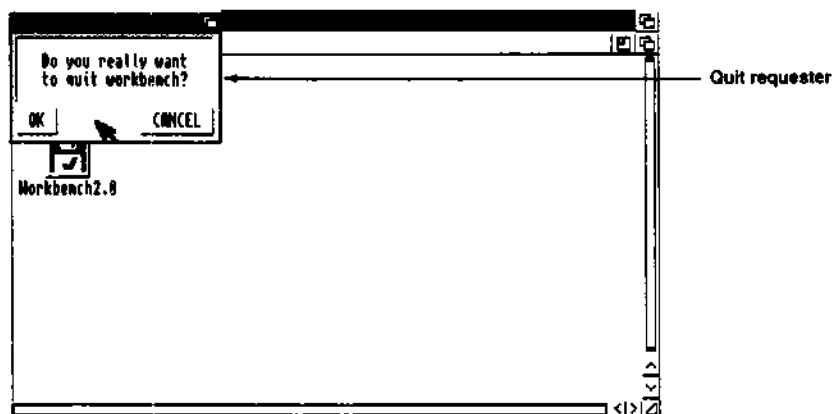
Quit allows you to close all Workbench operations. The only reason you may need to do this is if you do not have enough RAM to run a particular application program. By closing the Workbench, you will make additional RAM available. However, if you do this, you should leave a Shell window open so that you can reopen the Workbench later. (This is explained at the end of this section.)

If you have any Workbench programs running when you choose the Quit menu item, an error message will flash in the title bar of the screen. The message will state that the system cannot quit as there are Workbench programs launched. It will also state the number of launched programs.

If you still want to Quit, you must shut down all programs. Disk and drawer windows can remain open. Once all programs are terminated, you can choose the Quit menu item. This time, a requester will ask if you want to quit the Workbench.

If you select OK, all Workbench windows and icons will disappear, and you will not be able to access any of the Workbench menus. The only way you will be able to communicate with the Amiga is through a Shell window that was opened with the Execute Command menu item or through

another Shell. A Shell window opened from the Shell icon is considered a Workbench program, and you cannot use Quit if the window is open.



To quit the Workbench and leave a Shell window open, use the Execute Command menu item:

1. **Choose the *Execute Command* menu item.**

A requester will appear on the screen.

2. **Type *NEWSHELL* in the requester, and press *Return*.**

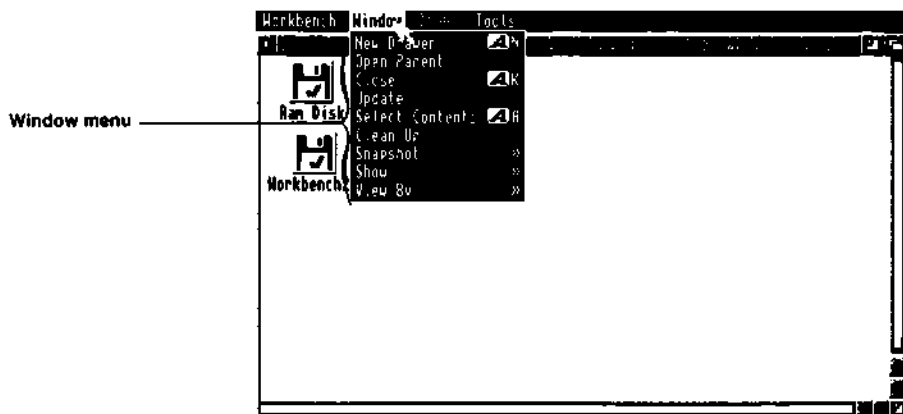
A Shell window will open.

Since this new Shell window was started from a typed command, instead of from an icon, this window will remain open when the Quit menu item is chosen. To get the Workbench back, type `LOADWB` (load Workbench) at the Shell prompt, then press `Return`.

If you do not leave a Shell window open, you have to reboot the Amiga to return to the Workbench system.

## The Window Menu

The Window menu is only available when a window on the screen is selected. The options in the Window menu pertain to the active window. For instance, you can use the window menu to organize the contents of a window or to change the way the information is displayed.



Some of the menu items have keyboard shortcuts which are shown to the right of the item. To choose a menu item with the shortcut, press right Amiga and the specified letter key.

## New Drawer

## AN

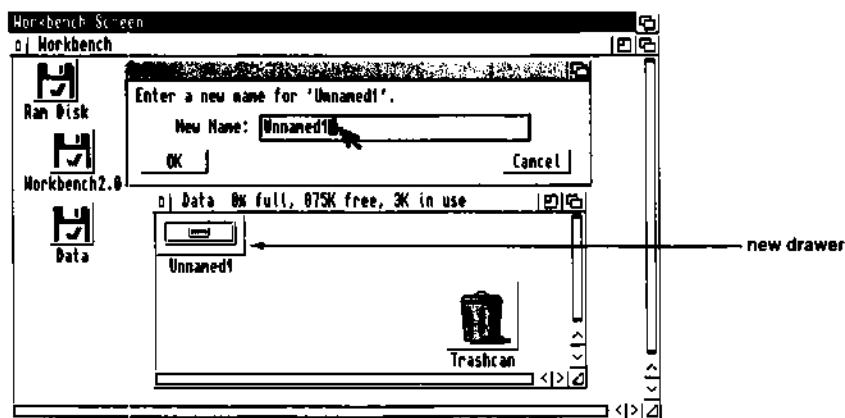
New Drawer allows you to create a new drawer in the active window. The drawer is automatically labeled Unnamed1. This is a convenient way to create drawers for file storage.

*You cannot create a new drawer in the Workbench window.*

To create a New Drawer:

1. *Select the window in which you want to create the drawer.*
2. *Choose New Drawer from the Window menu.*

A new drawer icon, labeled Unnamed1, will appear in the window.



3. *A Rename requester appears to allow you to change the name of the drawer.*

Delete the existing name, type in the new name, and press Return.

## Open Parent

Except for the Workbench window, every window has a parent window. The parent window is the window that contains the icon that was opened to create the current window.

For instance, the Workbench window is the parent of all the disk windows. The Workbench window contains the disk icons that must be opened in order for the disk windows to appear.

Disk windows often contain drawers. When you open a drawer icon, a window appears. Therefore, the disk window is the parent of the drawer window.

For example, the Workbench2.0 disk window contains the Utilities drawer. When you double-click on the Utilities drawer icon, the Utilities window is opened. The Workbench2.0 disk window is the parent of the Utilities window.

Choosing Open Parent brings the selected window's parent to the front of the display. If the parent window is closed, it is automatically opened.

For instance, if the Utilities window is selected and you choose Open Parent, the Workbench2.0 disk window will be automatically opened (if it was closed) and brought to the front of the display. If the Workbench2.0 disk window is selected and you choose Open Parent, the Workbench window will be brought to the front of the display.

**To open the parent of a window:**

- 1. Select the window.**
- 2. Choose Open Parent from the Window menu.**

## Close

**AK**

To remove the active window from the screen, choose Close.

1. *Select the window.*
2. *Choose Close from the Window menu.*

The window will disappear.

**Mouse Shortcut:** A shortcut for closing windows is to select the close gadget in the upper left corner of the window.

## Update

If you make changes to the contents of a window through the Shell or the Execute Command menu item, those changes will not be reflected in the window until you either close and re-open the window or choose the Update menu item. Update redraws the active window so that it accurately reflects the contents of the window.

(This is very similar to the Update All menu item in the Workbench menu, except that Update only affects the currently selected window.)

## Select Contents

**AA**

When you choose Select Contents, all of the icons in the active window are selected. This is an alternative to drag selection or extended selection.

## Clean Up

Clean Up rearranges the icons in a window in an orderly fashion. When icons are copied or created, they sometimes appear on top of another icon or in a separate area of the window. Clean Up automatically places all the icons in the active window in a neat arrangement, so that you do not have to arrange each icon individually.

Clean Up does not save the arrangement to disk. If you only clean up a window, but don't save it with the Snapshot menu item (explained below), the arrangement will be lost the next time you open the window.

**To Clean Up a window:**

1. *Select the window you want to rearrange.*
2. *Choose Clean Up from the Window menu.*

## Snapshot



Snapshot lets you save the arrangement and position of a window. It is commonly used after Clean Up. When you point to the Snapshot menu item, two submenu items appear: Window and All.

Snapshot Window lets you save the position and size of the active window as well as the Show and View By modes (explained in the following sections). However, it does not save the position of the icons in the window.

**To save the placement of a window:**

1. *Select the window.*
2. *Choose Snapshot Window from the Window menu.*

Snapshot All lets you save the positions of all the icons as well as the position and size of the active window. Whenever you open the window, it will be arranged in the same way.

To save the placement and the arrangement of a window:

1. *Select the window.*
2. *Choose Snapshot All from the Window menu.*

## Show



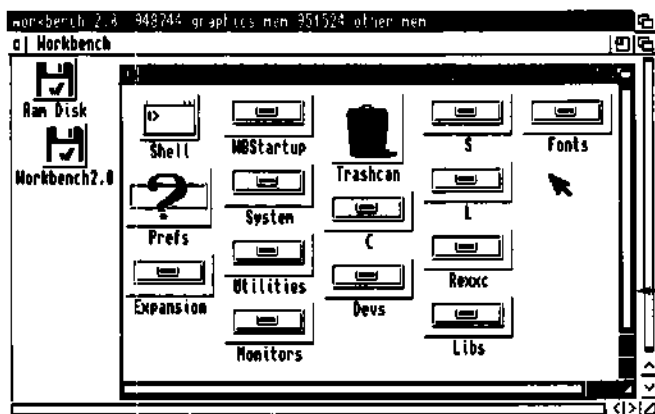
Not every file on a disk or in a directory has a corresponding icon. The Show menu item allows you to see all the files on a disk, whether or not they have icons. Show has two submenu items: Only Icons and All Files.

Choosing Show All Files displays a **pseudo-icon** for each file or drawer in the selected window. (A pseudo-icon is a temporary icon supplied by the Workbench for files that do not have their own icons.) You can treat these pseudo-icons just like any other icon and use the menu items in the Icons menu to manipulate the icon.

*Pseudo-icons do not have .info files.*

To display icons for all the files in a window:

1. *Select the window.*
2. *Choose Show All Files from the Window menu.*



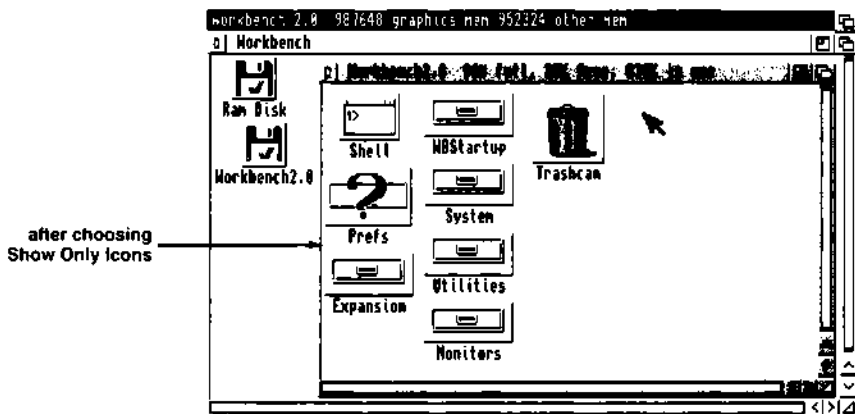
after choosing  
Show All Files

Show Only Icons displays only those files and drawers which have icons (.info files). All pseudo-icons will be removed from the window.

To display only the real icons:

1. *Select the window.*
2. *Choose Show Only Icons from the Window menu.*

Only the window's real icons will be displayed.



## View By



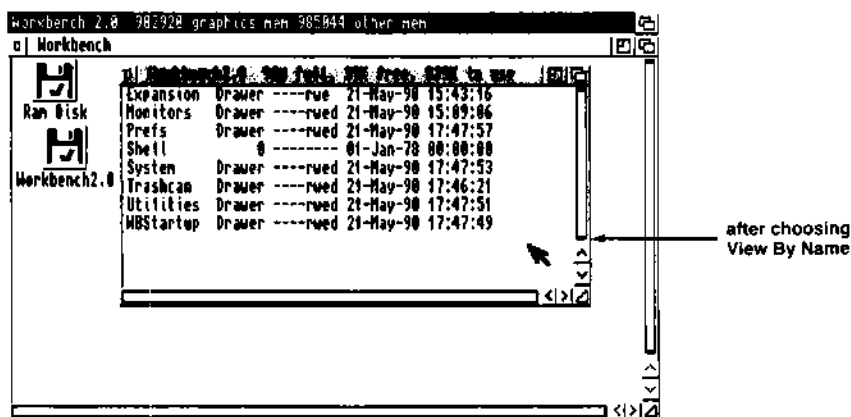
The View By menu item allows you to change how the information in a window is displayed. View By has four submenu items: Icons, Name, Date, and Size.

When you choose View By Icons, the window appears in its **default** state.

Choosing View By Name changes the window display. The window will contain an alphabetical list of the icons. This list includes the size of the file, its **attributes** (whether it can be

*Default is a term used to describe the standard setting decided by the system if the user does not specify an alternative.*

read, deleted, executed, or written), and the date it was created. (See the explanation of the Information menu item, page 2-70, for details on attributes.)



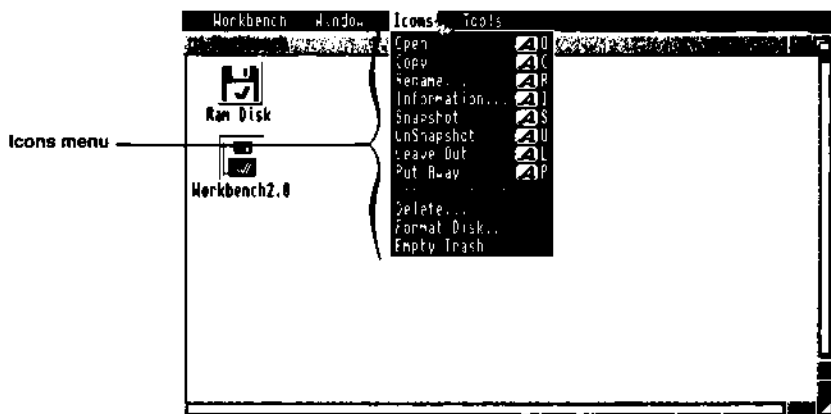
You can select files and drawers from the window just as you would select an icon. Simply point to the file or drawer name, and click the selection button. The name will be highlighted to show that it is selected. You could then use menu items in the Icons menu to manipulate the file or drawer. To open a file or drawer, point to the name, and double-click the selection button.

**View By Date** sorts the list in chronological order, with the most recently created file listed first. This is helpful if you have two different versions of a file and are looking for the one with the most current information.

**View By Size** sorts the list by size, with the smallest file listed first. If you find that you are running out of room on your disk, you can use this option to see which files take up the most space. You can then choose which files to delete or to move to another disk.

## **The Icons Menu**

The Icons menu lets you work with the icons on the screen. Among other things, you can copy, rename, and open icons with this menu. You can also delete icons, and the corresponding files or drawers, from the disk. An icon must be selected before you can choose items from this menu.



### **Open**

**AO**

To open an icon is to make the items represented by the icon available for use. When you open a disk or drawer icon, a window appears on the screen displaying the icons contained on that disk or in that drawer. When you open an individual project or tool, you actually start the corresponding program.

**To open an icon:**

1. *Select the icon.*
2. *Choose Open from the Icons menu.*

**Mouse Shortcut:** A shortcut for opening icons is to point to the icon and double-click the selection button.

## Copy

## AC

Copy allows you to copy disks, drawers, programs, or files. A copy of a drawer, tool, or project is made in the same window as the original. (To copy a drawer, tool, or project to another disk, see the "Copying by Dragging" section, page 2-65.)

An important use of Copy is for making backup copies of your disks. If your Amiga only has one disk drive, this is the most common way to copy disks using the Workbench.

### To copy a disk:

The disk that is being copied is known as the source disk (FROM disk). You should always write-protect your source disk so that you cannot accidentally erase any of its contents. (The write-protect tab should be pushed towards the top of the disk so that the small hole is uncovered.)

The disk that you are copying to is known as the destination disk (TO disk). This can be a blank disk or a previously used disk whose contents you no longer need. This disk must be write-enabled in order to accept the information from the source disk. (The write-protect tab should be covering the small hole in the corner of the disk.)

When you use the Copy menu item, the system will read a certain amount of information from the source disk into the Amiga's internal memory. Then you will have to take the source disk out of the disk drive and insert the destination disk. (This is known as swapping disks.) The Amiga will then copy the information to the destination disk.

*When you duplicate a disk using the Copy menu item, the Amiga only uses one disk drive even if you have a second drive connected to your Amiga.*

### **1. Put the disk you want to copy, the source disk, into the Amiga's internal disk drive, known as DF0:**

Make sure the write-protect tab is in the protected position. The small hole in the corner of the disk should be open.

**2. Select the source disk's icon.**

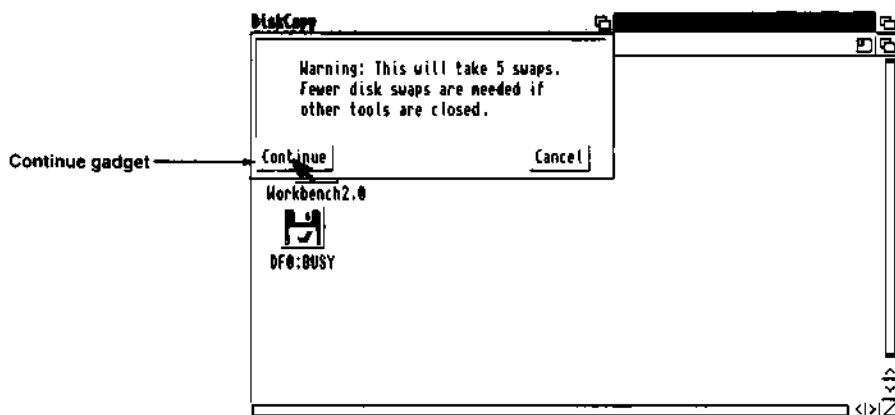
Point to the disk icon, and click the selection button.

**3. Choose Copy from the Icons menu.**

A requester will ask you to insert the Workbench2.0 disk in any drive. The system needs to read a program from the Workbench2.0 disk before it can begin the copy procedure.

**4. Insert the Workbench disk.**

If the disk copy is going to require several swaps (5 or more), a requester will tell you how many times you will have to swap the disks.

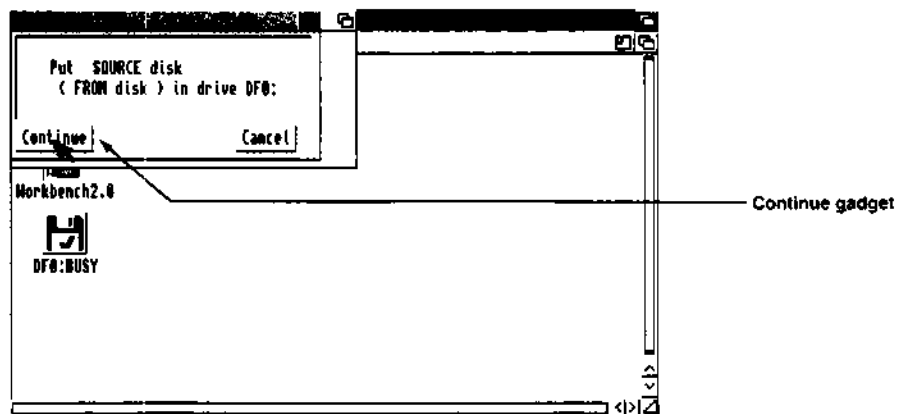


Closing any unnecessary windows or stopping any unneeded processes will help to reduce the number of swaps.

If the disk copy requires fewer than 5 swaps, you will not see a requester.

**5. Select the Continue gadget in the swap requester.**

A requester tells you to insert the source disk into drive DF0:, the internal drive.



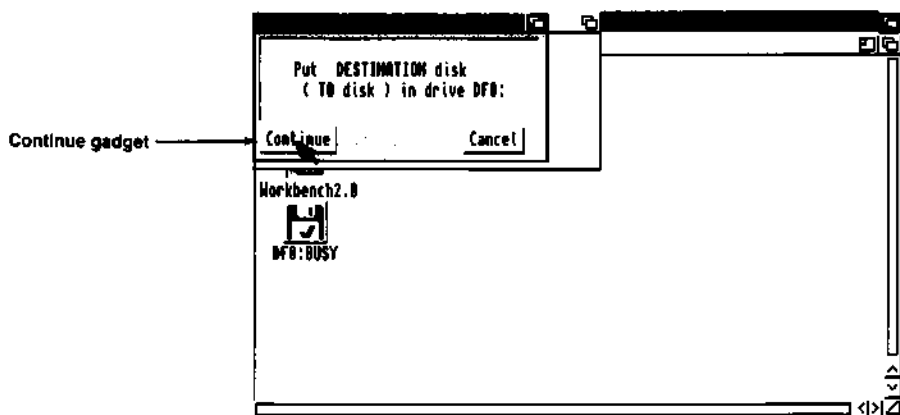
**6. Put the disk you want to copy in the drive, then select the Continue gadget.**

Text in the requester will reflect how many cylinders the system has read and how many are left to read. (A cylinder is a division of a disk. The 3.5 inch disks used with the Amiga have 80 cylinders numbered 0-79.)

A requester will instruct you when to insert the destination disk into drive DF0:.

Make sure the disk drive light is out before removing the source disk from the drive.





*If at some point you want to stop the copying process, wait for a swap requester to appear and select the Cancel gadget.*

**7. Put your destination disk into the drive, and select the Continue gadget.**

The data from the source disk will be copied to the destination disk.

You will have to follow the requesters and switch back and forth between the source disk and the destination disk as many times as stated in the first requester. (Be sure the drive light is out before ejecting a disk from the disk drive.) When the copy is finally finished, the message Disk Copy Finished appears in the requester.

**8. Remove the destination disk from the drive and put a label on it.**

The destination disk's icon will now have the source disk's name with a copy\_of\_ prefix. For instance, if the source disk was called DataDisk the destination disk will be called copy\_of\_DataDisk.

**To copy a drawer:**

1. *Select the drawer icon.*
2. *Choose Copy from the Icons menu.*

The copy of the drawer, and any icons contained in the drawer, will be made in the same window as the original drawer.

To make a copy of the drawer on another disk, see the "Copying by Dragging" section.

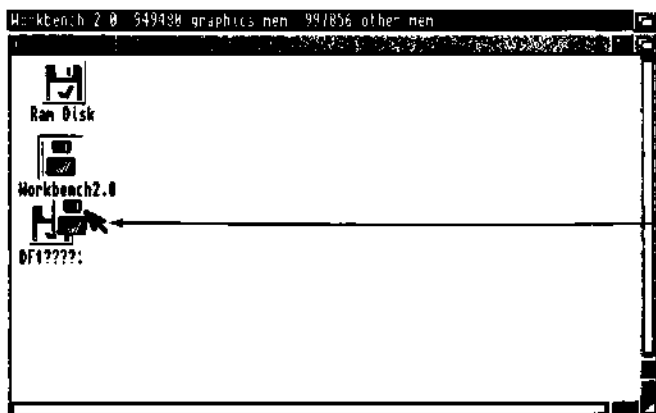
**To copy a project or tool:**

1. *Select the icon.*
2. *Choose Copy from the Icons menu.*

A copy of the icon will be made in the window.

**Copying by Dragging**

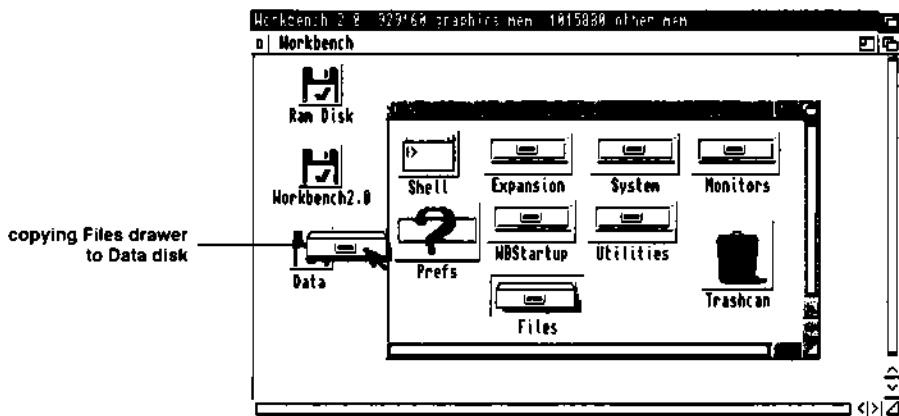
You can copy a disk by dragging the source disk's icon over the destination disk's icon.



copying  
Workbench2.0 disk

*You cannot  
copy the  
Trashcan.*

You can copy a drawer, project or tool to another disk by dragging the icon over the other disk icon or into the other disk's window. The original icon will stay on the original disk, and a copy will be created in the destination disk's window.



You cannot make a copy of an icon on the same disk with this method. For instance, if you were to drag an icon from the Utilities window into the System window, it would not be copied. The icon would simply change drawers. It would move from the Utilities drawer to the System drawer.

You can copy several icons at once by using drag selection or extended selection. When the icons you want to copy are selected:

1. **Hold down Shift.**
2. **Point to one of the selected icons, then drag it over the other disk's icon or into the other disk's window.**

As you drag one icon, the rest will follow.

## Rename...

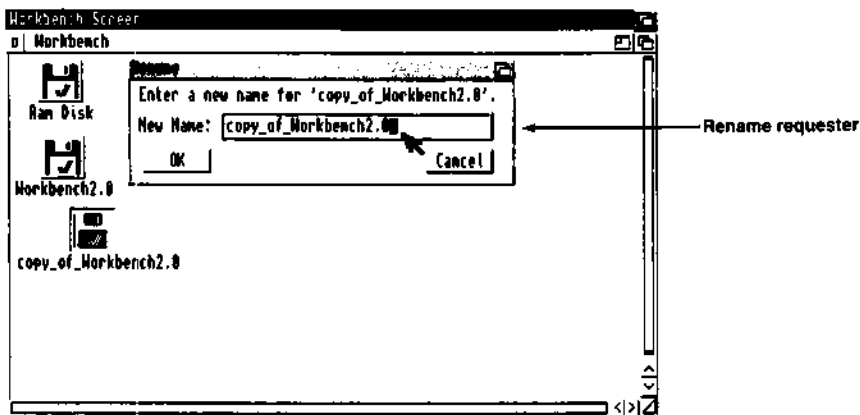
## AR

You can change the name of an icon with the Rename menu item. A common reason for using Rename is to remove the `copy_of_` prefix from a newly created icon. You may also want to change the names of your disks and files as you create more files. For instance, if you originally created a disk called Reports and it is starting to get full, you may want to change its name to Reports1990. You could then start a new disk named Reports1991.

To rename an icon:

1. Select the icon.
2. Choose *Rename* from the Icons menu.

A requester with a text gadget will appear and show the current name of the icon.



*You can also press right Amiga-X to erase everything in the text gadget.*

### 3. Enter the correct name.

You will have to delete the old name (use Backspace) and enter the new name. Be sure to delete any spaces before or after the new name.

### 4. Press Return.

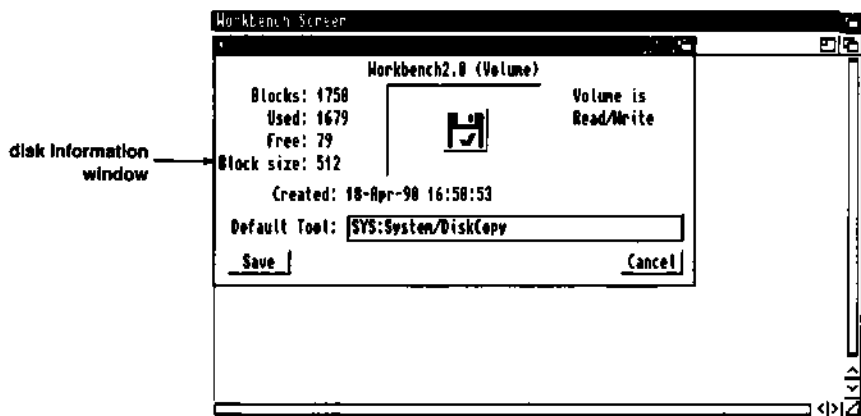
The requester will close, and the new name will appear under the icon.

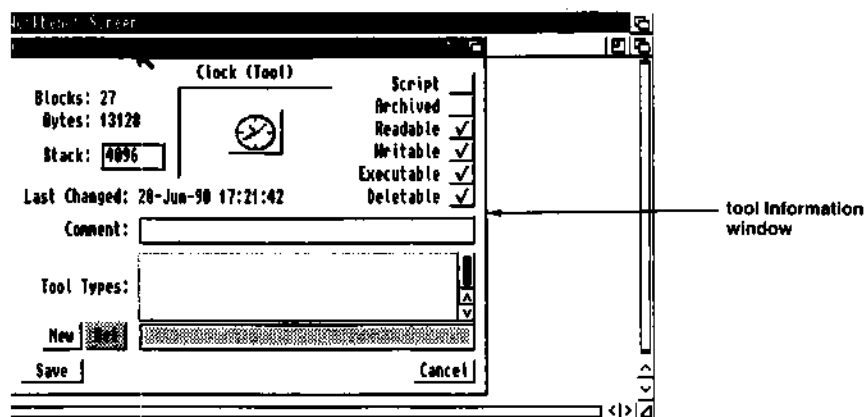
When renaming icons be careful not to leave any spaces before or after the new name. These will be impossible to discern on the screen and will cause confusion if you ever need to type the icon's name.

## Information . . .

**AI**

Choosing Information results in a window displaying information about the selected icon. The contents of the window vary depending on the type of icon.





This information includes the icon's:

name	The type of the icon is shown in parentheses. The permissible types of icon are disk (or volume), drawer, project, trashcan or tool.
image	A picture of the icon is displayed in the center of the window.
size	The number of <b>blocks</b> and <b>bytes</b> that the disk, project, or tool fills. (This does not apply to drawer icons.)
stack	The amount of memory reserved as temporary storage for a specific tool. (This does not apply to disk or drawer icons.)
last changed date	Indicates when the item represented by the icon was created or the last time it was changed.

*If your Amiga does not have a battery backed-up clock, you must first set the correct time with the Time Prefs editor, explained in Chapter 3.*

For a disk icon, the window also shows whether the disk is write-enabled (**Read/Write**) or write-protected (**Read Only**). If the disk is Read/Write, you can both read information from the disk and save new information to it. If the disk is Read Only, you can only read information from it.

For a drawer, project, or tool, there are six independent attributes that you can select. When an attribute is selected, there will be a check mark in the box to its right. To select, or deselect, an attribute, point to its check box and click the selection button. Each attribute is explained below:

Script	If this attribute is selected and the program is executed through the Shell, it will be run as a <b>script</b> (a text file of AmigaDOS commands).
Archived	This attribute is set by some backup programs to let you know that a file or directory has been saved, or <b>archived</b> .
Readable	If this attribute is selected, you can <b>read</b> , or access, the information in a file.
Writable	If this attribute is selected, you can <b>write</b> information to the file. If it is not selected, you cannot make changes to the file. For instance, if a file is readable but not writable, you will be able to read its contents, but you will not be able to change them.
Executable	If this attribute is selected, you can execute, or run, the project or tool.
Deletable	If this attribute is selected, you can erase the drawer, project, or tool from the disk. If it is not selected, the object is protected from deletion.

If the icon represents a project, there may be a **Default Tool** gadget. This specifies the path to the tool that created the project. When the project icon is opened, the default tool is also opened so that it can work on the project.

If there is a Comments box, you can include a short note, up to 79 characters, in the Information window. For instance, if you have an icon representing a text file you created, you may want to add a note to remind yourself of the file's contents. To do this, select the text gadget next to Comments, and type the note. Press Return when you are finished.

The **Tool Types** box allows you to specify different parameters for some programs or files. How to use Tool Types is covered in Chapter 4, "The Workbench Programs". If a program supports Tool Types, the permissible Tool Types will be explained when that program is explained.

To save any changes you make to the Information window, you must select the Save gadget in the lower left corner. If you make changes but decide not to save them, select the Cancel gadget or the window's close gadget.

## Snapshot

## AS

Snapshot saves the positions of all the currently selected icons on disk. Every time you open the window, any icons that you snapshot will appear in their saved positions. You can save the position of multiple icons by using drag selection or extended selection.

To snapshot the position of an icon:

1. *Select the icon(s) you want to snapshot.*
2. *Choose Snapshot from the Icons menu.*

The next time you open the window, the icon(s) will be in this position.

## Unsnapshot

**AU**

Unsnapshot allows you to cancel the snapshot position of an icon.

**To unsnapshot the position of an icon:**

1. *Select the icon.*
2. *Choose Unsnapshot from the Icons menu.*

The next time you open the window, Workbench is free to place the icon anywhere it wants to within the window.

## Leave Out

**AL**

*You cannot use this menu item with the Trashcan.*

Leave Out allows you to move an icon out of its original window and into the Workbench window. (The file represented by the icon remains in its original drawer on the disk, only the icon is moved.) The icon remains in the Workbench window, even if you reboot the machine.

For instance, you may have a file that you use every day, but you have to open a disk icon and two other drawers to get to it. For faster access, you can use Leave Out to move the icon into the Workbench window.

**To use Leave Out:**

1. *Select the icon.*
2. *Choose Leave Out from the Icons menu.*

The icon will move into the Workbench window.

## Put Away

## AP

After using Leave Out, you can return the icon to its original drawer by choosing Put Away.

**To use Put Away:**

1. *Select the icon in the Workbench window.*
2. *Choose Put Away from the Icons menu.*

The icon will move back into its original window.

## Delete . . .

The Delete menu item lets you erase files, and their icons, from the disk. Use Delete with caution. Once you delete an icon, you cannot retrieve its information.

*You cannot delete a disk icon or the Trash-can icon.*

**To delete an icon:**

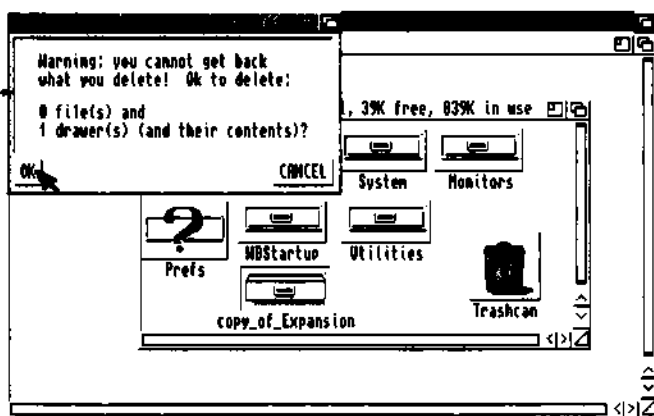
1. *Select the icon.*

You can use drag selection or extended selection to choose more than one icon to be deleted.

2. *Choose Delete from the Icons menu.*

A requester warns you that you cannot get back what you delete and shows the number of items to be deleted. This is to safeguard against deleting items that may still be selected from a previous operation.

deleting the  
copy\_of\_Expansion drawer



### 3. Select the OK gadget to delete the icon.

The icon will leave the screen and all data associated with that icon will be erased from the disk. If you do not want to delete the icon, select the Cancel gadget.

Be careful when deleting drawer icons. The requester will show the number of drawers being deleted, but you are also erasing everything contained in those drawers.

## Format Disk...

*In some application software manuals, you may see the word Initialize used as a synonym for Format.*

When you insert a blank 3.5 inch disk into the Amiga's disk drive, the disk icon is labeled DF0:????, DF1:????, or DF2:????, depending on which disk drive it is in. At this point, the Amiga does not recognize the disk as an AmigaDOS disk. In order to use the disk, it must first be formatted for AmigaDOS.



If you format a disk that contains data, all data will be erased.

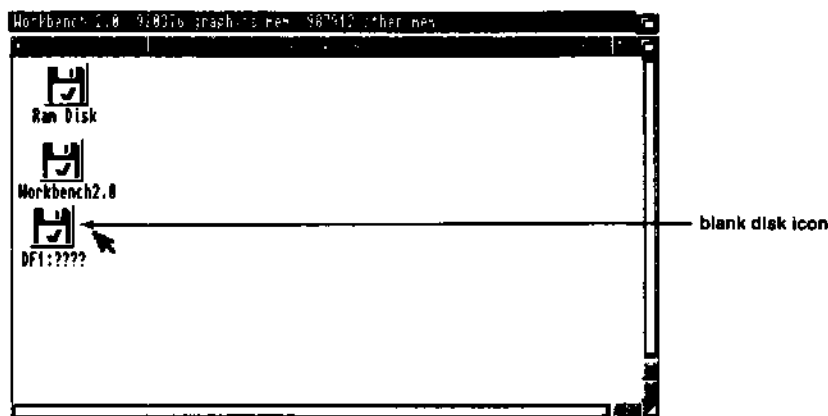
To format a disk:

**1. Put the disk into the disk drive.**

You can put the disk into any disk drive — internal or external. Make sure the disk is write-enabled (the plastic tab should be covering the hole).

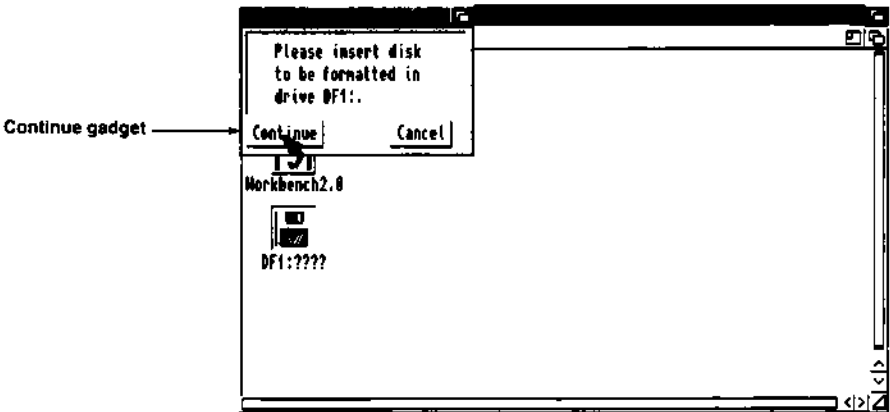
**2. Select its disk icon.**

If it is a blank disk, the icon will be labeled according to which disk drive it is in (DF0:????, DF1:????, etc.).

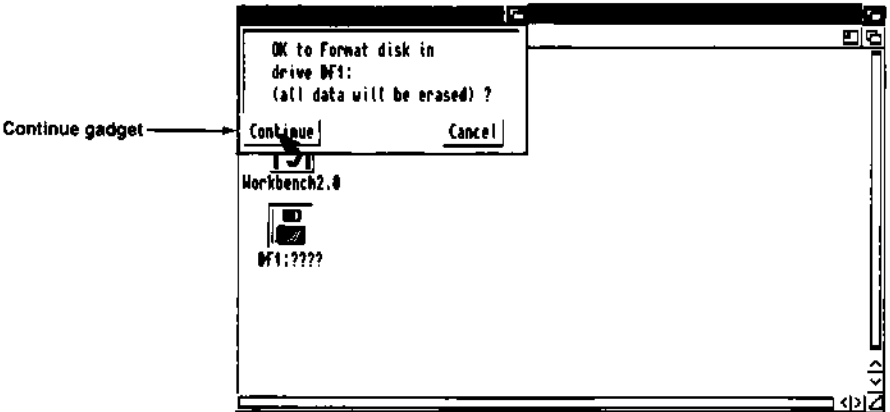


**3. Choose Format from the Icons menu.**

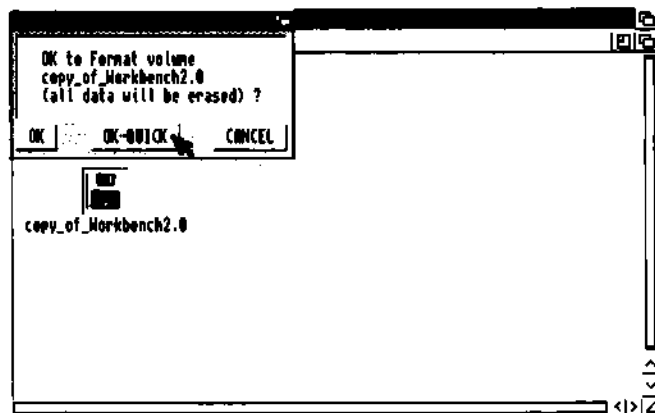
If you are formatting a blank disk, a requester will ask you to insert the disk to be formatted into the disk drive. Even if the disk is already in the drive, the requester appears to allow you to switch disks or to cancel the operation. Select Continue to proceed.



A second requester will ask if it is OK to format the disk in the disk drive and remind you that all the data will be erased. Select Continue to proceed or Cancel to stop the procedure.



If you are formatting a disk that contains data, a requester will ask if it is OK to format the disk, it will state the disk's name, and remind you that all the data will be erased.



This requester presents you with a third option: OK-Quick. If you select OK-Quick, just the **root block** track of the disk is formatted. The root block contains the information that identifies the disk and where all the files are stored. Erasing the root block essentially erases the entire disk as the system will no longer be able to find any of the files on the disk. This is much quicker than a regular format.

However, if your disk has any type of read/write error, you should perform a regular format by selecting the OK gadget. Each cylinder of the disk will be reformatted.

Once the formatting process begins, text in the requester shows the cylinder of the disk that is being formatted and verified. After a disk has been formatted, its disk icon will be labeled Empty. You can change the name by using the Rename item in the Icons menu.

*A read/write error occurs when something physically disturbs the magnetic platter in a disk. This prevents the computer from reading the information stored in the location of the error. Formatting the disk can sometimes repair the error.*

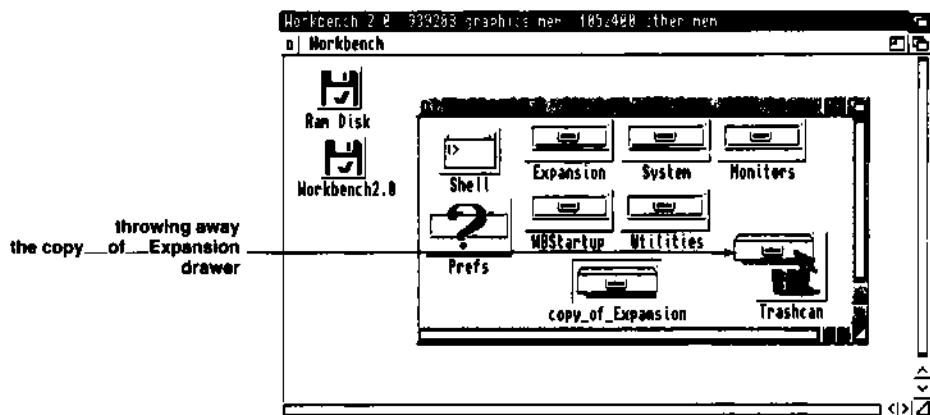
## Empty Trash

As explained in the "Icons" section, the Trashcan is a place where you store unneeded files. To delete an icon using the Trashcan, drag the icon you want to "throw away" over the Trashcan icon. The icon is then stored in the Trashcan drawer until you decide to delete it. To actually remove the file(s) stored in the Trashcan, you must choose Empty Trash.

To delete an icon with Empty Trash:

1. *Drag the icon over the Trashcan, and release the selection button.*

If you open the Trashcan, the icon will be in the Trashcan window.



2. *Make sure the Trashcan icon is selected (the lid will be open), then choose Empty Trash from the Icons menu.*

If you open the Trashcan window, the icon will be gone.

When you put an icon in the Trashcan, it will stay in the Trashcan until you choose Empty Trash from the Icons menu. As long as you have not selected Empty Trash, you can retrieve an icon from the Trashcan. To retrieve an icon, open the Trashcan window, and drag the icon into any window.

Some special rules apply to the Trashcan:

- You cannot delete a disk by dragging its icon over the Trashcan icon.
- You cannot move the Trashcan into a drawer.
- You cannot delete the Trashcan.

## **The Tools Menu**

The Tools menu allows you to run application software by choosing a menu item instead of opening the program icon. If the application software supports this feature, there will be instructions on how to create the new menu item in the documentation accompanying the program.



## Chapter 3. Preferences

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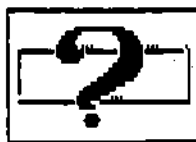
In Chapter 2 you learned about the Workbench system and how the various components work. You should now be comfortable with the basic steps involved in using the Amiga, such as selecting and opening icons, choosing menu items, and working with windows.

Now it's time to put that knowledge to work. This chapter explains the **Preferences editors**. These editors, which are found in the Prefs drawer, let you personalize your Amiga environment. For instance, you can:

- change the Workbench colors
- change the shape of the pointer
- change the size of your display area
- specify your printer
- set up a printer for graphic output
- set up a modem for use with the Amiga

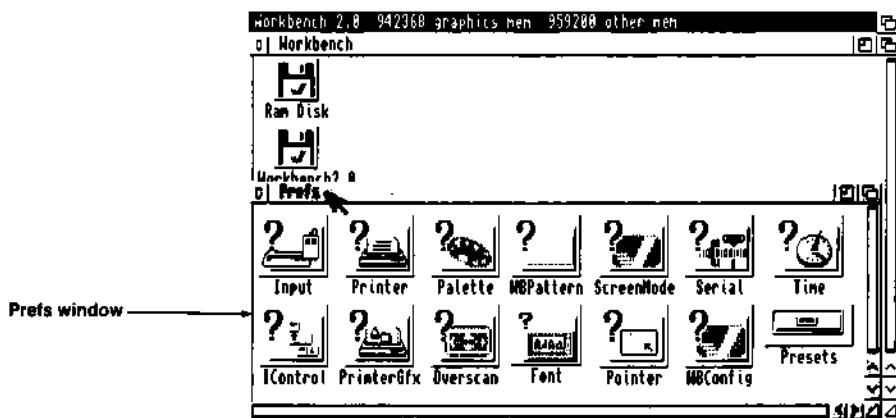
You do not need to use every editor in order to use your Amiga. Many of the editors let you change how things appear on the screen to suit your own tastes. However, if you connect a printer, modem, Multiscan or A2024 monitor to the system, you must use the appropriate editor to tell the Amiga how to interact with the new device.

After your system is set up the way you like it, you can move on to Chapter 4 and learn about the other programs included on the Workbench2.0 disk.



## The Prefs Drawer

Open the Prefs drawer in the Workbench2.0 disk window, and the following window appears:



This window contains the icons for the Preferences editors, which are listed below in the order in which they are covered:

Time	Lets you set the date and time.
Input	Lets you change the mouse speeds (how fast the pointer moves, the length of time allowed for a double-click) and key repeat speeds.
Palette	Lets you change the colors of the Workbench.
WBPatten	Lets you select or create a background pattern for the Workbench screen and/or the Workbench windows.

Pointer	Lets you change the size, shape, and color of the pointer.
Font	Lets you change the fonts used in the different areas of the screen.
ScreenMode	Lets you choose a different <b>display mode</b> . This is necessary if you are using certain types of monitors with your system, such as an A2024 or Multiscan monitor.
Overscan	Lets you adjust the size of the display area for text and for graphics.
Printer	Lets you specify the <b>printer driver</b> that matches your printer and allows you to specify options such as paper size and margin width.
PrinterGfx	Lets you set up your printer to print graphics.
Serial	Lets you set the specifications for the serial port. This is used for communicating through modems or networking systems.
IControl	Lets you choose the keys used for some of the keyboard shortcuts, such as moving the Workbench screen or choosing an action gadget from a requester.

All of the editors, except for Time, have menus which allow you to save different configurations for each editor. For instance, if you use two printers with your Amiga, you could save the settings for each printer in the Presets drawer. When you wanted to switch printers you could just open the appropriate file, instead of reselecting each individual printing option.

The menus and the Presets drawer, which are explained at the end of the chapter, are optional and do not have to be used in order to set up your Amiga.

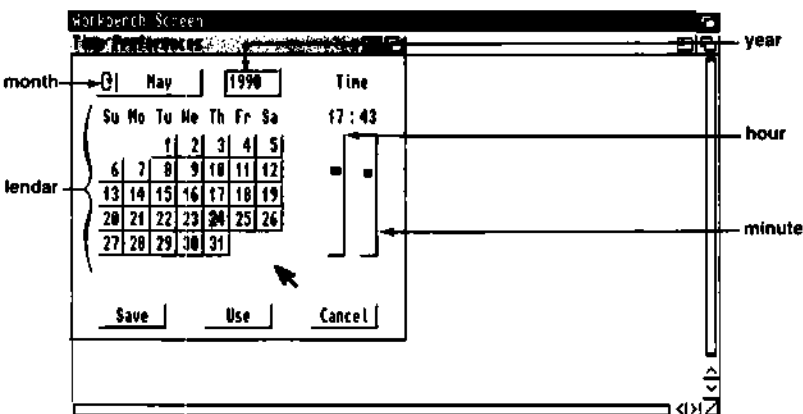
## Action Gadgets

When you open an editor icon, a window appears on the screen. Each editor window has three action gadgets: Save, Use and Cancel. You must select one of these gadgets to implement your changes or to close the editor window. Their functions are explained below:

- |        |   |
|--------|---|
| Save   | If you've made changes to the settings that you want to keep, select the Save gadget. This will implement any changes you have made, save the changes to disk and close the editor. The new settings will remain in effect even if you reboot the Amiga.  |
| Use    | If you've made changes to the settings that you want to try, <i>but you do not want to save them at this time</i> , select the Use gadget. This will temporarily implement any changes made and close the editor. If you reboot the Amiga, your changes will be lost, and the previously saved settings will be used. |
| Cancel | If you've made changes in the editor but decide you don't want to use them, select the Cancel gadget. This will close the editor without using or saving any changes made in the window. The settings that were in effect prior to opening the editor will remain in effect.  |

## The Time Editor

Open the Time icon, and the following window appears:



This window lets you set the correct date and time.

To set the date:

1. **Select the cycle gadget in the upper left corner until the correct month is displayed.**

As you select the gadget, the calendar will change to reflect the displayed month and year.

2. **If the incorrect year is displayed, select the year gadget, delete the incorrect information, and enter the current year.**

Click in the gadget, press Backspace or Del to erase the displayed year, type in the current year, and press Return.

3. **Select the correct day from the calendar display.**

The currently selected day will be highlighted.

To set the time:

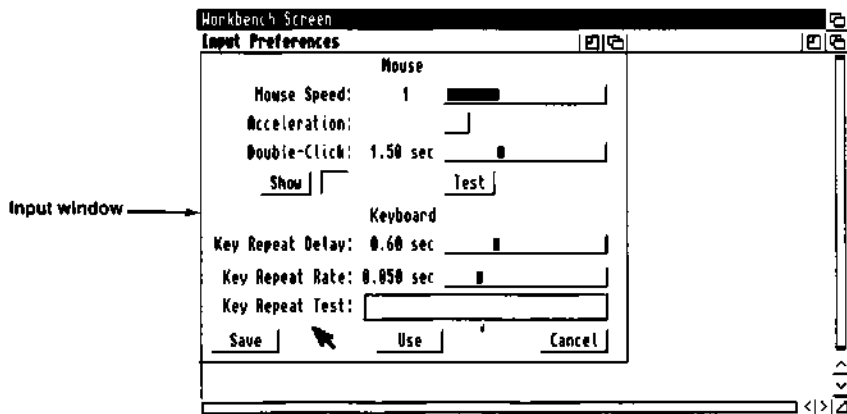
1. *Point to the slider bar in either the minute or hour slider.*
2. *Drag the bar until the correct value is displayed at the top of the slider, then release the selection button.*

The hour value is based on a 24-hour clock and ranges from 0 (midnight) to 23 (11 PM). The minute range is from 00 to 59.

Repeat the above steps with the other slider.

## **The Input Editor**

Open the Input icon, and the following window appears:



This window lets you change the speed at which the mouse and keyboard operate. There are two mouse speeds that you can change: how fast the pointer moves across the screen and how fast the mouse registers a double-click of the selection button. For the keyboard, you can change how fast a key repeats when it is held down continuously and how long it takes before a key will start to repeat.

## **Mouse Speed**

The Mouse Speed slider lets you determine how fast the pointer moves across the screen as you move the mouse.

There are three mouse speeds that you can choose from: 1, 2, and 4. A setting of 1 is the fastest; 4 is the slowest. You may want to try each setting until you are comfortable. While you don't want the pointer to move too slowly, it may be hard to control if it is moving too fast.

Another factor to consider is the size of your work surface. When the mouse speed is fast, you don't need to move the mouse very much to get the pointer across the screen. A slower mouse speed requires more desk space for your mouse.

To set the mouse speed, drag the slider bar until the desired value is displayed. As you drag the slider, the displayed mouse speed takes effect. This allows you to try out each speed without exiting the editor.

## **Acceleration**

There may be times when you need to be able to move the mouse over large screen areas while keeping fine control for smaller movements. For instance, if you are using the mouse to create a complex drawing with a paint program, you may need to cover a lot of screen surface quickly but with precision.

If you simply increase the mouse speed, you lose a certain amount of mouse control. However, when **acceleration** is turned on, the mouse speed remains constant when you first start to move the pointer, allowing you to work precisely within a small area. However, as you move the pointer further across the screen, the mouse speed gets faster—similar to pressing the accelerator on a car. This allows you to cover large areas of the screen quickly.

When acceleration is on, a check mark appears in the check box. To turn acceleration on or off, select the check box.

## Double-Click

The Double-Click slider determines the maximum amount of time allowed between the two clicks of a double-click.

The range is from 0.20 to 4.00 seconds. If you set the double-click speed to 0.20 seconds, you must click the mouse twice within two-tenths of a second in order to register a double-click.

To see the amount of time for the selected value, select the Show gadget. A box appears next to the gadget and remains there for the length of time allowable between the two clicks.

To test the speed you've chosen, double-click in the Test gadget. If the double-click took place within the allotted time, a Yes appears next to the Text gadget. If there was too much time between your two clicks, a No appears.

## Key Repeat Delay

Most of the keys on the keyboard automatically repeat when held down. However, there is a delay that occurs before the key starts repeating. The delay, measured in seconds, can be changed by using the Key Repeat Delay slider.

You can see the current setting by looking at the slider value. The range is from 0.20 (shortest) to 1.50 (longest) seconds. To increase the delay before the key starts repeating, drag the slider bar to the right. To decrease the delay, drag the slider bar to the left.

## **Key Repeat Rate**

The Key Repeat Rate slider determines the rate at which the keys will repeat, after the initial key repeat delay.

The allowable range is from 0.002 (fastest) to 0.250 (slowest) seconds. To increase the speed, drag the slider bar to the left. To decrease the speed at which the keys repeat, drag the slider bar to the right.

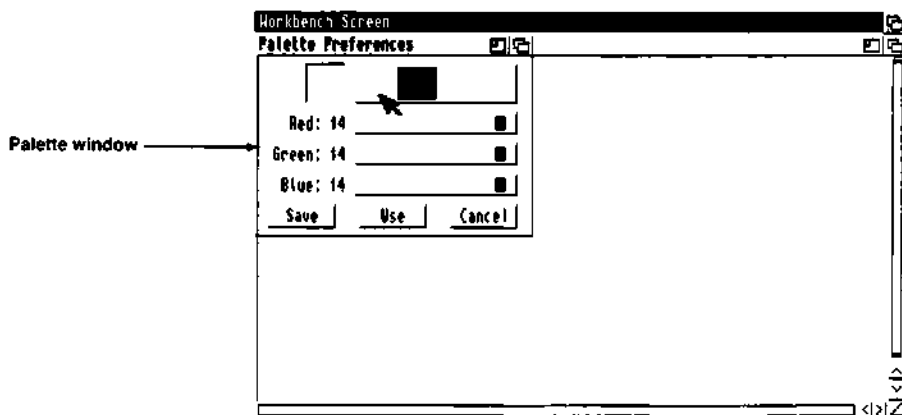
## **Key Repeat Test**

You can test the settings you have chosen for key repeat delay and key repeat rate with the Key Repeat Test gadget.

Select the gadget by pointing to it and clicking the selection button. A cursor will appear in the gadget. Hold down one of the letter keys on the keyboard. Your input will appear in the Key Repeat Test gadget and will show the current key delay and key repeat rates.

## The Palette Editor

Open the Palette icon and the following window appears:



This window lets you change the colors of the Workbench. Each color on the Workbench screen is made up of various amounts of red, green, and blue. The red, green, and blue sliders let you change the amounts of each color and create new colors. The current Workbench colors are shown in the selection gadget at the top of the window.

The number of available colors is determined by the type of display mode you are using and is set via the ScreenMode editor (explained later in this chapter). For instance, although the standard Hires display uses 4 colors, you can change the screen mode and use up to 16 colors. In this case the Palette editor would have 16 colors in its selection gadget.

**To change a color:****1. Select the color you want to change.**

Point to a color in the selection gadget, and click the selection button. The selected color will be shown in the display box to the left of the selection gadget.

**2. Use the slider gadgets to change the selected color.**

By changing the values of the sliders you can change the amount of red, blue and green used in the selected color. As you drag the bar through the slider box, the color in the display box and on the screen will change.

Be careful when changing the black and white settings as it could affect the three-dimensional appearance of the screen. To preserve the three-dimensional effect, be sure to keep the color that replaces black darker than the color that replaces white.

By experimenting and changing the values for each of the three color sliders, you can create any of the Amiga's 4,096 colors. The table below shows some settings that will bring you close to your desired color.

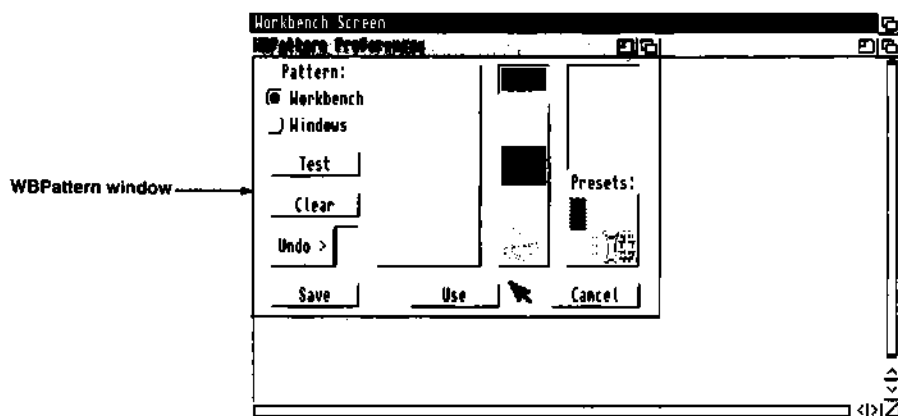
≡≡≡ Palette Color Table ≡≡≡			
Color	Red	Green	Blue
White	15	15	15
Yellow	15	15	0
Orange	15	7	0
Red	15	0	0
Brown	8	5	0
Gray	8	8	8
Purple	7	0	10
Lt. Blue	6	8	11
Green	0	8	0
Blue	0	0	15
Black	0	0	0

Remember these settings are just approximate. You may have to adjust the settings to achieve the color you want, as the actual shade of the color may vary depending on your monitor.

In addition to the standard Preferences menus (explained at the end of this chapter), the Palette editor also has a Presets menu item in the Edit menu which lets you choose from nine predetermined color settings. For instance, if you choose Sunset from the submenu, the default grey changes to blue and the default blue becomes orange.

## **The Workbench Pattern Editor**

Open the WBPattern icon and the following window appears:



This editor lets you change the background pattern of the Workbench and its windows. You can select an already existing pattern or create your own. The pattern will fill any open areas of the window. The default is no pattern.

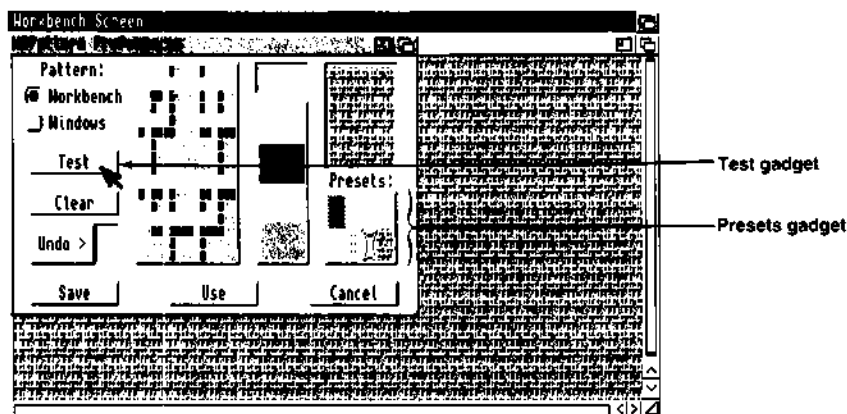
For a quick demonstration of how this works, follow the steps below:

**1. Select one of the patterns in the Presets gadget.**

A magnified view of the pattern will appear in the box in the middle of the window. An actual-size view will be shown in the display box above the Presets gadget.

**2. Select the Test gadget.**

The selected pattern will fill the background of the Workbench.



**To create a pattern:**

**1. Select the Workbench or Windows radio gadget.**

This determines whether the pattern appears in the Workbench window or any open disk or drawer windows.

**2. If there is a pattern in the magnified view box, select the Clear gadget.**

This will erase the contents of the magnified view box. The box will fill with the currently selected color.

**3. Select a color to draw with from the color selection gadget.**

Point to a color in the selection gadget, and click the selection button. The selected color will appear in the display box above the gadget. You can also select a pattern from the Presets gadget, and then use the mouse to edit it.

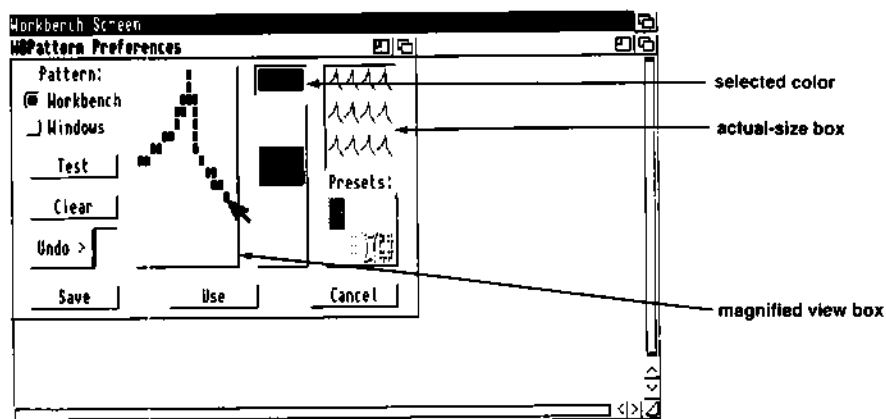
**4. Point within the magnified view box to where you want to start drawing, then click the selection button.**

One **pixel** of the selected color will appear. If you hold down the selection button and move the mouse, you can fill in several pixels at once. When you want to switch to another color, move the pointer over to the color selection gadget, and select the next color you want to use.

As you create your pattern in the magnified view, the pattern is repeated in the actual-size box. This gives you a better idea of how the pattern will look on the display.

If you make a mistake while drawing, use the Undo gadget to erase the last action performed by the mouse. The pattern shown in the Undo display area will be exchanged with the pattern in the magnified view box.

*Your screen is made up of rows and columns of tiny dots, or pixels. The number of pixels in a screen depends upon the display mode you have chosen (explained later in this chapter).*



**5. When your pattern is finished, select the Test gadget.**

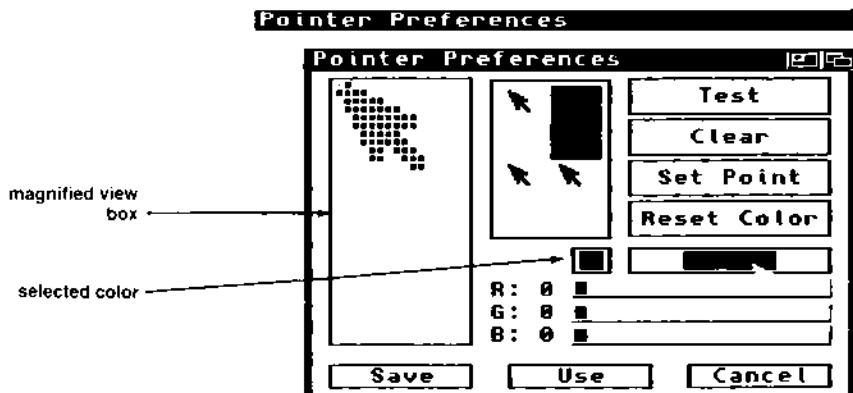
The pattern will appear in the background of the Workbench window or any open disk/drawer windows, depending on which radio button you selected.

The Pattern radio buttons determine where the pattern will appear. When the Workbench button is selected, the pattern that currently appears in the magnified view will be used on the Workbench when you select the Test, Save or Use gadget. If the Windows button is selected, the pattern in the magnified view will be used in all disk and drawer windows.

You can switch back and forth between the two patterns by selecting the buttons. When you select the Workbench radio button, the last pattern that appeared in the magnified view box while the Workbench button was selected will reappear. When you select the Windows button, the pattern will change to the last pattern created for the windows.

## The Pointer Editor

Open the Pointer icon and a new screen appears:



This editor lets you change the size and shape of your pointer.

A magnified view of the current pointer is shown in the left side of the window. It is this image that you modify to change the pointer. To the right of the magnified view are copies of the pointer which let you judge how the Pointer will look against the colors on the Workbench.

Although the pointer is only made up of three colors, there are four colors shown in the selection gadget. The left-most color is the Workbench background color and is transparent. This color cannot be changed. You will be able to see through any areas of the pointer drawn with this color. You can change the other three colors.

To change the colors:

1. *Select the color you want to change from the color selection gadget.*

Point to the color and click the selection button. The selected color will be shown in the display box to the left of the selection gadget.

2. *Change the amounts of red, green and blue in that color by using the three color sliders.*

To edit the pointer:

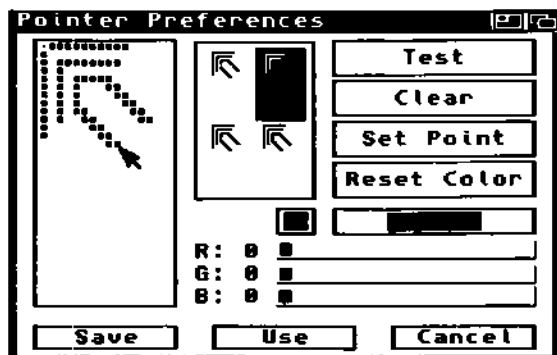
1. *Select the color with which you want to draw.*

Point to the color and click the selection button. The selected color will be shown in the display box to the left of the selection gadget.

2. *Point to a place in the magnified view where you want to place a pixel of the selected color, then click the selection button.*

A small, colored rectangle appears where you've clicked the mouse. To draw several rectangles, hold down the selection button and move the mouse.

#### Pointer Preferences



Repeat steps 1 and 2 to add other colors to your pointer. Just point to the color in the selection gadget that you want to draw with, and click the selection button.

The four gadgets along the right side of the screen are explained below:

- |             |   |
|-------------|---|
| Test        | While you are drawing in the magnified view box, the screen pointer does not change. The Test gadget lets you change the screen pointer so that it reflects what is drawn in the magnified view box. This way you can see what the pointer looks like on the screen without closing the editor.<br><br>If you select the Cancel gadget after changing the screen pointer by selecting Test, a requester will remind you that you have changed the pointer and ask if it is OK to discard the changes. |
| Clear       | The Clear gadget erases the magnified view box. All pixels will be changed to the background color. You can then draw a new pointer.  |
| Set Point   | The Set Point gadget lets you choose where to put the pointer's point, or "hot spot". The point is the single pixel in the pointer that must be inside an icon's box in order to select the icon. In the magnified view, the point is indicated by a smaller square within one of the pixels.<br><br>To select the point, select the Set Point gadget, point to the pixel in the magnified view where you want the point to be, and click the selection button.                                       |
| Reset Color | The Reset Color gadget brings back the last set of colors that were saved.  |

## The Font Editor

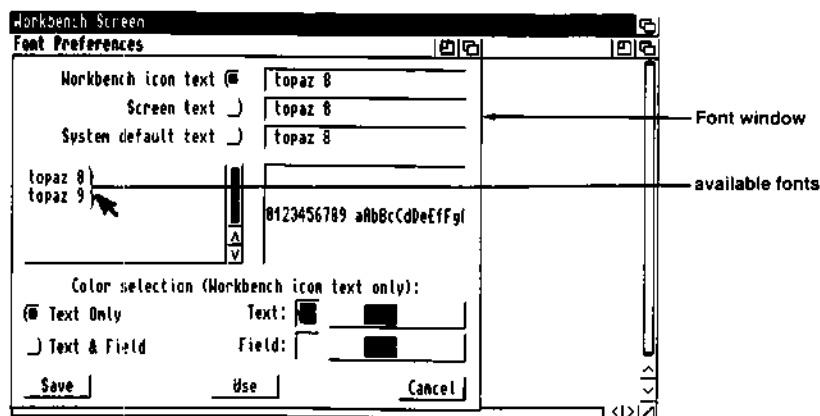
The Font editor lets you change the **fonts** that are used on the Amiga. This is primarily useful to people with hard disk systems. With a floppy disk system, the only font immediately available to you is Topaz, which is stored in the computer's ROM (Read-only memory). Additional fonts are supplied on the AmigaFonts2.0 disk, but to use these, you have to delete programs from your Workbench disk. This is not advisable until you are an experienced Amiga user.

*A font is a set of characters of the same design.*

Never delete anything from your master copy of Workbench2.0.



Open the Font icon, and the following window appears:



This window lets you change the fonts that appear under the Workbench icons and in the Workbench menus and title bars. It also allows you to change the default system font that the Amiga uses to display information, such as the output of the View By menu item.

## Text Radio Buttons

The radio buttons at the top of the Font editor window allow you to select the text that you want to change. Your choices are:

Workbench icon text	Changes the font below icons in the Workbench windows. This is the only text for which you can specify a color (see the "Text/Field" section on page 3-22). Any changes to the Workbench icon text will take effect when you exit the Font editor.
Screen text	Changes the font that appears in all screens — in the menus, the title bar, requesters, etc. This font will only take effect when the Workbench is reset. When you select the Save or Use action gadget, the Font editor will close, and the Workbench will automatically try to reset. If you have any project or tool windows open, a requester will ask you to close them. You can leave disk or drawer windows open.
System default text	Changes the font that the Amiga uses to display information, such as the text in the Workbench Output Window. This font change is not immediately noticeable.

To select a text area, point to the radio button next to that area, and click the selection button. Remember, you can only change the font for one text area at a time. However, you can

change the font for each area without exiting the Font editor. For instance, you can select the Workbench icon text radio button, and select a font for the icons. Then, select the Screen text radio button, and select a font for the screen. Finally, select the System default text radio button, and select another font.

**NOTE:** Many application programs choose their own fonts and are not affected by your choices in the Font editor.

## Font Gadget

When you select a radio button, a list of available fonts appears in the scroll gadget. The font name is followed by a number. The number represents the size of the font—the higher the number, the larger the font. Sizes vary from font to font, as some fonts are naturally smaller than others. The maximum size allowable is 124 points.

When you are selecting a font for the Workbench icon text or Screen text, all of the fonts are available. However, the font used for the System default text must be a **nonproportional font**, such as Topaz or Courier.

To see the names of the available fonts, drag the scroll bar, or use the scroll arrows, to scroll through the fonts. To select a font, point to it and click the selection button. The name of the selected font will be shown in the text gadget next to the selected radio button.

An example of the chosen font, in its actual size, is shown in the display box next to the font scroll gadget. If you do not like the way a font looks, select another one. You can keep making selections as long as the appropriate radio button remains selected.

***A nonproportional font is one where every character is the same width.***

*The field is the area immediately surrounding the text.*

## Text/Field

**NOTE:** This is only applicable to the Workbench icon text.

When changing the font for the Workbench icons, you can also specify the color of the text and the **field**. Two radio buttons let you choose between Text Only or Text & Field.

If you select the Text Only radio button, the text will be the color specified by the Text color selection gadget. The field will be the Workbench background color or pattern.

If you select the Text & Field radio button, you can specify a color for both the text and the field. This option ensures that the text is legible regardless of the background pattern.

To change the color of the text or field, select a color from the appropriate color selection gadget. *Be sure to select two different colors for the text and the field. Otherwise, the text will blend in with the field, and you will not be able to read the words.*

The number of available colors is determined by the ScreenMode editor, while the colors themselves are determined by the Palette editor. You cannot change the colors within the Font editor.

## Types of Displays

This section explains the types of displays that you can use with your Amiga so that you will be aware of your choices before using the ScreenMode or Overscan editors.

The ScreenMode editor lets you change the display mode for the Workbench screen. The display mode refers to the number of horizontal pixels and the number of vertical pixels in a screen. This is also known as the screen **resolution**.

The standard Workbench screen that appears when you boot with your original Workbench disk is a Hires (high-resolution) screen. It is 640 pixels wide (left to right). Its height is determined by your country's video standard. For an NTSC display, used throughout North America, a Hires screen is 200 pixels high (top to bottom); for a PAL display, used in Australia and most of Europe, it is 256 pixels high.

Most display modes provide an **interlaced** option which doubles the number of horizontal lines on a screen, thereby increasing the resolution. Depending on which model of Amiga you own, your system may use a Hires-Interlaced screen (400 lines NTSC; 512 lines PAL). Interlaced screens may flicker when used with certain monitors. Some Amiga models have special hardware installed to eliminate the flicker when used with the appropriate monitor. It is possible to add similar hardware to other Amiga models as well.

The display modes available to you may depend upon the type of monitor you are using. Each display mode is explained in the following sections, and the chart on page 3-24 lists all the display modes, the hardware needed to use that mode, and the standard screen sizes.

Remember that the display mode you choose only pertains to the Workbench screen. If an application opens its own screen, you should check the documentation supplied with the software to see which display modes the application supports.

In the following sections describing the various display modes, the information along the right margin is presented in the following format:

- width × height of standard screen
- width × height of interlaced screen
- maximum number of colors

Height is shown for both NTSC and PAL systems—NTSC/  
PAL.

<b>Possible Display Modes</b>		
<b>Display Mode</b>	<b>Special Requirements</b>	<b>Standard Screen Size</b>
NTSC: Hires	NTSC monitor <sup>1</sup>	640 x 200
NTSC: Hires Interlaced	NTSC monitor <sup>1</sup>	640 x 400
NTSC: SuperHires	NTSC monitor <sup>1</sup>	1280 x 200
NTSC: SuperHires Interlaced	NTSC monitor <sup>1</sup>	1280 x 400
PAL: Hires	PAL monitor <sup>1</sup>	640 x 256
PAL: Hires Interlaced	PAL monitor <sup>1</sup>	640 x 512
PAL: SuperHires	PAL monitor <sup>1</sup>	1280 x 256
PAL: SuperHires Interlaced	PAL monitor <sup>1</sup>	1280 x 512
Productivity	Multiscan monitor <sup>2</sup>	640 x 480
Productivity Interlaced	Multiscan monitor <sup>2</sup>	640 x 960
A2024_10Hz	A2024 monitor <sup>2</sup>	1008 x 800
A2024_15Hz	A2024 monitor <sup>2</sup>	1008 x 800

<sup>1</sup>If this is not the standard video mode for your country, it will only be available if you have dragged the appropriate icon from the MonitorStore drawer to the Monitors drawer.

<sup>2</sup>You must drag the appropriate icon from the MonitorStore drawer to the Monitors drawer for this monitor to be recognized by the Amiga.

## **Hires**

640 × 200/256 non-interlaced  
640 × 400/512 interlaced  
16 colors maximum

This is the default display mode used by the Amiga. It is suitable for most text-based applications, such as word processing and databases.

Unless you have display enhancer hardware, the Hires-Interlaced screen may flicker.

## **SuperHires**

1280 × 200/256 non-interlaced  
1280 × 400/512 interlaced  
4 colors maximum

A SuperHires screen essentially cuts the width of the pixels used by a Hires screen in half. It doubles the amount of information that can fit on the screen, making text and icons considerably smaller. SuperHires may be especially useful for video applications.

SuperHires is only available on machines equipped with the **Enhanced Chip Set**. If you have display enhancer hardware, you should disable it when using SuperHires mode, or the display may be distorted. (See the display enhancer documentation for instructions.)

## Productivity

640 × 480 non-interlaced  
640 × 960 interlaced  
4 colors maximum

Productivity mode looks similar to the Hires-Interlaced mode. You must have the Enhanced Chip Set and a Multiscan monitor in order to use Productivity mode.

If you do not have display enhancer hardware, you can use Productivity mode to display 480 vertical lines without any flickering or visible scan lines. This is useful for desktop publishing, CAD/CAM, and graphics programs.

If you do have display enhancer hardware, a Hires-Interlaced screen is a better choice as it uses fewer system resources than Productivity mode while providing more colors.

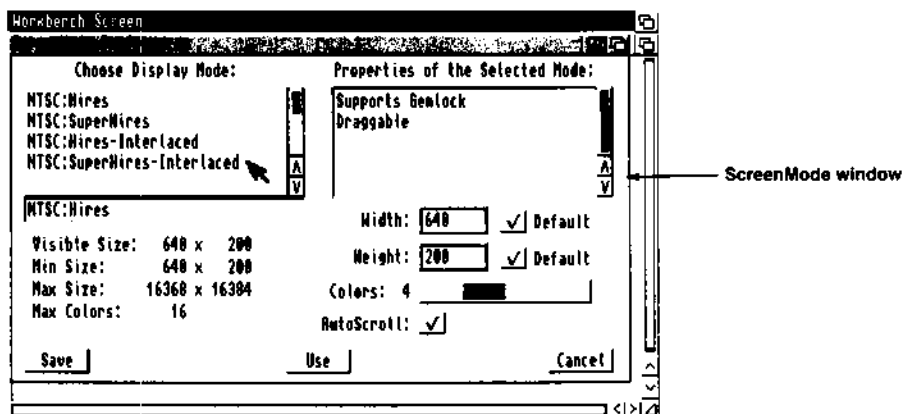
## A2024

1008 × 800 only  
no interlaced option  
4 shades of grey maximum

The A2024 mode is only available on an Amiga with an A2024-style monochrome monitor. These display modes are commonly used for desktop publishing and CAD/CAM programs as they allow you to display a complete 8.5 × 11 inch page on the monitor screen. The 10Hz mode is recommended for text editing. The 15Hz mode refreshes the screen more frequently, providing a better picture. However it uses more system resources than the 10Hz mode.

## The Screen Mode Editor

Open the ScreenMode icon and the following window appears:



This window lets you select the display mode for the Workbench screen. The different modes were explained in the previous section.

The available display modes are shown in the Choose Display Mode scroll gadget. If there are several modes available, you may have to scroll through the list to see all of the options.

To select a display mode from the list, point to it and click the selection button. The selected mode will appear in the display box under the Choose Display Mode gadget.

## Properties of the Selected Mode

This display box lists information about the display mode you selected. The possible properties, depending on the selected mode and the icons in the Monitors drawer, include:

Interlaced	This shows whether or not the display mode supports an interlaced screen.
ECS	Certain display modes are only available if you have the Enhanced Chip Set in your Amiga.
PAL	If an NTSC machine has the Enhanced Chip Set and the PAL icon is in the Monitors drawer, PAL display modes will be available.
NTSC	If a PAL machine has the Enhanced Chip Set and the NTSC icon is in the Monitors drawer, NTSC screens will be available.
Supports Genlock	This shows whether or not the display mode supports the use of genlocking equipment.
Draggable	This shows whether or not the display mode supports a draggable Workbench screen. A draggable screen can be pulled down to reveal any other open screens behind it.
Panelled	This appears when the selected display mode is made up of several panels, such as the A2024 screen.
Requires bypassing the Display Enhancer	This indicates that display enhancer hardware should be disabled when using this display mode.

## Screen Sizes

Various screen measurements are shown in the lower, left corner of the window. The size is given in the number of pixels. The first number represents the width of the screen; the second number represents the height.

**Visible Size:**     640 x     200

**Min Size:**         640 x     200

**Max Size:**        16368 x 16384

**Max Colors:**       16

The sizes correspond to the currently selected display mode.

- |              |   |
|--------------|---|
| Visible Size | The size of the text overscan area, as determined by the Overscan editor (explained in the next section).   |
| Min Size     | The smallest, or minimum, screen size that the selected display mode supports.  |
| Max Size     | The largest, or maximum, screen size that the selected display mode supports. The amount of chip memory available may further restrict this size. |

*NOTE:* If you try to use a screen size that is beyond the capability of the available graphics memory, the system will use the screen size currently selected.

- |            |  |
|------------|--|
| Max Colors | The maximum number of colors that can be displayed on a screen in the selected display mode. |
|------------|--|

## Width/Height

Use the Width and Height text gadgets to customize the size of your Workbench screen. Enter a number between, or equal to, the minimum and maximum width and height. Once you enter a number, that number remains constant *no matter which display mode you select until you select the corresponding Default gadget*. However, if the number you've entered is larger than the maximum size for a selected display mode, the value in the text gadget will decrease to the maximum size.

The Default check box to the right of each gadget allows you to select the default setting for the width and/or the height. This is usually equal to the size shown as the visible size measurement.

## Colors

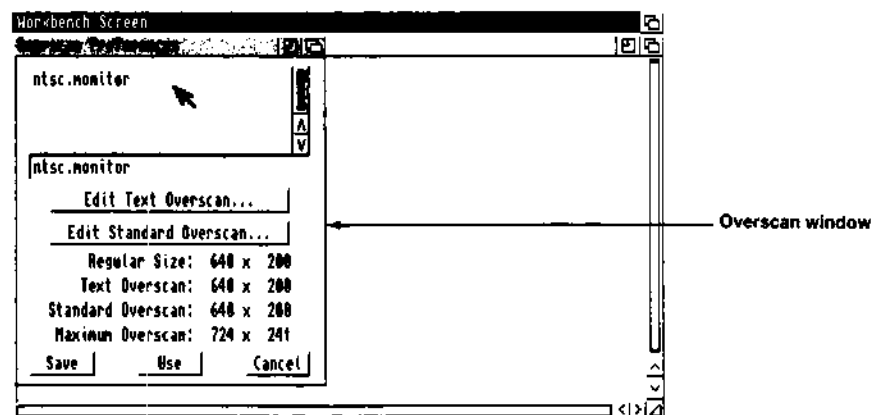
This slider gadget lets you select the number of colors that can be displayed on the screen. The fewer colors selected, the faster the screen can be redrawn. Fewer colors also use less memory.

## AutoScroll

If you've specified a screen width that is larger than the monitor's display area, you may want to turn on the AutoScroll option. When AutoScroll is selected, the screen automatically starts to scroll when the mouse reaches the edge of the visible portion of the screen.

## The Overscan Editor

Open the Overscan icon and the following window appears:



Your screen usually fills most of the monitor's display area, but there is often a small amount of unused space around the edges of the monitor screen. This area is known as the **overscan** area. This window lets you enlarge the size of your screen so that you can take advantage of that unused space.

In general, any application software that uses a Workbench screen should support the sizes you select with the Overscan Editor. It is possible that some older software will have limits on the window size.

The various display groups for which you can enlarge the overscan areas are shown in the scroll gadget in the top of the window. As explained earlier, the number of display groups you can choose from depends on the type of chip set in your Amiga and, possibly, the type of monitor you are using.

The default group will be the video standard for your country, PAL or NTSC. If your monitor supports both video standards, and the appropriate icon is in the Monitors drawer, the other video standard will also be available. Do not try to use the other video standard unless your monitor supports it, or your screen image may be garbled.

The possible groups and the modes they represent are outlined below:

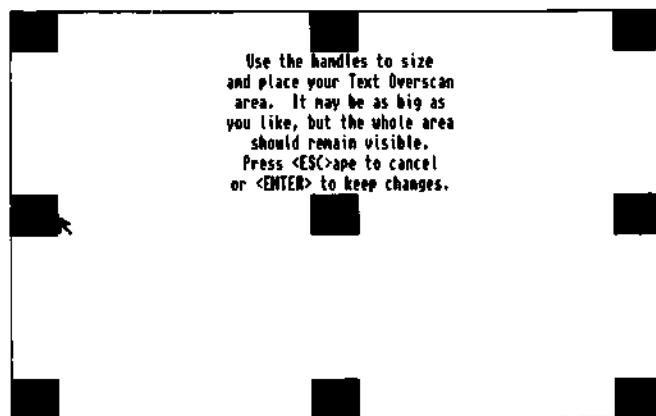
NTSC	Hires/Hires-Interlaced SuperHires/SuperHires-Interlaced
PAL	Hires/Hires-Interlaced SuperHires/SuperHires-Interlaced
Multiscan	Productivity/Productivity-Interlaced Only available if a Multiscan monitor has been connected to the system.
A2024	A2024 — 10Hz and 15Hz Only available if an A2024 monitor has been connected to the system.

When you change the overscan values for a particular display group, all modes within that group are affected. To change the overscan values for a display group, point to the group in the scrolling list and click the selection button. The selected group will appear in the display box under the scroll gadget.

## Edit Text Overscan . . .

**NOTE:** This function has no effect when used with the A2024 display modes.

This gadget lets you adjust the area available for text display. When you select the gadget, the following screen appears:



The black rectangles are handles. The handles, and the line connecting them, represent the outermost area where text can be displayed. To enlarge the overscan area, point to a handle, hold down the selection button, and drag the handle to the edge of the screen. Do this with the handles on each side of the screen.

Be careful not to move any part of the handle off the screen. If part of a handle is out of the viewing area, you will not be able to see all of the text on a screen.

Use the center handle to position the screen. By dragging the handle, you can shift the screen slightly to the right or left, or up or down. In this way you can center the display area on your monitor screen without having to use the monitor's horizontal and vertical controls.

To exit the screen without saving any changes, press Esc. To save changes, press Return. You will be returned to the Overscan editor.

You can also exit the screen with a menu. Hold down the menu button and point to the top left corner of the Text Overscan screen. A menu will appear. Choose Keep Changes (or press right Amiga-K or Return) to save your changes and exit the screen. Choosing Quit (right Amiga-Q) or pressing Esc allows you to leave the screen without implementing your changes. You will be returned to the Overscan editor.

## **Edit Standard Overscan . . .**

*NOTE:* This function has no effect when used with the A2024 display modes.

This gadget lets you adjust the standard display size. When you select the gadget, a screen similar to the Edit Text Overscan screen appears.

The handles, and the line connecting them, represent the outermost area where data will be displayed. At times, you may want your graphics to fill as much of the screen as possible, even running off the screen so that there is no discernible border surrounding the picture.

Use the mouse to drag the handles as much as necessary so that the line connecting them completely encompasses the screen. The resulting area should be slightly larger than the monitor screen. As with the Text Overscan Editing screen, you can use the center handle to position the screen.

To exit the screen without saving any changes, press Esc. To save changes, press Return. You will be returned to the Overscan editor. You can also use the menu to exit the screen.

## Screen Sizes

The different sizes of your overscan areas are displayed at the bottom of the Overscan window. The sizes are given in number of pixels. The first number represents the width of the screen (left to right); the second number represents the height of the screen (top to bottom).

The sizes correspond to the sizes for a standard Hires screen when editing the PAL or NTSC groups. If Multiscan is selected, the sizes for a non-interlaced Productivity screen will be given. All other display modes in a group will be affected proportionally.

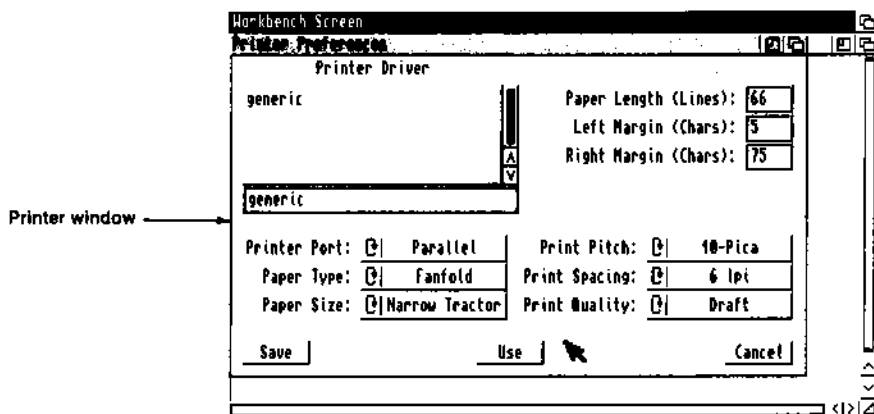
The different size categories are explained below:

Regular Size	This is the standard, non-overscan size of a screen.
Text Overscan	This reflects the size of the current text overscan area. As you enlarge or reduce the text overscan area, this value changes.
Standard Overscan	This reflects the size of the current standard overscan area. As you enlarge or reduce the standard overscan area, this value changes.
Maximum Overscan	This is the maximum allowable size for any overscan area, text or standard.

*The regular size is sometimes referred to as the nominal or standard size.*

## **The Printer Editor**

Open the Printer icon and the following window appears:



This window lets you tell the system what type of printer you are using along with what type of output you want.

The first thing you need to do is to select a printer driver. A printer driver is software that enables the Amiga to communicate with a particular model of printer. The drivers are usually named for the printers they represent. The printer driver selected is used as both the text and graphic printer.

*If you are unsure of which driver to select, please refer to Appendix B, "Printer Drivers." Some drivers are capable of supporting more than one printer.*

The printer drivers are stored on the Extras2.0 disk. However, the Printer editor looks for the drivers on the Workbench2.0 disk. You must copy the driver for your printer to your Workbench2.0 disk. For instructions on how to do this, see the box on page 3-37. The driver will then appear in the Printer Driver scroll gadget.

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**Copying a Printer Driver from  
Extras2.0 to Workbench2.0**

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1. **Select the Workbench2.0 window, then choose Show All Files from the Windows menu.**

2. **Double-click on the Devs drawer.**

You can close the Workbench2.0 window if you wish. This will keep the screen from getting cluttered with windows.

3. **Look for the Printers drawer in the Devs window.**

You do not need to open the Printers drawer. Just leave it in a visible part of the window. Once you've located the appropriate printer driver, you will copy it by dragging the driver icon over the Printers drawer icon.

4. **Insert the Extras2.0 disk into your disk drive, and open its window.**

5. **Select Show All Files from the Window menu, and double-click on the Devs drawer.**

You can safely close the Extras2.0 window if you like.

6. **Double-click on the Printers drawer in the Devs window.**

The Printers window will contain icons for the various printer drivers. Scroll through the window until you find the driver that works with your printer. (If you are unsure of which driver to use, see Appendix B for additional specifications.)

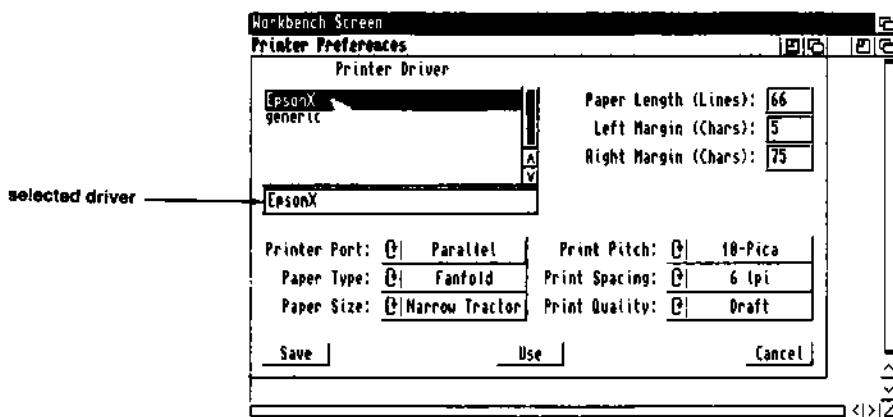
7. **Drag the appropriate printer driver icon over the Printers drawer icon in the Workbench2.0 Devs window.**

If you have a single-drive system, requesters will appear asking you to swap the Workbench2.0 and Extras2.0 disks until the printer driver is copied.

If you have two drives, put a disk in each drive, and the driver will be copied directly from one disk to the other.

The next time you open the Printer editor, the name of the printer driver will appear in the scroll gadget.

To select a printer driver, point to it and click the selection button. The selected driver is shown in the text gadget underneath the scroll gadget.



If a driver for your printer is not on the Extras2.0 disk, check to see if a disk with an Amiga printer driver file was included with your printer. If the instructions for your printer tell you to indicate a printer file, select the text gadget and type in the name of the file included with your printer. Be sure to specify the complete path to the file or copy the file into the Devs/Printers drawer on the Workbench2.0 disk.

If you want to use a printer that is not included in the list, and you do not have a printer driver for it, enter generic in the text gadget. For many printers this allows you to print plain text, but not graphics or extra type styles, such as italics and boldface.

Once you have chosen your printer driver, the other gadgets in the window let you set the specifications for your printer's output.

**NOTE:** The specifications you set with this editor may be overridden when you use certain application packages, like desktop publishers or word processors. Those types of programs usually ask you to specify print specifications specifically for that program.

Three text gadgets allow you to specify the length of your paper as well as your left and right margins. To change the default value, select the gadget, delete the existing value, type in the new number, and press Return. These gadgets are explained below:

Paper Length	Determines the total number of lines on the page, including top and bottom margins. For instance, if you are using 11 inch long paper with 6 lines to an inch (set with the Print Spacing gadget), you will have 66 lines on your page.
Left Margin	Determines the width of the left margin—the number of characters from the left edge of the paper to where you want the text to start printing. For instance, if you want a one-inch margin, and you are using 10 <b>pitch</b> type, enter 10.
Right Margin	Determines the width of the right margin—the number of characters from the <i>left-hand edge of the paper</i> to where you want the right margin to begin. For instance, if your paper is 8.5 inches wide, and you're using 10 characters per inch, you can fit 85 characters across the page ( $10 \times 8.5$ ). To leave a one-inch right margin, subtract 10 characters from the right edge of the paper. The right margin would be 75.

*Pitch refers to the number of characters in a horizontal inch and is explained later in this section.*

You must also make sure that the six cycle gadgets across the bottom of the window are set properly. The displayed option is the selected option. To change the selection, keep selecting the cycle gadget until the correct choice is displayed. Each gadget is explained below:

Printer Port	Specifies the Amiga port where you have attached your printer. This is either Serial or Parallel.
Paper Type	Specifies the type of paper you are using. The options are Fanfold (continuous-feed paper) or Single (individual sheets).
Paper Size	Specifies the size of paper you are using. For specifics on each size, see the box on page 3-41. Sometimes when printing in graphics mode on Epson and other dot matrix printers, narrow blank lines appear across the printout. Selecting Custom as the paper size may eliminate this. If you select Custom, you must be sure that the correct number of lines that fit on your paper are specified in the Paper Length gadget.
Print Pitch	Pitch refers to the number of characters printed in 1 inch of horizontal text—the higher the number, the smaller the space between characters. You can choose from 10, 12, or 15 characters per inch.

### **Paper Sizes**

Narrow Tractor*	9.5 inches wide by 11 inches long (241 millimeters by 279 millimeters)
Wide Tractor*	17.875 inches wide by 11 inches long (454 millimeters by 279 millimeters)
DIN A4	8.3 inches wide by 11.7 inches long (210 millimeters by 297 millimeters)
DIN A5	5.8 inches wide by 8.3 inches long (148 millimeters by 210 millimeters)
U.S. Letter	8.5 inches wide by 11 inches long (216 millimeters by 279 millimeters)
U.S. Legal	8.5 inches wide by 14 inches long (216 millimeters by 356 millimeters)

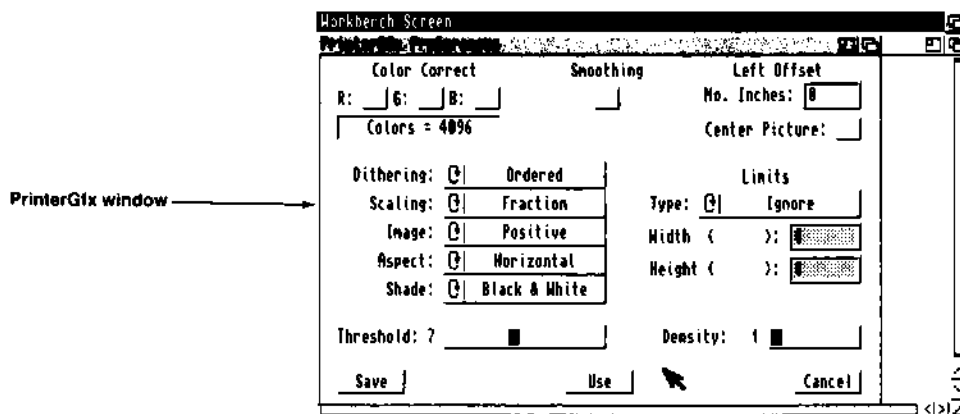
\*Tractor-feed paper has holes along the side that attach to the sprockets on your printer.

**Print Spacing**      Spacing refers to how many lines of text are printed in 1 vertical inch of space. You can select 6 lines per inch (lpi) or 8 lpi. The higher the number, the less space there is between the lines.

**Print Quality**      Determines the quality of the printout. Selecting Draft gives you a lower-quality printout but faster printing. Selecting Letter gives you a higher-quality printout but slower printing.

## The Printer Graphics Editor

Open the PrinterGfx icon and the following window appears:



This window supports extended printer graphics features. The printer you are using should be selected through the Printer editor.

For tips on printing screen dumps, see the box on page 3-44.

### Color Correct

**NOTE:** This can only be used with a color printer.

**Color correction** tries to better match the colors on your screen to the colors on the printout. You can use color correction on red, green or blue, or on a combination of the colors. To turn on color correction, select the check box next to the color, or colors, you want to correct: r (red), g (green), or b (blue).

Color correction results in a reduction of the number of printed colors. When color correction is not used, all 4,096 colors displayed by the Amiga can be printed on a color printer. For each color you choose to correct, 308 shades of that color are lost. The number of colors that can be printed is shown in the Colors gadget underneath the color correction check boxes.

## Smoothing

Sometimes when printing diagonal lines, the printed lines may be jagged. When **smoothing** is turned on, the Amiga attempts to smooth diagonal lines to get rid of the jagged appearance. This option is best suited for use with programs that do graphic dumps of text. When smoothing is turned on, printing may be much slower.

*Floyd-Steinberg dithering cannot be used with Smoothing. (Dithering is explained later in this section.)*

## Left Offset/No. Inches

This gadget determines the number of inches to shift, or **offset**, the printed picture. This is similar to setting up a left margin. The offset is entered in increments of tenths of an inch. The Center Picture option (below) disables Left Offset.

To enter the value, select the No. Inches text gadget, delete the current value, type in the correct value, and press Return.

## Center Picture

When Center Picture is turned on, the printed picture is horizontally centered on the page. To turn Center Picture on, select the check box gadget. Any value entered for the Left Offset will be ignored.

**Tips for Printing Screen Dumps**

For better *quality* screen dumps:

- On most printers, friction fed paper tends to produce better graphic dumps than tractor fed paper. There is less horizontal banding.
- Densities which use more than one pass should only be used for black-and-white screen dumps. If you use a multiple-pass density for a gray-scale or color dump, the output may be muddy or dark. Multiple-pass color dumps also dirty the printer ribbon (i.e., the yellow will become contaminated with other colors).

For *faster* screen dumps:

- Lower the density.
- Use horizontal dumps rather than vertical dumps.
- If you are dumping a two-color image, set Shade to black-and-white. This is much faster than a gray-scale or color dump.
- Turning on Smoothing doubles the printing time. Use Smoothing for the final copy only.
- Floyd-Steinberg dithering doubles the printing time, while Ordered and Halftone dithering cause no increase in printing time.
- If you are dumping a Hires screen that displays more than 4 colors, you can speed up the dump by moving the screen to the back of the display *once printing has started*. This is easily done by pressing left Amiga-N.

## Dithering

Just as images on your screen are made up of tiny pixels, printed images are made up of tiny dots. **Dithering** refers to the printing of dots of different colors (or shades of grey) in such a way that they are so small and close together that the eye sees them as one color. This enables you to produce printouts which appear to have more colors than the four ink colors normally available on a color printer.

For instance, where there is a pixel of black on the screen, black dots will appear on the printout. However, if you have a pixel of purple, a color printer will use dots of yellow, magenta, and cyan to create the illusion of purple. If you are printing grey scale printouts, the printer will use varying patterns of black dots to replicate the intensity of the purple on the screen.

The available dithering options are:

- |          |   |
|----------|---|
| Ordered  | Color intensities are formed using an ordered pattern of dots, similar to a checkerboard pattern. The dots, while they vary in color, are of the same density and are printed in straight rows and columns. This is the standard type of dithering. |
| Halftone | Color intensities are formed by varying the size and density of the dots. This technique is similar to the one used in newspapers and comic books. It works best on high density printers (greater than 150 dots per inch).                         |

*When Shade is set to Black & White, changing the dithering method has no effect on the printout.*

## Examples of Different Dithering Output



Ordered



Halftone



Floyd-Steinberg



For instance, while a pixel of black may be reproduced with four black dots, a pixel of purple may be reproduced by two red and two blue dots of varying sizes that are placed in such a way that to the human eye they look like purple.

Floyd-  
Steinberg

Color intensities are formed using the Floyd-Steinberg error-distribution method, a complex algorithmic formula. Basically Floyd-Steinberg creates a dot pattern that maximizes the image's detail by distributing the intensities of each pixel throughout the dots comprising that pixel as well as throughout the neighboring dots.

Printing may be slowed down considerably when this option is chosen.

*This option automatically turns off Smoothing and works best on high density printers (greater than 150 dots per inch).*

For an illustration of each of the dithering methods, see page 3-46. The pictures were generated on a 300 dot-per-inch printer.

## Scaling

**Scaling** refers to the process of changing the size of an image. The actual size of the printout will be determined by the Limits setting (explained later in this section). It will be scaled up or down to the nearest multiple of the width and height of the picture. The available options are:

- |          |  |
|----------|--|
| Fraction | The perspective of the picture is preserved. Pixels are enlarged or reduced at random. Select this option if you are printing pictures with lots of shading. |
|----------|--|

*The Aspect setting, explained below, determines whether the picture is printed horizontally or vertically on the page.*

*This setting only affects black-and-white and grey scale printing.*

### Integer

Every pixel on the screen is guaranteed to appear as an even number of dots on the printout. Select this option when printing a picture that contains thin vertical and horizontal lines (like a grid).

For example, if the picture on the screen is 320 x 200, the printed picture will be either 320, 640 or 960 dots wide, etc., and 200, 400 or 600 dots high, etc.

Integer scaling completely overrides the Aspect setting making it possible to get a slightly distorted picture. This option is also useful for printing out bit-image text, since the fonts will not be distorted due to fractional scaling.

## Image

When set to Positive, the image is printed as it appears on the screen. When set to Negative, the image is reversed — what is black on the screen is printed as white, and what is white on the screen is printed as black. This is similar to a photographic negative.

## Aspect

When set to Horizontal, the image is printed as it appears on the screen — what appears across the top of the screen is printed across the top of the paper. When set to Vertical, the image is printed sideways — what appears across the top of the screen is printed along the right-hand side of the paper.

## Shade

These options let you select what colors to print. Not all printers support these options. The available options are:

- Black & White      Colors are printed as either black or white. Whether a color is printed as black or white is determined by the **threshold** value (explained below). Dithering has no effect.
- Grey Scale1      Colors are printed in varying shades of grey.
- Color      Colors are printed as they appear on the screen. This can only be used with color printers.
- Grey Scale2      This option supports a maximum of four shades of grey and is used for printing pictures designed using the A2024 monitor.

## Threshold

The threshold value determines which colors on the screen are printed as white and which are printed as black. When the setting for Image is Positive and the threshold value is low (around 2), only the darkest color on the screen is printed as black. Everything else is printed as white. Increasing the threshold value causes more colors to be printed as black.

If you change the Image setting to Negative, black and white will be reversed. Therefore, a low threshold value will cause the darkest color on the screen to be printed as white.

*This setting only affects black-and-white printing.*



threshold = 8



threshold = 13

## Limits/Type

The Width and Height limits (explained on 3-52) allow you to specify the dimensions for your printout. However, those limits can be interpreted in several ways, dependent on the Type setting. The available options are:

**Ignore** The Width and Height limits are ignored. The printed picture's size is the size requested by the application. The only restrictions are that its width cannot be greater than:

$$\frac{(\text{right margin} - \text{left margin}) + 1}{\text{characters per inch}}$$

For instance, if you are using 8.5 inch paper, with 1 inch margins, and 10 characters per inch, the width cannot be greater than 6.6 inches.

Height is restricted to the number of lines on the page divided by the lines per inch. This is usually equal to the length of the paper.

**Bounded** The printed picture's size is bounded by the Width and Height limits. For example, if the printed picture should be no bigger than 4.0 x 5.0 inches (but it could be smaller), set Width to 40, Height to 50, and select Bounded. (Width and Height are interpreted in tenths of inches.)

This option is provided so that the text settings (margins, lines per page, etc.) do not have to be changed every time a graphic print is made.

**Absolute**      The Width and Height limits are interpreted as absolute values. For example, if the printed picture should be exactly 4.0 x 5.0 inches, set Width to 40, Height to 50, and select Absolute. This completely overrides the Aspect setting (Horizontal or Vertical), making it possible to get a very distorted picture.

However, you can use Absolute to get a non-distorted printout that is a specific width or height, not both. Set either the Width or Height limit to the desired dimension, and set the other limit to zero.

For example, if Width is set to 40 and Height to 0, then the printed picture will be 4.0 inches wide and as tall as necessary in order to be in perspective. If both dimensions are set to zero, the printed picture will be as wide as possible and as tall as necessary in order to retain the picture's perspective.

**Pixels**        The Width and Height limits are interpreted as pixels, instead of tenths of an inch. If one of these values is set to zero, the same rules for the Absolute option apply. The printout will be the width or height specified, and as tall or as wide as necessary to retain perspective.

**Multiply**      The Width and Height limits are used to multiply the source picture's width and height. For instance, if you specified a Width of 2 and a Height of 4, the printed picture will be two times the source picture's width (in pixels) and four times the source picture's height.

For example, if the source picture were 320 x 200 pixels, the printed picture would be 640 pixels wide and 800 pixels high.

If one of these values is set to zero, the same rules for the Absolute option apply. The picture will be scaled as necessary to maintain the proper perspective.

## Width/Height

These gadgets limit the width and height of the printed picture. The value is interpreted as tenths of an inch unless Pixels or Multiply is the selected Type. To enter a value, select the text gadget, type the correct value, and press Return.

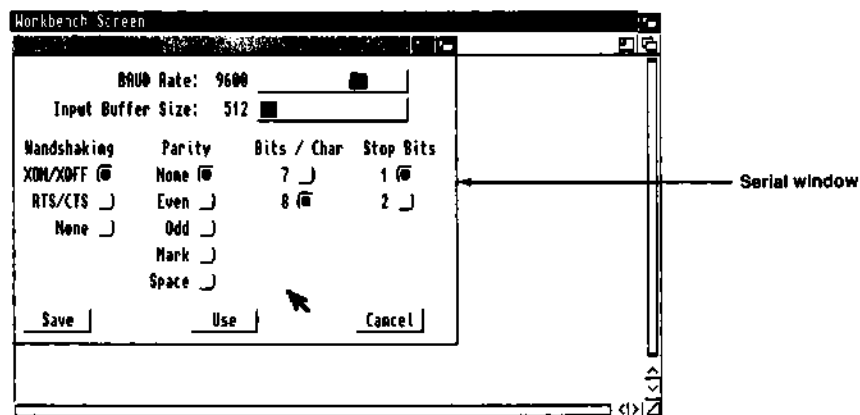
## Density

This gadget selects the graphics print **density**. The lower the density, the faster the image will print (on those printers with multiple densities). When you select a higher density, more dots are used to create the printout and the image is sharper. However, it will take a long time for the image to print.

This option is not supported by every printer. You can check the specifications for your printer in Appendix B, "Printer Drivers", to determine if multiple densities are supported.

## The Serial Editor

Open the Serial icon and the following window appears:



In order to successfully communicate through a modem or network, you must make sure that information is sent and received in a form understandable and compatible with the device with which you are communicating. This window lets you set the specifications for the **serial** port. Check the documentation packaged with your serial device to determine the appropriate settings.

### Baud Rate

The **baud rate** determines the number of bits transferred through the serial port each second. Since most characters are usually 10 bits (1 start bit, 8 data bits, 1 stop bit), if you divide the baud rate by 10, you can approximate how many characters per second (cps) are transmitted.

*With serial communication, information is sent and received one bit at a time.*

The baud rate you select must match the rate of the device with which you are communicating. The larger the value, the faster the data is transferred. The available rates are: 110, 300, 1200, 2400, 4800, 9600, 19200, and 31250 baud. The current rate is shown to the left of the slider.

## Input Buffer Size

The **input buffer** is an area of memory set aside for serial communication. The buffer holds incoming information that is sent to the Amiga. The available sizes are: 512, 1024, 2048, 4096, 8192, 16384, 32768, and 65536 bytes. The current size is shown to the left of the slider. You may want to use a larger buffer when working with a high baud rate or when the Amiga is performing many tasks.

## Handshaking

**Handshaking** refers to the method used to control the flow of information through the serial port and the device attached to it. The computer and the device must be set to the same handshaking method in order to communicate. The available choices are:

- |                 |  |
|-----------------|--|
| <b>XON/XOFF</b> | This is the most common method. Characters embedded in the data stream between the two devices regulate the data flow. These special characters are called XON and XOFF.                           |
| <b>RTS/CTS</b>  | With this method, data flow is regulated via separate control lines, called RTS (Request To Send) and CTS (Clear To Send).<br><br><i>NOTE:</i> This method requires a properly wired serial cable. |

None	This method causes handshaking to be shut off entirely, allowing communication between the devices without restriction or regulation. Use this option with caution.
------	---

## Parity

**Parity** refers to a method for detecting transmission errors. Some computers check for errors in transmission by setting the highest bit of each character a certain way. This bit is called the parity bit. The computer checks this bit to ensure that the transmission is complete and accurate. The available choices are:

None	All bits are used for data. This should be used when Bits/Char is set to 8. No parity checking occurs.
Even	The total number of ON bits in each character should always be an even number.
Odd	The total number of ON bits in each character should always be an odd number.
Mark	The highest bit is always ON.
Space	The highest bit is always OFF.

## Bits/Char

Bits per character specifies the number of bits that are sent through the serial port for each character and the number of bits expected for each character received.

This setting should correspond with your setting for parity. If parity is set to Even, Odd, Mark or Space, bits per character should be set to 7 since some systems look for parity in the 8th bit of data. If parity is set to None, you should set bits per character to 8.

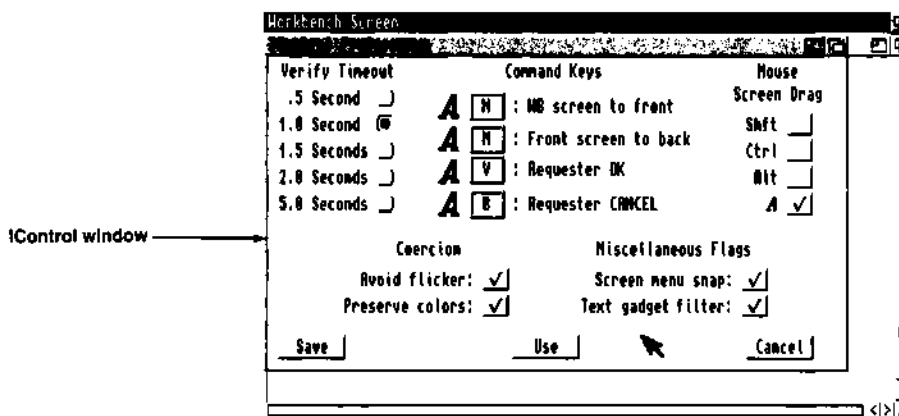
## Stop Bits

**Stop bits** are extra bits added at the end of a character. They allow the computer to correctly interpret spacing between words and when a transmission ends. This pertains to both characters sent and received through the serial port.

Slower-processing computers usually require two stop bits. Computers which operate at 300 baud, or faster, generally require one stop bit. If you are using 8 data bits, you can only use one stop bit, or you may lose some data during transmission.

## The IControl Editor

Open the IControl icon, and the following window appears:



This window lets you change several system settings, such as the default keys for moving screens or for selecting an action gadget in a requester. The different gadgets are explained below.

## Verify Timeout

In rare instances, the system may be waiting for a response from a program you are running while, at the same time, the program is waiting for the system to do something.

To help prevent this kind of situation, the Verify Timeout gadget allows you to specify the amount of time that the system will wait for a response from another program. If no response is received in the allotted time, the system will proceed and avoid a deadlock. In general, it is best to select a longer period of time. The default setting is 1 second.

## Command Keys

These four gadgets let you change some of the default keys used by the Workbench. You can only specify a new letter key to be used in conjunction with left Amiga. The use of left Amiga cannot be changed. The defaults you can change are:

WB screen to front	Specifies the key used to move the Workbench screen in front of any other screens. The default is N.
Front screen to back	Specifies the key used to move the front-most screen behind all other screens. The default is M.
Requester OK	Specifies the key used to select the OK, Retry or Continue gadget shown in a system requester. The default is V.
Requester Cancel	Specifies the key used to select the Cancel gadget in a system requester. The default is B.

To enter a new key, select the text gadget, type in the new letter and press Return.

## Mouse Screen Drag

Normally, you can hold down left Amiga, point anywhere in the Workbench screen, and drag the screen by holding down the selection button and moving the mouse. This gadget lets you specify other keys that can be used in addition to or in place of left Amiga.

The available keys are left Shift, Ctrl, and left Alt. To select a key, point to the check box to its right and click the selection button.

For instance, if you select Ctrl, you must hold down Ctrl to drag the screen. If Ctrl and Shift are selected, you must hold down both Ctrl and left Shift to drag the screen.

## Coercion

*NOTE:* These two options, Avoid flicker and Preserve colors, are only applicable when Productivity mode is selected.

When a Productivity screen is displayed, your Multiscan monitor works at a higher frequency than if an alternative mode (Hires, SuperHires, etc) is displayed. When several screens are open, the front-most screen determines the frequency of the monitor. If you drag the front screen down so that a Productivity screen and a non-Productivity screen are both visible, the back screen may be distorted since the monitor is still operating at the frequency determined by the front screen.

For instance, assume you have both a Productivity Workbench screen and a Hires paint program open. When the Productivity screen is in the front, the monitor is working at a higher

frequency than when the paint program is displayed. If you drag the Productivity screen down, so that you can see both the Workbench screen and the paint program screen, the paint program screen may be distorted. This is because the monitor is still working in the higher frequency.

However, the Amiga will try to display the back screen properly, and in doing so may disturb the colors of the screen or interlace the screen. The Coercion gadgets allow you to disable these effects. Selecting the Avoid flicker box will prevent the back screen from becoming interlaced. The Preserve colors gadget keeps the screen's original colors intact. However, selecting these options may result in an even more distorted back screen.

## **Screen Menu Snap**

This option is provided for users who work with screens that are larger than the monitor's display area. Normally, the Workbench menus appear at the top left corner of the screen. If the left-most side of the screen is not visible, Screen menu snap shifts the Workbench screen so that the menus are still accessible. The screen only shifts while the menu button is held down.

## **Text Gadget Filter**

This gadget controls whether control characters are recognized when entered into text gadgets. A control character is a key combination (usually Ctrl and an alphabetical key) that performs a certain function. For instance, Ctrl-M is equivalent to pressing Return.

Several control characters which perform text editing functions are listed below:

Ctrl-M	Same as pressing Return.
Ctrl-H	Deletes character to the left of the cursor (same as Backspace).
Ctrl-X	Deletes the entire line
Ctrl-U	Deletes all characters to the left of the cursor.
Ctrl-K	Deletes all characters from the cursor to the end of the line.
Ctrl-A	Moves the cursor to the beginning of the line.
Ctrl-Z	Moves the cursor to the end of the line.

When Text gadget filter is selected, control characters that perform editing operations can be entered into text gadgets, and their functions will be performed. Control characters that are not recognized as having editing functions will be ignored, or filtered out.

When Text gadget filter is off, control characters will be entered into the text. Special editing functions will not be available. You can insert control characters into the text gadget, whether filtering is turned on or not, by pressing Ctrl-left Amiga along with the desired alphabetical key. For instance, to enter Ctrl-M, press Ctrl-left Amiga-M.

**NOTE:** In certain windows with multiple text gadgets, like the IControl window, pressing Tab moves the cursor to the next text gadget. In these windows, even if Text gadget filter is off, you must still press left Amiga-Tab to enter a Tab into the text gadget.

## **The Editor Menus and Presets Drawer**

Each editor has three menus: Project, Edit, and Options. These menus let you save changes to a specified file, enabling you to save different configurations of the same editor. By default these files are saved in the Presets drawer, although you can save them elsewhere if you wish. If you save icons for the files, you can implement the settings by opening the file's icon. You do not need to open the actual editor.

For instance, if you use two different printers with your Amiga, an MPS 1250 and an HP LaserJet, you can save the specifications for each printer in two different files in the Presets drawer. When you wanted to use the MPS 1250 printer, you could open the Presets drawer and just double-click on the MPS 1250 icon. The specifications would immediately take effect, although the Printer editor window would not open. If you were to open the window, it would show the settings for the MPS 1250. When you wanted to switch to the HP LaserJet, you could simply double-click on the HP LaserJet icon.

This section explains each of the menus and provides a detailed example of saving specifications for two printers.

### **The Project Menu**

The options in this menu let you save the editor settings to a specific file. It also allows you to open previously saved files.

The options are:

- Open . . . Loads the information from a previously saved file. When you choose Open, a file requester appears.

**Save As...** Allows you to specify the file where you want to save the currently displayed settings. A default filename in the Presets drawer is provided in the requester. If you want to use a different filename, type in the complete path, then select the OK gadget.

When you want to use those settings, open the editor, choose the Open menu item, and type in the complete path to the file. (The default path is SYS:Prefs/Presets.) Select the Use gadget, and the settings will be used until you reboot the Amiga or open another editor file.

You could also open the Presets drawer and double-click on the file's icon.

**Quit** Exits the editor.

## **The Edit Menu**

The options in this menu allow you to easily restore previously used settings or the default settings. The options are:

<b>Reset to Defaults</b>	Returns the editor settings to the default settings.
<b>Last Saved</b>	Returns the editor settings to the last saved settings.
<b>Restore</b>	Returns the editor to the settings that were displayed when the editor was open.

## The Options Menu

This menu contains one item to allow you to save icons with your files. It is described below:

**Save Icons?** Allows you to choose whether or not to save icons with the files saved with the Save As menu item. If you choose to save icons with the files, the icons will be saved in the same drawer as the file.

For instance, if you save printer specifications to the SYS:Prefs/Presets/Printer.pre file, the icon for the file will appear in the Presets window. If you double-click on the icon, specifications saved in the file will be implemented.

## Using the Presets Drawer

Suppose you have two printers attached to your Amiga, an MPS 1250 that you use for dot-matrix printouts and an HP LaserJet that you use for high-quality, desktop publishing output. The following example shows how to save printer specifications for both printers.

- 1. Open the Printer editor.**
- 2. Make the appropriate selections to correspond with the HP LaserJet printer.**
- 3. Choose Save As from the Project menu.**

When the requester appears, select the default file or enter a filename, such as SYS:Prefs/Presets/Laser.

- 4. Without closing the editor, make the appropriate selections to correspond with the MPS 1250 printer.**

**5. Choose *Save As* from the *Project* menu.**

When the requester appears, enter a new filename, such as SYS:Prefs/Presets/MPS 1250.

**6. Select the *Save* gadget.**

The editor window will close and the current printer specifications will be for the MPS 1250 printer.

When you want to use the HP LaserJet:

**7. Open the *Presets* drawer, and double-click on the *Laser* icon.**

The settings for the HP LaserJet will take effect even though the Printer editor does not open.

An alternative method is to open the Printer editor, choose the Open menu item, and enter SYS:Prefs/Presets/Laser in the requester.

When you want to use the MPS 1250, open the Presets drawer and double-click on the MPS 1250 icon.

# **Chapter 4. The Workbench Programs**

Chapter 3 taught you how to customize your Workbench and set up your Amiga to work with various peripherals. This chapter explains the rest of the drawers in the Workbench window.

Aside from Prefs, there are five other drawers in the Workbench2.0 disk window: System, Monitors, Utilities, WBStartup and Expansion. The Utilities and System drawers contain icons for programs included on the Workbench2.0 disk, such as:

- Clock, a program for displaying a clock on your screen
- AddMonitor, a tool that lets you notify the Amiga that a monitor other than the standard RGB-style monitor has been added to the system
- More, a program for displaying text files
- Say, a tool that lets the Amiga speak

The Monitors drawer contains icons used by the AddMonitor program. The WBStartup drawer allows you to automatically start different programs when you boot or power on the Amiga.

The Expansion drawer is sometimes used when you add peripherals to your Amiga. If a peripheral uses the Expansion drawer, it will be explained in the documentation packaged with that product.

The first thing explained in this chapter is how to use Tool Types. Tool Types let you specify different parameters for many programs. Next, the programs in the System drawer are covered, followed by those in Utilities. Finally, you'll learn how to add programs to the WBStartup drawer.

## **Tool Types**

Before you start reading about the Workbench programs, you should take a few minutes to familiarize yourself with the concept of Tool Types. As explained in Chapter 2, Tool Types are used to specify parameters used by a program. For instance, you can use a Tool Type to change the style of clock displayed by the Clock program or to specify a file to be used by the Display program.

Tool Types are usually in the form of **KEYWORD**= argument. In this manual, the **KEYWORD** is shown in uppercase letters while the argument is in lowercase letters. However, case differences do not matter when entering the information.

You enter Tool Types in an icon's Information window. Select the appropriate icon, then choose Information from the Icons menu. When the window appears you can add, delete or change Tool Types.

### **Adding a Tool Type**

- 1. Select the appropriate icon, then choose Information from the Icons menu.***

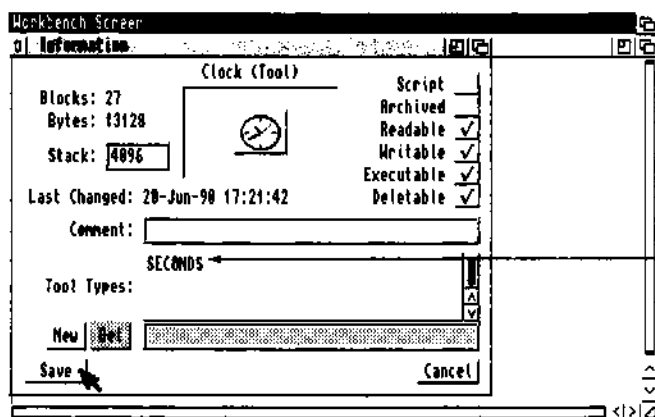
The Information window will appear.

- 2. Select the New gadget.***

A cursor appears in the text gadget.

- 3. Type in the new Tool Type and press Return.***

After pressing Return, the new Tool Type will appear in the Tool Types scrolling list.



In this example, the **Keyword** does not take an argument.

new Tool Type

To add another Tool Type, repeat steps 2 and 3.

**4. Select the Save gadget to save the new information.**

If you are adding more than one Tool Type, do not select Save until you've entered all of them. Selecting Save closes the Information window. If you do not want to save your changes, select Cancel or the window's close gadget.

## Deleting a Tool Type

**1. Select the appropriate icon, then choose Information from the Icons menu.**

Any Tool Types you have added will be shown in the Tool Types scrolling list.

**2. Select the Tool Type you want to delete from the list.**

Point to the Tool Type and click the selection button. The Tool Type will now appear in the text gadget.

**3. *Select the Del gadget.***

To delete another Tool Type, repeat steps 2 and 3.

**4. *Select the Save gadget to save the change.***

Do not select Save until you have made all of your changes. Selecting Save closes the Information window. If you do not want to save your changes, select Cancel or the window's close gadget.

## **Changing a Tool Type**

**1. *Select the appropriate icon, then choose Information from the Icons menu.***

Any Tool Types you have added will be shown in the Tool Types scrolling list.

**2. *Select the Tool Type you want to change from the list.***

Point to the Tool Type and click the selection button. The Tool Type will now appear in the text gadget.

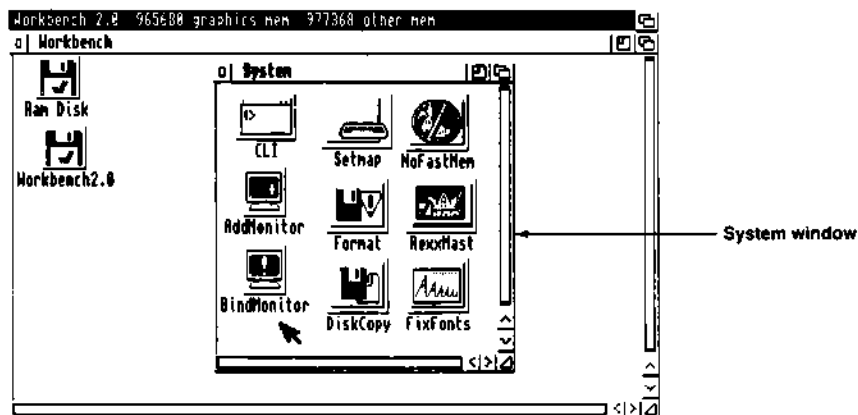
**3. *Edit the text in the text gadget, making the necessary changes, then press Return.***

**4. *Select the Save gadget to save the change.***

Do not select Save until you have made all of your changes. Selecting Save closes the Information window.

## The System Drawer

The System drawer contains programs that have an effect on the way the system operates.



The list below explains when or why you would need to use each program. Please see the section describing the individual programs for more information.

**AddMonitor** Informs the system that you've added another type of monitor, such as an A2024 or Multiscan monitor. You can also use it if you have a monitor that supports the video standard that is not normally used in your country (PAL for NTSC countries, and vice versa).

**BindMonitor** Assigns names (Hires, SuperHires, etc.) to the different display modes. BindMonitor is automatically run, via the Mode\_Names tool, when the Workbench is started.

CLI	Starts the Shell, the program that lets you communicate with the Amiga through typed commands. The Shell is fully explained in Chapter 7, "Introducing AmigaDOS." The CLI is not explained in this Chapter.
DiskCopy	Makes copies of disks.
FixFonts	Makes new fonts accessible to the system.
Format	Formats a floppy or hard disk.
NoFastMem	Temporarily disables any expansion RAM used by your Amiga. This is sometimes needed when using older programs that do not work properly if expansion RAM is present.
RexxMast	Must be running in order for programs that use the AREXX language to operate properly. A command to start RexxMast is part of the standard <b>Startup-sequence</b> (the file that is read when the Amiga is turned on or rebooted). You only need to open the RexxMast icon if you remove the RexxMast command from your Startup-sequence or if your computer doesn't have enough memory to load the program. RexxMast is not explained in this chapter.
SetMap	Tells the Amiga what keyboard you are using. You do not need to use SetMap if you have an American keyboard.

## AddMonitor



You must use AddMonitor if you want to use the display modes available with non-RGB style monitors, such as an A2024 or Multiscan monitor. To use AddMonitor you drag an icon for the type of monitor you want to use from the MonitorStore drawer on the Extras2.0 disk to the Monitors drawer on the Workbench2.0 disk.

There are icons in the MonitorStore drawer for A2024, Multiscan, PAL and NTSC monitors. The PAL and NTSC icons are for users who have monitors that support the video standard not used in their country.

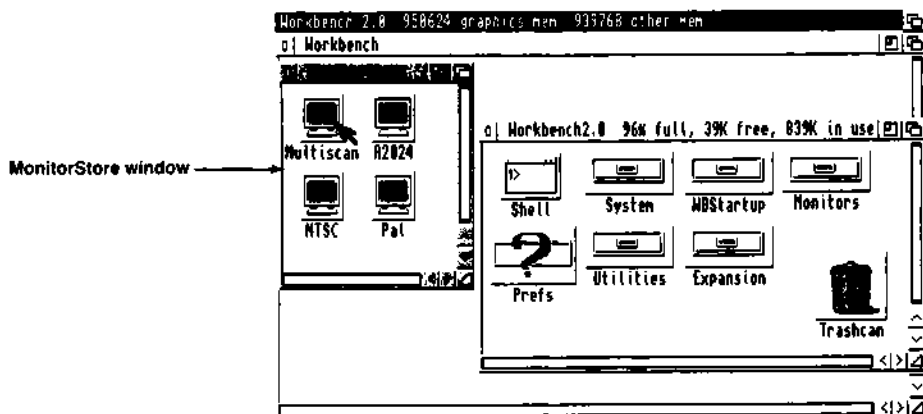
For instance, if you live in Europe and use a PAL Amiga, but have a monitor that also supports NTSC displays, you must put the NTSC icon into the Monitors drawer to make the NTSC display modes available to your system. If you have an NTSC system, you do not need to put the NTSC icon into the Monitors drawer; the NTSC display modes will be your default display modes.

**To copy the icon to the Workbench2.0 disk:**

- 1. Open the Workbench2.0 disk window.**
- 2. Remove the Workbench2.0 disk from the disk drive, insert the Extras2.0 disk, and open the Extras2.0 disk icon.**

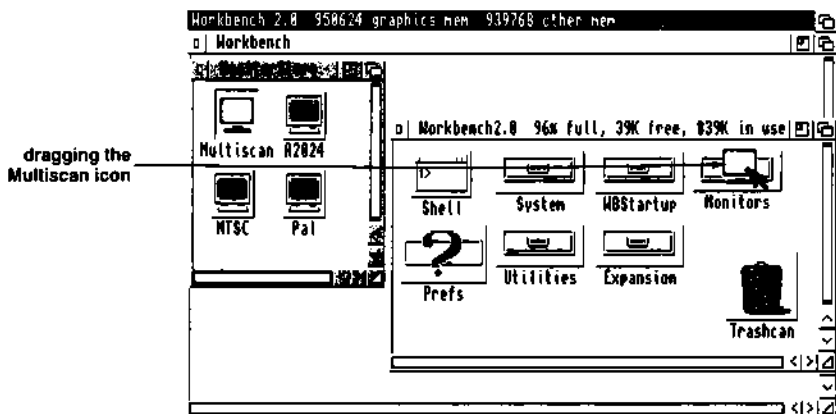
*NOTE:* If you have two disk drives, do not remove your Workbench2.0 disk. Just insert the Extras2.0 disk in the other drive, and open the Extras2.0 icon.

3. *Open the MonitorStore drawer in the Extras2.0 disk window.*



You can close the Extras2.0 disk window if you want to unclutter your screen.

4. *Drag the icon for your monitor type over the Monitors drawer in the Workbench2.0 disk window.*



A requester will appear asking you to insert the Workbench2.0 disk. You may have to swap between the Workbench2.0 and Extras2.0 disks until the file is completely copied.

*NOTE:* If you have two disk drives, you will not see this requester. The system will copy directly from one disk to the other.

Once the icon is copied, double-click on the monitor icon. The AddMonitor program will tell the Amiga that the monitor has been connected, and the corresponding display modes will be available through the ScreenMode editor (explained in Chapter 3, "Preferences.")

As long as the icon is in the Monitors drawer, AddMonitor will be run every time you boot your Amiga. You will not need to double-click on the monitor icon.

## **BindMonitor**

The Amiga's ROM (read-only memory) contains data to support the various display modes possible with the different types of monitors. However, ROM does not automatically recognize the display modes by name. For instance, a Hires display is 640 x 200/256 pixels, but ROM does not recognize the word Hires. It only recognizes the pixel configuration of 640 x 200/256.

BindMonitor assigns names to the different display modes so that the system will associate the display mode with the appropriate name. To make things easier, there is a file called Mode\_Names in the WBStartup window. Mode\_Names already contains the assignments for all the possible display modes. As long as this icon is in your WBStartup drawer, the system will automatically be told the display mode names every time Workbench is loaded.



When you open the ScreenMode Editor in the Prefs drawer, the names assigned through BindMonitor [via the Mode\_Names file] will appear in the Choose Display Mode gadget. If Mode\_Names is ever removed from the WBStartup drawer, only the display modes, such as 640 x 200 or 1008 x 800, will appear in the ScreenMode window.



## **DiskCopy**

You can copy a disk by selecting the disk icon, holding down Shift, then double-clicking on the DiskCopy icon. The copy procedure will follow the same steps as if you had chosen the Copy menu item. A requester will notify you when it is time to swap disks.

The DiskCopy program is used by the Copy menu item in the Icons menu. If you simply double-click on the DiskCopy icon, you will be referred to the Copy menu item.



## **FixFonts**

FixFonts should be used after you have added or deleted fonts from your Fonts drawer. (The Fonts drawer does not have an icon associated with it; you have to use the Show All Files menu item in order to see the Fonts drawer on the Workbench.)

With a floppy disk system, the only font immediately available to you is Topaz. Topaz is stored in ROM. Other fonts are available in the Fonts drawer on the AmigaFonts2.0 disk, but to copy them to your Workbench2.0 disk, you would have to delete information from the disk to make room for them.

You should not delete files from the Workbench2.0 disk unless you are an experienced user. Instructions are given in Chapter 7, "Introducing AmigaDOS," for making room on the Workbench2.0 disk. If you do decide to modify your disk to make room for fonts, be sure to use a backup copy of your original Workbench2.0 disk.



The Fonts drawer contains a .font file and drawer for every font available to the Workbench. For instance, inside the Fonts drawer there is a .sapphire file and a Sapphire drawer which contain the data needed to create the different sizes of the Sapphire font.

Sometimes additional font files are supplied with word processing or desktop publishing software. The software usually includes instructions on adding the files to the Fonts drawer. After you add fonts to the Fonts drawer, FixFonts updates all the .font files so that they accurately reflect the current contents of the corresponding font drawers.

To use FixFonts, double-click on the FixFonts icon. FixFonts does not open a window.

## **Format**

You can format a disk by selecting the disk icon, holding down Shift, then double-clicking on the Format icon. The formatting procedure will follow the same steps as if you had chosen the Format Disk menu item.

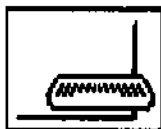
The Format program is used by the Format Disk menu item in the Icons menu. If you simply double-click on the Format icon, you will be referred to the Format Disk menu item.





## NoFastMem

Some very old programs may not run properly when memory other than graphics memory is present in the Amiga system. In this case, double-clicking on the NoFastMem icon forces the Amiga to use only the available graphics memory. The icon works like a toggle switch. To restore all memory to the system, double-click on the NoFastMem icon again.



## SetMap

SetMap allows you to select the correct **keymap** for your keyboard. A keymap tells the computer which character to register for each key on the keyboard. The default keymap stored in ROM is *usa*—a standard American keyboard. Additional keymaps are included on the Extras2.0 disk (in the Devs/Keymaps drawer).

Available Keymaps	
Keymap	Keyboard
cdn	French Canadian
chl	Swiss French
ch2	Swiss German
d	German
dk	Danish
e	Spanish
f	French
gb	Great Britain
i	Italian
is	Icelandic
n	Norwegian
s	Swedish
usa0	For programs developed with V1.0
usa2	Dvorak

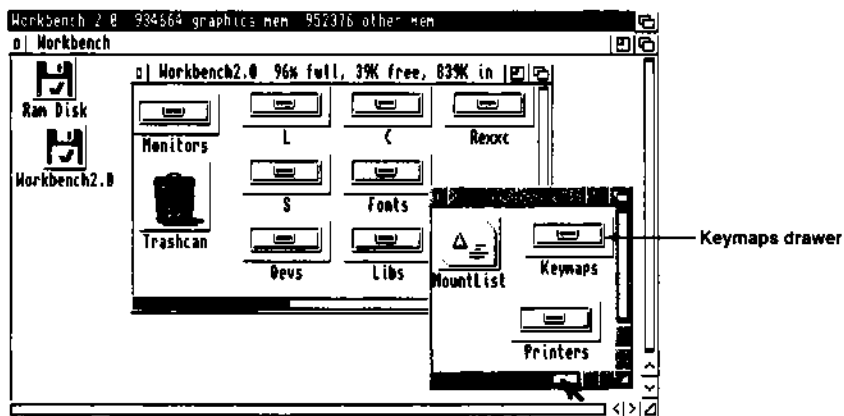
With a floppy disk system, you must copy the correct keymap from the Extras2.0 disk to your Workbench2.0 disk.

1. **Open the Workbench2.0 disk window, and select Show All Files from the Window menu.**

Additional icons will appear in the window. Look for the icon for the Devs drawer. You may need to scroll the contents of the window, or enlarge the window, to find the icon.

2. **Open the Devs drawer.**

A window will appear containing several files and two drawers: Keymaps and Printers. (You can safely close the Workbench2.0 disk window if you want to unclutter the screen.)



3. **Remove the Workbench2.0 disk from the disk drive, insert the Extras2.0 disk and open the Extras2.0 disk icon.**

**NOTE:** If you have two disk drives, do not remove your Workbench2.0 disk. Just insert the Extras2.0 disk in the other drive, and open the Extras2.0 icon.

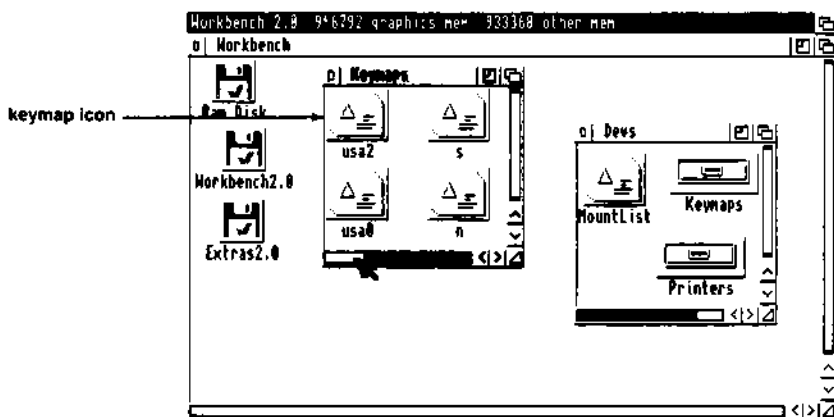
4. **Select the Extras2.0 disk window, and choose Show All Files from the Window menu.**

Just as with the Workbench2.0 disk window, an icon for the Devs drawer will appear.

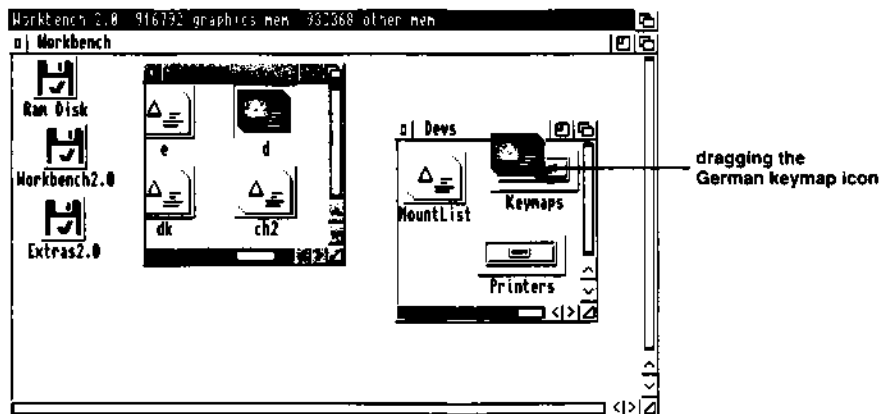
5. **Open the Devs drawer in the Extras2.0 disk window, then open the Keymaps drawer that appears in the Devs window.**

You can close the Extras2.0 disk window and the Extras2.0 Devs window if you want to unclutter the screen. The only windows that need to be open are the Workbench2.0 Devs window and the Extras2.0 Keymaps window.

There will be several icons in the Keymaps window. These icons represent the various keymaps for the different keyboards used throughout the world.



6. Find the icon that represents the correct keyboard for your use.
7. Drag the correct Keymap icon out of the Extras2.0 Keymaps window and over the Keymaps drawer in the Workbench2.0 Devs window.



A requester will appear asking you to insert the Workbench2.0 disk. You may have to swap between the Workbench2.0 and Extras2.0 disks until the file is completely copied.

**NOTE:** If you have two disk drives, you will not see this requester.

*The angle brackets indicate that information, in this case a file-name, must be substituted. Do not type the brackets.*

## **Adding a Tool Type**

Once the correct keymap is in the Keymaps drawer, you should add a Tool Type to the SetMap icon's Information window to notify SetMap of the new keymap file. The format is `KEYMAP=<file>`. For example, to enter the keymap for a German keyboard:

- 1. Select the SetMap icon, then choose Information from the Icons menu.***

The SetMap Information window will appear on the screen.

- 2. Select the New gadget.***

A cursor will appear in the text gadget.

- 3. Type:***

`KEYMAP=d`

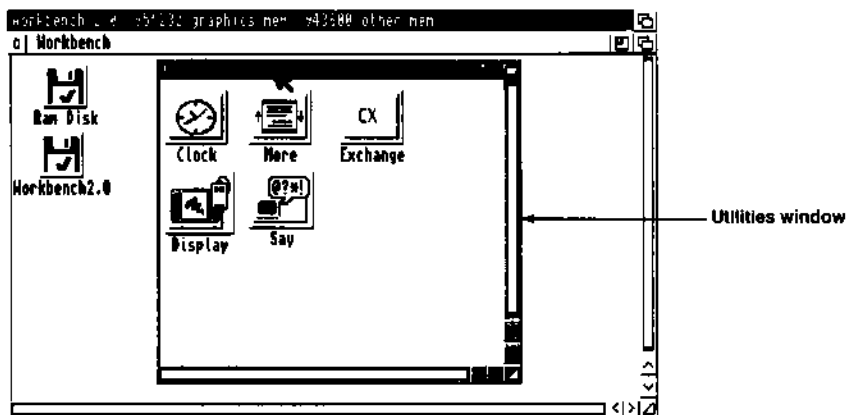
Press Return, and the new Tool Type will appear in the Tool Types scrolling list.

- 4. Select the Information window's Save gadget.***

To implement your change, double-click on the SetMap icon. You can have SetMap run automatically every time you boot your system by dragging the SetMap icon into the WBStartup drawer. (This is fully explained in "The WBStartup Drawer" section on page 4-33.)

## The Utilities Drawer

The Utilities drawer contains some basic programs that you may want to use while working with your Amiga.



The programs are listed below:

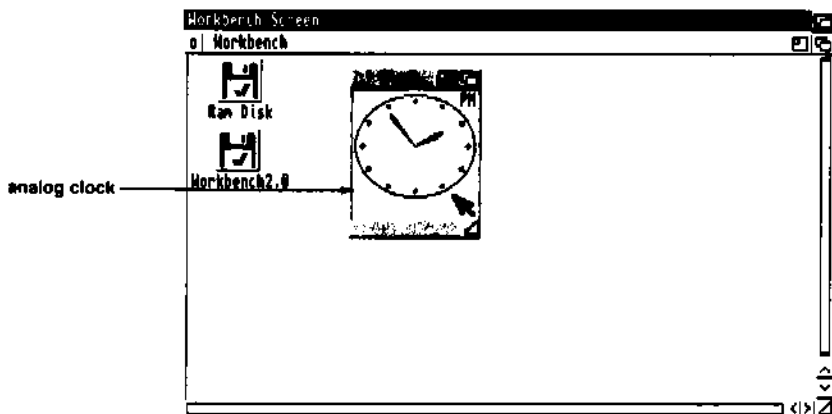
Clock	Displays a clock on the Workbench screen.
Display	Displays an IFF graphics file.
Exchange	Monitors and controls the Commodities Exchange programs on the Extras2.0 disk.
More	Displays the contents of text files on the screen.
Say	Makes the Amiga talk.

Each of these programs is explained in this section.



## Clock

The Clock lets you display the time on your Workbench screen. You can also use it as an alarm clock to signal you at a specified time.

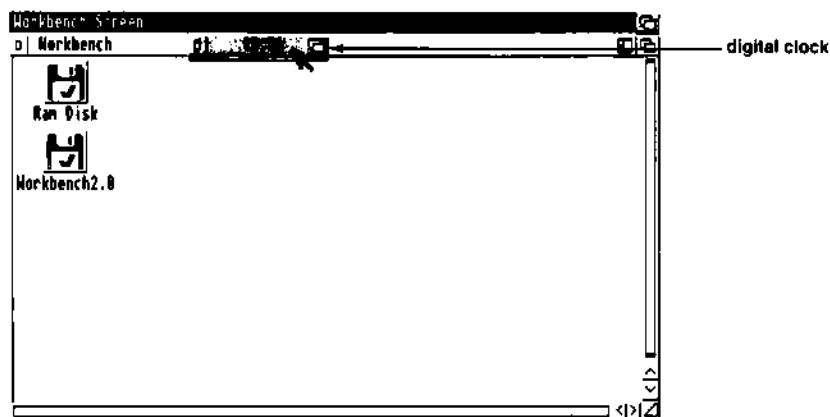


When you open the Clock icon, a window with a round clock face appears. If the time shown is incorrect, use the Time editor in the Prefs drawer to set the clock (see Chapter 3).

When the Clock window is selected, menus are available that let you change to a digital display, change the way the time is shown, and set the alarm.

### The Type Menu

This menu lets you change the way the clock is displayed. If you choose Analog, the round clock appears. (This is the default.) This is the only mode that lets you change the size of the Clock window. If you choose Digital, a digital clock the height of the title bar appears.



## The Mode Menu

This menu lets you choose a 12-hour or 24-hour clock. If you choose the 12 Hour menu item, AM or PM is shown after the time. If you choose 24 Hour and a digital display, time is displayed as 0:00 (12:00 AM or midnight) through 23:59 (11:59 PM). 12 Hour is the default.

## The Seconds Menu

This menu lets you choose to display the seconds. If you choose the Seconds On menu item, a second hand appears on the analog display. In a digital display, the seconds are shown after the minutes (11:36:04). Seconds Off is the default.

## The Date Menu

This menu lets you choose to display the date. If you choose the Date On menu item, the date is shown underneath the analog clock. If you are using the digital clock, the date and time will be alternately displayed. Date Off is the default.

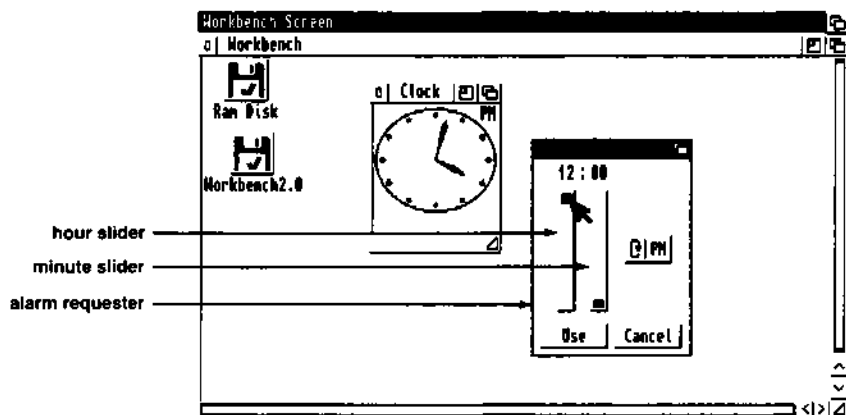
## The Alarm Menu

With this menu, you can tell the Amiga to signal you at a certain time. The signal is a brief flash on the display. If your monitor is hooked up to the Amiga's audio output, you will also hear a short tone.

To set the alarm:

1. *Choose the Set menu item.*

In the requester that appears, time is shown in the same mode as your clock — either 12 Hour or 24 Hour. If it is shown in 12 Hour mode, an AM/PM cycle gadget will appear next to the time sliders.



The requester defaults to 12:00. It does not reflect the currently set time.

2. *To change the time setting, use the hour and minute sliders.*

Use the mouse to drag the bars up or down until the correct time is displayed at the top of the sliders.

3. **When the requester displays the desired alarm time, select the Use gadget.**

If you want to restore the previous alarm setting, select the Cancel gadget.

4. **To turn the alarm on, choose the Alarm On menu item.**

When the clock reaches the alarm setting, the screen will flash and a short tone will sound.

The alarm will remain on and will flash at the same time each day, until you choose Alarm Off. If the Clock is not displayed, the alarm will not work. The next time you open the Clock, you will have to reset the alarm.

## Tool Types

By entering Tool Types in the Clock icon's Information window, you can save the menu, size and position settings so that the Clock will open as you want it every time. The acceptable Tool Types are:

DIGITAL	The clock will open in digital mode.
24HOUR	The clock will open in 24-hour mode.
SECONDS	The clock will display the seconds.
DATE	The clock will display the date.
LEFT = <n>	The clock will open <n> pixels from the left edge of the screen.
TOP = <n>	The clock will open <n> pixels from the top of the screen.
WIDTH = <n>	The clock will be <n> pixels wide (disregarded if using a digital clock).
HEIGHT = <n>	The clock will be <n> pixels high (disregarded if using a digital clock).

*The angle brackets indicate that information, in this case a number, must be substituted. Do not type the brackets.*



## Display

Display allows you to view graphic files saved using the standard Amiga IFF ILBM format. Most graphics created with standard Amiga paint programs save files in this format. You can create a slide show with Display by specifying multiple files to be shown. You can advance from one picture to the next automatically, or you can tell Display to wait for a mouse click.

**To display a single picture file:**

1. **Select the Display icon.**
2. **Hold down Shift, and double-click on the icon of the picture file.**

The file will be displayed on a new screen.

To return to the Workbench screen, press Ctrl-C. You can also click on the hidden close gadget in the upper left corner of the screen.

An alternative method is to add a Default Tool to the picture icon's Information window. If you do this, you will be able to display the picture by opening its icon.

1. **Select the picture icon, then choose *Information from the Icons* menu.**

An Information window will appear.

2. **Select the *Default Tool* text gadget.**

A cursor will appear in the gadget. Delete any existing text.

3. **Type in the path to the Display program as the picture's default tool.**

Be sure to specify the complete path, such as Workbench2.0:Utilities/Display.

#### 4. Select the Save gadget.

If you open the picture icon, the Display program will be run, and the picture will be displayed.

To display multiple files:

1. *Select the Display icon.*
2. *Hold down Shift, and select the icons for the picture files you want to display.*
3. *When you get to the last picture file, double-click on its icon.*

The first picture file will be displayed. Press Ctrl-C to advance to the next picture. To exit Display before all the pictures are shown, press Ctrl-D.

You can also create an ASCII text file containing a list of the IFF files that you want to display. This "filelist" can be created with one of the Workbench text editors, ED or MEMacs, or with any word processor that allows you to save files in ASCII format. For instance, a sample file might look like this:

```
PicsDisk:Art/Sea  
PicsDisk:Art/Mountain  
PicsDisk:Art/Sky  
PicsDisk:Art/Lightning  
PicsDisk:Art/Gulls
```

*ASCII is a standard text format that can be read by many programs and computers.*

This indicates that the IFF files are in the Art drawer on a disk called PicsDisk. The filelist should be saved in a drawer accessible by the Workbench, and it should have a project type icon. (You can check this by opening the icon's Information window. If it is not a project, you can use the IconEdit program to change the icon's type. See Chapter 5 for instructions on using IconEdit.)

Open the filelist icon's Information window, and add the following Tool Type:

`FILELIST = true`

Select the Default Tool text gadget and enter the path to the Display program, for instance, `Workbench2.0:Utilities/Display`. This tells the system that the file is a project of the Display Tool. When you open the filelist icon, Display will automatically be run, and the pictures in the list will be displayed.

## **Tool Types**

Display supports several Tool Types for moving from one picture to the next. You can move forward by clicking the selection button or by specifying a certain amount of time for Display to wait before moving ahead. Several of these Tool Types are global, which means they must be added to the Information window for the filelist icon or for the Display icon. The global Tool Types are listed below:

<code>FILELIST = true</code>	Display all the pictures listed in the ASCII file.
<code>MOUSE = true</code>	Clicking the selection button displays the next picture file. Clicking the menu button displays the previously displayed picture.
<code>LOOP = true</code>	When Display has shown all of the selected picture files, it will loop back, or start over, with the first picture. This will continue until you press Ctrl-D.

BACK = true	The picture files will be displayed on a back screen. The Workbench screen will remain active and at the front of the display. This is useful when you are printing picture files while doing something else.
PRINT = true	Display will automatically print each file that is displayed. You can also print manually by pressing Ctrl-P while the picture is displayed on the screen.
AUTOSCROLL = true	If the screen is larger than the display area, the screen will scroll automatically when the pointer is positioned at the edge of the screen.
TIMER = <seconds>	Display will automatically advance from one picture to the next in the specified number of seconds. For instance, if you enter TIMER = 5, Display will automatically move ahead to the next picture after 5 seconds have passed.

*The angle brackets indicate that information, in this case a number, must be substituted. Do not type the brackets.*

The following Tool Types can be entered on a per-picture basis.

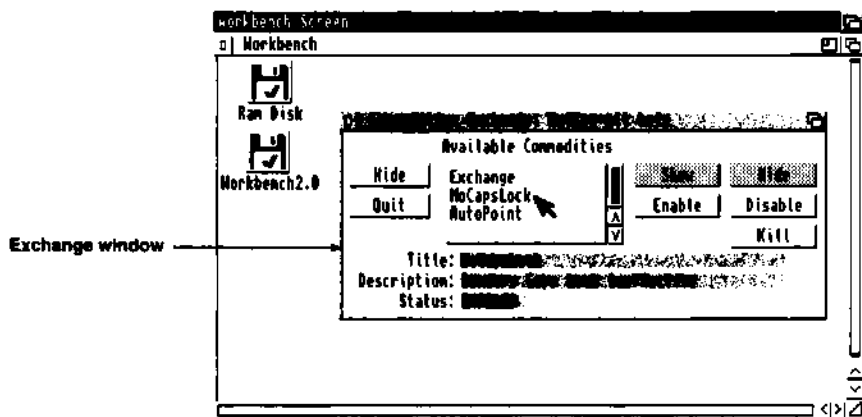
EHB = true	Unspecified, 6-bitplane pictures are treated as Extra Halfbrite rather than HAM.
NOTRANSB = true	Borders around the picture are not transparent when genlocked.
VIDEO = true	The picture file will be displayed with a full-video display clip.



## Exchange

Exchange lets you monitor and control the Commodities Exchange programs stored in the Tools/Commodities drawer on the Extras2.0 disk. (For more information on the individual Commodities programs, see "The Commodities Drawer" section of Chapter 5.)

When you open the Exchange icon, a window appears.



Any Commodities that have been opened will be displayed in the Available Commodities scroll gadget. When you select a Commodity from the scrolling list, information about that program appears beneath the gadget:

- Title        Shows the name of the selected Commodity.
- Description   Gives a brief description of the program.
- Status       Shows whether the program is enabled or disabled.

The gadgets to the right of the scroll window control the selected program. Exchange also has an Action menu that contains menu items corresponding to each of these gadgets.

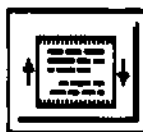
You can perform the same operation by choosing the menu item or using the menu item's keyboard shortcut.

The operations are explained below:

Show	Brings the window for the selected Commodity to the front of the screen. If the window is closed, Show automatically opens it.  If the selected Commodity does not open a window, this gadget will be ghosted.
Hide	Closes the window for the selected Commodity <i>but does not exit the program</i> . This is the same as selecting the window's close gadget or choosing the Hide menu item from a Commodity's menu.  If the selected Commodity does not open a window, this gadget will be ghosted.
Disable	Temporarily turns off a Commodity.
Enable	Turns a Commodity back on if it has been disabled.
Kill	Exits the currently selected Commodity program. If the program has a window, selecting the Kill gadget is the same as choosing the Quit menu item.

The gadgets to the left of the Available Commodities scroll gadget control the Exchange window. There are corresponding menu items in Exchange's Project menu. These operations are explained below:

Hide	Closes the Exchange window, but the program continues to run.
Quit	Shuts down Exchange so that it is no longer monitoring the other Commodities.



## More

More allows you to display ASCII text files on the Workbench screen. To run More, select the More icon, then while holding down Shift, double-click on the text file icon. If the text file does not have an icon, use the Show All Files menu item in the Window menu to display a pseudo-icon for the text file.

You can also run More without specifying the text file by double-clicking on the More icon. In this case, a file requester will ask you for the complete path to the text file you want to read. This file requester contains a pattern gadget that allows you to view all the files that match the specified pattern. Pattern matching is fully explained in Chapter 7, "Introducing AmigaDOS."

A typical More display looks like this:

```
c:\setpatch >NIL:
c:\version >NIL:
c:\addbuffers >NIL: df0: 15
Fail at 21
resident >NIL: c:\list pure add
resident >NIL: c:\copy pure add
resident >NIL: c:\assign pure add
resident >NIL: c:\execute pure add
makefile ram:t ram:clipboards
copy >NIL: C:\VARC: ram:env all quiet noreq
assign ENV: ram:env
assign T: ram:t ;set up T: directory for scripts
assign CLIPS: ram:clipboards
assign REXX: s:
if exists sys:Monitors
join sys:monitors/(\?.info) as t:non-start
execute t:non-start
endif
iprefs
echo "Amiga System Software 2.0 Kickstart %Kickstart, Workbench %Workbench"
BindDrivers
-----More-----
```

The message at the bottom of the window, --- More (60%) ---, indicates the percentage of the file viewed so far.

To move through the display, use the following key sequences:

Space bar	Displays the next page.
Backspace	Displays the previous page.
Return	Displays the next line.
<	Displays the first page.
>	Displays the last page.
%n	Displays approximately n% into the file; if you type %60, you will be moved 60% into the file.
Ctrl-L	Refreshes the window.
/text	More will perform a case-sensitive search for the text specified after the slash (/).
.text	More will perform a case-insensitive search for the text specified after the period (.).
N	Finds the next occurrence of the previously searched for text.
H	Help (displays a list similar to this one).
Q	Exits the program.
Ctrl-C	Exits the program.
Shift-E	Allows you to edit the file using the editor set in ENV:editor (see Chapter 7 for more information on environment variables).

A case-sensitive search means that More will look for the text exactly as it is entered. If you type the text in capital letters, More will only look for occurrences of the text that appear in capital letters.

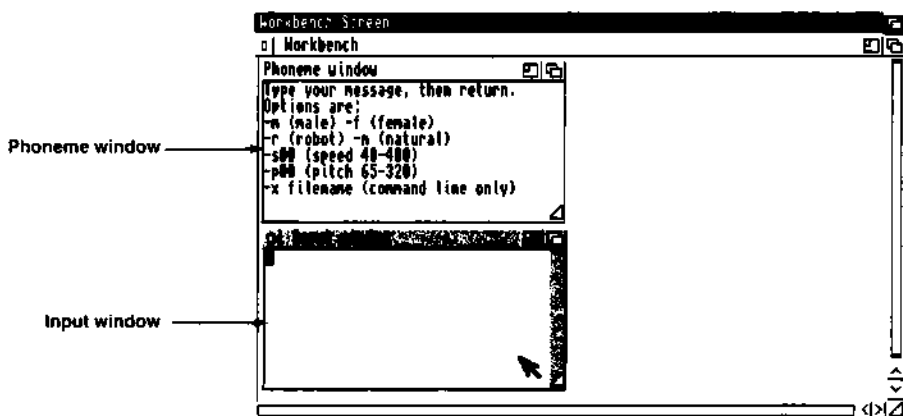
A case-insensitive search means that it does not make a difference whether the text is entered in upper or lowercase letters. More will search for the text in any form.

When you reach the last page of the display, --- End of File --- is displayed at the bottom of the screen.



## Say

With Say, the Amiga can speak words typed on the screen. When you open the Say icon, two windows appear.



The top window is the Phoneme window, and the bottom window is the Input window. You enter text in the Input window, and the text is displayed phonetically in the Phoneme window and spoken through the Amiga's stereo output connectors.

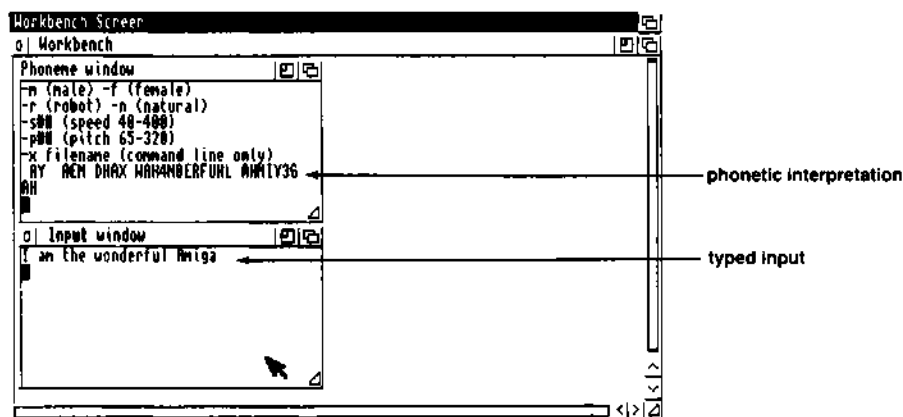
### To use Say:

1. **Select the Input window, then type a word, phrase, or sentence.**

If your text reaches the edge of the Input window, do not press Return. The text automatically wraps around to the next line.

2. **After you've entered your text, press Return.**

The Amiga will literally say the sentence, while at the same time the text will appear in the Phoneme window. This is the phonetic interpretation of your input.



In some cases, it may help to spell a word phonetically (as it sounds) to get the Amiga to repeat it correctly.

You can change the voice, pitch and speed of your Amiga's speech by choosing any of the different options shown in the Phoneme window.

*Say only understands English phonetics. To have the Amiga pronounce other languages, the input words must be spelled according to English pronunciation rules. For instance, the German phrase "die Weite" should be spelled "dee Vytah" for more correct pronunciation.*

1. **Select the Input window.**
2. **Type the letter, or letters, necessary to make your changes, and press Return.**

Your choices for voice and inflection are:

- |                 |                       |
|-----------------|-----------------------|
| -m male voice   | -r robot inflection   |
| -f female voice | -n natural inflection |

When you change the voice, you can also change the pitch so the change in the new voice is noticeable. Type-p followed by a number from 65 through 320—the higher the number, the higher the voice's pitch. Do not put a space between the p and the number.

To change the speed of the voice, type -s followed by a number from 40 through 400—the higher the number, the faster the voice speaks. Do not put a space between the s and the number.

For example, to use a deep male voice with a natural inflection that speaks at a moderate pace, select the Input window and type:

`-mn -s125 -p65`

Then press Return. Remember that the hyphen must be typed before the alphabetical option. Next, enter some text. When you press Return, the Say program will speak your text using the new options.

To exit the Say program, select the Input window's close gadget. You can also select the Input window and press Return without entering any text. Either of these actions will close both the Input and Phoneme windows.

## Tool Types

Say supports Tool Types for all the voice, pitch and speed options. Instead of entering the options in the Input window, you can enter them in the Say icon's Information window. This saves your selections so that they do not have to be re-entered each time you open Say. The Tool Types are:

<code>-m</code>	Male voice
<code>-f</code>	Female voice
<code>-r</code>	Robot inflection
<code>-n</code>	Natural inflection
<code>-p#</code>	Sets the pitch; # represents a number ranging from 65 through 320.
<code>-s#</code>	Sets the speed; # represents a number ranging from 40 through 400.

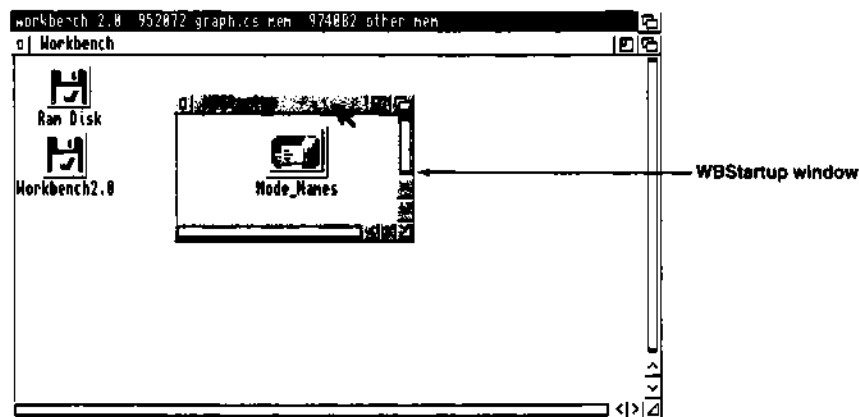
When you run Say, the options entered as Tool Types will be used, unless you specify other options in the Input window.

## The WBStartup Drawer

Any icons stored in the WBStartup window will be opened whenever the Workbench is started. For instance, if you drag the Clock icon into the WBStartup window, the Clock program will be run when you reboot, or power on, your Amiga.

If you are using a non-American keymap, you may want to put the SetMap icon into the WBStartup drawer. This way the correct keymap will be used each time you boot your Amiga.

The Mode\_Names icon will already be in the WBStartup window.



## Tool Types

The icons that are put into the WBStartup window support a few special Tool Types:

**DONOTWAIT** Normally the Workbench waits for one program to finish executing before it opens the next program. If you specify the

*The angle brackets indicate that information, in this case a number, must be substituted. Do not type the brackets.*

WAIT =  
<seconds>

STARTPRI =  
<priority>

DONOTWAIT Tool Type, the Workbench will open all the programs at once. DONOTWAIT does not take an argument.

If you do not specify the DONOTWAIT Tool Type, a requester may appear and state that the program has not yet returned. The system will ask you if it should wait some more. Select the No gadget in the requester to continue.

Lets you specify how many seconds the Workbench should wait before opening the next icon in the WBStartup window.

Lets you assign a priority to an icon so that it opens before, or after, other icons. By default, all icons have a priority of 0. The acceptable range is from -128 to +127—the higher the value, the higher the program's priority.

# **Chapter 5. The Extras Programs**

In Chapter 4, you learned about all the programs supplied on the Workbench2.0 disk. This chapter explains the programs found on the Extras2.0 disk, such as:

- Colors, which lets you change the colors of a screen
- GraphicDump, which prints entire screen images
- IconEdit, which lets you create and change icons
- KeyShow, which displays the keymap for your Amiga

When you are finished with this chapter, you should be comfortable with the Workbench system and with running programs through the Workbench.

*NOTE:* The Fountain program, contained in the System drawer, is explained in Appendix C.

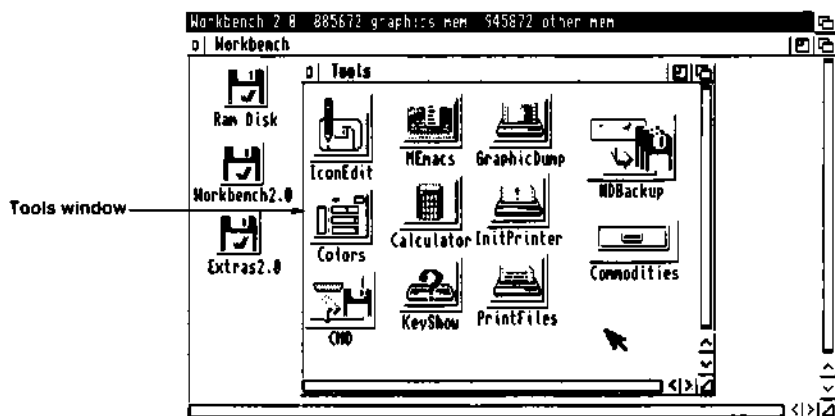
## **The MonitorStore Drawer**

This drawer contains icons for A2024, Multiscan, PAL and NTSC monitors. These icons represent projects used by the AddMonitor program (explained in Chapter 4) and provide an easy way for you to notify your system that you have attached one of these monitors.

See the "AddMonitor" section of Chapter 4 for full instructions on adding an A2024, Multiscan, PAL or NTSC monitor to your system.

## The Tools Drawer

The Tools drawer contains programs that expand your printing options, allow you to change the color of non-Workbench screens, even create new icons.



The programs are listed below:

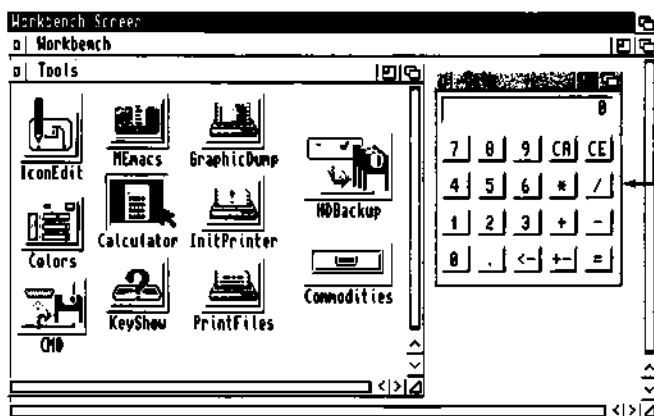
Calculator	A standard, four-function calculator.
CMD	Allows you to redirect printer output to a file.
Colors	Changes the colors of a non-Workbench screen.
GraphicDump	Allows you to print screen images.
HDBBackup	A hard disk backup and restore program. HDBBackup is covered in the documentation packaged with the Commodore hard drive.

IconEdit	Allows you to change and create icons.
InitPrinter	Initializes your printer.
KeyShow	Displays the current keymap.
MEmacs	A text editor, explained in Chapter 6.
PrintFiles	Sends files to the printer.

The programs in the Commodities drawer are explained starting on page 5-28.

## Calculator

The Calculator is a standard four-function calculator that you can use to add, subtract, multiply and divide. Open the Calculator icon, and the calculator appears.



Calculator window

It works like any standard calculator — you enter numbers and use the operations keys to reach an answer. The “buttons” on the calculator are gadgets. The numbered gadgets represent the digits 0 through 9. The non-numerical gadgets represent:

- CA Clear all previous entries. Resets the calculator to 0.
- CE Clear the current entry. If you make a mistake typing, select this gadget, and re-enter your value.
- Multiply
- / Divide
- + Add
- Subtract
- Decimal point
- <- Delete the last digit entered
- + - Change the sign of the current entry. Positive numbers become negative; negative numbers become positive.
- = Display the result of the operation.

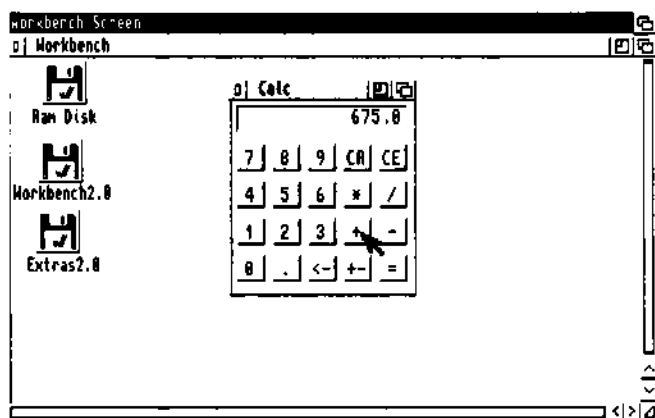
To press a button, select the gadget with the mouse or press the corresponding key on the keyboard. The <- sign corresponds to Backspace.

For instance, to add 675 and 916:

**1. Select the gadgets for 675 — 6, 7, and 5.**

As you select each gadget, the corresponding number will be displayed in the calculator window.

**2. Select the + gadget.**



3. Select the gadgets for 916 — 9, 1, and 6.

4. Select the = gadget.

The sum, 1591, will be displayed in the window.

To do the same calculation using the keyboard, you could just type 675, press +, type 916, then press Return. As you typed each number, it would be displayed in the calculator window.

To exit the Calculator, select the close gadget.

## CMD

CMD directs your printer output to a file. This is useful if you do not have a printer attached to your Amiga. You can capture your output on disk, then take the disk to another Amiga that is connected to a printer. You can also use it to save the images from GraphicDump [explained later in this chapter].

Before you can use CMD, you must tell the program some details about how your system is set up and where you want the printer output to be sent. This is done by adding Tool Types to the CMD icon's Information window.



As shipped, CMD is set to certain default Tool Types. If your choice is the default, you do not need to enter anything in the Tool Types window. The recognized KEYWORDS and arguments are:

*The angle brackets indicate that information must be substituted. Do not type the brackets.*

DEVICE = <port>    The Amiga port where your printer is attached, either parallel or serial.  
DEVICE = parallel is the default.

FILE = <filename>    This is the name of the file where you want the printer output to be sent.  
FILE = ram:CMD\_file is the default.

SKIP = true    This tells CMD to skip any short initial write. Sometimes, especially with screen dumps, the first write sent to the printer is a printer reset. You can use SKIP = true to ignore that first write.

The default is SKIP = false—initial writes are not skipped.

MULTIPLE = true    This tells CMD to intercept more than one file.

The default is MULTIPLE = false—only one file is redirected.

NOTIFY = true    This tells CMD to display progress messages.

When CMD intercepts the file, a typical message that may appear is:

Redirected <# of bytes> from  
parallel.device to <filename>

After the output is sent to the file and CMD is turned off, another message may state:

CMD redirection of parallel.device removed

The default is NOTIFY = false—  
messages are not displayed.

To use CMD, double-click on its icon. The next time you send information to your printer, it will be sent to the designated file instead.

## Colors

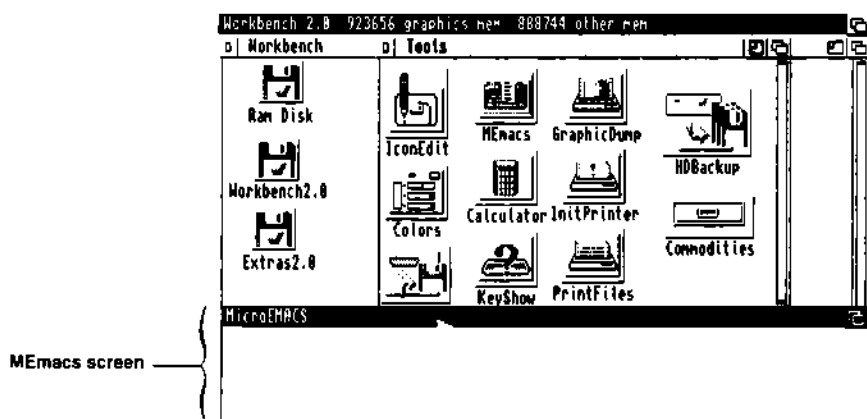
Colors lets you change the colors of a non-Workbench screen, such as a screen opened by an application program like a communications program or word processor. However, color changes made with Colors are only temporary. They cannot be saved to disk.

To change the colors of a screen, Colors must open on that screen. The following example will show you how to open Colors on the MEmacs screen. [Don't worry about using MEmacs at this point. It is fully explained in Chapter 6.]

- 1. Open the Tools window, and open the MEmacs icon.**  
MEmacs opens on another screen.
- 2. Drag the MEmacs screen down so that you can see the Tools window on the Workbench screen.**

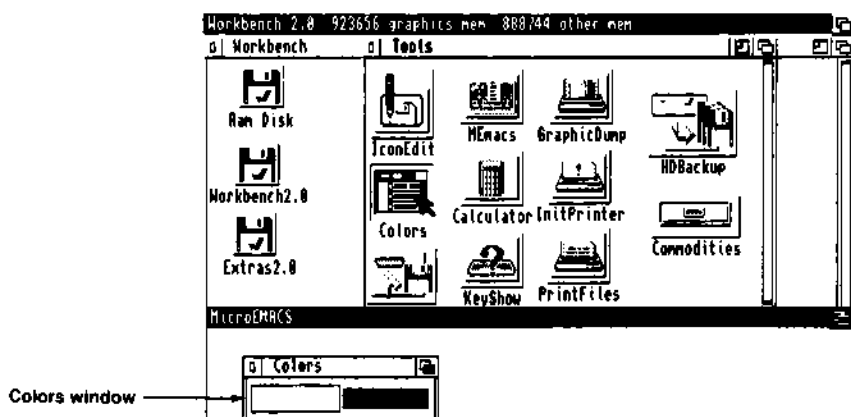
Point to the MEmacs title bar, hold down the selection button, and drag the screen down.





**3. Open the Colors icon in the Tools window.**

The Colors window will open on the front-most screen which will be the MEMacs screen.



**4. Drag the MEMacs screen back up to the top of the display.**

## Using Colors

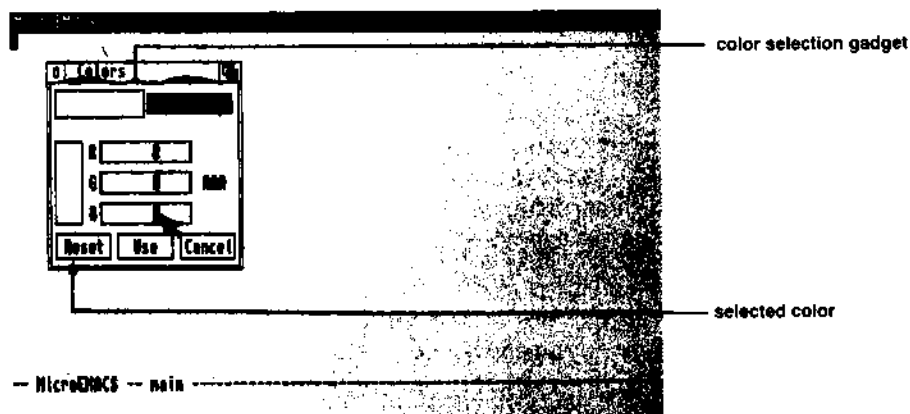
Just like the Prefs Palette editor, the Colors window contains color sliders that let you change the application screen colors. The number of colors is equal to the number of colors in the screen. In this example, the MEMacs screen is only made up of two colors, so Colors will only have two colors in its color selection gadget.

1. **Select the color you want to change from the color selection gadget.**

The selected color appears in the display box that runs along the left side of the Colors window.

2. **Use the color sliders to change the selected color.**

Drag the slider bars in the R (red), G (green), and B (blue) color sliders until you create the color you want.



To return to the original screen colors, select the Reset gadget. To implement your changes, select the Use gadget. Select the Cancel gadget to exit Colors without making any changes.

To exit MEMacs, click on the MEMacs screen and press Ctrl-C.



## GraphicDump

GraphicDump prints, or dumps, entire screens, including menus and icons, just as they appear on your monitor. Your printer must be capable of printing graphic images. Most dot-matrix printers can print GraphicDump output.

Before using GraphicDump, make sure the settings in the Printer and PrinterGfx editors are appropriate for your printer. You can specify the dimensions of the printout with the Limits setting in the PrinterGfx editor. Otherwise, the printout will be the full width allowed by the printer.

To use GraphicDump, double-click on its icon. In about ten seconds the front-most screen image will be sent to the printer. The ten second delay gives you time to open or close windows, display menus, or move screens.

### Tool Types

GraphicDump supports a SIZE Tool Type. The acceptable arguments for SIZE and the resulting size of the printout are:

SIZE = tiny	1/4 the total width allowed by the printer.
SIZE = small	1/2 the total width allowed by the printer.
SIZE = medium	3/4 the total width allowed by the printer.
SIZE = large	Full width allowed by the printer. (default)

The height of the printout is such that the perspective of the screen is maintained. The Limits Type gadget in the PrinterGfx editor must be set to Ignore for GraphicDump to recognize these arguments. Otherwise, the size of the printout is determined by the Limits setting.

To specify specific dimensions in a Tool Type, use:

SIZE = <xdots>:<ydots>

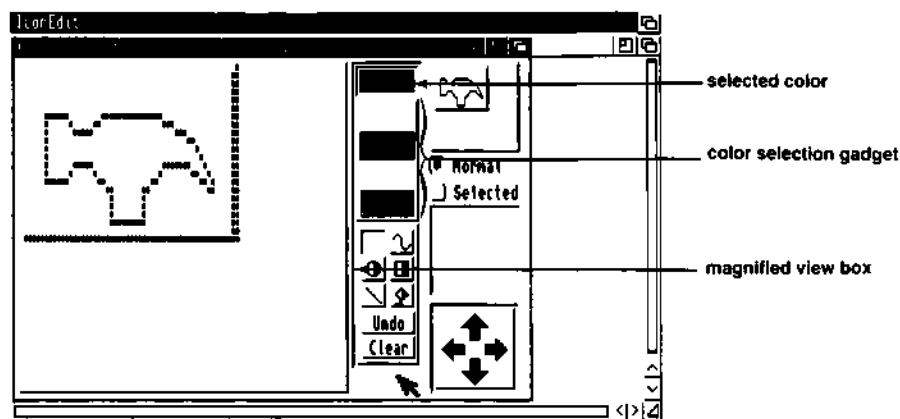
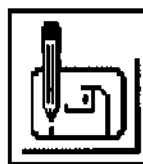
Substitute the width, in number of dots, for the <xdots> argument and the height for the <ydots> argument.

*Do not include the brackets around the numbers. They just indicate that a substitution must be made.*

## IconEdit

IconEdit lets you personalize your Workbench by changing the appearance of existing icons and creating new icons.

Open the IconEdit icon, and the following window appears:



Just as with the WBPatten and Pointer editors in the Prefs drawer, you can draw and edit an icon in the magnified view box. However, the IconEdit window also contains several gadgets to give you more control over your drawing, such as gadgets for drawing squares, circles, and straight lines.

### Color Selection Gadget

This gadget lets you select a color for drawing. In addition to the standard way of selecting a color by pointing to it and clicking the selection button, this color selection gadget also allows you to choose two colors at once.

To create a “checkerboard” pattern, select the first color, hold down Shift, then select the second color. If you were to create a solid box or circle, it would be filled with dots of both colors.

To create a pattern of vertical bars, select the first color, hold down Alt, then select the second color.

**Keyboard shortcut:** Press P to cycle forward through the colors. Press Shift-P to cycle through dithered patterns using the background color. Press / to reset the color to a solid pattern.

## **Magnified View Box**

You use the mouse to draw your icon in this box. Click the selection button, and a pixel of the selected color will appear. Hold down the selection button while moving the mouse, and you can draw with the mouse.

The pointer turns into cross hairs when it is in the magnified view box. The center of the cross hairs is where the new pixels appear. Pixel coordinates also appear in the IconEdit window title bar to help you with the placement of your images.

## **Freehand Gadget**



This gadget allows you to draw unstructured shapes very quickly. If you select this gadget, then draw in the magnified view box, the pixels will quickly fill in as the mouse passes over them. However, you may not get a continuous line, and some pixels may not be filled in. This gadget is useful when you just want to sketch an icon, then go back and fill in the details later.

**Keyboard shortcut:** Press S to select the freehand gadget.

## Continuous Freehand Gadget



This gadget is very similar to the freehand gadget except that you will always get a continuous line. However, in order to achieve a continuous line, you cannot draw as fast as you can when using the freehand gadget. The pixels will not be continually filled in as you move the mouse. There may be a delay before the display catches up with your movement.

**Keyboard shortcut:** Press D to select the continuous freehand gadget.

## Circle Gadget



To draw a circle:

1. *Select the circle gadget.*
2. *Point inside the magnified box at the point where you want the center of the circle, hold down the selection button, and move the mouse.*

As you move the mouse, you'll draw a circle.

3. *Release the selection button when the circle is the size that you want.*

Selecting the right portion of the gadget lets you draw a filled circle. You can fill the circle with a dithered pattern, by selecting two colors from the selection gadget (as explained on page 5-12).

Selecting the left portion of the gadget lets you draw an outline of a circle. To double the thickness of the circle's outline, hold down Ctrl before releasing the selection button (step 3 above).

**Keyboard shortcut:** Press E for an outlined circle; Shift-E for a filled circle.

## Box Gadget



To draw a box:

1. *Select the box gadget.*
2. *Point inside the magnified box at the point where you want a corner of the box, hold down the selection button, and move the mouse.*

As you move the mouse, you'll draw a box.

3. *Release the selection button when the box is the size that you want.*

Selecting the right portion of the gadget lets you draw a filled box. You can fill the box with a dithered pattern by selecting two colors from the color selection gadget (as explained on page 5-12).

Selecting the left portion of the gadget lets you draw an outline of a box. To double the width of the box's outline, hold down Ctrl before releasing the selection button (step 3 above).

You can automatically draw a three-dimensional box like the type that surround the Workbench icons by holding down an Alt key while drawing a box outline. To draw an "unselected" box hold down left Alt. To draw a selected box, hold down right Alt.

**Keyboard shortcut:** Press R for an outlined box; Shift-R for a filled box.

## Line Gadget



To draw a straight line:

1. *Select the line gadget.*
2. *Point to the place where you want the line to start.*
3. *Hold down the selection button.*

**4. Move the mouse to where you want the line to end.**

**5. Release the selection button.**

As with the circle and box gadgets, you can double the thickness of the line by pressing Ctrl before releasing the selection button.

**Keyboard shortcut:** Press L to select the line gadget.

## Fill Gadget



You can use the fill gadget to fill an area of the magnified view box with the selected color. This is an easy way to change the color of a complete area. Assume there is an icon with text in it, and you want to change the color of that text. Simply select the new color, select the fill gadget, then move the pointer inside one of the letters and click the selection button. The letter will change to the new color.

**NOTE:** The fill gadget will not work on a dithered pattern.

**Keyboard shortcut:** Press F to select the fill gadget.

## Undo



Select Undo to cancel the last mouse action that took place in the magnified view box.

**Keyboard shortcut:** Press U to select the Undo gadget.

## Clear



Select the Clear gadget to erase the contents of the magnified view box. The magnified view box will fill with the currently selected color.

**Keyboard shortcut:** Press Shift-C to select the Clear gadget.

## **Normal/Selected Radio Buttons**

The Normal and Selected radio buttons let you switch between unselected and selected images for an icon. The normal image is how the icon will look when it is unselected. The selected image is how the icon will appear when you click on it.

When the Normal radio button is selected, any image drawn in the magnified view box will appear in the normal view box at the top of the window.

When the Selected radio button is selected, you can create the image that will appear when the icon is selected. You can only select this radio button when the Image menu item is chosen from the Highlight menu. (All the menus are explained later in this section.) Any image you create will appear in the selected view box.

**Keyboard shortcut:** Press Shift-S to select the Selected radio button; Shift-N for the Normal radio button.

## **Arrows**

The arrows let you shift your image. By pointing to an arrow, and holding down the selection button, you can move the image in the magnified view in the direction of the arrow. You can use these arrows to control the placement of your image within the box surrounding the finished icon.

**Keyboard shortcut:** Press the corresponding cursor key to move the image.

## **The Project Menu**

The items in the Project menu let you open and save icon files.

### **New A N**

Loads the default icon for the currently chosen type of icon. (The type of icon is determined by the Type menu, see page 5-18.) If you have made any changes to the window that have not been saved, a requester will ask you if you want to save those changes.

### **Open . . . A O**

Opens an existing icon file. A requester appears so that you can enter the name of the file that you want to open.

### **Save A S**

Saves an existing icon file, overwriting the file. For instance, if you opened a file called TestIcon, then you made changes to that icon, choosing Save would save those changes to the TestIcon file. The previous contents will be lost.

### **Save As . . . A A**

Assigns a filename to the current image. A requester lets you enter the name of the file where you want the image to be saved.

### **Save As Default Icon A D**

Saves the current image as the default icon used when you choose the Show All Files menu item in the Workbench Window menu or the New menu item in the IconEdit Project menu.

For instance, if you create a drawer icon, then choose Save As Default Icon, that icon will be used to represent drawers when you choose the Show All Files menu item.

### **Quit A Q**

Exits the IconEdit program. If you have not saved the current image, a requester will ask if you want to save the image before exiting IconEdit.

## **The Edit Menu**

The items in the Edit menu allow you to import IFF ILBM clips that were created with other paint packages. To do this IconEdit uses the **clipboard**, an area of memory that is used to store text and graphics while they are being transferred between programs.

### **Cut** **A X**

Deletes the image in the magnified view box and copies it to the clipboard.

### **Copy** **A C**

Copies the image in the magnified view box to the clipboard.

### **Paste** **A V**

Copies any image in the clipboard to the magnified view box, replacing the current contents.

### **Open Clip...**

Copies an existing IFF file into the clipboard. A requester appears so that you can enter the name of the file you want to open.

### **Save Clip As...**

Saves the current contents of the clipboard to a specified file.

### **Show Clip**

Displays the contents of the clipboard using the Display program. If the Display program cannot be found, for instance, if the Workbench2.0 disk is not in a drive, Show Clip will not work.

## **The Type Menu**

The items in the Type menu allow you to specify the type of icon you are changing or creating.

### **Disk** **A 1**

Represents the disk icons that appear in the Workbench window.

**Drawer** **A 2**

Represents the drawer icons that appear in a disk window, such as the Utilities or Tools drawer.

**Tool** **A 3**

Represents a tool, such as the Calculator, Clock or IconEdit program.

**Project** **A 4**

Represents a project, an icon that has been created by a tool, such as the Mode\_Names icon or any of the icons in the MonitorStore drawer.

**Garbage** **A 5**

Represents the Trashcan drawer.

**The Highlight Menu**

The items in the Highlight menu allow you to determine how an icon will appear when it is selected.

**Complement** **A 7**

Highlights the entire icon, including the background of the box surrounding the icon. For instance, if you are using the default Workbench colors and the icon is surrounded by a field of grey, the grey will become blue when the icon is selected.



unselected



selected

**Backfill****A8**

Highlights the icon, but not the background of the box. For instance, if you are using the default Workbench colors and the icon is surrounded by a field of grey, the grey will remain grey when the icon is selected.



unselected



selected

**Image****A9**

Creates an entirely different image for the selected icon (an animated icon). For instance, the drawer icons on the Workbench are animated. When you select a drawer, it does not change color. Instead an entirely new image of an open drawer appears.

**The Images Menu**

The items in the Images menu let you manipulate the images in the normal and selected view boxes and import IFF images created with other graphic programs.

**Exchange****AE**

Swaps the images that appear in the normal view and the selected view.

**Copy****AC**

Copy is dependent on which radio button is selected. If Normal is selected, the image in the normal view is copied to the selected view. If the Selected radio button is selected, the image in the selected view is copied to the normal view.

**Use Template**

Copies a box the same size as the standard Workbench icon box into the magnified view. You can then create your new icon within this box.

**Load**

Loads previously saved images. When you point to the Load menu item, a submenu appears. The available submenu items are:

***Normal Image* AY**

Loads the unselected image of the specified icon into the normal or selected view box, depending on which radio button is selected.

***Selected Image* AU**

Loads the selected image of the specified icon into the normal or selected view box, depending on which radio button is selected.

***Both Images* AI**

Loads both the normal and selected images of the specified icon into the appropriate view boxes.

***IFF Brush* AJ**

Allows you to load an IFF file created by another program as either the normal or selected view, depending on which radio button is selected.

When you choose an item from the submenu, a requester appears to allow you to specify the file that you want to load. You must specify the correct drawer and filename.

***Save IFF Brush* AK**

Saves an image as an IFF file.

***Restore* AR**

Returns the IconEdit window to the state it was in when you opened the window or last selected New or Open.

## The Extras Menu

The items in the Extras menu control a few miscellaneous features of IconEdit.

### Recolor

**A M**

Switches the colors of any pixels using the second and third colors in the color selection gadget. By default the second color is black and the third color is white. If you are using the default colors, choosing Recolor will make all white pixels black, and vice versa.

### Auto TopLeft

**A T**

Moves the image to the upper left corner of the magnified view box.

### Color Palette...

Opens the Preferences Palette editor so that you can change the default colors.

## The Settings Menu

The items in the Settings menu allow you to save various IconEdit options.

### Use Grid

When Grid is chosen, each pixel in the magnified view box is distinct. You can see the background color surrounding each pixel. A check mark next to the menu item indicates that this option is turned on. When Use Grid is not chosen, the pixels blend together smoothly. The default is for the grid to be on.

### Save Icons?

If Save Icons is chosen and you save the contents of the magnified view box with the Save IFF Brush menu item, an icon will be saved with the IFF file. If Save Icons is not chosen, no icon will be saved. The default is for icons to be saved.

### Save Settings

Save Settings saves all of the current IconEdit settings, including the size and position of the IconEdit window and file requesters and all of the menu item settings.

## Tool Types

IconEdit supports the following Tool Types:

UNIT = <n>	Specifies the clipboard unit to use. 0 is the default.
XMAG = <n>	Allows you to enlarge the width of the magnified view box. XMAG accepts a number from 4 to 16. The default is 4.
YMAG = <n>	Allows you to enlarge the height of the magnified view box. YMAG accepts a number from 4 to 16. The default is 4.
LEFTEDGE = <n>	Specifies where to place the left edge of the editor window.
TOPEDGE = <n>	Specifies where to place the top edge of the editor window.
FRLEFTEDGE = <n>	Specifies where to place the left edge of the file requester, relative to the editor window. For instance, FRLEFTEDGE=0 will align the left edge of the file requester with the left edge of the editor window.
FRTOPEDGE = <n>	Specifies where to place the top edge of the file requester, relative to the editor window.
FRWIDTH = <n>	Specifies the width, in pixels, of the file requester.
FRHEIGHT = <n>	Specifies the height, in pixels, of the file requester.
PALETTE = <path>	Specifies the complete path to the Palette editor. This is used when the Color Palette menu item is chosen. The default is SYS:Prefs/Palette. You will only need to change this if you have moved your Palette editor.

SHOWCLIP = <path>	Specifies the complete path to the utility used to display the clipboard. The default is SYS:Utilities/Display. If you only have one floppy drive, you may want to copy the Display program onto your Extras2.0 disk, and change the path to reflect this. You could also change this Tool Type if you have another program you would rather use for displaying the clipboard.
NOICONS	Disables the creation of icons when saving support files, such as when saving a file as an IFF brush.
NOGRID	Disables the use of the grid in the magnified view box.
ICONDRAWER = <path>	Specifies the default drawer to be used by the file requesters that appear when the Open and Save As menu items in the Project menu are chosen.
ILBMDRAWER = <path>	Specifies the default drawer to be used by the file requesters that appear when the Load and Save IFF Brush menu items in the Images menu are chosen.
CLIPDRAWER = <path>	Specifies the default drawer to be used by the file requesters that appear when the Open Clip and Save As Clip menu items in the Edit menu are chosen.
ALTDRAWER = <path>	Specifies the default drawer to be used by the file requesters that appear when the Load menu item in the Images menu is chosen.
SRC	Creates a Save As C . . . menu item in the Project menu. This allows you to save the icon as C source code.

## InitPrinter

In Chapter 3, you learned how to use the Printer and PrinterGfx editors to specify your print options. InitPrinter sends the printer options to the printer. This is known as **initializing** your printer.

To use InitPrinter:

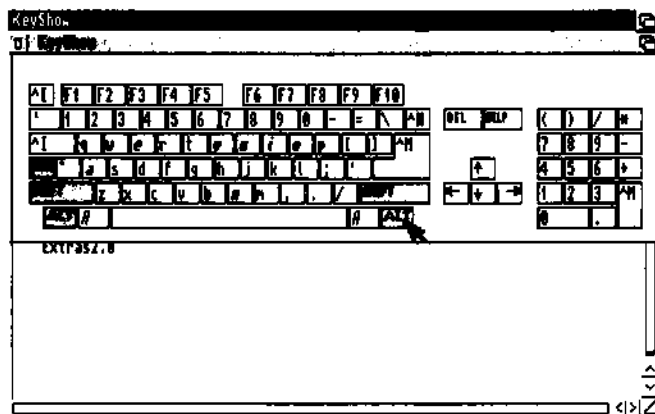
1. Turn on your printer.
2. Double-click on the InitPrinter icon.

You may hear your printer reset. This is normal. It just means that the printer is receiving the information from the Amiga and is processing it.



## KeyShow

The KeyShow program allows you to view the current keymap for your model of Amiga. When you open the KeyShow icon, the following window appears:



*This display shows a keyboard with a USA keymap. If you are using another keymap, your display may vary.*

The initial display shows the characters that appear when a key is pressed alone. For instance, the Q key shows a lower case q. However, when you press a **qualifier** key with a character key, you may get different output. For KeyShow the acceptable qualifier keys are Ctrl, Shift and both Alt keys.

To see the characters that are output when a qualifier key is pressed simultaneously with a character key:

**1. Select any of the qualifier keys that appear in the KeyShow window.**

The qualifier key will be highlighted to represent its being pressed. The KeyShow display will change to indicate the output that you get if you press the selected qualifier key along with a character key. You can select any combination of qualifiers and the display will change accordingly. Select the qualifier key again to return it to its unpressed state.

**Keyboard shortcut:** Instead of pointing to the qualifier key in the display, you can simply press the corresponding key on the keyboard.

The following list is a guide to interpreting the KeyShow display:

*These colors correspond to the default colors used by the Workbench.*

- Grey keys are qualifier keys not currently pressed. For example, when you first open the KeyShow window, Ctrl, Shift, and Alt appear in grey. This is because KeyShow is not using those keys in the initial display.
- Blue keys are **dead keys**. A dead key is one which modifies the output of the key pressed immediately afterward. For instance, on the USA keyboard, the Alt-G combination is a dead key representing the grave accent. If you press Alt-G, then press E, you will superimpose the accent symbol over the e [è].

**NOTE:** This multiple-key stroke procedure does not apply to Del, Help, the functions keys, or the cursor keys.

- **Bold-italics** indicate that a key may be used in conjunction with a dead key. In the above example, E can be modified by a dead key.
- **\$\$** indicates that it would take more than one character to define the key.
- If a character is preceded by a tilde (~) or a caret (^), it is a control character.
- Blank keys are undefined for the currently selected qualifier(s).

## PrintFiles

PrintFiles sends files to your printer. PrintFiles accepts multiple files, so you can use drag selection or extended selection to specify a series of files to be printed. If PrintFiles cannot find or open one of the files, it will skip it and go on to the next one.



### To use PrintFiles:

1. **Select the icon of the first file you want to print, hold down Shift and select the icons of any additional files you want to print.**

You can also use drag selection to select the icons.

2. **Hold down Shift, and double-click on the PrintFiles icon.**

When printing multiple files, you may want to add a form feed between each file. To do this add a **FLAGS=formfeed** Tool Type to the PrintFiles Information window.

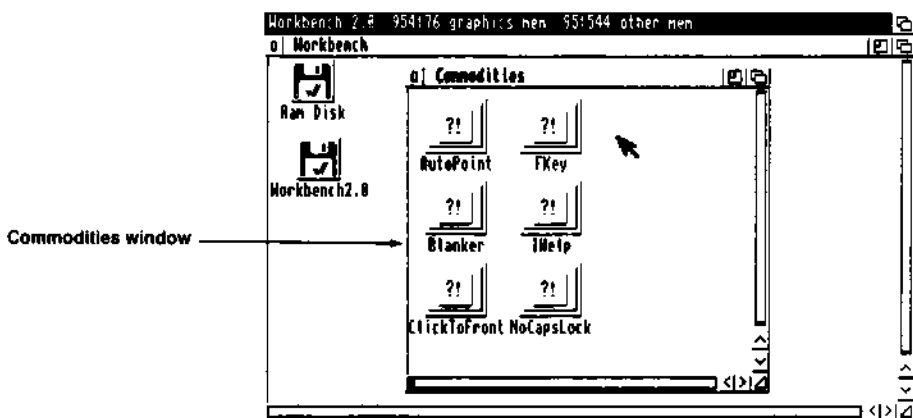
A form feed starts each file on a new page. Without a form feed, the next file will start printing immediately after the first file ends. For instance, if your first file stops in the middle of the page, the second file will start printing on that same piece of paper. If you add a form feed, the second file will begin on a new sheet.

## The Commodities Drawer

The Commodities drawer is in the Tools drawer and contains the Commodities Exchange programs. These programs monitor your keyboard and mouse input to the Amiga before Workbench or any other application programs, such as a paint program or communications program.

*Exchange is explained on page 4-27.*

The Exchange program in the Utilities drawer on the Workbench2.0 disk monitors and controls all the other Commodities programs, which are shown below:



- |              |  |
|--------------|--|
| AutoPoint    | Automatically activates the window under the pointer.                                    |
| Blanker      | Causes the screen to go blank if there has been no input for a specified period of time. |
| ClickToFront | Brings a window to the front of the screen by double-clicking in it.                     |
| FKey         | Lets you assign text to function keys.   |

**IHelp** Gives you keyboard control over certain operations usually performed by the mouse, like enlarging or shrinking windows.

**NoCapsLock** Temporarily disables the Caps Lock key.

All of the Commodities programs share a common Tool Type, **CX\_PRIORITY = <n>**, which assigns priorities to the Commodities Exchange programs. This priority is only relative to the other Commodities programs. All the programs are set to a default priority of 0. If you enter a Tool Type changing the priority to a higher value, that program will have priority over any other Commodities Exchange program.

*Be sure to include the underscore after CX.*

For instance, **IHelp** and **FKey** both allow you to assign operations to function keys. If both programs have an operation assigned to **F1**, the program with the highest priority will intercept the key first, making it unavailable to any other Commodities programs.

There are two Tool Types that only apply to programs that open a window, such as **Blanker** and **FKey**. **CX\_POPUP = no** prevents the program window from opening when the icon is opened. The program will be activated when you double-click on its icon, but its window will remain closed.

**CX\_POPKEY = <key>** determines the **hot key** for the program. When the hot key (or key combination) is pressed, the program's window is automatically brought to the front of the screen. If the window is hidden, it will be opened. The hot key does not start a program.

When specifying key combinations, leave a space between the two keys. For instance:

**CX\_POPKEY = F9**

**CX\_POPKEY = Shift F4**

**CX\_POPKEY = LShift LAlt LCommand X**

For a list of acceptable key combinations, see the chart on page 5-30.

**Acceptable Key Combinations**

When specifying key combinations for a Commodities Exchange program, you can use any of the function keys (F1 through F10) and any of the keys in the typewriter area of the keyboard (numbers, letters, symbols, etc.). However, keys from the typewriter area must be preceded by a qualifier. The allowable qualifiers are:

<b>Qualifier</b>	<b>Key</b>
Alt	either Alt key
RAlt	right Alt only
LAlt	left Alt only
Shift	either Shift key
RShift	right Shift only
LShift	left Shift only
LCommand	left Amiga
RCommand	right Amiga
Control	Ctrl
Numericpad	specifies a key on the numeric keypad
Rbutton	click the menu button
Leftbutton	click the selection button

Qualifiers can also be used before function keys, but it is not mandatory. You can use any combination of qualifiers, but it must be followed by a typewriter or function key. A qualifier is only recognized once in a combination, so a combination of:

LAlt RCommand LAlt F10

is the same as

LAlt RCommand F10

Some acceptable combinations are listed below:

Alt F6

LCommand 8

Control LShift Y

Leftbutton Control CapsLock =<sup>1</sup>

Numericpad 8<sup>2</sup>

<sup>1</sup>Click the selection button, then press Ctrl-Caps Lock =.

<sup>2</sup>Press the 8 in the numeric keypad. The 8 in the typewriter area will not satisfy the combination.

## AutoPoint

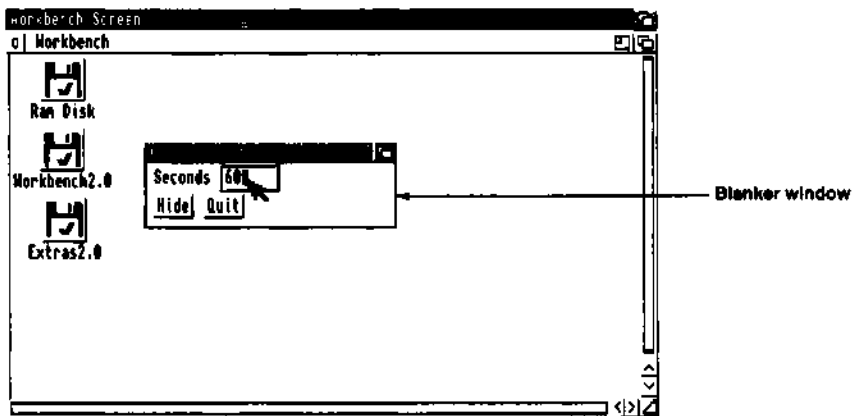
AutoPoint allows you to select windows without clicking the selection button. To start AutoPoint, double-click on its icon. AutoPoint does not open a window.

When AutoPoint is running, the system activates the window that is underneath the pointer. This eliminates the need to click the selection button.

The AutoPoint icon acts like a toggle switch. To exit AutoPoint, double-click on its icon again. You can also open the Exchange window, select AutoPoint from the scroll gadget, then select the Kill gadget.

## Blanker

When the Blanker program is operating, the screen will automatically go blank if no input has been received during a specified period of time. This helps preserve your monitor. The default time is 60 seconds. If you do not press a key or click a mouse button during a 60 second period, the screen will go blank. When you double-click on the Blanker icon, the following window appears:



To change the default time, select the Seconds text gadget, and enter the new value. To close the window, but not exit the program, select the Hide gadget. If you want to exit the program, select the Quit gadget. You can also choose the Hide and Quit menu items.

## Tool Types

*The angle brackets indicate that information must be substituted. Do not type the brackets.*

Blanker supports a SECONDS = <n> Tool Type that allows you to specify the number of seconds that will pass before the screen goes blank. For instance, to change the value to 30 seconds, enter SECONDS = 30.

## ClickToFront

ClickToFront allows you to bring a window to the front of the screen by holding down left Alt and double-clicking in the window. (The use of left Alt can be changed. See the "Tool Types" section below.) You do not need to select the window's depth gadget. To start ClickToFront, double-click on its icon. It does not open a window. (Remember, you can also put ClickToFront in the WBStartup drawer so that it is automatically started each time you boot.)

To exit ClickToFront, double-click on its icon again, or open the Exchange window, select ClickToFront from the scroll gadget, then select the Kill gadget.

## Tool Types

ClickToFront supports a QUALIFIER Tool Type. This allows you to specify a qualifier key that must be pressed while you double-click in the window you want to bring to the front of the screen. There are four acceptable key arguments:

Lalt	Left Alt—Default
Ralt	Right Alt
Control	Ctrl
None	No key

For instance, if you have specified QUALIFIER = Lalt and ClickToFront is activated, you would hold down left Alt and double-click in the window you wanted to bring to the front of the screen.

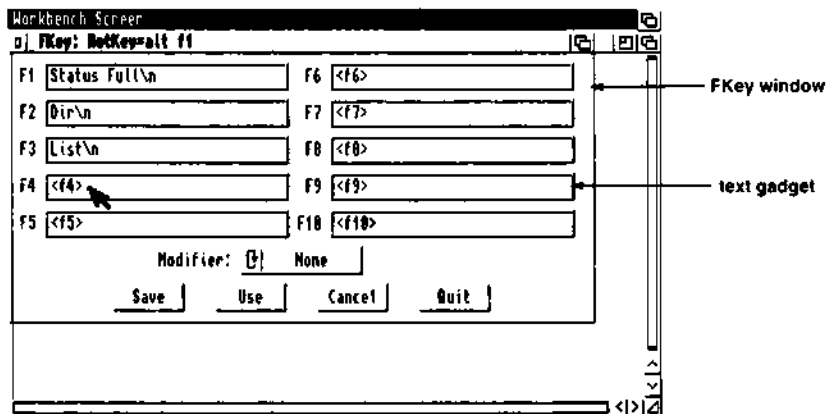
## FKey

FKey allows you to assign text to a function key. This is of particular interest to frequent Shell users as it eliminates repetitive typing of AmigaDOS commands.

FKey assigns the function keys to the specified text before the system or any other application accesses the key. Therefore, if your application uses function keys, you should disable or quit FKey when using that software.



When you open the FKey icon, the following window appears:



You can assign text to every function key and Shifted function key, giving you a total of 20 assignments. Notice that the first three function keys are already assigned to AmigaDOS commands. These are Status Full, Dir, and List, respectively. The output of these function keys is viewable through the Execute Command menu item or a Shell window. You can edit these text gadgets if you wish.

To enter text, select the appropriate text gadget in the FKey window, and type the text.

Some special characters supported by the text gadgets are:

- \n      Adds a Return. If the function key is linked to an AmigaDOS command and the \n is omitted, the command will appear in the Shell window, but you will have to manually press Return.
- \r      Adds a Return.
- \t      Adds a Tab.
- \0      Adds a zero.
- <key>      You can use angle brackets to enter key combinations; the combination must be prefaced by a qualifier.

There are several gadgets at the bottom of the FKey window. The Modifier cycle gadget determines whether the text is attached to the function key alone or to the combination of Shift and the function key. When None is displayed, the text is assigned to the function key alone. When the gadget displays the word Shift, text is assigned to the Shifted function key.

The four action gadgets allow you to enable or quit FKey:

- |        |   |
|--------|---|
| Save   | Enables FKey and permanently saves the text entered in the window. The text will be saved even after FKey is shut down.   |
| Use    | Enables FKey and temporarily uses the text in the window. When FKey is shut down, the current text will be lost, and FKey will revert to using any previously saved text. |
| Cancel | Enables FKey but ignores any recent changes made to the text. Only the last saved text is recognized.   |
| Quit   | Shuts down the FKey window disabling all function key assignments until the program is run again. This is the same as choosing the Quit menu item.                        |

The next time you start FKey, only the saved text will be present in the window.

## Tool Types

FKey supports a <Function Key> = <text> Tool Type which allows you to assign text to a function key. The acceptable values for <Function Key> are F1 through F10 and SF1 through SF10 for Shifted function keys.

The function key assignments mirror those made in the FKey window. If you enter text in the window, it will appear in the Tool Types gadget, and vice versa.

*The angle brackets indicate that information must be substituted. Do not type the brackets.*

## IHelp

IHelp allows you to use the keyboard, instead of the mouse, to perform certain operations usually performed by the window gadgets. To start IHelp, double-click on its icon. IHelp does not open a window.

The operations performed by IHelp, and the default function keys assigned to those operations, are listed below:

Cycle windows (Default—F1)	Brings the rearmost application window on the Workbench screen to the front of the screen and activates it. This only affects application windows opened by tools or projects, such as the Clock. Disk and drawer windows are not affected.
Enlarge window (Default—F2)	Enlarges the active window to its maximum size, taking into account the edges of the screen.
Shrink window (Default—F3)	Shrinks the active window to its minimum size.
Cycle screens (Default—F4)	Brings the rearmost screen to the front of the display.
Zoom window (Default—F5)	Zooms the active window just as if you had selected the window's zoom gadget.

To exit IHelp, double-click on its icon again, or open the Exchange window, select IHelp from the scroll gadget, and select the Kill gadget.

## **Tool Types**

You can change the default keys assigned to the IHelp operations by entering Tool Types in the IHelp icon's Information window. Each Tool Type takes a key argument. This argument is the key or key combination that you want to press to invoke the operation.

The acceptable Tool Types and the operations they correspond to are listed below:

CYCLE =	Cycle windows. For example, CYCLE = Shift C
MAKEBIG =	Enlarge active window. For example, MAKEBIG = Control Shift B
MAKESMALL =	Shrink active window. For example, MAKESMALL = RAlt S
CYCLESCEEN =	Cycle screens. For example, CYCLESCEEN = LShift Alt S
ZIPWINDOW =	Zoom active window. For example, ZIPWINDOW = RCommand Z

## **NoCapsLock**

NoCapsLock disables the Caps Lock key. The Shift keys still function normally, but you don't have to worry about accidentally pressing Caps Lock while using the keyboard.

To start NoCapsLock, double-click on its icon. It does not open a window. To exit NoCapsLock, double-click on its icon again, or open the Exchange window, select NoCapsLock from the scroll gadget, and select the Kill gadget.



## Chapter 6. MEmacs

MEmacs, which stands for MicroEmacs and is pronounced "M-E-MACS," is a screen-oriented text editor found in the Tools drawer of the Extras2.0 disk. A text editor has the basic functionality of a word processor, but it does not support style formatting options, such as italics, page numbering or font changes.

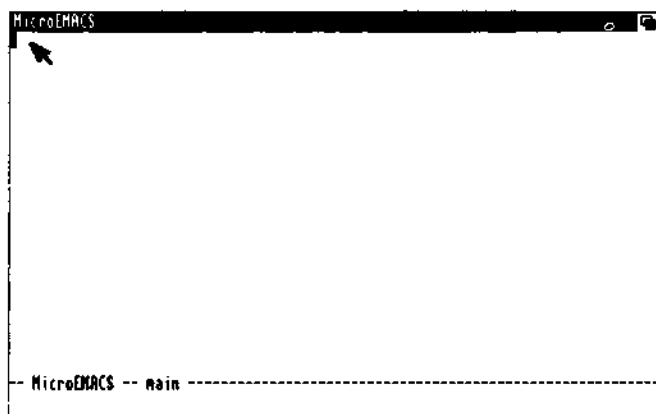
With MEmacs you can edit one or more files at the same time. However, each file must be able to fit into memory in its entirety, so you are limited by the amount of memory available to your system and the size of your files.

This chapter explains how to:

- start MEmacs
- move around the MEmacs screen
- use the menus for operations such as copying blocks of text or performing search and replace operations
- create **macros** to allow you to easily repeat complex operations

## Using MEMacs

To start MEMacs, double-click on the MEMacs icon in the Tools drawer of the Extras2.0 disk. A new screen will appear:



The bottom line of the screen displays the name of the **buffer** that is currently in use. A buffer is an area of memory (RAM) that MEMacs uses to store the text that you are editing. If you read an existing file into MEMacs to edit it, you do not change the contents of the file until you save your changes. All the edits are being made to a *copy* of the file that is in the buffer—the original file does not change.

When you first open MEMacs, the name of the buffer is *main*. You can have several buffers in use at one time, and you can see one or more on the screen at the same time. Menu options let you switch back and forth between them. At all times, what you see on the screen is what is actually in the buffer.

MEMacs has two modes of operations: normal and command.

When MEMacs is in normal mode, you can:

- move the cursor using the cursor keys
- move the cursor to the edge of the window by holding down Shift and pressing the appropriate cursor key
- move the cursor by clicking the left mouse button at the desired place on the screen
- insert characters at the current cursor position simply by typing them
- delete the character at the current cursor position by pressing Del
- delete the character to the left of the cursor by pressing Backspace

You can also perform other special functions as explained in the menu section and command summaries that follow.

When MEMacs is in the command mode, the cursor jumps to the bottom line of the display, and the program asks you for certain additional information. The command mode is entered through various menu items which are explained later in this chapter.

The length of the lines you can edit is limited to the right-hand edge of the screen, usually 80 characters. Characters beyond the right-hand edge are not lost; they simply do not show on the screen. The only way to see those characters is to break the line or to delete some of the displayed characters. When entering new characters, you can keep typing past the rightmost character on the line, but what you type will not show on the screen.

## Menu Commands

MEmacs has the following menus:

Project	Contains system and file-oriented items.
Edit	Contains buffer editing commands.
Window	Controls the characteristics of the MEmacs windows.
Move	Controls the placement of the cursor.
Line	Controls line-oriented operations.
Word	Controls word-oriented operations.
Search	Controls search and search/replace options.
Extras	Controls the numerical value of arguments, and lets you execute a series of operations as though it were a single special command.

This section explains each of these menus and their related commands. Each of the commands also has a keyboard shortcut. The shortcuts appear to the right of the menu item. In the menu, Ctrl is represented by a caret (^). For instance, the Rename menu item shows ^XF as its shortcut. You must press Ctrl-X-F.

In the manual, the keyboard shortcuts are shown along the right margin and the standard format for key sequences is used. However, if a symbol is shown, you must press Shift to create that symbol. For instance, the keyboard shortcut for the Set-Mark menu item is Ctrl-@. Since the @ symbol is created by pressing Shift-2, you must press Ctrl-Shift-2; Ctrl-2 will not work.

## The Project Menu

The commands in the Project menu, except for Visit-file, affect the buffer associated with the current cursor position.

### Rename

Ctrl-X-F

*Changes the name of the file associated with the current buffer.* This command is useful if you are saving versions of a program or text file as you go along. You can perform a Save command for the first version, modify a few things, rename the file associated with this buffer and then save the new version.

When you select Rename, MEmacs prompts:

New file name:

If you press Return without specifying a filename, the buffer becomes disassociated from any filename. You must specify a name here if you want the buffer to be appropriately associated with a file.

### Read-file

Ctrl-X-Ctrl-R

*Replaces the contents of the current buffer with the contents of a file.* When you select Read-file, MEmacs moves the cursor to the bottom line of the display and prompts:

Read file:

Enter the complete path to the file, including the volume name, directory, and file, then press Return. The file is read into the current buffer, overwriting the data that was stored there.

If you do not want to read a file, simply press Return without specifying a filename. MEmacs will ignore the request and return you to normal mode.

**Visit-file****Ctrl-X-Ctrl-V**

*Lets you work with additional files, aside from the first file you open. You must already be editing something before you can visit another file. This command is useful for programmers who are creating a program and want to extract pieces from or refer to other programs.*

When you issue this command, MEMacs moves the cursor to the bottom line and prompts:

Visit file:

Type the complete path of the file, and press Return. MEMacs will read the file into a new buffer, if it is not already there. If the file you want to visit is on a different disk, AmigaDOS will display a requester asking you to insert that particular disk into any drive. If the file is already in a buffer, MEMacs will switch you to that buffer automatically.

**Insert-file****Ctrl-X-Ctrl-I**

*Inserts the contents of a file into the current buffer. When you issue this command, MEMacs moves the cursor to the bottom line and prompts:*

Insert file:

Enter the complete path to the file, and press Return. MEMacs will read the file into the current buffer at a point one line above the current cursor position.

**Save-file****Ctrl-X-Ctrl-S**

*Writes the contents of the current buffer to the filename associated with that buffer. The filename associated with the buffer was determined when the contents of an existing file were read to the file or when the file associated with the current buffer was renamed.*

If there is no filename specified on the status line, MEMacs tells you No File Name and refuses to perform the Save.

After a successful Save, MEMacs uses the bottom line of the screen to tell you how many lines it has written out to the designated file.

**Save-as-file****Ctrl-X-Ctrl-W**

*Allows you to specify the name of a file to associate with a buffer. When you issue this command, MEMacs prompts:*

*Write file*

MEMacs is requesting the name of the file in which it should save the current contents of the buffer. If you provide a complete path and press Return, the buffer will be written out to that disk, directory, and filename. (If you press Return without providing a name, you are returned to normal mode.) The following notation appears on the status line:

File: < filename .-

From now on, that file will be used to save the current contents of this buffer when you issue a Save command.

**Save-mod****Ctrl-X-Ctrl-M**

*Writes the contents of all modified buffers to the disk. Use this item with caution to ensure that you don't accidentally modify a buffer associated with a file you have visited but don't intend to change.*

**Save-exit****Ctrl-X-Ctrl-F**

*Saves all modified buffers then exits MEMacs. It is simply a combination of the Save and Quit items. Again, use this item with caution (see the Save-mod menu item).*

**New-Cl****Ctrl- -**

*Brings up a new Shell window called Spawn Window. You can issue as many AmigaDOS commands in the spawn window as you want without interfering with MEMacs. To return to MEMacs, use the ENDSHELL command. The spawn window disappears, and MEMacs is restored to its previous state.*

**Cli-Command****Ctrl-X-!**

*Allows you to execute an AmigaDOS command while you are still in MEMacs. It is similar to issuing a RUN command while in the Shell.*

When you select this menu item, MEMacs moves the cursor to the bottom of the screen and provides you with a ! prompt. You can then type a command for AmigaDOS to process on this line. MEMacs temporarily suspends operation, and AmigaDOS executes your command. The output of the command appears in a temporary buffer called spawn.output.

**Quit****Ctrl-C**

*Exits MEMacs. If one or more of the buffers has been modified since you last saved it to a file, MEMacs prompts:*

*Modified buffers exist, do you really want to exit? {y/n}?*

MEMacs is giving you a last chance to save your work. If you don't want to exit, simply press Return. If you do want to quit, press Y then press Return.

Before quitting, you can check existing buffers by selecting List-buffers in the Edit menu. MEMacs lists the names associated with each buffer and shows an asterisk by each buffer that has been modified since you last saved it to disk.

There are circumstances under which you will not want to save all buffers back to the original files. For example, suppose you were writing a program and copying pieces from other existing programs as you went along. Some of the files you visited may have been accidentally modified or may have been on a write-protected disk.

If you are simply using an old program as temporary source material, you will not want to destroy the original program. When you are finished writing the new program, save your new material and exit MEMacs without saving the modified buffers of the source program.

Two alternative keyboard shortcuts for the Quit command are Ctrl-X-Ctrl-C and Esc-Ctrl-C.

## The Edit Menu

The commands in the Edit menu affect the editing of your buffers and their associated files.

### Kill-region

Ctrl-W

*Deletes blocks of text from the current buffer and saves them in a kill buffer. (Text can be pulled back into the document by using the Yank command, described below.)*

If a block of text has been marked using the Set-mark command (explained on 6-10) and the cursor has been positioned away from the mark, the area between those two points is considered a block and can be deleted by selecting Kill-region.

You can also use Kill-region to copy a block from one section of the buffer to another. Mark the block, select Kill-region, then *without moving the cursor*, immediately select Yank. The block will be restored to its original position, but there will also be a copy of the block in the kill buffer.

If you repeatedly select Kill-region on different areas of text, without performing a Yank, each successive kill segment is *appended* to the kill buffer. When you perform the first Yank, it marks the end of the kill buffer.

### Yank

Ctrl-Y

*Copies the contents of the kill buffer to the line immediately above the current cursor location. Yank reverses the action of Kill-region, but it does not change the contents of the kill buffer. Therefore, you can repeatedly move the cursor to another buffer, select Yank, and copy the contents of the kill buffer. The next time you kill a block of text, however, the contents of the kill buffer will be replaced with the new material and the old contents will be lost.*

Kill-region and Yank are often used together to move text from one buffer to another.

**Set-mark****Ctrl-@**

*Marks the cursor position.* When you select Set-mark, the position of the cursor is marked in the current buffer. From then on, any other position of the cursor is referred to as the dot. You can move back and forth between the mark and the dot by selecting the Swap-dot&mark command in the Move menu.

You can use Set-mark to mark the beginning of a block of text that you want to duplicate or move somewhere else in the buffer. Set the mark on the first character you want to include in the block. As you move the cursor through the file, you are essentially blocking out a portion of text.

An alternative keyboard shortcut for Set Mark is Esc - . .

**Copy-region****Esc-W**

*Copies the contents of the marked region to the kill buffer.* This new text replaces any previous contents of the kill buffer.

**Upper-region****Ctrl-X-Ctrl-U**

*Changes the text of the entire marked region to uppercase.*

**Lower-region****Ctrl-X-Ctrl-L**

*Changes the text of the entire marked region to lowercase.*

**List-buffers****Ctrl-X-Ctrl-B**

*Splits the current buffer's window and provides you with a list of the buffers that MEmacs is currently maintaining.* The list has 4 columns. For example:

C	Size	Buffer	File
*	17260	Emacs.doc	df1:Docfiles/Emacs.doc

The fields are:

**C**

Displays an asterisk if the buffer has been modified since it was last saved to a file. (Stands for "changed.")

Size	Shows how many characters are in the buffer.
Buffer	Shows the name given to the buffer. If you have read in a file, this will usually be the name of the file itself, minus the full path.
File	Shows the full path to the file. This is the file where MEMacs will write the buffer if you choose Save-file or Save-exit while the cursor is in that buffer.

When you choose List-buffers, the status line at the bottom of the screen displays MEMacs — [List]. Even though List-buffers brings up a window display, it is not listed as an available buffer. If you edit the List-buffers window, it can be made to act just like any other buffer.

If you should leave the List-buffers window on the screen but use a different window to modify the listed buffers, the List-buffers display will not be continuously changed to reflect the current changes. To get current information, you must select List-buffers again.

### Select-buffer

**Ctrl-X-B**

*Lets you select a buffer to edit in the currently selected window.* When you choose Select-buffer, MEMacs moves the cursor to the bottom line and prompts:

Use buffer:

You must provide a name that is the same as one of those shown in the List-buffers listing. The specified buffer will replace the contents of the currently selected window.

If you specify a name that is not in the List-buffers listing, you are telling MEMacs to create a new buffer with that name. In this case, there is no filename associated with the new buffer and you will have to rename the file or select Save-as-file when you are prepared to save the buffer's contents to a file.

If you simply press Return, the command is ignored.

**Insert-buffer****Esc-Ctrl-Y**

*Inserts the contents of a named buffer into the current buffer at the line above the current cursor position. When you select Insert-buffer, MEmacs prompts:*

Insert buffer:

You must type the name of the buffer to insert, then press Return.

**Kill-buffer****Ctrl-X-K**

*Deletes the contents of a chosen buffer. MEmacs can only edit a file if the entire file will fit in available memory. To make room in memory, you can use Kill-buffer to delete the contents of one or more buffers. This command returns the buffer's memory to the memory manager for reuse.*

When you choose Kill-buffer, MEmacs prompts:

Buffer to kill (delete):

You must then enter the name of the buffer you wish to delete. You cannot kill a buffer if its contents are currently displayed.

**Justify-buffer****Ctrl-X-J**

*Removes all blank spaces and tabs from the left-hand edge of all the lines in the current buffer. The text is rearranged so that it aligns with the current margins.*

**Redisplay****Ctrl-L**

*Redraws the screen.*

**Quote-char****Ctrl-Q**

*Allows you to insert a literal character in the text file. Some keyboard selections have been assigned as MEmacs control characters (for instance, the menu command shortcuts). If you try to insert such a selection into your text, MEmacs will react as if you chose a menu item.*

For example, **Ctrl-L** tells MEMacs to redraw the display, but **Ctrl-L** is also useful as a printing control to insert a form feed character. By selecting **Quote-char**, the next character you type will be taken “literally” by MEMacs and will be inserted into the text file, instead of being treated as a menu command.

To quote the form feed character, press **Ctrl-Q-Ctrl-L**. MEMacs will display ``L`, on the screen. (MEMacs uses the caret (```) symbol to represent **Ctrl**.)

As MEMacs manipulates the buffer, the combination of the caret and the character is treated as a single character, both by the cursor keys and the character counter.

You can also use **Quote-char** to insert a **Return** (**Ctrl-M**), **Backspace** (**Ctrl-H**), or **Esc** (**Ctrl-[]**) into the text by quoting the single keys or for inserting any other control character that may be needed during a macro command. Even **Ctrl-Q** can be inserted by typing it twice. The **Tab** key cannot be quoted.

An alternative keyboard shortcut for **Quote-char** is **Ctrl-X-Q**.

**Indent** **Ctrl-J**

*Moves the cursor to the next line, automatically indenting the same amount of spaces as the previous line.*

Alternative keyboard commands are **Help** or **Enter** on the numeric keypad.

**Transpose** **Ctrl-T**

*Swaps the positions of two adjacent characters. The cursor is placed on the right-most of the two characters.*

**Cancel** **Ctrl-G**

*Ends an ongoing menu command, such as a query search and replace.*

## The Window Menu

A window in MEmacs is not the same as a window on the Workbench. MEmacs splits the screen into multiple layers, or windows, allowing you to edit a separate file (buffer) in each MEmacs window. The Window menu lets you control how you view your buffers on the screen.

### **One-window** **Ctrl-X-1**

*Makes the current buffer a single, full-sized window on the MEmacs screen. All other buffers remain invisible, allowing you maximum space to work on the current buffer.*

### **Split-window** **Ctrl-X-2**

*Splits the current window in half, positioning the current buffer identically in both windows. This lets you edit two segments of the buffer at the same time. Any changes made in either window affect the entire buffer. This is convenient when you want to see what you wrote in an earlier part of your document while working on a later section.*

### **Next-window** **Ctrl-X-N**

*Moves the cursor to the next window and makes that window available for editing.*

If the cursor has been moved down to the bottom window, the cursor will automatically move up to the top window.

### **Prev-window** **Ctrl-X-P**

*Moves the cursor to the previous window and makes that window available for editing.*

Selecting Prev-window when the cursor is in the top window will move the cursor to the last, or bottom, window.

**Expand-window****Ctrl-X-Z**

*Adds a line to the height of the current window and simultaneously subtracts a line from the adjacent window.*

**Shrink-window****Ctrl-X-Ctrl-Z**

*Subtracts a line from the height of the current window and simultaneously adds a line to the adjacent window.*

**Next-w-page****Esc-Ctrl-V**

*Displays the next page of the adjacent window. For instance, if you have split a window and are working in the top one, selecting Next-w-page will move the contents of the bottom window (the one you aren't working in) to the next page. This doesn't make the window available for editing; it just lets you view the contents.*

**Prev-w-page****Ctrl-X-V**

*Displays the previous page of the adjacent window. If only one window is displayed, it displays the previous page of that window.*

## The Move Menu

The commands in the Move menu let you move the cursor rapidly through the current buffer.

**Top-of-buffer****Esc-<**

*Moves the cursor to the top line of the current buffer.*

**End-of-buffer****Esc->**

*Moves the cursor to the bottom line of the current buffer.*

**Top-of-window****Esc,.**

*Moves the cursor to the top of the current window.*

**End-of-window****Esc.**

*Moves the cursor to the bottom of the current window.*

**Goto-line****Ctrl-X-Ctrl-G**

*Moves the cursor to a specific line number.* When you select Goto-line, MEmacs moves the cursor to the bottom of the screen and prompts:

goto-line:

Enter a line number, press Return, and MEmacs moves the cursor directly to that line. If you specify a line number larger than the total number of lines in the buffer, MEmacs moves the cursor to the last line of the buffer.

**Swap-dot&mark****Ctrl-X-Ctrl-X**

*Places a mark at the current cursor position and moves the cursor to where the mark had been set.* If you have not yet set a mark in the window, MEmacs replies, No mark in this window. This command lets you move quickly to and from a preset location in your buffer. Selecting this item again restores the cursor to where it was before you selected Swap-dot&mark the first time.

**Next-page****Ctrl-V**

*Moves the text within the window toward the end of the buffer by one full window, less one line.* The cursor is repositioned so as to stay on the screen.

**Prev-page****Esc-V**

*Moves the text within the window toward the beginning of the buffer by one full window, less one line.* The cursor is repositioned so as to stay on the screen.

**Next-word****Esc-F**

*Moves the cursor forward to the next non-alphanumeric character, such as a space or punctuation mark.*

**Previous-word** **Esc-B**

*Moves the cursor back to the first letter of the previous word.*

**Scroll-up** **Ctrl-Z**

*Moves the text up a single line.*

**Scroll-down** **Esc-Z**

*Moves the text down a single line.*

## The Line Menu

The commands in the Line menu let you move the cursor within or between lines and let you perform operations involving entire lines.

**Open-line** **Ctrl-O**

*Splits the line the cursor is in, forcing the character on which the cursor rests to become the first character of the following line.* This command leaves the cursor in the original line so that you can type new characters beginning at the current cursor position.

If you select Open-line by mistake, immediately pressing Del closes up the line.

**Kill-line** **Ctrl-X-Ctrl-D**

*Deletes the line in which the cursor is located and places the text in the kill buffer.* If you have not selected Yank since the last Kill command, the text will be *appended* to the existing text in the kill buffer.

**Kill-to-eol** **Ctrl-K**

*Deletes the text between the current cursor position and the end of the line.* If you have not selected Yank since the last Kill command, the text will be *appended* to the existing text in the kill buffer.

**Start-of-line** **Ctrl-A**

*Moves the cursor to the left-most position on a line.*

**End-of-line** **Ctrl-E**

*Moves the cursor to the right-most position on a line. If you have typed more characters than will fit on a line, a dollar sign (\$) appears at the right-hand edge of the line. Moving to the end of the line places the cursor logically on the right-most character even though you cannot see it. Physically the cursor is positioned over the dollar sign. If you use the left cursor key to move the cursor, it will take as many key presses as there are unseen characters before the cursor actually begins to move.*

**Next-line** **Ctrl-N**

*Moves the cursor down one line.*

**Previous-line** **Ctrl-P**

*Moves the cursor up one line.*

**Line-to-top** **Esc-!**

*Moves the line containing the cursor to the top of the window.*

**Delete-blanks** **Ctrl-X-Ctrl-O**

*Deletes blank lines, proceeding forward from the current cursor position until MEMacs gets to the next line on which text exists.*

**Show-Line#** **Ctrl-X-=**

*Displays information on the present cursor position. For example:*

Line 17 Column 1 (2%)

In this example, the cursor is on the 17th line of text, in the first column. The percentage shows that the cursor is in a position 2% of the way from the top of the buffer. If the cursor was on the last character of text, the percentage would be equal to 100.

## The Word Menu

The Word menu contains word-associated operations.

### Delete-forw

**Esc-D**

*Deletes the character on which the cursor is positioned and all remaining characters to the right until the next non-alphanumeric character is found, (i.e., a blank space, tab, or punctuation mark).*

If the cursor is positioned on a blank space, it must be moved forward to the start of a word to delete that word.

### Delete-back

**Esc-H**

*Deletes all characters to the left of the cursor until it finds the first character of a word. The character under the cursor is not deleted.*

An alternative keyboard shortcut for this command is Esc-Del.

### Upper-word

**Esc-U**

*Changes a word to uppercase, starting at the character where the cursor is positioned and proceeding to the last character of the word.*

### Lower-word

**Esc-L**

*Changes a word to lowercase, starting at the character where the cursor is positioned and proceeding to the last character of the word.*

### Cap-word

**Esc-C**

*Changes the character where the cursor is positioned to uppercase. It also changes the characters to the right of the cursor, up to the end of the word, to lowercase.*

### Switch-case

**Esc-^**

*Changes the case of a word, starting at the current cursor position and proceeding to the right until it reaches the end of the word. If a word is uppercase it changes it to lowercase, and vice versa.*

## The Search Menu

The Search menu allows you to search through the current buffer for specific text strings. The case (upper or lower) of the string is not significant in the search itself. However, if you are using text substitution (search and replace), the text will be replaced in the same case as that of the replacement string.

### Search-forward

**Ctrl-S**

*Searches through the text starting at the current cursor position and moving forward to the end of the buffer. When you issue this command, MEMacs moves the cursor to the bottom line of the screen and prompts:*

Search:

Enter the string of characters that you want MEMacs to search for, and press Return. If the string is found, MEMacs positions the cursor immediately following the last character of the string. If MEMacs cannot find the string, it replies Not found.

An alternative keyboard shortcut for this command is Ctrl-X-S.

### Search-backward

**Ctrl-R**

*Searches through the text from the current cursor position backwards to the beginning of the buffer. This command operates in the same manner as Search-forward.*

An alternative keyboard shortcut for this command is Ctrl-X-R.

### Search-replace

**Esc-R**

*Operates the same way as Search-forward, except that it allows you to replace the string with different text. When MEMacs finds the first occurrence of a specified string, it prompts:*

Replace:

You must enter the string of characters that should replace the found string. Remember, the characters will appear in the same case as you type them. When you press Return, MEMacs will automatically forward-search and replace the search string

with the replacement string. After MEMacs completes this command, it reports:

Replaced <xx> occurrences

<xx> stands for the number of times the string was replaced.

### Query-s-r

Esc-Q

*Operates the same way as Search-replace, except that it allows you to choose whether or not to replace each occurrence of the string. When you select Query-s-r, MEMacs prompts for the search string, then prompts:*

Query replace:

As it finds a matching string, it prompts:

Change string? [y/n/c/G]?

The options are: Y (yes); N (no); C (change all occurrences of the string); and Ctrl-G (abort). This gives you a chance to control the replacement process. After MEMacs completes this command, it reports:

Replaced <xx> occurrences

### Fence-match

Esc-Ctrl-F

*Finds the closest occurrence of the fence character to match the one at the current cursor position. A fence character is the closing character to match a:*

parenthesis	{ matches }
bracket	[ matches ]
brace	{ matches }
angle bracket	< matches >

If you choose Fence-match while the cursor is on an opening parenthesis, the cursor will move to the next occurrence of a closing parenthesis.

If you choose Fence-match while the cursor is on another type of character, such as a letter or symbol, the cursor will move to the next character of the same type. For instance, an asterisk matches another asterisk.

## The Extras Menu

The Extras menu contains commands to let you tell MEMacs how to operate. Many of these operational commands require that you specify a numeric argument before selecting the command itself. This menu also includes several **macro** commands. A macro command is actually a sequence of commands or other keystrokes that are executed by selecting the Execute-macro menu item.

### Set-arg

**Ctrl-U**

*Lets you specify a numeric argument for a command.* When you issue this command, MEMacs prompts:

Arg: 4\_

If you select Set-arg again, MEMacs multiplies the argument value by 4.

If you press a numeric key (0-9), MEMacs accepts an integer argument. If you press a minus sign first, MEMacs accepts a negative integer argument, starting at -1.

Examples: (Each started by a single press of Ctrl-U)

Arg: -1	Pressed - as the first key
Arg: -23	Pressed - - 2 - 3 as a 3-key sequence

MEMacs accepts the argument value as a key for whatever you do next. To add 12 blank lines at the cursor position, specify an argument of 12, then press Return. To add 20 minus signs, select an argument number of 20, *do not press Return*, and press the minus sign on the keyboard.

**NOTE:** Don't use the keypad's minus sign; it is mapped to a different value.

To set one of the MEMacs operational parameters (described on page 6-23), select the value of the argument, *do not press Return*, then select the appropriate menu item. MEMacs will use the argument to set the value.

If the command does not support parameters, MEMacs executes the command the specified number of times.

**Set** **Esc-S**

*Allows you to choose various MEMacs parameters. When you choose Set, MEMacs prompts:*

Set:

You can then enter one of the following:

- |           |   |
|-----------|---|
| Screen    | Places the MEMacs display in a Workbench window or back onto a custom screen.   |
| Interlace | Turns the interlace mode on or off.   |
| Mode      | Results in a second prompt <b>Mode:</b> ; you can enter <b>cmode</b> (for editing c programs) or <b>wrap</b> (to enable automatic word-wrap when the text reaches a set cursor position). Cmode provides automatic fence matching. Use <b>+ mode</b> or <b>- mode</b> to add or subtract a mode.  |
| Left*     | Determines the left margin.   |
| Right*    | Determines the right margin.  |
| Tab*      | Sets the increment for tab spacing.   |
| Indent*   | Determines how far to indent each level of nesting (used in c mode).  |
| Case      | Turns case sensitive searches on or off; default is off.  |
| Backup    | Turns the MEMacs backup function on or off. Your options are: <b>ON</b> (renames the current file <filename>.bak and saves that backup file to the T: directory); <b>SAFE</b> (this option checks to see if a file already exists for the buffer—if so, it will not overwrite the existing file); and <b>OFF</b> (this is the default option—MEMacs does not perform any backup). |

*\* Each of these entries results in a prompt for a numerical argument, unless the numeric argument is given along with the entry.*

**Start-macro** **Ctrl-X-{**

*Tells MEmacs to start recording any subsequent keystrokes. This is a macro command and is used in conjunction with the Stop-macro and Execute-macro commands.*

**Stop-macro** **Ctrl-X-}**

*Tells MEmacs to stop recording keystrokes.*

**Execute-macro** **Ctrl-X-E**

*Repeats keystrokes and menu selections that were entered between Start-macro and Stop-macro. They are repeated as if you had freshly entered the entire sequence.*

**Set-key** **Ctrl-X-Ctrl-K**

*Allows you to redefine all of the function keys, the Shifted function keys, the Help key, or any key on the numeric keypad as keyboard macros. This means that if you select one of these redefined keys while recording macro commands, the new key definition will be recorded in the command. One definition, having as many as 80 keystrokes, can be recorded for each of these keys.*

*NOTE:* If you want to insert the Set-mark command into any of the keyboard macro definitions, you cannot use the menu shortcut of Ctrl-@. This does not function correctly when used in a macro command. Instead, you must use the alternative form of Set-mark, Esc- . This alternative form is acceptable in macro commands.

When you choose Set-key, MEmacs prompts:

key to define:

Press one of the 10 function keys, Help, or a numeric keypad key. MEmacs responds:

def: [commands]:

[commands] is a display of the current commands bound to that key. Enter the new string of characters (up to 80) that you want to have MEmacs respond to when this key is pressed. Pressing Return terminates the entry.

Remember that when entering commands that involve function keys, for example Esc-< [go to top of buffer], you must use Quote-char (Ctrl-Q) to properly insert the keystroke into the definition.

The table below contains the default values of the function keys when used in macro commands.

Default Function Keys Assignments		
Key	Assignment	Key Sequence
F1	Clone line	Ctrl-A-Ctrl-K- Ctrl-Y-Ctrl-M- Ctrl-Y
F2	Delete line	Ctrl-X-Ctrl-D
F3	Execute keyboard macro	Ctrl-X-E
F4	Next screen	Ctrl-V
F5	Previous screen	Esc-V
F6	Split window	Ctrl-X-2
F7	One window	Ctrl-X-1
F8	Scroll window up	Ctrl-Z
F9	Scroll window down	Esc-Z
F10	Save file and exit	Ctrl-X-Ctrl-F
Help	Insert line	Ctrl-J
Enter (keypad)	Insert line	Ctrl-J

The numeric, period, and minus keys on the numeric keypad default to their normal values (i.e., keypad 1 defaults to 1, keypad 2 defaults to 2, etc.).

**Reset-keys****Esc-K**

Returns any keys defined by Set-keys to their original default state.

**Execute-file****Esc-E**

Allows you to execute a program file within MEMacs. When you select this command, MEMacs prompts:

File:

Enter the name of the file you wish to access. This file is executed as a file of MEMacs commands.

**Execute-line****Ctrl-[-Ctrl-[**

Sets MEMacs to the command mode. When you choose Execute-line, MEMacs prompts:

execute-line:

You can then enter any menu command and its parameters by simply typing it at the prompt. You must use the exact format used in the menus, including hyphens, or you will receive an alert and command error message. For instance, this is *incorrect*:

execute-line: insert file <filename>

You must type:

execute-line: insert-file <filename>

An alternative keyboard shortcut for Execute-line is Esc-Esc.

## Commands Not in Menus

The following commands have not been installed in menus and are only accessible through the keyboard.

### **Describe Key**

**Esc-Ctrl-D**

*Tells you if any functions are bound to a key or key-sequence.*

When you press Esc-Ctrl-D, MEmacs prompts for the key to describe. If you enter a key sequence, such as Ctrl-L or Esc-K, MEmacs will respond with the corresponding function. In this case, Redisplay and Reset-keys, respectively.

*Keys are bound when they can be used to perform a function. For instance, any key, or key sequence, that can be used as a shortcut for a menu item is bound to that menu item.*

### **Bind Key**

**Esc-Ctrl-B**

*Allows you to bind a key to a function.* When MEmacs prompts for the key to bind, enter the function (following the format used in the menu items) then the key or key sequence. To check if the key was bound properly, use the Describe key command (Esc-Ctrl-D).

### **Unbind Key**

**Esc-Ctrl-U**

*Allows you to return a bound key to an unbound state.* When MEmacs prompts for the key to unbind, enter the key or key sequence. MEmacs will then reply *Key is not bound*.

You cannot unbind the standard bound keys that are used as commands. If you use Unbind Key on a key that was not previously bound, you will not receive the *Key is not bound* message.

### **Echo**

**Esc-Ctrl-E**

*Displays the string typed in the command line.* This command is usually used when creating or editing executable MEmacs script files.

**Move to Edge of Window****Shift-Cursor**

*By holding down Shift and a cursor key, MEmacs will move the cursor to the top, bottom, left, or right edge of the screen. This is subject to the amount of text available.*

**Delete the Next Character****Ctrl-D**

*Deletes the character at the current cursor position. This is the same as pressing Del.*

**Delete the Previous Character****Ctrl-H**

*Deletes the character to the left of the current cursor position. This is the same as pressing Backspace.*

**Move to Next Line****Ctrl-M**

*Inserts a newline character after the current cursor position and moves the cursor to the start of the new line.*

**Move x number of Characters****Ctrl-F****Ctrl-B**

*Allows you to move the cursor forward or backward a specified number of spaces. The default value of this command is one character. However, you can establish a higher value by using Ctrl-U to set the argument value. Press Ctrl-F to move forward the specified number of characters, or press Ctrl-B to move backward.*

## **Customizing MEmacs**

When MEmacs is opened, it attempts to read the contents of an Emacs\_\_pro file to see if there are any commands that it should automatically execute. This is a convenient way of saving commonly used commands, command sequences, or text

strings. You can actually have several Emacs\_\_pro files — a global file that is used every time MEMacs is opened and more specialized local files that are only used in certain instances. (The Emacs\_\_pro file does not already exist; you have to create it.)

To create a global file of commands, place the Emacs\_\_pro file in the S: drawer.

Local files should be put into the drawer that contains the file with which you want to use the local commands. For instance, if you are editing a file from the Utilities drawer, and you also have an Emacs\_\_pro file stored in the Utilities drawer, the commands in the Emacs\_\_pro file will be available to you. However, if you are editing a file from the System drawer, you will not be able to use the Emacs\_\_pro file that is stored in the Utilities drawer.

When both local and global Emacs\_\_pro files are present, the local file overrides the global file.

For example:

```
Set Case On
Set-Key F11 "Dear Sirs:"
Set-Key F12 "'S Workbench"
Set-Key F13 "^X^B"
```

makes the following assignments:

- Shift-F1    Type the text string Dear Sirs:.
- Shift-F2    Search forward for the next occurrence of the word Workbench. (The Set Case On commands make any text searches case sensitive.)
- Shift-F3    Display the list of buffers.

Remember, you must use Ctrl-Q to enter a Ctrl-key sequence. For instance, to enter the 'S character shown in the example, you would have to press Ctrl-Q-Ctrl-S.

*The S drawer does not have an icon. Use the Show All Files menu item to access it.*



# Chapter 7. Introducing AmigaDOS

This chapter introduces you to the basic concepts of AmigaDOS, such as:

- how information is organized on a disk
- how to use the Shell and some basic AmigaDOS commands
- the features of the Shell
- how to run programs through the Shell
- how to maximize your use of the Ram Disk

## AmigaDOS

AmigaDOS stands for Amiga Disk Operating System. A **disk operating system** is software that controls the basic functions of a computer, such as:

- providing a filing system which organizes the data (information) programs use and produce
- handling the storage and retrieval of information from floppy disks
- letting you run more than one program at a time (multitasking)
- providing an interface to peripheral devices like printers and disk drives

Even when you are using application programs like word processors, paint packages, or music programs, AmigaDOS is in control, managing the resources of your Amiga.

You can communicate with the Amiga through AmigaDOS **commands**. Some of these commands parallel Workbench operations, such as COPY, RENAME, and FORMAT. The commands are entered through a special window, known as a **Shell** window. You can start a Shell by opening the Shell icon in the Workbench2.0 disk window or by entering the NEWSHELL command in the Execute Command requester.

Before you can enter commands, you need to understand how AmigaDOS stores information and how to reference the files and devices used by AmigaDOS. This is explained in the following sections.

## Devices

The main unit of storage is a **device**, such as a floppy disk. Some systems may also use hard disks or magnetic tapes for storage. These are also devices. Each device is assigned a name by the system, such as DF0: for the Amiga's internal floppy drive or RAM: for the Ram Disk. These names cannot be changed by the user. When you refer to a floppy drive by device name, that particular drive is accessed regardless of the disk inside.

Another way to access a disk is by volume name, like the name that appears under a disk's icon, such as Workbench2.0:. When you refer to a disk by volume name, the system will search all the available drives for that disk. If it cannot find a disk of that name, a requester will appear asking you to insert the disk. If there is more than one volume with the same name, you have to refer to them by device names, or the system will randomly choose a disk to access.

Device and volume names must be followed by a colon (:).

## Peripheral Devices

AmigaDOS has assigned standard names for devices that are attached to the computer's ports as well as to the windows that appear on the screen. These devices are typically used for output, such as when you want to copy a file to a printer or send information through a modem. The standard device names are listed below:

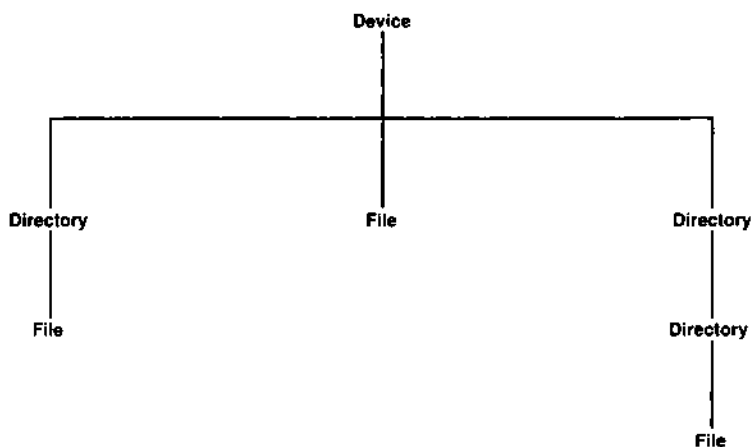
- PAR: Represents any device, usually a printer, that is connected to the parallel port.
- SER: Represents any device connected to the serial port, such as a printer or modem.
- PRT: Represents the printer selected with the Printer editor in the Prefs drawer.
- CON: Represents a console, which uses a window to accept typed input and display output. The Shell window is one kind of console window.  
Represents the active window.
- NIL: Represents a pseudo-device commonly used to prevent output from appearing on the screen. All output sent to NIL: is discarded.

## Directories

Directories are the AmigaDOS version of the drawers on the Workbench. Directories allow you to group and classify related files together, making it easier to find and work with them.

An empty, formatted disk contains one directory, the **root directory**. If you create a file on an empty disk, that file is in the root directory. (If the file had an icon attached to it, the icon would appear in the disk window.) Any other directories you create are in the root directory.

Directories can contain files as well as other directories, called **subdirectories**. Subdirectories are like drawers within drawers. They are just one more way of organizing information.



The standard Workbench directories are “assigned” (using the AmigaDOS ASSIGN command) to logical device names, such as C:, SYSTEM:, UTILITIES:, S:, etc. Application programs often need to access files in these directories, and this standardizes the way in which applications look for the directories. By looking for a device name of C:, the actual C directory does not have to be on any specific disk. This gives you more flexibility in where you store files and in what you name your disks.

For instance, the Workbench2.0:Fonts directory is normally assigned to the device name FONTS:. However, there may not be enough room on your Workbench2.0 disk for additional fonts, so you may decide to put all your font files on a disk called MyFonts. In this case, you could assign the logical device FONTS: to the MyFonts disk. When an application program needed to use a font file, it will look for FONTS: and be directed to your MyFonts disk. If the MyFonts disk is not in a disk drive at the time it is needed, a requester will appear instructing you to insert the disk into any drive. You’ll learn more about the ASSIGN command later in this chapter.

## **Files**

A **file**, the basic unit of storage on a computer, is an organized collection of information referred to by a name. All the programs you run and any permanent data that a program uses or produces are files.

On the Workbench, files are represented by tool and project icons. Tool icons represent program files, such as a paint or CAD program. Project icons represent data files, the information created or used by a program, such as text and graphic files.

The icons themselves are represented by .info files (pronounced "dot info"). Every file or directory that has an icon also has a .info file. The .info file contains the graphics and position data for the icon image as well as any Default Tool or Tool Type information entered into the icon's Information window.

## **Paths**

When using the Shell, you have to type the names of the files you want to access. To do this properly, you must specify the complete path to a file. The complete path consists of the device or volume name followed by a colon, all directories leading to the file separated by slashes, and finally the filename:

**Device:Directory/Subdirectory/Filename**

For example, the path to the Clock file in the Utilities directory of the Workbench2.0 disk is:

**Workbench2.0:Utilities/Clock**

If the Workbench2.0: disk is in the internal disk drive, you could also type:

**DF0:Utilities/Clock**

## Naming Files and Directories

The names you choose for your files and directories can be up to 30 characters long. You should not use colons (:), semicolons (;), asterisks (\*), slashes (/), question marks (?), back apostrophes ('), number or pound signs (#), or percent signs (%) in names. (These characters are explained in the "Special AmigaDOS Characters" section on page 7-21.) Any other letters or punctuation symbols are allowed. You can have files with the same name so long as they are in different directories.

The Amiga file system is case-indifferent. If you use uppercase letters in your names, they will appear on the screen, but you do not have to type them to access the file or directory. For instance, DF0:Textfile is the same as df0:textfile.

You should avoid using spaces in filenames. If a name contains spaces, the complete path to the file must be enclosed in double-quotes. For instance, if you have a file called Text File you would have to type:

```
"DF0:Text File"
```

To avoid this, you can use a period (.) or underscore (\_) as a separator. Be especially careful not to put a space at the beginning or end of a name. You will not be able to see the space on the screen, but AmigaDOS will not recognize the name without the space included.

Many AmigaDOS commands use special **keywords** that identify an argument or specify an option of the command. For instance, the LIST command, which displays the contents of a disk or directory, has a FILES keyword to limit the display to files only (excluding directories or subdirectories). If you have a conflict between a file or directory name and a keyword, enclosing the name in quotes will ensure that it is interpreted correctly. For instance, if you wanted to use LIST to see the contents of a directory named Files, you would have to type:

```
LIST "Files"
```

Otherwise, the system would interpret it as the LIST FILES command.

## **Basic AmigaDOS Commands**

This section provides an introduction to using the Shell and some of the most basic AmigaDOS commands. It is not meant to give full instructions on each and every command, but it should help you become familiar with the basic capabilities of AmigaDOS.

### **Types of Commands**

There are two types of AmigaDOS commands: disk-based and Internal. Every time a disk-based command is invoked, the command must be loaded from the Workbench disk used to boot the system before it can be executed. (Most disk-based commands are stored in the C: directory.) If the disk is not currently in the disk drive, it must be inserted so that the command can be read.

The Internal commands are built into the Shell, which is stored in ROM. When an Internal command is invoked, the system can access it immediately. It does not have to be read from disk.

Many of the AmigaDOS commands parallel menu items or programs on the Workbench. However, it is often quicker and more convenient to perform these actions through typed commands. Some people simply prefer typing to using the mouse.

In this chapter, AmigaDOS commands are shown in uppercase letters to distinguish them from the rest of the text. It is not necessary to type them uppercase, as AmigaDOS ignores case differences in commands or filenames.

In the following examples, if the command results in screen output, that output is shown on the line underneath the command.

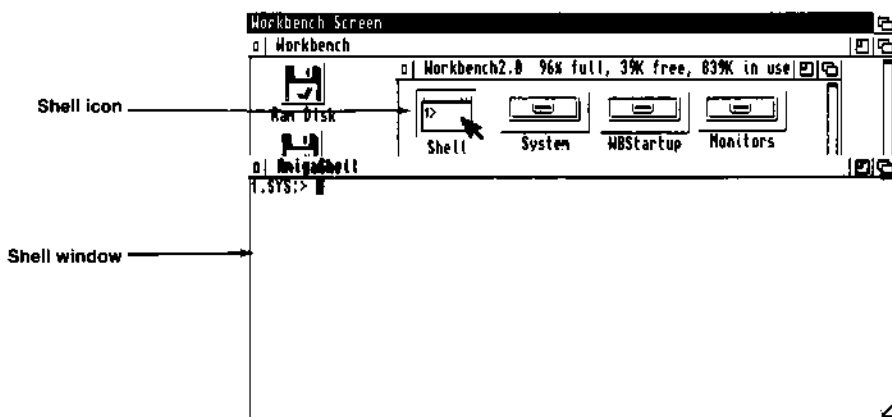
## The Shell

You communicate with AmigaDOS through a Shell, a special window which accepts text input. Shell windows can be dragged, resized, overlapped, and zoomed just like other Workbench windows. However, you cannot drag icons into the Shell or use the mouse to perform any Workbench-style operations in it (except for copying and pasting which is described in the "Features of the Shell" section).

*Be sure you are working with a copy of your Workbench2.0 disk, not the master disk.*

You enter AmigaDOS commands at a text **prompt**, usually ending in a > symbol. After typing in the command and any other necessary information, such as filenames or command options, press Return. The command is then executed. The information typed after the prompt up until you press Return is known as the **command line**.

1. *Open a Shell window by opening the Shell icon in the Workbench2.0 disk window.*



When you see a prompt, such as 1.SYS:>, you are ready to start entering commands. The Shell prompt may vary depending on your system. In this chapter, the prompt is represented by a 1>.

You must press Return at the end of each command line to execute the command. After the command is executed, the Shell prompt will reappear.

You can also execute AmigaDOS commands from the Workbench without opening a Shell window. The Execute Command item of the Workbench menu opens a requester that lets you enter a command. (This is described in Chapter 2, "Basic Operations.") However, the Shell is more convenient when several commands must be executed.

## Getting Information About Disks

The next three steps illustrate the DIR, LIST and INFO commands, three common commands used to get information about the contents of your disks. The DIR command generates a list of all the files and directories included on a disk or within a directory.

- 2. Type DIR at the Shell prompt, and you should see something similar to the following output:**

```
1> DIR
Trashcan (dir)
Rexxc (dir)
Expansion (dir)
Libs (dir)
Monitors (dir)
WBStartup (dir)
Prefs (dir)
Fonts (dir)
C (dir)
Devs (dir)
S (dir)
L (dir)
Utilities (dir)
System (dir)
.info
Expansion.info
Shell.info
System.info
Utilities.info
disk.info
Monitors.info
Prefs.info
Trashcan.info
WBStartup.info
```

When a name is followed by {dir}, it is a directory. Notice that there is a directory for each drawer that appears in the Workbench2.0 disk window. If you choose the Show All Files menu item, drawer icons for all the other directories will appear in the disk window.

**3. You can see a list of files included in a directory by typing DIR followed by the directory name. For instance:**

```
1> DIR Workbench2.0:Utilities
.info                      Clock
Clock.info                 Display
Display.info               Exchange
Exchange.info              More
More.info                  Say
Say.info
```

This generates a list of the files, and any subdirectories, stored in the Utilities directory on the Workbench2.0 disk. You can also specify a disk or drive name with DIR to look at the contents of a specific disk, such as DIR DF0: or DIR Workbench2.0:.

If you want more information about the files and directories on the disk, use the LIST command. You'll see the same information generated by the DIR command, but the output will also contain the sizes of files, the **protection bits** for both files and directories, and the date and time the files or directories were created. The possible protection bits for a file or directory are listed below:

s	the file is a script
p	the file is pure
a	the file has been archived
r	the file is readable
w	the file can be written to
e	the file can be executed
d	the file can be deleted

If a protection bit is **set**, the appropriate letter is shown. This means that the bit is "on" and being used by the file. If the d bit

is set, the file is deletable. If the bit is not set, a dash [-] appears. This means the bit is **clear**, or "off." If the d bit is clear, the file is not deletable.

#### 4. To list the contents of the Workbench2.0 disk, type:

```
1> LIST
Trashcan.info    1144 ----rwd   20 Jun-90   17:22:48
Trashcan        Dir ----rwd   20 Jun-90   04:35:07
Rexxc          Dir ----rwd   20 Jun-90   04:35:18
WBStartup.info   824 ----rwd   20 Jun-90   17:22:47
Utilities.info   824 ----rwd   Thursday   16:03:05
System.info     824 ----rwd   20 Jun-90   17:22:47
```

A shortened version of the typical output is shown above.

Just as with the DIR command, you can specify a directory or drive name after LIST, and the contents of that directory or drive will be listed. You can also use LIST to get information about a specific file. For instance:

#### 5. Type:

```
1> LIST System/Setmap
setmap          4112 ----rwd   20 Jun-90   17:21:41
```

To get more general information about your system, you can use the INFO command. INFO displays a list of all the disks that are currently available to the system. Some of this information is similar to what is displayed in a disk window title bar, such as how much space is used and left on the disk. However, the INFO output also shows if there are any errors on the disk and whether or not the disk is write-protected.

#### 6. Type INFO at the Shell prompt. Typical output will look like this:

```
1> INFO
Unit  Size  Used  Free  Full  Errs  Status  Name
RAM:  17K   17    0   100%   0  Read/Write  Ram Disk
DF0:  879K 1723  35   98%   0  Read/Write  Workbench2.0

Volumes Available:
Ram Disk [Mounted]
Workbench2.0 [Mounted]
```

## Creating A New Directory

The MAKEDIR command creates a new directory on the disk. This is similar to choosing the New Drawer menu item, however a directory created with MAKEDIR will not have an icon associated with it. You have to create the icon separately (see step 8).

### **7. To create a directory called Testdir on your Workbench2.0 disk, type:**

```
1> MAKEDIR Testdir
```

A new directory is created, but you will not see a drawer icon for Testdir unless you choose the Show All Files menu item.

To create an icon for Testdir, you can make a copy of the .info file for any existing drawer icon. For instance, you can copy the icon for the Expansion drawer by copying the Expansion.info file. To do this you use the COPY command. You must be sure to specify both the name of the file you are copying (the source file) and a name for the copy (the destination file).

### **8. Type:**

```
1> COPY Expansion.info Testdir.info
```

This makes a copy of the Expansion.info file and calls it Testdir.info. This file will be associated with the Testdir directory, and there will now be a Testdir drawer icon in the Workbench2.0 disk window.

When you copied the Expansion.info file, you also copied the position of the icon. Therefore, the TestDir and Expansion icons will be on top of each other. Use the Clean Up and Snapshot menu items to rearrange your window.

When creating icons for new files or directories, be sure to copy an icon of the same type (drawer, project, or tool). Otherwise, you could have problems when you try to open the file from the Workbench.

## Changing the Current Directory

Very often there are times when you want to perform several operations within a directory, such as copying, renaming and deleting files. Instead of typing the full path, including the directory name, with each command, you can change your Shell's **current directory**.

The current directory is AmigaDOS's reference point for that Shell, similar to the Workbench's active drawer window. At any given time in any Shell, there is always one directory that is the current directory.

There are two ways to think about the current directory:

- The path up to and including the current directory is assumed and does not need to be included in the path to a particular file.
- The current directory is the default directory—the directory AmigaDOS will work within if no directory is specified.

The current directory is the one in which the Shell will look for information first, before checking other places on the disk. When you open a Shell, the current directory is usually the root directory of your boot disk, known as SYS:. To make another directory the current directory, use the CD command.

### 9. To make Testdir the current directory, type:

```
1 > CD Testdir
```

Now, if you enter the DIR or LIST commands, the output will show the contents of the Testdir directory. When you want to work with files in Testdir, you simply have to type the file name instead of the complete path.

The current directory is part of the standard Shell prompt, such as:

```
1. Workbench2.0:Testdir>
```

This way you can always see what the current directory is before you issue any commands.

Regardless of the current directory setting, you can still refer to a file in any other directory by giving the full path. The current directory will not change unless you enter the CD command. You can change the current directory at any time according to what seems most convenient for the task at hand. Each Shell has its own independent current directory.

The Shell also supports the concept of an implied CD. You can CD to a directory by typing the name of the directory at the prompt. The Shell will look through the **search path** for a command of that name. (The search path is an ordered set of paths that AmigaDOS examines in order to find a command.) If it does not find a command of that name to execute, it will automatically CD to that directory.

When typing the directory name, be sure to specify it relative to the existing current directory. For instance, if the current directory is the root directory, Workbench2.0:, and you type:

```
1> Utilities
```

the Shell will search for a command called Utilities. When it does not find one, it will change the current directory to the Utilities directory. However, if you try to change back to the root directory by typing:

```
1> Workbench2.0
```

AmigaDOS will search forward in the directory structure for a directory called Workbench2.0. When it does not find one, it will respond with an Unknown command message. To CD to a higher directory, type the appropriate number of slashes or the full path. Each slash moves you up one directory level. To CD to the root directory, type a colon (:).

## **Changing the Search Path**

Just as changing the current directory can save you from having to type the full path to a command, so can adding directories to the search path. The current directory is always at the beginning of the search path, and the C: directory is always at the end.

Several other directories are usually added to the search path in the Startup-sequence, the file that is executed each time the Amiga is booted. The standard Startup-sequence adds the System, Utilities, Prefs, and S directories, as well as the Ram Disk, to the default search path. AmigaDOS will automatically look in these directories, in sequence, to locate a program to execute. If the file is not in any of those directories, the Object Not Found message will be displayed.

You can add any directory you like to the search path with the PATH command. Adding a directory to the search path eliminates the need to supply a path to the program. You simply need to enter the filename, and AmigaDOS will find it as if you had typed the complete path.

For instance, if you frequently use a program called Spell, in the directory Words, on a disk called English, you could add the English:Words directory to your search path. Normally, when you wanted to use the Spell command, you would have to specify the complete path—English:Words/Spell. If you have an extra disk drive added to your system, you could keep the English disk in that drive and add the Words directory to your search path. To do so you would type:

```
1> PATH English:Words ADD
```

Now when you wanted to access the Spell program, you could simply type Spell on the command line.

If you enter the **PATH** command in a Shell window, the new search path only applies to that Shell and any Shells opened from that Shell. Any other open Shell windows will still use the default path (unless you entered different **PATH** commands in those windows). To permanently add a directory to the search path, you must modify the User-startup or Shell-startup files. (Editing these files is explained later in this chapter.)

If you have two or more commands with the same name in different directories in your search path, AmigaDOS will execute the first one found. This is based on the order of the search path. You can access the other command of the same name by specifying the full path to the command.

## Working with Files

So far, your Testdir directory is empty. To get a file to work with, you're going to copy the Startup-sequence file in the S directory into your Testdir directory.

### **10. To copy the Startup-sequence file, type:**

```
1> COPY SYS:S/Startup-sequence to Textfile
```

This command makes a copy of the Startup-sequence file, in the S directory, in a file called Textfile in the Testdir directory. The original Startup-sequence stays in the S directory.

### **11. To make sure that the COPY command worked, type:**

```
1> DIR
```

The output should show that Textfile is in the directory.

Some common commands you can use when working with files are **COPY**, **TYPE**, **RENAME** and **DELETE**. You've already used the **COPY** command when you copied the Startup-

sequence file into the Testdir directory. The following steps show you how to use the other commands.

- 12. *The TYPE command lets you look at the contents of a file. Type:***

1> TYPE Textfile

and the contents of Textfile will appear on the screen. The text may scroll rather quickly. If you press the Space Bar the text will pause. To start the text scrolling again, press Backspace.

- 13. *To change the name of a file, use the RENAME command. You must specify both the old name and the new name:***

1> RENAME Textfile Document

This command will change the name of the file called Textfile to Document. The contents of the file will not be affected.

- 14. *To delete a file from the disk, use the DELETE command. Type:***

1> DELETE Document

The Document file will be deleted. The Testdir directory still exists even though it is empty.

You cannot delete the Testdir directory while you are working in that directory. You have to change directories (CD) to a higher-level directory, in this case the original Workbench2.0 root directory.

- 15. *A slash tells the CD command to move up one level in the directory hierarchy. Since you are working in the Testdir directory, type:***

1> CD /

The current directory will become the Workbench2.0 root directory.

If you were in a directory such as NewDisk:Testdir/Files, typing **CD /** would return you to the NewDisk:Testdir directory.

**16. To delete the Testdir directory, type:**

1 > **DELETE Testdir**

The directory will be deleted, but the Testdir.info file will still remain in the Workbench2.0 disk's root directory.

**17. To delete the Testdir.info file, type:**

1 > **DELETE Testdir.info**

Your Workbench2.0 disk will now have the same contents as when you started.

## **Working with Disks**

There are several AmigaDOS commands that pertain solely to disks. When working through the Workbench, you can use the Format Disk menu item when you want to format a floppy disk. The AmigaDOS command to allow you to do this through a Shell is called **FORMAT**. With **FORMAT** you must specify the location of the blank disk and a new name for the formatted disk.

**18. Leave the Workbench2.0 disk in the disk drive, and type:**

1 > **FORMAT DRIVE DF0: NAME EmptyDisk**  
Insert disk to be formatted in drive DF0:  
and press **RETURN**

Remove the Workbench2.0 disk, and insert the disk to be formatted into the drive.



Do not press Return until you remove the Workbench2.0 disk and insert a blank disk. Otherwise, you could accidentally format your Workbench2.0 disk.

You must enter the DRIVE and NAME keywords with the FORMAT command. The DRIVE keyword specifies the disk drive to use, and the NAME keyword specifies a new name for the formatted disk.

To change the name of a disk, use the RELABEL command. RENAME only works with directories or files.

**19. To change the name of the newly formatted disk called EmptyDisk to NewDisk, type:**

```
1> RELABEL EmptyDisk: NewDisk
```

**NOTE:** If you only have one floppy drive, you should specify the disk by its volume name, not DF0:. Using the drive name tells the Amiga to rename whatever disk is in that drive, and you could accidentally rename your Workbench disk.

If you have two disk drives, you can use the drive name instead of the volume name. For instance:

```
1> RELABEL DF2: NewDisk
```

To copy a disk through the Shell, use the DISKCOPY command. If you only have one floppy drive, you will be prompted to swap disks just as if you had chosen the Copy menu item. However, the prompts will appear as messages in the Shell window, not as system requesters with Cancel and Continue gadgets. The next step shows you how to make a copy of your Workbench2.0 disk.

**20. Type:**

```
1> DISKCOPY DF0: to DF0:  
Place SOURCE disk (FROM disk) in drive DF0:  
Press <RETURN> to continue
```

With the DISKCOPY command, you must type the word "to" between the names of the disk drives. If you have two disk drives, you could type:

```
1> DISKCOPY DF0: to DF2:
```

You can also use volume names, such as:

```
1> DISKCOPY Workbench2.0: to NewDisk:
```

## Setting the Clock

Instead of using the Time editor to set the date and time, you can use the AmigaDOS DATE command.

**21. To see the currently saved date and time, type:**

```
1> DATE
Tuesday 17-Apr-90 11:34:58
```

If the output is incorrect, you can change it by specifying the correct date and/or time after the command. The acceptable format is DD-MMM-YY (date-month-year) for the date, and HH:MM:SS (hour:minute:second) for the time.

**22. For instance, to set the date and time to July 22, 1992, 12:34 AM, type:**

```
1> DATE 22-JUL-92 12:34 00
```

The DATE command only saves the time to the software clock. If you were to reboot or power off, the date and time would be lost. If you have a battery-backed up clock in your system, you can use the SETCLOCK command to save the time to the hardware clock.

**23. Type:**

```
1> SETCLOCK SAVE
```

## Opening/Closing Shell Windows

Finally, two other commands that you should know are NEWSHELL and ENDSHELL. These commands let you open and close Shell windows.

**24. Type:**

```
1> NEWSHELL
```

A second Shell window will appear on the screen.

**25. To exit that window, make sure it is active, and type:**

```
1> ENDSHELL
```

Two other ways to close the Shell are by selecting the close gadget in the upper left corner or typing Ctrl-/. Use one of these methods to close your first Shell.

This section only touched upon the basic commands you can use while in the Shell. Many of the commands have more advanced options that were not covered here.

## **Special AmigaDOS Characters**

Several keyboard characters are reserved for special functions, such as adding comments to command lines, pattern matching, and redirecting the output of a command. These special characters are explained in this section.

### **Command Line Characters**

The following characters can be used on the command line or in scripts.

Colon (:)

The colon is reserved for use after any device name (DF0:), volume name (Workbench2.0:), or assigned directory (SYS:). Do not put a space before the colon or between the colon and any subsequent file or directory names.

Slash (/)

A slash is used to separate directories and filenames in a path. It is also used by the CD command to move up one level in the current directory structure.

Semicolon {;}	A semicolon is used to add comments to command lines. Anything to the right of a semicolon is ignored by AmigaDOS.
Asterisk {*}	An asterisk is a convenient way to refer to the current window. It can be used as a FROM or TO argument or as a redirection filename — the source of input or the output destination. (Redirection is explained later in this section.) Pressing Ctrl-/ will restore input/output to the default source.
Back Apostrophe {'}	A back apostrophe can be used to execute commands from within a string. When a string containing a command enclosed in back quotes is printed, the command will be executed.

## Pattern Matching

Pattern matching allows you to specify filenames by using special **wildcard** characters to match characters in the filenames. This lets you work on multiple files with one command. For instance, you can copy all the files that begin with a specific letter, end with the same prefix, or reside in the same directory with one command.

Different wildcards allow you to specify the type of match. In the list below, a <p> indicates that either a single or multiple character string immediately adjacent to the wildcard will be matched. Parenthesis are used to group items together. The wildcards are listed on the next page.

<code>?</code>	Matches any single character. <code>A?B</code> matches any three letter name beginning with A and ending with B, such as <code>AcB</code> or <code>AzB</code> .
<code>#&lt;p&gt;</code>	Matches zero or more occurrences of <code>&lt;p&gt;</code> . <code>A#BC</code> matches any name beginning with A, ending with C, and having any number of Bs in between, such as <code>AC</code> , <code>ABC</code> , and <code>ABBC</code> . <code>A#{BC}</code> matches any name beginning with A and followed by any number of BC combinations, such as <code>ABC</code> and <code>ABCBC</code> .
<code>&lt;p1&gt; &lt;p2&gt;</code>	Matches if either <code>&lt;p1&gt;</code> or <code>&lt;p2&gt;</code> matches. <code>A(B D)C</code> matches <code>ABC</code> or <code>ADC</code> .
<code>~&lt;p&gt;</code>	Matches everything but <code>&lt;p&gt;</code> . <code>(~#?.info)</code> matches everything but <code>.info</code> files.
<code>%</code>	Matches the null string. <code>A(B D %)#C</code> matches <code>ABC</code> , <code>ADC</code> , <code>AC</code> , <code>ABCC</code> , <code>ADCC</code> , <code>ACCC</code> , etc.

The most frequently used combination is `#?` (matches any characters). This makes it simple to work with an entire group of related files, such as `.info` files. For example, to delete all the `.info` files in the `Picture` directory, you would type:

```
1> DELETE Picture/#?.info
```

Be careful when using `#?`. You could accidentally delete the contents of a disk.

In order to remove the special effect of the pattern matching characters and search for a wildcard character, preface the character with an apostrophe (`'`). For instance, `'?` will match `?`, and `'` will match `'`.

## Redirection

You can use the angle bracket characters [**<**] and [**>**] to redirect command input and output to a different destination.

Typically, the keyboard is used for command input, and the current Shell window is used for output. The redirection characters allow you to change the input/output to a specific file or device (printer, modem, etc.).

The redirection argument consists of the **<** (change input) or **>** (change output) symbol followed by a filename or device name. For instance, console output usually goes to the current Shell window. If you typed:

```
1> DIR >Testfile DFO:
```

the output will be sent to a file called Testfile. The output will not be shown on the screen. The angle bracket must be preceded by a space, but need not be followed by a space.

Similarly, you can change the source of the input from the keyboard to a file with the **<** symbol. For example:

```
1> DATE <Datefile ?
```

uses the contents of the Datefile file as the arguments for the DATE command. The command responds as if the contents of Datefile were typed at the keyboard.

It is only the console output of a command that is redirected, not the data the command works on. For example:

```
1> COPY >Log Picdir to PicsArchive: ALL
```

still copies all the files in the Picdir directory to the PicsArchive disk. However, the list of files being copied is sent to the Log file.

You can also redirect output and append material to an existing file by using two output symbols together (>>) with no spaces between them. For example:

```
1> Postscript >> Laser/Letter
```

executes the program *Postscript*, adding its output to the end of the *Laser/Letter* file.

## Features of the Shell

As shown in the previous section, the Shell allows you to communicate directly with AmigaDOS. It uses a special type of window called a **console window**. A console window is a text-only interface, which means that it accepts typed input from the keyboard. You cannot use icons in a console window. Special features of the console window are described below:

- All of the standard Workbench window gadgets can be used on the Shell window except for the scroll gadgets.
- When you select the Shell window's zoom gadget, the window expands to fill the entire screen.
- The System Default Text font, as specified by the Font editor, is used in the Shell window. This must be a nonproportional font, such as Topaz or Courier.
- Workbench background patterns do not appear.

You can have several Shell windows open at once. Each window is independent. While commands entered in one Shell are being executed, you can enter and execute different commands in another Shell window.

The Shell environment offers command-line editing and **command history**. These features allow you to use the cursor keys to fix typing mistakes or repeat commands typed earlier.

## Editing

There are several keys and key combinations you can use to edit the current command line. They include standard text-editing keys, plus several Control-key sequences summarized below:

left cursor	Moves cursor to the left.
right cursor	Moves cursor to the right.
Shift-left cursor	Moves cursor to the beginning of the line.
Shift-right cursor	Moves cursor to the end of the line.
Backspace	Deletes the character to the left of the cursor.
Del	Deletes the character highlighted by the cursor.
Ctrl-H	Deletes the last character (same as Backspace).
Ctrl-M	Processes the command line (same as Return).
Ctrl-J	Adds a line feed.
Ctrl-W	Deletes the word to the left of the cursor.
Ctrl-X	Deletes the current line.
Ctrl-K	Deletes everything from the cursor forward to the end of the line.
Ctrl-Y	Inserts the characters deleted with Ctrl-K.
Ctrl-U	Deletes everything from the cursor backward to the start of the line.

In addition to command line editing, the Shell also provides command history, which allows you to recall previously-entered command lines, edit them, and re-enter them. The Shell uses a 2K command-line buffer to retain command lines. The exact number of lines varies depending on lengths of the lines actually stored. When the buffer fills up, the oldest lines are lost. You access lines in the buffer through the up and down cursor keys:

up cursor	Moves backward in the history buffer (earlier lines).
down cursor	Moves forward in the history buffer (later lines).

You can also search for the most recent occurrence of a specific command by typing the command line, or the beginning of it, then pressing Shift-up cursor (or Ctrl-R). For instance, if you type DIR and press Shift-up cursor, you will be returned to the last command to perform a DIR of any directory. Pressing Shift-down cursor moves you to the bottom of the history buffer, leaving the cursor on a blank line.

Some additional keystrokes you can use in the Shell are:

Space bar (or any printable character)	Suspends output (stops scrolling).
Backspace	Resumes output (continues scrolling).
Ctrl-C	Sends a BREAK command to the current process (halts the process).
Ctrl-D	Sends a BREAK command to the current script (halts the script).
Ctrl-S	Suspends output.
Ctrl-Q	Resumes output if it was suspended with Ctrl-S.

Another feature of the Shell is the ability to **type ahead**. If you begin typing while output is occurring in a Shell window, the output will pause. If you press Return, the output will resume, and the recently typed line will be used as the next line of input. To resume the output without executing the typed line, delete your input. The text will resume scrolling as soon as the last character is erased.

## Copying and Pasting

A new feature of the Shell is the ability to copy and paste information from one console window, such as a Shell or MEmacs window, to the same or another window. For instance, if you are using a text editor to write a script file, you can generate a DIR listing in a Shell, then transfer it to the editor.

To copy and paste information, highlight the area of text to be copied by moving the pointer to the beginning of the text area, holding down the selection button, and dragging the pointer to the end of the area to be copied. The text will be highlighted in the window as you drag the mouse. Release the selection button, and the area you have indicated will remain highlighted. Press right Amiga-C to copy the highlighted text into memory.

Now move the pointer to the other console window, and click inside it at the point where you want to insert the text. Press right Amiga-V, and the text will be "pasted" into the second window. You can paste the text repeatedly by moving the cursor to the desired location and pressing right Amiga-V.

## Customizing the Window

The Shell supports a WINDOW Tool Type that allows you to specify the size, position, and features of the Shell window.

The Tool Type is in the form of:

WINDOW = CON:x/y/width/height/title/option

where:

x	Is the number of pixels from the left edge of the screen to the left border of the window.
y	Is the number of pixels from the top of the screen to the top of the window.
width	Is the width of the window, in pixels.
height	Is the height of the window, in pixels.
title	Is the text that appears in the window title bar.

The permissible options are:

AUTO	The window automatically appears when the program needs input or produces output.
CLOSE	The window has all the standard gadgets.
BACKDROP	The window appears on the backdrop, behind all the Workbench windows. The only gadget in the window border is the zoom gadget. This Shell window cannot be brought to the front of the screen.
NOBORDER	The window opens without any left or bottom window border. Only the zoom, depth, and sizing gadgets are available.

NOBORDER	The window opens without any left or bottom window border. Only the zoom, depth, and sizing gadgets are available.
NODRAG	The window cannot be dragged. It has a zoom, depth and sizing gadget, but no close gadget.
NOSIZE	The window only has a depth gadget.
SIMPLE	If you enlarge the window, the text will expand to fill the newly available space, allowing you to see text that had been scrolled out of the window. {Default for Shell windows.}
SMART	If you enlarge the window, the text does not expand to fill the newly available space.
WAIT	The window can only be closed by selecting the close gadget.

For instance, if you were working with a Hires screen, and you wanted your Shell window to fill the entire screen, have a close gadget, and include your name in the title, you would use the following Tool Type:

`WINDOW = CON:0/0/640/200/Ralph'sShell/CLOSE`

Remember, if you add the x and width numbers, they cannot be greater than the width of the screen. Likewise, the sum of the y and height numbers cannot be greater than the height of the screen.

## The Shell-startup File

Whenever you open a new Shell, the S:Shell-startup file is executed. The Shell-startup file allows you to customize your Shell environment. You can edit Shell-startup to set up command aliases and to change the Shell prompt.

### Using Aliases

An **alias** is an abbreviation for a long and/or frequently used command. An alias can be either local or global. Local aliases are entered in a Shell window and are only recognized in that Shell. Global aliases are entered into the Shell-startup file and are recognized by all Shells.

An alias takes the form of:

```
ALIAS <name> <string>
```

where <name> is the alias, the name you want to type at the Shell prompt to execute a command. The <string> is the command line you want to execute. Whenever you use the <name> at a Shell prompt, the <string> will be substituted, as if you had entered it instead. For instance:

```
ALIAS d0 DIR DF0:
```

lets you type d0 to display the contents of the disk in DF0:.

The <string> can include arguments as well as a command, but it must begin with an AmigaDOS command. The alias must be entered immediately after the prompt, but you can include further arguments on the line after the alias.

## Changing The Prompt

The PROMPT command lets you customize the Shell prompt. By default, it shows the process number, a period, the current directory, a right angle bracket {>}, plus a space:

```
1.SYS:>
```

This is represented in the Shell-startup file by:

```
PROMPT "%N.%S> "
```

where %N represents the current Shell number and %S represents the current directory. The entire string is enclosed in quotes to maintain the final space after the >.

You can have the prompt display almost anything you want, with or without the process number and directory information. You can even embed complete AmigaDOS commands in the prompt enclosing them with back apostrophes (').

## Running Programs

Most programs can be run both from the Workbench and from the Shell. To run a program from the Shell, you usually type the program name at the Shell prompt. (If the program file is not in the current directory or search path, you will have to specify the complete path to the file.) This tells AmigaDOS to load and execute the program.

Most programs allow you to specify additional information on the command line after the program name, such as the name of a file to load or startup options. This is called **argument passing** (giving a command parameters to follow).

For example:

```
1> MEmacs
```

loads and runs MEmacs.

```
1> MEmacs S:User-startup
```

loads and runs MEmacs, automatically opening the User-startup file in the S: directory as the file to begin editing. However, the Shell prompt will disappear, and you will not be able to enter any additional commands until you exit MEmacs.

Another way to enter a program name is with the RUN command which loads and runs a program in the background without opening a Shell window. This means that the Shell prompt will return after the program is opened. For instance, if you type:

```
1> RUN MEmacs
```

the MEmacs editor will open, and the Shell prompt will return, allowing you to enter additional commands in the Shell window. You cannot close the Shell window if any programs launched from that window are still running.

## **Scripts**

A script file, also called a command file, is a text file containing a list of commands, typed on separate lines much as they would be typed at successive Shell prompts. A script can be created with any text editor that saves files in ASCII format.

Scripts are used for repetitive and/or complex tasks. For instance, it is sometimes necessary to perform the same operation on a large number of files. Instead of entering each

command individually, you could create a script that repeats the same command but substitutes a different filename in each command line.

For instance, if you had several files that you needed to rename, you could use a script like this:

```
RENAME section1 chap1.1
RENAME section2 chap1.2
RENAME section3 chap1.3
RENAME section4 chap1.4
RENAME section5 chap1.5
RENAME section6 chap1.6
RENAME section7 chap1.7
RENAME section8 chap1.8
```

This example assumes that the files are in the Shell's current directory. If not, you would have to specify the complete path to the file.

Once a script file has been created, it is run via the EXECUTE command. Typing EXECUTE <script> at a Shell prompt tells the system to read the script and execute each line. If the s (script) protection bit is set, you can enter the script name without preceding it with EXECUTE.

## The Startup-Sequence

Whenever you boot your Amiga, the Startup-sequence script is executed. This file is located in the S: directory. The Startup-sequence file can make device assignments, set command aliases, and perform any other functions that can be accomplished with AmigaDOS commands.

The Startup-sequence, and the other startup files in the S: directory, can easily be modified to customize many aspects of your system. In addition to more technical system matters, the startup files can run programs at startup, print special introductory messages, or automatically open a Shell window on the Workbench screen.

In most cases, it is strongly suggested that you do not alter the original Startup-sequence file. Instead, create a new file called User-startup that contains any additional commands you want to add to the startup process. The standard Startup-sequence checks for the presence of a file called User-startup in the S: directory and automatically executes it if it is found.

If you do make changes to your Startup-sequence file, make sure you are working on a copy of your Workbench disk, not the original. If you make a mistake, the execution of the Startup-sequence is aborted, and you will be left with only a Shell prompt. Depending on whether the error occurred before or after the Workbench was loaded, you may not be able to access any menus or icons.

There are some things you should keep in mind when editing your User-startup file:

- Be sure you understand the correct command syntax. Try out any commands you plan to insert in a Shell window first. If a command works properly in the Shell, it will probably work as expected in the Startup-sequence.
- Pay attention to the order of commands in the script. Some commands can be put anywhere. However, when inserting commands that refer to directories and files, be sure you aren't referencing something that has not yet been created, assigned, or given a valid path. For instance, if you insert a command copying something to the T: directory, and the T: directory has not yet been created or assigned, you will receive an error message.
- Feel free to add comments to your scripts. If you insert a semicolon at the end of a command line, anything to the right of the semicolon is ignored by AmigaDOS. It just appears in the script as a comment to remind you of what you are trying to accomplish.

Some simple additions that can be made to your startup files are described below. Be sure to make any changes on a backup copy of the Workbench disk.

To automatically open a Shell window, add the following lines to the User-startup file:

```
cd SYS: ; You could also make this cd RAM:  
New Shell CON:0/0/640/200:AmigaShell/CLOSE
```

You could substitute any name you like for AmigaShell.

If you always boot with a specific floppy disk in your external disk drive, you can add additional paths and logical device names to your User-startup file. For instance, if you always boot with the Extras2.0 disk in DF1:, you could add the following line:

```
PATH Extras2 0: ADD
```

Some additional commands that are often added to the User-startup file are explained in the following section, "For Users with Only One Disk Drive."

## **For Users with Only One Disk Drive**

If your system has only one floppy drive, you must be prepared for a certain amount of disk swapping in the course of your work. AmigaDOS is a disk-based system and needs to load many of its commands from the Workbench disk before it can execute them.

If you need a file on another disk, such as a data disk containing text files, you will have to swap disks frequently. You need to insert the Workbench disk so that the Amiga can read the command information, then insert the data disk so the

command can be executed. For instance, if you want to rename a file on your data disk, the system will need to read the **RENAME** program from the Workbench disk, then you'll have to insert the data disk so that it can actually rename the file.

Two AmigaDOS commands, **RESIDENT** and **ASSIGN**, allow you to minimize the amount of disk swapping you have to do. These commands are explained in the following sections. You can also minimize disk swapping by using the Ram Disk. This is explained in "The Ram Disk" section on page 7-41.

## Making Commands Resident

A number of important AmigaDOS commands are Internal and do not need to be loaded from disk. While you cannot make commands Internal, you can make other commands **resident** so that you do not need to have the Workbench disk in the drive when you use them. Making commands resident essentially copies the program into the Amiga's free memory. When the command is invoked, the program information is used in memory instead of being read from disk. This is also faster than loading the command from disk.

Making commands resident uses memory. Ideally, you should only make resident the commands that you use most often. Otherwise, you may be taking valuable RAM away from other programs. To determine approximately how much memory will be used if you make a command resident, use the **LIST** command. For instance,

```
1> LIST C: COPY
Directory "Sys:C:" on Monday 25-Jun-90
copy 3552 --p-rwed 20-Jun-90 17:22:02
```

The size of the file is shown to the right of the filename. In this case, the **COPY** command is 3552 bytes. If it is made resident, it will consume approximately 3552 bytes of RAM. The pure protection bit of a command must be set in order for it to be made resident.

On a system with only 512K of RAM, you may want to make DELETE, INFO and RENAME resident. If you have additional memory, you might also want to make MAKEDIR, DISKCOPY and FORMAT resident.

To make a command resident, type RESIDENT followed by the path to the command. The RESIDENT command(s) can be added to your User-startup file. For instance, to make DELETE, INFO and RENAME resident, you would add the following lines:

```
RESIDENT C:DELETE  
RESIDENT C:INFO  
RESIDENT C:RENAME
```

## Using ASSIGN's PATH Option

Another way to reduce the frequency of disk swaps is with the PATH option of the ASSIGN command. Normally, AmigaDOS will look on the original boot disk for any commands, device drivers, libraries, and other system software it needs. If another disk is in the disk drive, you will get a requester asking for the original boot disk. This requester will appear even if the disk currently in the drive contains the file the system needs. The PATH option of the ASSIGN command allows you to direct AmigaDOS to look for the files it needs on any disk inserted in the designated drive.

To use the PATH option, you should add the following commands to your User-startup script:

```
ASSIGN C: DFO:C PATH  
ASSIGN L: DFO:L PATH  
ASSIGN LIBS: DFO:Libs PATH  
ASSIGN DEVS: DFO:Devs PATH  
ASSIGN FONTS: DFO:Fonts PATH
```

This makes using several different disks more convenient. You can also copy system directories onto application disks that may require them. You will no longer need to keep reinserting the original boot volume.

## **Making Room on Your Workbench Disk**

If you try to add programs to your Workbench disk, such as fonts or printer drivers, you will find that the disk is very full. You can eliminate some files from the Workbench disk to make room for other files you may need. However, this involves deleting system software from your Workbench disk. If you decide to try this, be sure you are working with a copy of the Workbench disk, not the original. The original, unchanged Workbench disk should always be kept safe in case you need to restore a deleted file.

Be sure to document any changes you make to your system disks. You may also want to add a statement in the disk's User-startup file to remind you that you are working with a non-standard Workbench.

When deleting files from your Workbench2.0 disk, you should start with the least crucial files first, such as the Clock and Exchange programs in the Utilities directory. Also, if you do not change your Preferences settings very often, you can delete the individual Preferences editors in the Prefs directory. By moving these programs and their icons to a different disk you can delete approximately 200K of data from the Workbench2.0 disk.

Do not delete Display, More, the Env-Archive subdirectory of Prefs, or the entire Prefs directory as other applications may call upon these programs or directories. If the program cannot be found, the application may fail inexplicably.

If you only use one of the AmigaDOS editors, ED, EDIT, or MEMacs, you can delete the other editors. Do not delete all three editors, however. You should always have at least one editor on the disk in case you need to modify your User-startup file or perform some other quick editing function. ED takes up approximately 24K, while EDIT only consumes 14K. MEMacs is on the Extras disk.

If after deleting these programs you still need additional room, you may want to delete the programs that control the Amiga's speech capability: `DEVS:Narrator.device`, `LIBS:Translator.library`, and `L:Speak-handler`. However, this is not recommended, as it may not be obvious which application programs use these files, and you could experience unexplained software failures. Deleting these programs will make approximately 75K of disk space available.

Finally, if you absolutely must have more space, you can delete the files pertaining to the AREXX programming language: `REXXC:`, `System/RexxMast`, `System/RexxMast.info`, `LIBS:rexsyslib.library`, and `LIBS:rexsupport.library`. This will make almost 50K of disk space available. Again, this is not recommended as many application programs may call upon these files.

Files that you should not delete are listed below.

- `C:IPrefs`
- `DEVS:MountList`
- `DEVS:parallel.device`
- `DEVS:printer.device`
- `DEVS:serial.device`
- `LIBS:asl.library`
- `LIBS:Commodities.library`
- `LIBS:Diskfont.library`
- `LIBS:lffparse.library`
- `S:Startup-sequence`
- `S:Shell-startup`
- `L:Port-handler`

Be careful when deciding what to eliminate. Don't delete any more than you have to in order to get the new material to fit. If you don't know the purpose of a file, leave it alone. You may end up with several Workbench disks, each customized to allow the Amiga to work optimally with different programs.

## **The Ram Disk**

RAM:, represented on the Workbench screen by the Ram Disk icon, is an area of the Amiga's internal memory that is set up as a file storage device like a disk. Files, directories, and (available memory permitting) entire floppy disks can be copied to RAM: for temporary storage.

The size of RAM: is dynamic. It is never any larger than necessary to hold its contents. Therefore, it is always 100% full. Its maximum size is limited by the amount of free memory.

The primary advantage of RAM: is speed. Since it is electronic, rather than mechanical, storage and retrieval are almost instantaneous. The disadvantage of RAM: is that data stored in RAM: does not survive when the computer is powered down or rebooted.

Applications commonly use RAM: for the storage of temporary files created during the use of the program or backup files created when the program is exited. This way they do not force the user to have a floppy disk available. RAM: can also be used for the storage of experimental script files, as a destination for testing command output, and whenever the creation of a file on an actual disk would be too slow, risky or inconvenient.

RAM: is particularly useful when you are doing something that requires repeated disk accesses to a group of related files. If you can load the group of files into RAM:, work with them individually while they are in RAM:, then copy them back to the floppy disk when the operation is finished, you only have to access the floppy disk twice. All the other file operations would take place internally in RAM:. This would speed up the process considerably.

For instance, suppose you have a directory called *Brushes* which contains two dozen IFF files, and you need to modify each file with a graphic program called *Paint*. If you worked solely from your floppy disk, you would have to run *Paint*, load each brush individually, change it, and save it back to disk. If you had to do this for each of the twenty-four files, it could take a considerable amount of time.

However, if you copied the IFF files into RAM:, you could run *Paint*, load each brush directly from RAM:, change it, then save it back to RAM:. After you were finished with the files, you could copy the entire group back to the floppy disk.

On a single-floppy system, RAM: can be used to reduce the amount of disk swapping required for floppy-to-floppy transfers. By making your temporary, incremental saves to RAM:, you can keep the Workbench or program disk in the drive until you need to save data to disk.

Be careful when using RAM: for storage of important files. If the Amiga loses power, has a software failure, or you reboot, everything stored in RAM: will be lost. Be sure when working with RAM: to regularly back up any important files on a floppy disk.

*NOTE:* You cannot copy a disk to RAM: by dragging the source disk icon over the Ram Disk icon. To copy a disk to RAM:, you should open the Ram Disk icon, and drag the floppy disk icon into the Ram Disk window. This will create a drawer with the name and contents of the floppy disk.

## Command Summary

This section includes a short summary of AmigaDOS commands, their functions, and in some instance, examples of their use. This summary only specifies the basic options of each command. Many commands support more extensive options which are not covered here. For complete information on using AmigaDOS commands, please contact your local bookstore or Commodore dealer for a comprehensive guide to AmigaDOS 2.0.

The following notation is used in this summary:

<angle brackets>	Indicate that a substitution must be made. For instance, <filename> shows that you must supply the name of the file you want to work with. <n> indicates that a numerical substitution must be made.
[square brackets]	Surround optional information. For instance, [FROM] indicates that you can specify the word FROM in the command line, but it is not necessary.
{braces}	Indicate that multiple arguments may be supplied. For instance, {dir} means that you can specify more than one directory name.
	A vertical bar indicates that you can choose one of several options. For instance, [CHIP FAST TOTAL] indicates that you can choose CHIP, FAST, or TOTAL, but the keywords are optional.

The commands are categorized by function: File Management, System Management, Shell Management, and Script Commands.

The descriptions of the commands are presented in the following format:

COMMAND—Purpose of command.  
keywords and options

1> Example

## File Management

**COPY**—Copies files or directories.

[FROM] {<name>} [TO] <name>

1> COPY TestFile to Results

Makes a copy of the TestFile file and names it Results.

1> COPY DF0:Paintings to DF1:Art

Creates a new directory, called Art, on the disk in DF1: and copies the entire contents of the Paintings directory on DF0: to the Art directory. If the Art directory was not specified in the TO argument, all of the files in the Paintings directory of DF0: would be copied to the root directory of DF1:.

**DELETE**—Deletes files or directories.

{<name>} [ALL]

1> DELETE Old-file

1> DELETE DF0:Documents ALL

Deletes the Documents directory and all the files and subdirectories contained within it.

**DIR**—Displays a sorted list of files and subdirectories.

[<dir>]

1> DIR Workbench2.0:Utilities

**DISKCOPY**—Copies the contents of one disk to another.

[FROM] <disk> TO <disk>

1> DISKCOPY DF0: TO DF1:

**DISKDOCTOR**—Attempts to repair a corrupted disk.

<drive>

1> DISKDOCTOR DF0:

**ED**—Starts the ED text editor.

<filename>

**EDIT**—Starts the EDIT line editor.

<filename>

**FILENOTE**—Attaches a comment to a file.

<filename> [COMMENT]

1> FILENOTE DF0:Sky 2 "sky scene with gulls flying by"

**JOIN**—Concatenates files into one new file.

{<filenames>} AS <filename>

1> JOIN Chapter1 Chapter2 Chapter3 AS Manual

**LIST**—Lists information about directories and files.

{[dir]filename}

1> LIST Workbench2.0:Utilities/Clock

Directory "System2.0:Utilities" on Thursday 17-Jan-91

clock 13128 ----rwd 21-Sep-90 18:06:43

**LOCK**—Sets the write-protect status of a disk.

<drive> [ON|OFF] [<passkey>]

1> LOCK DF0: ON Oranges

You will be able to read the contents of DF0:, but you will not be able to make any changes to the disk. To unlock the disk you must type:

1> LOCK DF0: OFF Oranges

In this example, Oranges is the passkey. If you do not specify it, you cannot unlock the disk.

**MAKEDIR**—Creates a new directory.

{<name>}

1> MAKEDIR DF0:MyDirectory

1> MAKEDIR DF0:Letters DF0:Invoices DF0:Expenses

**MAKELINK**—Creates a link between files.

[FROM] <file> [TO] <file>

**PROTECT**—Changes the protection bits of a file.

<file> [+|-] [<flags>]

1> PROTECT DF1:MyFile -d

Protects the MyFile file from deletion by removing the d (deletable) protection bit.

**RELABEL**—Changes the name of a disk.

<drive> <name>

1> RELABEL DF0: MyDisk

**RENAME**—Changes the name of a file or directory.

<name> [TO] <name>

1> RENAME DF0:ArtDrawer DF0:Pictures

**SEARCH**—Searches for text in a file or directory.

<directory> <string>

1> SEARCH DF0: Workbench

Looks through the files on the disk in DF0: for the word Workbench.

**SORT**—Alphabetically sorts the lines of a file.

[FROM] <file> [TO] <file>

1> SORT DF0:Glossary to DF0:Glossary.alpha

**TYPE**—Displays the contents of a file.

[FROM] {files}

1> TYPE DF0:S/User-Startup

**WHICH**—Searches the command path for a file.

<file>

1> WHICH clock

Workbench2.0/Utilities/Clock

## System Management

**ADDBUFFERS**—Commands the file system to add cache buffers.

<drive> [<n>]

1> ADDBUFFERS DF0:  
DF0: has 20 buffers

1> ADDBUFFERS DF1: 25  
DF1: has 30 buffers

**ASSIGN**—Controls assignment of logical device names to file system directories.

[<name>: {dir}]

1> ASSIGN FONTS: MyFonts:Fontdir

Assigns the system FONTS: directory to the Fontdir directory on the MyFonts disk.

**AVAIL**—Reports the amounts of available Chip and Fast memory.

[CHIP|FAST|TOTAL]

1> AVAIL CHIP  
233592

**BINDDRIVERS**—Binds device drivers to hardware.

**CHANGETASKPRI**—Changes the priority of a currently-running process.

<priority> [<process>]

1> CHANGETASKPRI 4 Process 2

Changes the priority of Process 2 to 4 giving it priority over any other processes created without using CHANGETASKPRI (those tasks will have a priority of 0).

**CONCLIP**—Allows the copying and pasting of information from one console window to another.

**CPU**—Adjusts various options of the microprocessor installed in your Amiga.

DATE—Displays or sets the system date and/or time.

[<day>|<date>|<time>]

1> DATE 17-aug-91 9:00

Sets the date to the 17th of August, 1991, and sets the time to 9 o'clock a.m.

DISKCHANGE—Informs the Amiga that you have changed a disk in the disk drive (only needed with 5.25 disk drives).

<device>

INFO—Displays information about the system.

<device>

1> INFO DF0:

Mounted disks:

Unit	Size	Used	Free	Full	Errs	Status	Name
DF0:	880K	1582	76	95%	0	Read Only	Workbench 2.0

INSTALL—Writes a boot block to a formatted floppy disk.

<DF0:|DF1:|DF2:|DF3:> [NOBOOT] [CHECK] [FFS]

1> INSTALL DF0:

Writes a valid boot block to the disk in DF0:.

1> INSTALL DF1: CHECK

No bootblock installed

Reports whether or not the disk in DF1: has a valid boot block.

IPREFS—Sends Preferences information to the Workbench.

LOADWB—Starts the Workbench.

MOUNT—Informs the system that a device has been attached to the Amiga.

<device>

REMRAD—Removes the recoverable ramdrive.device.

<device>

RESIDENT—Displays or changes the list of resident commands.

[<resident name>|<filename>]

1> RESIDENT Workbench2.0.C:/Delete

**SETCLOCK**—Sets or reads the battery backed-up clock.

[LOAD|SAVE|RESET]

1> SETCLOCK LOAD

copies the time stored in the software clock to the battery-backed up hardware clock, if there is one.

**SETDATE**—Changes a file or directory's timestamp.

**SETPATCH**—Makes a temporary ROM patch.

**VERSION**—Displays the software version and revision numbers.

1> VERSION

Kickstart version 37.11 Workbench version 37.10

## Shell Management

**ALIAS**—Sets or displays command aliases.

[<name>| [<string>]

1> ALIAS d1 DIR DF1:

Typing d1 results in a directory of the contents of the disk in DF1:, just as if you had typed DIR DF1:.

**BREAK**—Sets attention flags in the specified process.

<process> [ALL|C|D|E|F]

1> BREAK 5D

Set the Ctrl-D attention flag of process 5.

**CD**—Sets, changes or displays the current directory.

[<dir|pattern>]>]

1> CD DF1:Work

**ENDCLI**—Ends a Shell process.

**ENDSHELL**—Ends a Shell process.

**FAULT**—Prints an explanation of an error code.

**GET**—Displays the value of a local environment variable.

<name>

**GETENV**—Displays the value of a global environment variable.

<name>

**NEWCLI**—Starts a Shell process.

**NEWSHELL**—Starts a Shell process.

**PATH**—Controls the search path.

[{dir}]

1> PATH DF1:Paint

Adds the Paint directory on the disk in DF1: to the search path.

**PROMPT**—Changes the Shell prompt.

[<prompt>]

Permissible substitutions: %N—Shell number; %S—current directory; %R—return code.

1> PROMPT "MyShell.%N>"  
MyShell.1>

**RUN**—Executes a command in the background.

<command>

1> RUN Utilities:Clock

**SET**—Creates a local environment variable.

**SETENV**—Creates a global environment variable.

**SETFONT**—Changes the font used by the Shell.

<font> <size> [ITALIC] [BOLD] [UNDERLINE]

1> SETFONT Topaz 13 BOLD UNDERLINE

**STACK**—Displays or sets the stack size of a process.

<n>

**STATUS**—Displays information about the Shell processes.

**WHY**—Prints an error message explaining the last failure.

## **Script Commands**

**ASK**—Asks for user input.

**ELSE**—Specifies an alternative condition.

**ENDIF**—Terminates an IF block.

**ENDSKIP**—Terminates a SKIP block.

**EVAL**—Evaluates simple expressions.

**EXECUTE**—Executes a script.

**FAILAT**—Sets the fail level.

**FAULT**—Prints an explanation of an error code.

**ICONX**—Executes a script from an icon.

**IF**—Evaluates a conditional operation.

**LAB**—Specifies a label.

**QUIT**—Exits a script upon a specified error code.

**SKIP**—Execution skips to the specified label.

**WAIT**—Waits for a specified time.



## **Appendix A.**

### **Troubleshooting**

If you encounter a problem while using the system software, check the following table.

<b>Symptom</b>	<b>Cause</b>	<b>Remedy</b>
Display is flickering; screen is not positioned properly.	The wrong display mode is selected.	Open the ScreenMode editor in the Prefs drawer and reselect the appropriate display mode. (See page 3-27). If the screen display is so bad that you cannot understand it all, you may have to reboot with a different Workbench disk.
A requester asks you to insert a particular volume into any drive.	The system cannot find the program it is looking for. The program may have been moved to a different drawer or the floppy disk containing the program may have been renamed.	Check the name of the floppy disk or drawer containing the program. If the name is different than what the program is looking for, you may need to add an ASSIGN statement to your User-startup file.

Symptom	Cause	Remedy
A requester states that there is not enough memory to load a program.	You have too many programs running and there is not enough RAM left to start another program.	Close any unnecessary windows.
A requester states that your disk cannot be validated or that it has a read/write error.	Your disk may have become corrupt.	Use DISKDOCTOR, or another disk repair utility, to try to retrieve your files.
You cannot move the pointer, and keyboard input has no effect.	Your program has crashed.	Reboot.
The screen goes blank, then a flashing red box appears stating an error, such as Not Enough Memory.	A program performed an illegal action which was serious enough to cause a system failure.	Press the left mouse button, and the computer will reboot.
A flashing green box appears stating Recoverable Alert.	A program performed an illegal action which caused an error from which the system can recover.	Press the left mouse button.

# **Appendix B. Printers**

This appendix covers the printer drivers that are included in the Devs/Printers drawer of the Extras2.0 disk as well as the printer escape sequences used by the Amiga.

## **Printer Drivers**

A printer driver acts as a translator. The Amiga has one way of encoding information, but different printers require information in different formats. The printer driver takes the information from the Amiga and translates it into the proper format for the particular printer.

The printer drivers listed in this section are:

CBM_MPS1000	ImagewriterII
Diablo_630	NEC_Pinwriter
EpsonQ	Okidata_293I
EpsonX	Okidata_92
EpsonXOld	Okimate_20
HP_Deskjet	Toshiba_P351C
HP_LaserJet	Toshiba_P351SX

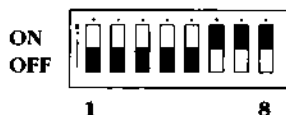
The specifications frequently refer to the gadgets in the Printer and PrinterGfx editors. Different gadget settings can have specific effects on your printout. For instance, you'll notice that many of the drivers support several densities. Density refers to the number of dots per inch used to make the printout. The higher the number of dots, the smaller the dots will be and the clearer the picture. However, the higher the density, the longer it takes to print. In the case of multiple densities, you

must decide whether you prefer faster printing or a higher quality print. You can select the appropriate density with the Density gadget of the PrinterGfx editor.

In most cases, if you select a density greater than the highest density supported, it will have no effect. For instance, if the highest density supported is 4, selecting a density of 5, 6, or 7 will have the same effect as selecting a density of 4.

Densities are shown in the format xdpi x ydpi, such as 203 x 200 dpi. This means that the printer prints 203 dots per horizontal inch, and 200 dots per vertical inch. In the case of multiple densities, a table with columns for XDPI, YDPI and XYDPI shows the dpi produced by each density. XYDPI is the number of dots per square inch; it is the result of multiplying the number of horizontal dots by the number of vertical dots.

There are also diagrams of the appropriate DIP switch or jumper settings for many of the printers. In the DIP switch diagrams, the correct position of the switch is indicated by the black box. For instance, in the diagram below, switches 1, 2, 3, 4, and 5 are off, and switches 6, 7, and 8 are on.



Be sure to consult the documentation packaged with your printer for the exact function of each switch.

## CBM MPS1000

This driver can also be used with IBM5152 compatible printers. If you own a CBM MPS 1250 or MPS 1270, use the EpsonX printer driver.

- Dot matrix black-and-white printer; prints text and graphics.
- Multiple densities are supported:

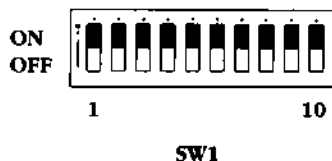
Density	XDPI	YDPI	XYDPI	Comments
1	120	72	8640	
2	120	144	17280	Performs two passes
3	240	72	17280	
4	120	216	25920	Performs three passes
5	240	144	34560	Performs two passes
6	240	216	51840	Performs three passes

- A density of 6 is the highest supported.
- Switch settings:

### CBM MPS1000

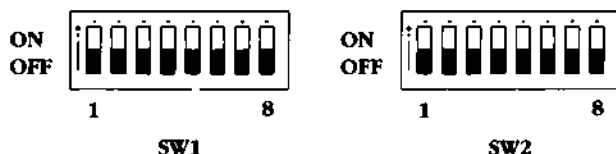


### Canon BJ-130 with Control Capsule 48/XL — IBM Proprinter® Compatible



**Diablo 630**

- Daisy-wheel printer; prints text only.
- Switch settings:

**EpsonQ**

This driver can be used with all the Epson® Q series compatible printers (LQ1500, LQ2500, etc.).

- 24-pin, dot-matrix black-and-white/color printer; prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI
1	90	180	16200
2	120	180	21600
3	180	180	32400
4	360	180	64800

- A density of 4 is the highest supported. When a density of 4 is selected, the printer cannot print two consecutive dots in a row. It is recommended that you only use this density for black-and-white printing.
- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide carriage printers is 13.6 inches.

- If the Paper Type gadget is set to Single, only 16 of the 24 pins are used. This option is useful for printers that have a weak power supply and cannot drive all 24 pins continuously. If you notice during a single pass of the print head that the top two-thirds of the graphics are darker than the bottom one-third, you should probably set the Paper Type to Single.
- If the Paper Type gadget is set to Fanfold, all 24 pins are used.

## EpsonX

This driver can be used with the CBM MPS 1250 printer and all 8/9-pin Epson X series compatible printers (EX, FX, JX, LX, MX, RX, etc.).

If you are using an Epson X compatible printer and you notice that this driver does not work properly in graphics mode, try the EpsonXOld printer driver.

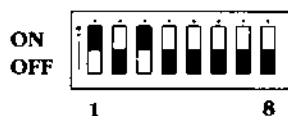
- Dot matrix, black-and-white and color printer; prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI	Comments
1	120	72	8640	
2	120	144	17280	Performs two passes
3	240	72	17280	
4	120	216	25920	Performs three passes
5	240	144	34560	Performs two passes
6	240	216	51840	Performs three passes

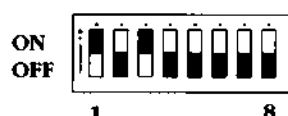
- A density of 6 is the highest supported.
- When printing 240 xdpi (a density of 3, 5, or 6), the printer cannot print two consecutive dots in a row. It is recommended that you only use this density for black-and-white printing.

- If you're printing 72 ydpi (a density of 1 or 3), and you notice tiny, white horizontal stripes in your printout, try setting the Paper Type gadget to Single. In this mode, the line feed will be the number of vertical dots printed less one-third of a dot.
- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide carriage printers is 13.6 inches.
- Switch settings:

**Commodore MPS 1250 Printer**



**Serial/Parallel  
Interface Pack**

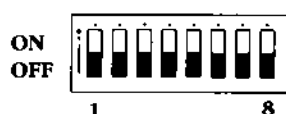


**Printer Internal Switch**

**Epson EX-1000 Printer**



**SW 1**

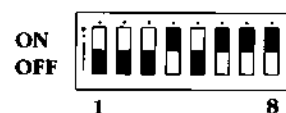


**SW 2**

**Epson FX-80 Printer**



**SW 1**



**SW 2**

## EpsonXOld

This driver is for older 8/9-pin Epson X compatible printers as well as the Star Micronics Gemini 10-X printer. If you are using an EpsonX compatible printer and you notice that the EpsonX driver does not work properly in graphics mode, try this driver.

- Dot matrix, black-and-white printer; prints text and graphics.
- Multiple densities are supported:

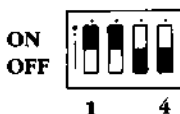
Density	XDPI	YDPI	XYDPI	Comments
1	60	72	4320	
2	120	72	8640	Double speed
3	120	72	8640	
4	240	72	17280	
5	120	72	8640	Use with Star printers
6	240	72	17280	Use with Star printers

- Setting the Density gadget to 7 has the same result as setting it to 4.
- When printing 240 xdpi (a density of 4 or 6), the printer cannot print two consecutive dots in a row. It is recommended that you only use this density for black-and-white printing.
- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide carriage printers is 13.6 inches.
- Switch settings:

### Star Micronics Gemini 10-X



SW 1 (Internal)



SW 2 (External)

## **HP\_DeskJet**

- Ink-jet, black-and-white printer; prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI
1	75	75	5625
2	100	100	10000
3	150	150	22500
4	300	300	90000

- A density of 4 is the highest density supported.
- The maximum print area is 8.0 x 10.0 inches.
- Switch settings:



## **HP\_LaserJet**

This driver can be used with LaserJet Plus™ and LaserJet II compatible printers.

- Laser engine, black-and-white printer; prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI
1	75	75	5625
2	100	100	10000
3	150	150	22500
4	300	300	90000

- A density of 4 is the highest density supported.
- The maximum print area is 8.0 x 10.0 inches.
- There are no DIP switches.

## ImagewriterII

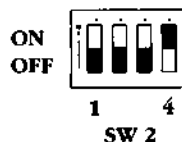
This driver can be used with Imagewriter™ printers.

- Dot matrix, black-and-white/color printer; prints text and graphics.
- Multiple densities are supported:

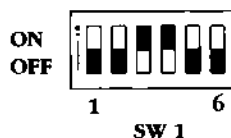
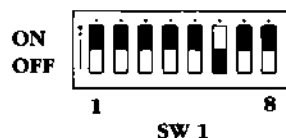
Density	XDPI	YDPI	XYDPI	Comments
1	80	72	5760	
2	120	72	8640	
3	144	72	10368	
4	160	72	11520	
5	120	144	17280	Performs two passes
6	144	144	20736	Performs two passes
7	160	144	23040	Performs two passes

- Switch settings:

### Imagewriter



### ImagewriterII



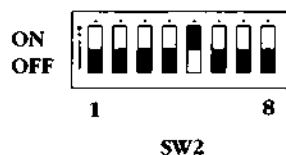
**NEC Pinwriter**

This driver can be used with all NEC® 24-wire Pinwriter® compatible printers (P5, P6, P7, P9, P2200, etc.).

- Dot matrix, black-and-white/color printer; prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI	Comments
1	90	180	16200	
2	120	180	21600	
3	180	180	32400	
4	120	360	43200	Performs two passes
5	180	360	64800	Performs two passes
6	360	180	64800	
7	360	360	129600	Performs two passes

- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide carriage printers is 13.6 inches.
- Switch settings:

**NEC Pinwriter P9XL**

## Okidata.293I

This driver can be used with the Okidata® 292 or 293 printers with the IBM interface module.

- Dot matrix, black-and-white printer, prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI	Comments
1	120	144	17280	
2	240	144	34560	
3	120	288	34560	Performs two passes
4	240	288	69120	Performs two passes

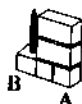
- A density of 4 is the highest density supported.
- If the Paper Type gadget is set to Single and you're printing 144 ydpi (a density of 1 or 2), line feeds are equal to the number of vertical dots printed less one-half of a dot. You may want to use this setting if you notice tiny white, horizontal stripes on your printout.
- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide carriage printers is 13.6 inches.
- Jumper settings:

### ML-292/293 Personality Module

**SP1**



**SP4**



**Okidata\_92**

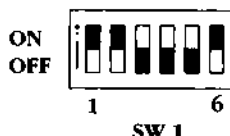
- Dot matrix, black-and-white printer; prints text and graphics.
- One density is supported: 72 x 72 dpi.
- Line feeds are always 7/72 of an inch.

**Okimate\_20**

- Thermal transfer, black-and-white/color printer; prints text and graphics.
- One density is supported: 120 x 144 dpi.
- Line feeds are equal to an even number of dots printed. For instance, if three dots were printed, four dots will be advanced.
- Switch settings:

**Parallel Plug'n Print Kit**

*NOTE:* Switch 5 on some models controls the white space between the lines of a graphic dump.

**Serial Plug'n Print Kit**

*NOTE:* The SW1 settings specify a baud rate of 9600, XON/XOFF handshaking, 8 bits, and no parity. On some models, switch 5 of SW2 controls the white space between the lines of a graphic dump.

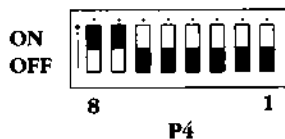
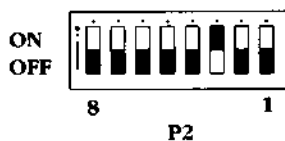
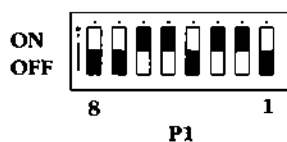
## Toshiba\_P351C

This driver can be used with all 24-pin Toshiba P351C compatible printers.

- Dot-matrix, black-and-white/color printer; prints text and graphics.
- Two densities are supported:

Density	XDPI	YDPI	XYDPI
1	180	180	32400
2	360	180	64800

- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide carriage printers is 13.5 inches.
- Switch settings:



## **Toshiba\_P351SX**

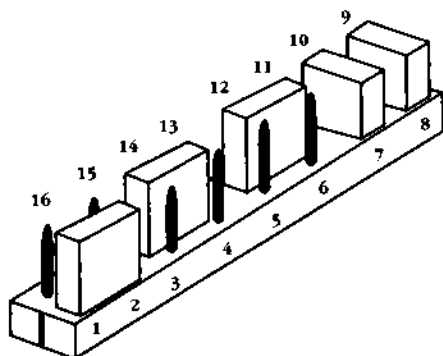
This driver can be used with all Toshiba P351SX compatible printers (321SL, 321SLC, 341SL).

- Dot matrix, black-and-white/color printer; prints text and graphics.
- Multiple densities are supported:

Density	XDPI	YDPI	XYDPI	Comments
1	180	180	32400	
2	360	180	64800	
3	180	360	64800	Performs two passes
4	360	360	129600	Performs two passes

- A density of 4 is the highest density supported.
- If the Paper Size gadget is set to Wide Tractor, the maximum print width for wide-carriage printers is 13.5 inches.
- Jumper settings:

If using the serial interface, set the jumpers in the following positions:



## Printer Escape Sequences

The Amiga print device (PRT:) accepts standard escape sequences that allow you to implement special printer features. For instance, you can use escape sequences to set margins, turn on styles (like boldface or italics), and specify spacing. (If the feature is not supported by your printer or printer driver, the escape sequence will be ignored.)

Escape sequences are typically used when you are printing to the printer device directly from the Shell or when you are inserting print commands into a program you are writing. These escape sequences are not necessary if you are using a word processor or desktop publishing programs, as you can specify the printing options through the program.

A typical escape sequence (to turn on boldfacing) is shown below:

Esc[1m

This means that you must press the following keys in sequence: Esc, [, 1, m. Escape sequences are case-sensitive. For instance, to enter the following escape sequence:

Esc[4W

you must press: Esc, [, 4, Shift, W.

If a number needs to be inserted into the escape sequence it is indicated by <n>. The n represents the number of your choice. Do not type the brackets; they simply indicate that a substitution must be made. For instance, the escape sequence to set the left and right margins is:

Esc[<n>;<n>s

*When typing an escape sequence from the keyboard, you press Esc. In BASIC, CHR\$(27) is used. In C, octal 033 can be used.*

If you wanted to specify a left margin of 5 and a right margin of 75, you would type:

```
Esc[5;75s
```

To send an escape sequence to the printer from the Shell:

**1. *Redirect the keyboard input to the printer by typing:***

```
1> COPY * to PRT:
```

**2. *Wait until any disk access stops, then type an escape sequence, such as:***

```
Esc[2"z
```

This sequence turns on the printer's NLQ (near letter quality) mode. You must press: Esc, [, 2, ", z.

To terminate the keyboard input, press Ctrl-\..

You can also create printer command files consisting of several escape sequences by redirecting the keyboard input to a file. For instance:

**1. *Redirect the keyboard input to a file:***

```
1> COPY * TO RAM.EscapeFile
```

**2. *Type the escape sequences, such as:***

Esc[2"z	(turns near letter quality on)
Esc[2w	(turns elite type on)
Esc[1m	(turns boldface on)
Ctrl-u	(terminates input)

**3. *To send these escape sequences to the printer, type:***

```
1> COPY RAM:EscapeFile TO PRT:
```

---



---

**Escape Sequences**


---



---

<b>Feature</b>	<b>Escape Sequence</b>	<b>Name</b>
Reset printer	Esc	aRIS
Initialize printer	Esc#1	aRIN
Line feed	EscD	aIND
Return line feed	EscE	aNEL
Reverse line feed	EscM	aRI
Normal character set	Esc 0m	aSGR0
Italics on	Esc 3m	aSGR3
Italics off	Esc 23m	aSGR23
Underline on	Esc 4m	aSGR4
Underline off	Esc 24m	aSGR24
Boldface on	Esc 1m	aSGR1
Boldface off	Esc 22m	aSGR22
Set foreground color	Esc 30m to Esc 39m	aSFC
Set background color	Esc 40m to Esc 49m	aSBC
Normal pitch	Esc 0w	aSHORP0
Elite pitch on	Esc 2w	aSHORP
Elite pitch off	Esc 1w	aSHORP1
Condensed fine pitch on	Esc 4w	aSHORP4
Condensed off	Esc 3w	aSHORP3
Enlarged pitch on	Esc 6w	aSHORP6
Enlarged pitch off	Esc 5w	aSHORP5
Shadow print on	Esc 6"z	aDEN6
Shadow print off	Esc 5"z	aDEN5
Doublestrike on	Esc 4"z	aDEN4
Doublestrike off	Esc 3"z	aDEN3
Near Letter Quality on	Esc 2"z	aDEN2
Near Letter Quality off	Esc 1"z	aDEN1
Superscript on	Esc 2v	aSUS2
Superscript off	Esc 1v	aSUS1
Subscript on	Esc 4v	aSUS4

Escape Sequences		
Feature	Escape Sequence	Name
Subscript off	Esc 3v	aSUS3
Normalize the line	Esc 0v	aSUS0
Partial line up	Esc 1	aPLU
Partial line down	Esc K	aPLD
US character set	Esc B	aFNT0
French character set	Esc R	aFNT1
German character set	Esc K	aFNT2
UK character set	Esc A	aFNT3
Danish I character set	Esc E	aFNT4
Swedish character set	Esc H	aFNT5
Italian character set	Esc Y	aFNT6
Spanish character set	Esc Z	aFNT7
Japanese character set	Esc J	aFNT8
Norwegian character set	Esc 6	aFNT9
Danish II character set	Esc C	aFNT10
Proportional spacing on	Esc 2p	aPROP2
Proportional spacing off	Esc 1p	aPROP1
Proportional spacing clear	Esc 0p	aPROP0
Set proportional offset	Esc <n> E	aTSS
Auto left justify	Esc 5 F	aJFY5
Auto right justify	Esc 7 F	aJFY7
Auto full justify	Esc 6 F	aJFY6
Auto justify off	Esc 0 F	aJFY0
Letter space (justify)	Esc 3 F	aJFY3
Word fill (auto center)	Esc 1 F	aJFY1
1/8" line spacing (8 lpi)	Esc 0z	aVERP0
1/6" line spacing (6 lpi)	Esc 1z	aVERP1
Set form length to <n>	Esc <n>t	aSLPP
Perf skip <n> (n > 0)	Esc <n>q	aPERF
Perf skip off	Esc 0q	aPERF0
Left margin set	Esc #9	aLMS
Right margin set	Esc #0	aRMS

Escape Sequences		
Feature	Escape Sequence	Name
Top margin set	Esc#8	aTMS
Bottom margin set	Esc#2	aBMS
Top and bottom margins	Esc <n>;<n>r	aSTBM
Left and right margins	Esc <n>;<n>s	aSLRM
Clear margins	Esc#3	aCAM
Set horizontal tab	EscH	aHTS
Set vertical tabs	EscJ	aVTS
Clear horizontal tab	Esc 0g	aTBC0
Clear all horizontal tabs	Esc 3g	aTBC3
Clear vertical tab	Esc 1g	aTBC1
Clear all vertical tabs	Esc 4g	aTBC4
Clear all horizontal and vertical tabs	Esc#4	aTBCALL
Set default tabs	Esc#5	aTBSALL
Extended commands	Esc <n>"<x>	aESTEND

An extended command allows you to specify a *printer specific* command. This is a command that is recognized by your printer, not by the Amiga, such as a command to use a particular font. In this case, <n> represents the number of bytes in the command, and <x> represents the actual command. For instance, if your printer recognizes Esc-k-l as the command to use a sans serif font, you would type:

```
Esc|3"Esc k l
```

If you are entering extended commands within a program you are writing, make sure that the program can only be used with one specific printer. If you enter extended commands for an Epson printer, then someone tries to use the program with an HP LaserJet, the command may not work.



## **Appendix C. Fountain**

The Fountain™ utility, in the System drawer on the Extras2.0 disk, manages the installation of Intellifont® outline fonts onto your Amiga. Three outline fonts, CG® Times, LetterGothic, and Univers® Medium, are on the AmigaFonts2.0 disk, along with the standard Amiga bitmap fonts, including Helvetica, Courier, and Times. In general, Fountain works best on computers equipped with hard disks, although it is possible to use it with floppy disk systems.

Traditionally, the Amiga has used bitmap fonts. For each font style supplied on disk, there is a separate file containing the data used to produce each available size of that style. For instance, the Helvetica directory contains the following files: 9, 11, 13, 15, 18 and 24. Those files store the data used to create the corresponding Helvetica type sizes. Some application programs include conversion programs that allow you to use other sizes of the font. For instance, if you want to use Helvetica 20, the program will take the next closest Helvetica size and enlarge or reduce it to the appropriate size.

Outline fonts do not have separate files for each point size. Instead, the computer uses a mathematical formula to convert the basic font to whatever size is needed. While it takes slightly longer to access an outline font than a bitmap font, you do not need to store all the individual font files on your disks. Also, outline fonts appear on the screen just as they will appear on your printout, regardless of the type of printer you use. You no longer need to use a postscript printer to get high-quality output. Of course, the sizes you use on your screen are generally much smaller than the sizes you print.

## **Installing Fountain**

If you have just brought a new Amiga computer with a hard drive, the program will already be installed in the System2.0 partition. If you are upgrading your software or using a floppy-based Amiga, please read the following section to learn how to install Fountain on your computer.

### **On a hard disk system:**

You need to copy the contents of the AmigaFonts2.0 disk to your System2.0 (SYS:) partition. To do this, follow the steps below:

- 1. Insert the AmigaFonts2.0 disk into the floppy disk drive.***
- 2. Open the Shell icon in the System2.0 disk window.***
- 3. Use the COPY command to copy the contents of the AmigaFonts2.0 disk to the System2.0 partition. Type:***

`COPY AmigaFonts2.0: Sys: ALL`

This will copy all the files on the AmigaFonts2.0 disk to the appropriate directories on System2.0.

**NOTE:** This will replace the standard diskfont.library file with a new outline fonts diskfont.library. You should not need the standard diskfont.library as the new library handles both bitmap and outline fonts. If for some reason you wish to use the standard library, you will need to restore it from your original Workbench2.0 disk.

## On a floppy disk system:

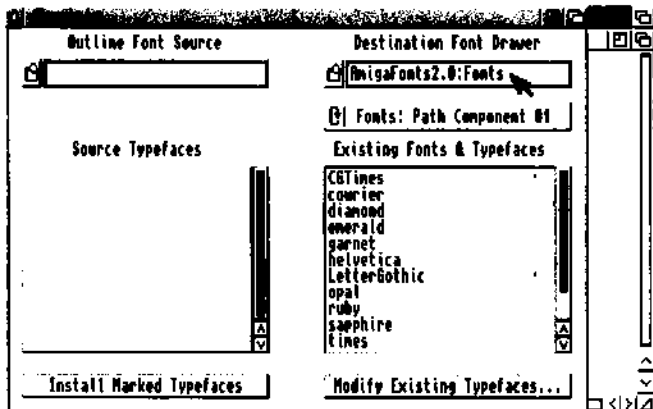
To use Fountain with a floppy disk system, you must have at least two disk drives. Boot your system with the Workbench2.0 disk, or another bootable application disk, and keep your AmigaFonts2.0 disk in the second drive. You will have to add an ASSIGN statement to the User-Startup file of your bootable disk telling the system that the Fonts directory is on the AmigaFonts2.0 disk. Open the User-Startup file, and add the following line:

```
ASSIGN FONTS: AmigaFonts2.0: DEFER
```

The DEFER option tells ASSIGN not to request the AmigaFonts2.0 disk until the system needs it. Your system will then access the AmigaFonts2.0 disk whenever it needs to access a font file.

## Using Fountain

Double-click on the Fountain icon, and a window appears:



**NOTE:** If you press Help while in the Fountain program, instruction windows will appear to explain the gadgets in the window.

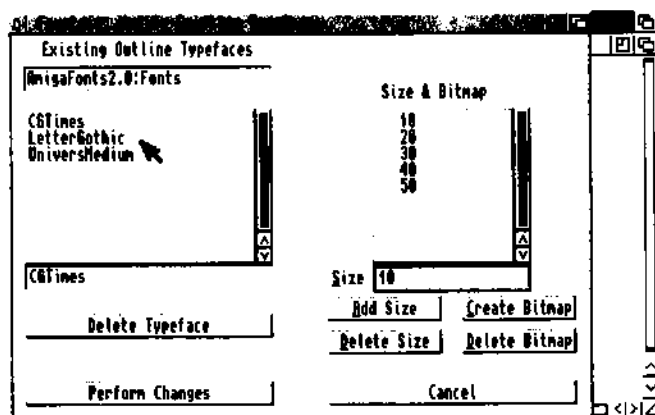
This window allows you to install additional fonts (aside from the fonts installed during the installation process) in one of your fonts directories. Fountain understands two typeface formats: Amiga Compugraphic font disks and standard Compugraphic® disks containing FAIS files. In the case of standard Compugraphic disks, you will have to first use an MS-DOS handler utility or Amiga Bridgeboard™ to convert the files to AmigaDOS format, since they are in MS-DOS format. Once the fonts are properly installed, they will be available to any application programs that use them.

You must specify the complete path to the disk containing the fonts. To do this, either type the path in the Outline Font Source text gadget, or select the file folder gadget next to the text gadget to open a file requester. (Since you only need to specify a directory, the file text gadget is ignored in this requester.) Once the full path has been specified, Fountain will then display the available outline fonts in the Source Typefaces scroll gadget.

The typefaces will be installed in the drawer displayed in the Destination Font Drawer text gadget. If you have more than one fonts directory set up in your assign path, you can use the Fonts: Path Component cycle gadget to switch between the directories. You can also type in a non-assigned directory. (In this case, the cycle gadget will display Not in FONTS: Path.) The contents of the Destination Font Drawer are shown in the Existing Fonts & Typefaces scroll gadget. Outline fonts are indicated with a small bullet (-).

Select each typeface that you want to install by clicking on it. A plus (+) sign will appear. Then select the Installing New Typefaces gadget. These typefaces will be copied to Destination Font Drawer. While the fonts are being installed, the minute hand in the wait pointer indicates approximately how much time is left in the process.

Whenever you install a typeface, the fountain environment variable ENV:Sys/Fountain is used to initialize the list of sizes that will typically be presented by applications in their font menus. You can change these sizes by selecting the Modify Existing Typefaces gadget. This will open a new window:



The outline typefaces are listed in the Existing Outline Typefaces scroll gadget on the left side of the window. The path to the directory containing the fonts is shown in the display box above the scroll gadget. This directory cannot be changed from within the Modify Existing Typefaces window. (If you need to change it, select Cancel to return to the original Fountain window.) To select a typeface to modify, click on it. The selected typeface appears in the display box underneath the scroll gadget.

The available sizes for the selected typeface, as determined by the Fountain environment variable, are shown in the Size & Bitmap scroll gadget. The smaller sizes are appropriate for document text, while the larger sizes are often used for presentation graphics.

You can create new sizes for the typeface or create a bitmap file for a specific size by using the gadgets in the lower right corner of the window. These gadgets are described below:

Add Size	Enter the desired size into the Size display box, then choose the Add Size gadget.
Delete Size	Select the desired size or enter it into the Size display box, then choose the Delete Size gadget.
Create Bitmap	Creates a bitmap for the size displayed in the Size gadget. A bitmap file takes disk space but is quicker to load. If you routinely use one size, you may want to create a bitmap for it.
Delete Bitmap	Deletes the bitmap file for the size displayed. The size will still be available as an outline font.

**Keyboard shortcut:** Instead of selecting the above gadgets, you can simply press the initial letter of the gadget (underlined on the display). For instance, pressing A is the same as selecting the Add Size gadget.

To save your changes you must select the Perform Changes gadget. The Cancel gadget returns you to the original Fountain window. If you select the close gadget, you will close both Fountain windows and exit the program.

## Changing Environment Variables

Fountain uses two environment variables to store specifications about your outline fonts: Fountain and Diskfont. The Fountain environment variable, stored in ENV:Sys/Fountain, is used to create the list of sizes that will typically be presented by applications in their font menus. By default these sizes are 15, 30, 45, 60 and 75. If you find yourself always using different sizes, you may want to change this variable. To do so, use a text editor and save the file to SYS:Prefs/Env-Archive/Sys/Fountain. The file should include a list of sizes saved in ASCII format. The maximum number of sizes permissible is 20.

The Diskfont variable, stored in ENV:Sys/Diskfont, specifies the parameters used by the diskfont library when it converts an outline typeface into an Amiga graphics font. The format of the variable is:

```
XDPI/N, YDPI/N, XDOTP/N, YDOTP/N
```

The XDPI and YDPI parameters adjust the aspect ratio. By default, the ratio is 1:1. If you know that the fonts will be used in the Hires display mode, you can adjust the aspect ratio appropriately by changing the XDPI value to 100 and the YDPI value to 50. To do so, use a text editor and save the file to SYS:Prefs/Env-Archive/Sys/Diskfont. Your file would look something like this:

```
XDPI 100 YDPI 50
```

If XDPI is specified, YDPI must also be specified.

The XDOTP and YDOTP parameters control the dot size percentage — the space a dot fills in relation to the screen resolution. The default value for both XDOTP and YDOTP is 100. This means that a dot fills the same size as implied by the resolution. There should be no need to change this default. If XDOTP is specified, YDOTP must also be specified.

*NOTE:* Very large or very small values of XDOTP or YDOTP are required before you see a difference.

# Glossary

This glossary provides definitions of terms selected from the *Introducing the Amiga* and *Using the Amiga Workbench* manuals.

## **acceleration**

An option, selected through the Input editor, which causes the pointer movement to increase as the mouse is moved at a constant speed. Acceleration provides a higher degree of control for small mouse movements and less control, but greater mouse speed, for large movements.

## **action gadget**

A box in a window that lets you choose an operation to be performed in the window by selecting the box. Common action gadgets are Save, Continue, and Cancel.

## **active**

Currently selected, used in reference to the selected Workbench window.

## **alias**

An alternative name for an AmigaDOS command or command string, specified with the ALIAS command.

## **AmigaDOS**

The disk operating system (DOS) used by Amiga computers. A disk operating system provides the basic functions of the computer.

## **application**

Instructions that tell the Amiga how to perform specific tasks, such as those required by a word processor, database, or video titler.

## **archive**

1. [n] A backup copy of a file or files.
2. [v] To copy files to disk or tape for backup purposes.

## **argument**

An additional piece of information, such as a filename, value, or option, included along with a command. This information determines the exact action of the command.

**argument passing**

Specifying, on the command line, parameters for a program or command to follow.

**ASCII (American Standard Code for Information Interchange)**

A standardized format for text that allows the exchange of information between different types of computers.

**assign**

To link a directory name to a logical device name, with the ASSIGN command, so that programs that use that directory can look for one device name rather than having to search through several volumes for the directory. For instance, the RAM:T directory is commonly assigned to the device name T:.

**attributes**

A series of flags stored with every file. Attributes indicate file type and control the operations (read, write, delete, etc.) permissible on the file.

**autoscroll**

To automatically move a screen when the pointer reaches the edges of the viewable area.

**backup**

A copy of a file on disk or tape used to replace lost data.

**back up**

To make a backup copy.

**baud rate**

The speed at which a device receives or transmits information in serial communication. Roughly equivalent to bits per second.

**binary**

The base-2 number system which only uses the digits 0 and 1.

**bit**

A single binary digit (1 or 0).

**block**

A contiguous series of bytes (usually 512) treated as a single logical unit in RAM or permanent storage media.

**boot**

To read the information needed to start the system from a storage device, such as a floppy or hard disk, into the computer's memory. Also refers to items used in this process: the *boot disk*. (See *reboot*.)

**bootable**

Refers to a device from which the Amiga can boot. A bootable disk must contain all the system files needed for the computer to start operation.

**brush**

An IFF graphics file, usually a section cut from a full-sized picture.

**buffer**

A temporary storage area in RAM.

**bug**

An error in software or hardware.

**byte**

A unit of memory consisting of eight bits, usually equivalent to one character.

**check box**

A gadget that lets you turn an option on or off. When a check mark appears in the box, the option is selected, or on.

**chip**

A miniaturized electronic circuit, housed in a small, black, rectangular block edged by metal connector pins. A computer is made up of a variety of specialized chips.

**Chip RAM**

The area of RAM accessible to the Amiga's custom chip set. This memory is used for graphics and sound data. Also called *graphics memory*.

**clear**

1. To change a bit or flag to its 0, off or disabled state. Opposite of *set*.
2. To erase a screen or window display.

**CLI (Command Line Interface)**

A means of communicating with a computer by issuing commands from the keyboard. The program to let you do this on the Amiga is called the Shell. Before the Shell was available, the program used was called the CLI.

**click**

To press and release a mouse button.

**close**

To remove a window from the screen.

**close gadget**

A gadget which may appear in the upper left corner of a window to allow you to close the window.

**cold reboot**

To reset the Amiga by turning the power off, waiting 20 seconds, then restoring power.

**color correction**

A printing option, selected through the PrinterGfx editor, that tries to better match the colors of a printout to the colors on the screen.

**command**

A statement given to the Amiga to perform a task or achieve a result.

**command history**

A feature of the Shell which allows you to recall previously entered command lines by using the cursor keys.

**command line**

The line on which commands and their arguments are typed. Also, all the information that has been typed on the line.

**console window**

A window used for the input and output of text.

**Control-key combination**

A key combination that performs a special function, entered by holding down Ctrl while pressing another key on the keyboard. Some Control-key combinations are executed as soon as they are pressed, such as when Ctrl-C is used to abort the execution of an AmigaDOS command. Some produce a reversed character image and have no immediate effect.

**coprocessor**

A separate processor chip that assists the CPU by performing specific tasks, such as mathematical computations or rapid data transfer.

**copy and paste**

The act of copying a block of text to a new location within a console window.

**CPU (Central Processing Unit)**

The "brain" of a computer; the integrated circuit chip primarily responsible for executing the instructions in a program.

**current directory**

The current location in the directory structure. The directory AmigaDOS will use as the default directory to operate within, if no other directory is specified.

**cursor**

A highlighted rectangle on the screen used to indicate text position.

**cycle gadget**

A gadget for selecting one of several options. One option is displayed at a time, and as the gadget is selected, the other options become visible. The displayed option is the selected option.

**cylinder**

A logical division of a magnetic storage disk. Amiga 3.5 inch floppy disks are divided into 80 cylinders during the formatting process.

**data**

A collection of information.

**dead key**

A key, or key combination, which modifies the output of the next key to be pressed. For instance, on an American keyboard, Alt-H will superimpose a caret (^) symbol over the next key to be pressed. Alt-H is a dead key combination.

**debug**

To find and fix mistakes in software or hardware.

**default**

A value or action assumed if you have not specified anything.

**Default Tool**

A tool specified in the project icon's Information window. When the project icon is opened, the Default Tool is automatically loaded and run.

**delete**

To erase or discard a file, buffer, or other stored item.

**density**

The number of dots per inch. Many printers support several print densities. Usually, the higher the density, the clearer the printout will be.

**depth gadget**

A gadget which may appear in the upper right corner of a window or screen for moving that window or screen in front of or behind other windows or screens. This is sometimes referred to as depth adjusting.

**destination**

The device, directory or file that is receiving information.

**device**

A physical mechanism, such as a printer or disk drive, or a software entity (logical device), such as CON: or NIL:, used as a source or destination for information.

**device name**

A short name, such as DF0:, FH2:, or PRT:, that identifies a particular hardware or software device. Device names must end in a colon (:).

**directory**

A subdivision in a computer's filing system used to organize files and other directories (subdirectories). Directories are represented on the Workbench as drawer icons.

**disk**

A medium for mass storage of computer data. Most computer disks store information magnetically; optical (laser-read) disks are also used.

**disk drive**

A storage device that reads and writes data from and to a storage disk, such as a floppy disk.

**disk operating system**

Software, supplied on floppy or hard disk, that controls the basic functions of a computer.

**display box**

A rectangular box, usually under a scroll gadget or next to a selection gadget, that displays the current selection. You cannot edit a display box.

**display mode**

A name given to the number of horizontal and vertical pixels that make up the screen. For instance, a Hires display mode is 640 pixels wide and 200 pixels high (for NTSC machines).

**dithering**

1. Creating smoother color or grey-scale shading of screen or printed displays by alternating pixel color or density. The Preferences PrinterGfx editor provides several settings for automatic dithering of printed graphics.
2. Creating the illusion of a color by using a pattern of other colors. For instance, creating the illusion of purple by alternating pixels of red and blue.

**double-click**

To press and release the selection button twice.

**drag**

To move an icon, window, gadget, or screen across the display by pointing to the object, holding down the selection button, and moving the mouse.

**drag selection**

The process of selecting several icons at once by holding down the selection button and using the mouse to draw a box around the icons you want to select. When you release the mouse button, all the icons in the box will be selected.

**drawer**

A subdivision of a disk storage area. A drawer corresponds to an AmigaDOS directory.

**drive name**

A name assigned to a floppy disk drive or hard disk, such as DF0: or FH2:.

**dump**

A printout of the image displayed on the screen.

**ECS (Enhanced Chip Set)**

The upgraded versions of the Amiga's Agnus and Denise coprocessor chips. The Enhanced Chip Set offers new display modes (ECS modes) and expands existing graphics capabilities. Many of the benefits of the ECS are available only in conjunction with Version 2.0 of the operating system.

**editor**

A program that lets you create and/or modify certain types of files. The Amiga provides Preferences editors to change Prefs settings and the text editor MEmacs for changing text files.

**escape sequence**

A sequence of characters, beginning with the Escape character, that will perform a special function when entered on a command line or printed as part of a string. Escape sequences are typically used to alter the style of type used by a printer.

**execute**

To carry out the instructions in a command line, program or script.

**extended selection**

The process of selecting several icons at once by holding down Shift while selecting each icon with the mouse.

**Fast RAM**

General memory used by programs and data.

**field**

The screen area behind the text under a Workbench icon. The color of the field can be changed with the Font editor.

**file**

An organized collection of data referred to by a name.

**floppy disk**

A removable magnetic storage medium. The Amiga uses 3.5 inch, double-sided, double-density floppy disks in a rigid plastic case; they can store approximately 900,000 bytes (880K) of information.

**font**

A particular design of a set of letters, symbols, and numbers used for text display, such as Topaz and Helvetica. Fonts are usually available in several sizes, defined in points (10 point, 12 point, etc.).

**format**

1. To prepare a disk for use with the Amiga. Formatting a disk erases all previously stored data.
2. A way of describing the proper syntax for AmigaDOS commands.

**function keys**

Keys at the top of the Amiga keyboard, labeled F1 to F10, that can be programmed to perform special tasks.

**gadget**

Any of various programmed graphic images which may appear in a window, requester or screen, that can be manipulated with the mouse to perform a certain function. Each gadget is of a specific type and performs a specific action. When selected, gadgets may appear to sink into the screen.

**ghosting**

Displaying menu or gadget items on the screen less distinctly than normal to indicate that they are currently unavailable.

**graphics memory**

See *Chip RAM*.

**GUI (Graphical User Interface)**

A visually-oriented system allowing you to tell a computer what to do by manipulating graphic symbols rather than by typing in commands. The Workbench is the Amiga GUI.

**HAM (Hold And Modify)**

An Amiga graphics mode that allows all the Amiga's 4096 colors to be displayed on the screen at the same time.

**handshaking**

The electronic protocol required for communication between two computing devices.

**hard disk**

A high-speed, large-capacity mass-storage device from which the disks usually cannot be removed. Often called a hard drive or hard disk drive.

**hierarchical**

A term used to describe the multi-leveled AmigaDOS file structure in which directories can contain other directories and/or files.

**history buffer**

A section of memory that stores the most recent commands for a given Shell.

**hold down**

To continually press a mouse button until instructed to release it.

**hot key**

A key or key combination used by Commodity Exchange programs to open a hidden window.

**icon**

An image appearing on the screen to represent a disk, drawer, project or tool. Icons can be moved and selected with the mouse to allow you to work with the items they represent.

**IFF (Interchange File Format)**

The standardized format in which the Amiga stores picture and sound data.

**.info file**

A file containing the image and position data for an icon; pronounced "dot-info."

**initialize**

A synonym for format.

**input buffer**

An area of memory used during serial communication to hold incoming information.

**interlace**

An aspect of some Amiga display modes that doubles the vertical screen resolution.

**Internal**

Refers to an AmigaDOS command that is built into the Shell, rather than loaded from disk.

**K (Kilobyte)**

1024 bytes. Often abbreviated as KB.

**keyboard shortcut**

A method for performing a mouse action by pressing a key or key combination.

**keymap**

A file which determines the arrangement of characters on the keyboard and determines the meaning of each key. Different languages have different keymaps.

**keyword**

A word recognized by an AmigaDOS command as identifying an argument or specifying an option.

**Kickstart**

Software that is read from disk to boot the Amiga. Also refers to the portion of the operating system that is in ROM.

**macro**

A single command that represents a sequence of commands. Many editors and applications support the use of macros to facilitate commonly used command sequences.

**MB (Megabyte)**

1024K (1,048,576 bytes). Often abbreviated as M or Meg.

**memory**

The Amiga's internal storage circuitry which holds programs and data. The Amiga has both Chip (graphics) RAM, Fast (normal) RAM, and 512K of ROM memory. The amount of RAM memory limits the size and number of programs that can be operating within the Amiga at one time.

**menu**

A list of on-screen options, displayed by using the menu button, from which you can choose commands that control a program.

**menu bar**

The list of headings that appears across the top of the screen when the menu button is held down.

**menu button**

The right mouse button.

**menu item**

An option that appears in a menu. For example, New Drawer is the first menu item in the Workbench's Window menu.

**modem**

A device allowing serial communication over telephone lines.

**monitor**

A video display terminal on which a computer's visual output is shown. There are many types of monitors; the Amiga's standard output uses an analog RGB color monitor to display both graphics and text.

**mouse**

The device used to move the pointer on the screen and to communicate with the Amiga. Its buttons can be used for displaying menus, and for selecting and dragging icons, windows and screens.

**multiprocessing**

The ability to have more than one CPU chip in a computer functioning simultaneously, each executing its own processes, thus vastly improving overall performance. For instance, the CPU can perform calculations while another processor is drawing an object on the screen.

**multiscan**

A type of video monitor that can accept several different scan rates (types of video output).

**multitasking**

The ability to perform more than one operation, or task, at a time. The Amiga can have several independent programs running at once. For instance, you could simultaneously be displaying an animation, playing a sound file, communicating with another computer, and formatting a floppy disk.

**nonproportional font**

A font in which each character takes up an equal amount of space. For instance, an uppercase W is allotted the same amount of space as a lowercase l.

**offset**

To shift or move over.

**open**

To make the selected object available for use. You open an icon by double-clicking on it or by selecting it then choosing the Open menu item from the Icons menu. When you open a disk or drawer icon, its contents are displayed. When you open a project or tool icon, a program is started.

**overscan area**

The normally unused area surrounding a standard-size screen. The Overscan editor allows you to expand your screen to fill this area.

**overwrite**

To write information to a file or disk, replacing any information that previously was stored there.

**parallel**

An interface port that transfers data one complete byte (8 bits) at a time, contrasted to a serial interface which sends a single bit at a time. The Amiga has an external parallel port to which a printer is often connected.

**parent**

The window from which another window was generated. For instance, the Workbench window is the parent window of the disk windows.

**parity**

A method of detecting errors in serial communication by attaching an extra bit to bytes of data.

**path**

The series of volume and drawer names that define the location of a file.

**pattern**

A set of characters shared by one or more file or directory names.

**pattern matching**

An AmigaDOS feature that lets you specify file and directory names by using wildcard characters. With wildcards, you can create search patterns that allow you to refer to a number of files that share a common text pattern without naming each file individually.

**peripheral**

An external hardware device connected to the Amiga.

**pitch**

The number of characters printed in a horizontal inch.

**pixels**

The dots of light that make up the Amiga screen display. A pixel is the smallest unit of display information on a given screen.

**pointer**

An image on the screen, usually arrow-shaped, that moves as you move the mouse. You use the pointer to select icons and gadgets and to choose menu items.

**Preferences (Prefs)**

A Workbench drawer containing editors that let you configure and customize your Amiga environment, such as changing the colors of your screen and setting the specifications for communication through the serial port.

**printer driver**

A program that enables the Amiga to communicate with your printer. A printer driver works as a translator between a computer and a printer, taking the information from the computer and presenting it to the printer in a format that the printer can understand.

**program**

A series of instructions that tell the Amiga how to perform certain tasks. Applications and system software are programs.

**project**

A file in which information created or used by a tool is stored. For instance, files created with a text editor or paint program are projects.

**prompt**

A message or symbol that indicates that text input to the computer is possible.

**protection bits**

(See *attributes*.)

**pseudo-icon**

An icon that is displayed, when the Show All Files menu item is chosen, for an object that does not have a .info file.

**pure**

Describes a command or program that can be made resident. If a file is pure, the p attribute is set.

**qualifier**

A key, such as Shift, Ctrl, or Alt, that changes the Amiga's interpretation of a simultaneous or subsequent keystroke or mouse click. Commonly used with Commodity Exchange programs.

**radio button**

A circular gadget beside an option on a list. To select an option, select its radio button. You can only select one option from the list at a time.

**RAM (Random Access Memory)**

Part of the Amiga's internal memory that can be used for data storage and is directly accessible by the CPU. Applications are loaded into RAM from disk and use additional RAM to process and store data while the computer is on. Data in RAM is lost when the Amiga is rebooted or powered off.

**Ram Disk**

A section of RAM set aside to function as if it were a disk drive. This is much faster than a physical drive, since there are no mechanical elements.

**read**

To retrieve stored information.

**Read Only**

If disk status is Read Only, you can only look at the contents of the disk, you cannot alter them.

**Read/Write**

If disk status is Read/Write, you can both look at and alter the contents of the disk.

**reboot**

To reset the Amiga by pressing Ctrl, left Amiga, and right Amiga. This is roughly equivalent to turning the power off, then on again. Memory is reset. Also called *warm boot*.

**redirect**

To change the source or destination of a command's input or output from the default by using the special characters < or >.

**requester**

A window that appears when the system needs a response from you. A requester contains action gadgets that give you a choice of continuing or aborting the operation in progress. To exit the requester, you must select one of the displayed gadgets.

**resident**

Describes a command or program that has been copied into memory, with the RESIDENT command, for quicker execution. Resident commands are specially set up to prevent reloading on subsequent executions. Only pure files can be made resident.

**resolution**

The number of pixels associated with a particular display mode. For example, a normal NTSC Hi-res screen has a resolution of 640 (horizontal) by 200 (vertical) pixels.

**RGB (Red-Green-Blue)**

A type of video signal in which the three primary color signals are sent separately. Standard Amiga output uses an RGB monitor.

**ROM (Read Only Memory)**

Permanent memory that is pre-programmed with system instructions and does not change. The contents of ROM are not affected by user commands or program operation.

**root block**

The area of a disk that contains the name of the disk and information pertaining to the disk layout. If the root block is erased, you cannot retrieve any information from the disk — it is effectively blank.

**root directory**

The main directory on a volume. The root directory is at the top of the filing hierarchy, and is created when a volume is formatted. All other directories on the volume exist within the root. The root directory is specified by the volume name followed by a colon.

**scaling**

Changing the size of an image during printing. Usually, a screen image is scaled down to a smaller size for printing, but you can also enlarge, or scale up, an image.

**screen**

An area of the display that shares the same video attributes, such as resolution and colors. Screens are always at least the full width of the viewable area.

**script**

A text file containing a series of commands that can be automatically executed to perform a complex or repetitive task. An example of a script is the Startup-sequence file executed when you boot your Amiga.

**scroll**

To move through the viewing area of a window.

**scroll arrows**

Gadgets which may appear in a window to allow you to move the viewing area continuously.

**scroll bar**

The highlighted area within the scroll box that can be dragged to display the hidden contents of a window. It changes in size to indicate the portion of the window that is currently visible.

**scroll box**

The shaded area within which the scroll bar can be dragged. You can click in the scroll box to move the scroll bar.

**scroll gadget**

A gadget which may appear in a window to let you move through a list of options or through the viewing area of a window. A scroll gadget is made up of the scroll bar, scroll box, and scroll arrows.

**scrolling list**

The options that appear inside a scroll gadget. If the list is longer than what can be displayed in the scroll gadget, you can use the scroll bar or scroll arrows to move (scroll) through the list.

**search path**

The list of directories that AmigaDOS uses when it is looking for a command. Directories are added or removed from the search path with the PATH command.

**select**

To choose an item to work with by pointing to it with the mouse, then pressing and releasing the selection button.

**selection button**

The left mouse button.

**selection gadget**

A gadget from which you can choose one of several displayed options, often used for colors.

**serial**

An interface port that transfers data one single bit at a time, contrasted to a parallel interface which sends one complete byte (eight bits) at a time. The Amiga has an external serial port to which a modem, MIDI interface, or printer is often connected.

**set**

To change a bit or flag to its on or enabled state. Opposite of clear.

**Shell**

The command line interface used to send typed commands to the Amiga. The Shell is a console window which supports many special features, such as command-line history, aliases, and copy and paste operations.

**sizing gadget**

A gadget which may appear in the lower right corner of a window to allow you to enlarge or shrink the size of the window.

**slider gadget**

A gadget from which you can select a value by dragging a bar through the gadget. As you move the slider bar, different values are displayed.

**slider value**

A number that appears next to a slider gadget to indicate the currently selected value.

**smoothing**

A printing option available in the PrinterGfx editor that attempts to eliminate, or smooth, jagged lines that can sometimes appear in printouts.

**snapshot**

To save the positions of a window and/or the icons within it.

**source**

A device, drawer or file that is supplying information. For instance, when you copy a disk, the disk you are copying is the source disk.

**stack**

A special area of RAM reserved by a program for temporary storage.

**Startup-sequence**

An AmigaDOS script file, executed when the Amiga is booted, that helps set up the hardware and directory systems.

**stop bits**

Extra bits added to signal the end of a character, used during serial communication.

**string**

A piece of text treated as a single unit.

**subdirectory**

A directory that is within another directory; equivalent to a drawer within a drawer.

**submenu**

A secondary menu that appears when some menu items are highlighted. If a menu item produces a submenu, a >> symbol appears to the right of the menu item.

**swap**

To alternately place different floppy disks into the same drive, as when performing a single-drive disk copy.

**text gadget**

A rectangular box in which you can type information, such as a filename or command. Text gadgets are used by the Rename and Execute Command menu items, as well as many programs.

**threshold**

A PrinterCfx value related to color intensity. It determines which colors are printed as black and which are printed as white during black-and-white printing.

**title bar**

The top border of a screen or window, which commonly displays the name of the screen or window.

**tool**

A program that creates or uses data, such as a text editor or paint program.

**Tool Type**

An optional parameter that you can enter in an icon's Information window to control a program. For instance, if you enter the SECONDS Tool Type in the Clock's Information window, the Clock will display the seconds every time it is opened.

**Trashcan**

A directory for storing files that you want to delete.

**type ahead**

A feature of the Shell that lets you enter commands as a previous command's output is being displayed.

**volume**

A floppy disk or hard disk partition.

**volume name**

The name under a disk. Renaming a disk changes its volume name.

**wait pointer**

An image of a stopwatch that appears in place of the normal pointer when the Workbench is busy and cannot accept further input.

**wildcard**

A symbol used in pattern matching to represent a range of possible values, such as when specifying filenames that all start or end with the same character. The question mark (?), for example, is used as a wildcard to match any single character.

**window**

A rectangular screen area that can accept or display information. A window has a title bar identifying it and may contain gadgets in its border.

**Workbench**

The Amiga's icon-based, graphical user interface.

**write**

To record data in memory or on a magnetic storage medium such as a floppy disk.

**write-enable**

To allow information to be written onto a storage device. When a floppy disk is write-enabled, a small, plastic tab is covering the hole in the corner of the disk.

**write-protect**

To prevent information from being written onto a storage device. Floppy disks have a plastic tab which can be moved to write-protect the entire disk.

**zoom gadget**

A gadget which may appear in the upper right corner of a window to allow the window to alternate between two sizes.

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1. Which Amiga model are you using?

2. How long have you been using an Amiga?  
0-3 mos.      3-9 mos.      over 9 mos.

3. How much experience have you had using a computer?  
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4. Where do you use your Amiga?  
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5. What type of monitor do you use with your Amiga?  
RGB      Multiscan      A2024      Other

6. What printer do you use with your Amiga?

7. What other peripherals do you use with your Amiga?







