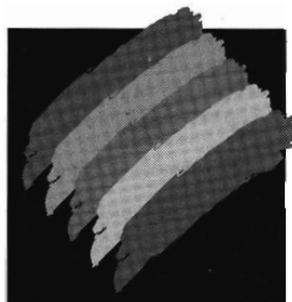


User's Guide

Workbench 3.0

AMIGA



 Commodore

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Glossary

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Welcome

The Commodore® Amiga® line of personal computers offers a unique combination of versatility, computing power, and usability.

The Amiga's Workbench™ Graphical User Interface (GUI) allows you to control the Amiga by using a mouse to select graphic symbols in the form of icons, or small pictures, and list-like menus. The Workbench is easy to learn and use because these icons and menus are displayed automatically. You do not have to memorize a long list of commands to accomplish a task.

Multitasking is the ability of the Amiga to run several independent programs at one time. Because the Amiga was designed from the start as a multitasking system with a GUI, it is fast and easy to switch between tasks (programs) when you need to. Not only can programs run at the same time on the Amiga, but they can also share information and computer resources, allowing you to do more work without requiring additional software and memory.

The Workbench and multitasking are features common to all Amigas, from the single floppy models to the most advanced workstation-level machines that are used for three-dimensional graphics, multimedia, and video production.

This manual describes the Amiga Workbench software, its components, and how to use it.

Using This Manual

This manual provides operational instructions and reference material for using your Amiga Workbench. If you have never used an Amiga before, read the entire manual to become familiar with the general operations of your Amiga and the Workbench system. Once you learn the basics, this document can serve as a reference tool. If you are already familiar with the Amiga, be sure to read through the manual for new information that you may not know.

Chapter 1. Before You Start: This chapter provides instructions for things you need to do and information you need to know before you start using your Amiga, including installation procedures.

Chapter 2. Basic Operations: This chapter describes starting your Amiga, creating and managing disks and files, and using your mouse and keyboard.

Chapter 3. Fundamentals of Workbench: This chapter describes the elements that comprise the Workbench environment, including screens, windows, menus, icons, gadgets, and requesters.

Chapter 4. Workbench: This chapter provides an overview of the Amiga Workbench system, including descriptions of the Workbench programs and the environment.

Chapter 5. Preferences: This chapter details the information needed to set your Amiga to work with monitors, printers, and other peripherals and how to "customize" your individual Workbench environment.

Chapter 6. Localization: This chapter describes the localization options available on the Amiga Workbench including language, date, time and numeric format.

Chapter 7. CrossDOS: This chapter describes CrossDOS, which allows you to read and write MS-DOS formatted disks on your Amiga.

Chapter 8. Fonts: This chapter explains how to install and use both bitmap and outline fonts on the Amiga.

Chapter 9. Printers: This chapter describes printers and printer options for producing the output that best suits your needs and equipment.

Chapter 10. Other Amiga Programs: This chapter explains the programs in the Tools and Commodities drawers.

Chapter 11. ED Editor: This chapter explains how to use the ED text editor to create and edit text files.

Appendix A. Troubleshooting: This appendix provides solutions to common problems that can occur.

Appendix B. Screen Display Modes: This appendix provides a listing of monitor display modes that can be used with your Amiga.

Appendix C. Special Boot Menu Options: This appendix provides information on special boot options.

Documentation Conventions

The following conventions are used in this manual:

- KEYWORDS** Keywords are displayed in all uppercase letters, however, the arguments are not case-sensitive.
- <n>** Angle brackets enclose variable information that you must supply. In place of <n>, substitute the value, text, or option desired. Do not enter the angle brackets when entering the variable.
- Courier** Text appearing in the Courier font represents information displayed on your screen.
- Key1 + Key2** Key combinations displayed with a + (plus) sign connecting them indicate pressing the keys simultaneously. For example, to open an icon, hold down the Right Amiga key and, while holding it down, press O.

- Key1, Key2 Key combinations displayed with a comma separating them indicate pressing the keys in sequence. For example, to open a file in ED, press the Esc key, followed by the O key, and then followed by the P key.
- Amiga keys Two keys on the Amiga keyboard used for special functions. The left Amiga key is to the left of the space bar and is marked with a large solid A. The right Amiga key is to the right of the space bar and is an outlined A.

Related Documentation

AmigaDOS™ User's Guide

ARexx User's Guide

Chapter 1

Before You Start

Before you start using your Amiga, there are a few things you should know and must do. This chapter provides you with instructions for:

- Choosing a language for processing
- Installing the complete Workbench software
- Installing languages
- Getting started

Choosing a Language for Processing

If you wish to interact with the Workbench in any language other than English, you must select your preferred language after you initially boot the system or following successful software installation. We recommend that you load all of the languages that you may want to use for processing during the installation. However, if your language is not available, you can install it at a later time. For instructions on selecting a language for Amiga Workbench processing, see Chapter 6 in this manual.

Software Installation

If your Amiga has a hard disk, you must install software on it:

- if your system is not preloaded.
- if you have a software upgrade.
- if you reformat your hard disk.

Workbench software comes preinstalled on most Amiga hard drive models. If you are not certain your system is preloaded, consult your dealer.

Once your software is installed, if your system does not have all the languages that you want to use, you can install any of them without running a full installation.

Installing System Software

The following procedures describe how to install your system software:

1. Insert the Amiga Install disk into any floppy disk drive.
2. Boot your system (turn it off and on again).
3. Moving your mouse on a flat surface, place the tip of the pointer onto the icon labelled Install and quickly press (click) the left mouse button twice. A window containing drawer icons is displayed on the screen.
4. Using your mouse, move the tip of the pointer onto the icon for the Install drawer and quickly press the left mouse button twice. A window containing icons representing the various languages is displayed on the screen.

5. Using your mouse, move the tip of the pointer onto the icon for the language that you want to use for the installation and quickly press the left mouse button twice. This selects a language for the installation process only.

If you choose any language other than English, a message asking you to insert the Locale disk is displayed. Remove the Install disk from the floppy disk drive and insert the Locale disk. A message prompts you to reinsert the Install disk after Locale has been read. Clicking on the Help button displays help in your chosen language.

6. Select an installation mode from the Install window by clicking the left mouse button once on the button to the left of your choice. Then click the left mouse button once on the Proceed With Install button.
7. The next screen asks you if you wish to install the complete software or update the languages available on your system. Press the left mouse button once on your choice.
8. The next screen asks you if you wish to install your software in the System drawer. Press the left mouse button once on Yes to install to the default drawer or press the left mouse button once on No to make your own choice.
9. The Installer starts loading the software from the disks. Follow the instructions on the screen, inserting disks as requested.

When you are asked to select printer drivers, languages, and keymaps to be installed, click once on each corresponding box to make your selections and then click once on the Proceed button.

10. When the Installation is complete, remove the Install floppy, and reboot your system. Select Proceed to reboot or manually reboot.
11. To use Workbench in any language other than English, you must select your preferred language in the Locale Preferences Editor. See Chapter 6 for instructions and information on choosing a language for processing.

Getting Started

Once your software, printer drivers, and languages are all loaded and selected, if you have never used an Amiga before, it is helpful to read through this manual, concentrating on Chapters 2 through 4 to learn basic operational information about the Amiga and the Workbench.

The following table indicates where you would find information to do the following tasks:

Task	Where to find it
Booting/rebooting your system	Chapter 2
Using your mouse	Chapter 2
Managing disks and files	Chapter 2
Learning the parts of the Workbench	Chapter 3
Making backup copies	Chapter 3
Formatting disks	Chapter 3
Using Workbench	Chapter 4
Opening a Shell window	Chapter 4
Customizing Workbench	Chapter 5
Localizing your Workbench environment	Chapter 6
Using CrossDOS	Chapter 7
Choosing fonts	Chapter 8
Setting up printers and printing	Chapter 9
Using Workbench tools	Chapter 10
Text editing	Chapter 11
Trouble shooting	Appendix A
Choosing a display mode	Appendix B
Freeing memory for large games	Appendix C

Chapter 2

Basic Operations

Before using your Amiga, you should familiarize yourself with the basic Amiga system concepts and techniques provided in this chapter. These include:

- Booting your system
- Using the mouse
- Handling disks and using disk drives
- Creating and accessing files and directories

Booting/Rebooting Your System

Booting powers on your computer and loads the operating system information from a disk to the computer's memory. Each time the Amiga is booted, the system must find the Amiga system software on a bootable hard disk or floppy disk inserted into a disk drive. If there are no bootable disks when the system is powered on, an animated screen requests that you insert a bootable disk into a floppy drive.

Rebooting resets your computer without turning off the power. This process terminates any active programs and removes any data stored in the Amiga's memory.

Each time the Amiga is booted or rebooted, the following events occur:

1. The Amiga executes a script file called the Startup-sequence.
2. The Startup-sequence executes a file called User-startup, if it exists.
3. The Amiga Workbench screen appears.

4. Workbench runs any programs whose icons are in the WBStartup drawer.

The Startup-sequence file contains AmigaDOS commands that load the Amiga software and handle various hardware and software setup tasks. Do not alter this file; altering the Startup-sequence file can prevent the Amiga from booting properly. If you want to customize your system configuration, you can create a User-startup file that loads when the system is booted or rebooted. You can also customize you system startup by placing program icons in the WBStartup drawer. This automatically starts these programs when you boot or reboot.

To reboot your system:

1. Be sure that all disk activity has stopped and that all floppy disk drive and hard disk drive lights are unlit.
2. If you are rebooting from a floppy disk drive, insert a copy of the Workbench disk into a floppy disk drive.
3. Simultaneously hold down the Ctrl (Control), left Amiga, and right Amiga keys and then release them.

The Workbench screen illustrated in Figure 2-1 appears following a successful reboot.

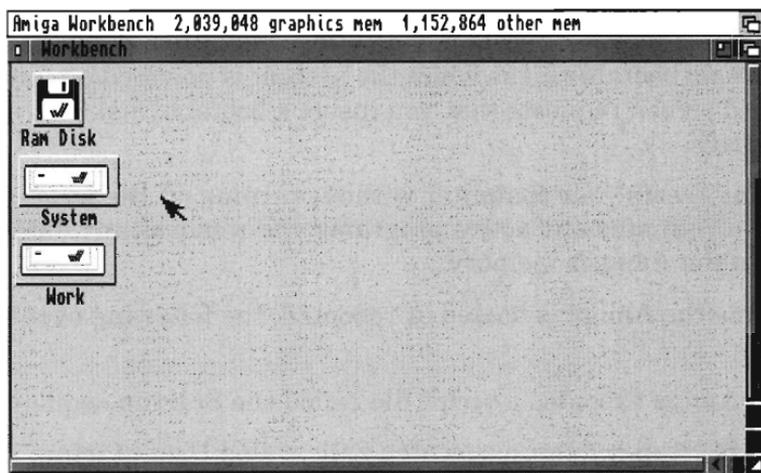


Figure 2-1. Workbench Screen

Special Boot Options

Extra memory used for maintaining devices can cause floppy-based games from running. See Appendix C for information about how to avoid this problem.

Using the Mouse

The Amiga comes equipped with a mouse, illustrated in Figure 2-2, used to communicate with the system through the pointer. The pointer is an image of an arrow on your screen that is manipulated by moving the mouse. Positioning the mouse so that the pointer is located on an icon, window, menu, or screen and pressing the mouse buttons tells the Amiga what to do.

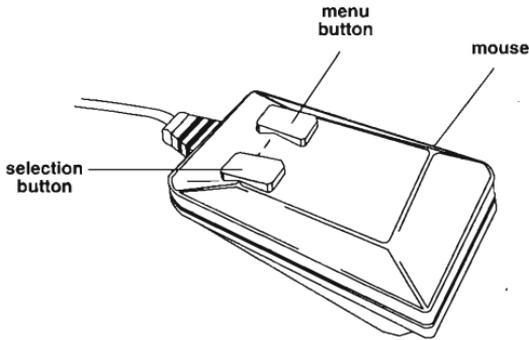


Figure 2-2. Amiga Mouse

Moving the Mouse

Hold the mouse on a flat surface with the cable extending away from you so that the mouse box rests under the palm of your hand with the buttons under your fingertips. The button on the left is the selection button and the button on the right is the menu button.

When using the mouse,

Pointing	means moving the mouse so that the tip of the pointer is positioned over an object on the screen. The pointer moves in the same direction you move the mouse. The mouse can be lifted and repositioned at any time. Lifting the mouse does not move the pointer.
Clicking	means pressing and releasing the selection button.
Double-Clicking	means clicking the selection button twice in rapid succession. Double-clicking on an icon causes a window to appear or a program to start.
Holding Down	means pressing the mouse button until your action is completed.
Dragging	means moving screens, windows, and icons by holding down the selection button and moving the mouse.

Selection Button

The left mouse button is the selection button, used for selecting screens, windows, and icons for processing. This button is also used to move, or drag, items on the screen.

Each of these mouse techniques is described in the following sections.

Selecting an Icon or Window

Windows are rectangular areas on the screen that can accept or display information. Icons are images in windows that represent disks, drawers, projects, or tools.

To work with an icon or window you must first select it. Once an icon is selected, you can make a copy of it, change its name, or 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. Icons also change color or shape when selected. For example, drawer icons change from a closed drawer to an open drawer when selected.

To select an icon:

1. Point to the icon, making sure the pointer tip is within the icon's box.
2. Click the selection button. The icon changes to show that it is selected.

If you click the selection button while the pointer is elsewhere on the screen or window, the icon is deselected and returns to its original appearance.

Select a window by clicking the selection button while the pointer is inside the window, but not over an icon.

When a window is selected, the frame surrounding the window changes color. Only one window can be selected at a time. The selected window is the one that accepts your mouse and keyboard input.

Selecting Multiple Icons

You can select several icons at one time. When multiple icons are selected, you can treat them as a single entity, deleting, moving, or copying the entire group in one operation.

The two methods for selecting multiple icons using the mouse are drag selection and extended selection.

Drag selection uses the mouse to draw a box around all of the icons that you wish to select, as follows:

1. Move the pointer just outside of the outermost icon to be included in the box. That point is one corner of the box. Make sure it is not on an icon or gadget.
2. Hold down the selection button and move the mouse to draw a dotted box as it moves.

3. When the box encloses all the icons to be selected, release the mouse button. All of these icons are now selected.

The extended selection method is for selecting icons that are not in a group that can be enclosed in a box, as follows:

1. Select the first icon.
2. Hold down Shift.
3. While holding down Shift, select each of the other icons.
4. Release Shift. All of the chosen icons remain selected until you select a different icon or click within a Workbench window while not holding down Shift.

Opening a Window

Double-clicking on an icon opens a window or starts a program. Adjust the time allotted for a double-click with the Input Preferences editor, explained in Chapter 5.

Dragging an Icon

To drag an icon:

1. Point to the icon.
2. Hold down the selection button and move the mouse. An image of the selected icon moves with the pointer.
3. Release the selection button when the icon is in position.

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

Dragging a Window

When several windows are open on the Workbench screen, they may overlap each other. Rearrange the windows on the screen by dragging them, to show the information presented in all the windows.

To drag a window:

1. Point to the title bar, but make sure the pointer is not over any of the gadgets at either end.
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 into position and then release the selection button. The window appears in the new location.

Dragging a Screen

Screens are areas of the display on which windows are opened. It is possible to have more than one screen open at a time. If your Workbench screen, a terminal program screen, and a text editor screen are open all at the same time, you can see parts of each screen by dragging them into view.

To drag a screen:

1. Point to the screen's title bar.
2. Hold down the selection button.
3. Move the mouse down.

To expose a screen, you can drag any screens that are in front of it down. If a screen is larger than a 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.

To drag a screen when its title bar is covered by windows or not on the visible part of the display, hold down the left Amiga key and then the selection button. This lets you "grab" the screen and drag it, regardless of the mouse pointer position.

Copy by Dragging

Copy a drawer, project, or tool to another disk by dragging the icon over the other disk's icon or into the other disk's window. The original icon stays on the original disk and a copy is created in the destination disk's window.

You cannot make a copy of an icon on the same disk with this method. To copy something onto the same disk, select its icon, and then use the **Copy** menu item. For more information, see the menus discussion in Chapter 3.

You can copy several icons at once using drag selection or extended selection. When the icons to be copied are selected:

1. Hold down Shift.
2. Point to one of the selected icons and then drag it over the other disk's icon or into the other disk's window. As you drag one icon, the rest follow.
3. Release the selection button to copy the icons.

Note When drag-copying several icons, be sure the tip of the pointer is over the icon or window to which you are copying when you release the selection button.

Menu Button

The right mouse button is the menu button, which is used to display the menu bar and menus and to choose items from them. Menu bars appear across the top of the screen, containing any menu headings available. The menu button can also be used to cancel operations being performed by the selection button, such as drag selection.

Cancelling an Operation

Cancel the 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.

Cancel selection of button-type gadgets by moving the pointer off the gadget button before releasing the selection button.

Using the Amiga Without a Mouse

All mouse actions can also be done using the keyboard. Certain key combinations allow use of the keyboard to move the pointer, select icons, and choose menu items. Keyboard shortcuts appear in the menu boxes for some options. For a full description of these key functions, see the hardware manual for your Amiga model.

Using Disk Drives

Disk drives are devices from which information is retrieved or to which information is written or stored. An Amiga can have one or more hard disk drives, as well as floppy disk drives, depending on the model. Each disk drive has a device name, such as DF0: for the internal floppy drive. (Additional floppy drives are designated DF1:, DF2:, and DF3:.) A disk icon is displayed on the Workbench screen for each disk inserted in a drive and for each hard disk partition.

The device name and the volume name are two ways of identifying a given disk. For most purposes use either name to refer to the disk when entering a path or within a file requester. Although the device name is generally shorter and faster to enter, the volume name is more specific. For example, if you have a floppy disk in device DF0: with a volume name of Mydisk, you can reference it as either DF0: or Mydisk:. If you reference Mydisk: and it is not currently in DF0:, the Amiga asks you to insert Mydisk in any drive.

Each drive has an indicator light that is lit when the device is in use, either reading or writing data.

Caution Never reboot or turn off your Amiga when any of the disk lights are lit or you risk damaging the drive and/or the files on the disk.

Never remove a floppy disk from a floppy disk drive when the light is lit or you risk damaging the drive and/or the files on the disk.

Inserting Floppy Disks

The standard 3.5-inch floppy disk can be inserted only one way. Insert the disk into the disk drive with the label side facing up and the metal end with the indicator arrow entering first.

Using Floppy Disks

Floppy disks must be write-enabled and formatted before information can be written on them. To write-enable a floppy disk, turn the disk to its back side and push the plastic tab in the upper left corner down to cover the hole. Conversely, to write-protect a floppy disk, push the plastic tab up, uncovering the hole. Figure 2-3 illustrates the write-enable/protect tab on a floppy disk. Formatting floppy disks is described in Chapter 3.

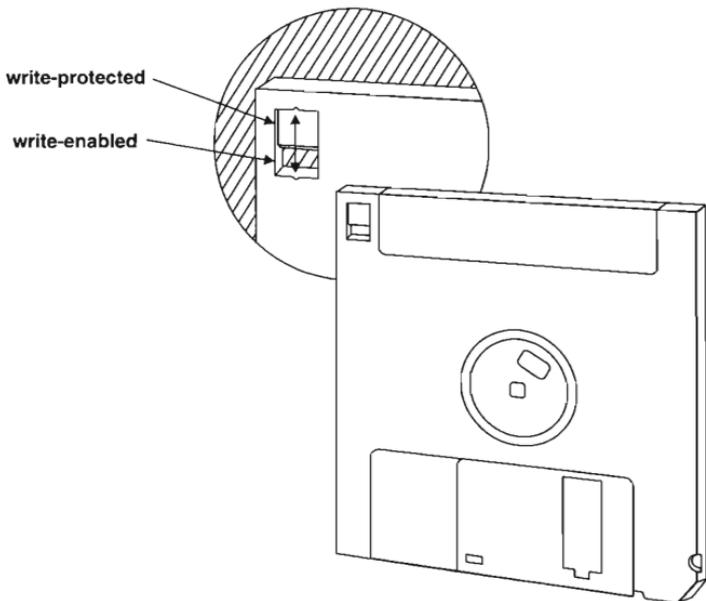


Figure 2-3. Write Protecting/Enabling Floppy Disks

The disk from which information is copied is referred to as the source disk (FROM disk). The disk to which the information is copied is referred to as the destination disk (TO disk). The source disk should always be write-protected to avoid accidental erasure. The destination disk can be a blank disk or a previously used disk whose contents are no longer needed. This disk must be write-enabled to accept the information from the source disk.

Using the Ram Disk

The Ram Disk icon represents RAM:, an area of the Amiga's internal memory that is set up as a file storage device like a disk. Files, directories, and entire floppy disks (available memory permitting) can be copied to RAM: for temporary storage. The Ram Disk serves as a work area that the system can quickly access.

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. You must save to floppy disk or to hard disk anything in the Ram Disk that you want to use again.

Applications commonly use RAM: to store temporary files created when the program runs or for backup files created when the program is exited. RAM: can also be used as storage for experimental script files, as a destination for testing command output, and when the creation of a file on an actual disk is too slow, risky, or inconvenient.

Be careful when using RAM: for storing important files. If the Amiga loses power, has a software failure, or you reboot, everything stored in RAM: is 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:, open the Ram Disk icon and drag the floppy disk icon into the Ram Disk window. This creates a drawer with the name and contents of the floppy disk.

Backup Disks

Backup disks ensure against a loss of data in the event of damage, corruption, or accidental erasure of the original disk. We recommend that you make backup copies of important disks and files, following the licensing agreements provided with your applications software. Making and distributing unlicensed copies of disks is a copyright violation known as software piracy. Store your original disks in a safe place and use your backup disks for everyday purposes.

Managing Your Files

Organizing Information on Disks

Information should be stored on disk in a logical manner to allow easy access to your files. The Amiga Workbench organizes information into a hierarchical system of drawers.

A drawer, or a directory in AmigaDOS, is a container for items that are related. These items can be files and even other drawers.

On any disk you can create multiple drawers containing multiple files, as available disk space allows. Workbench also allows the creation of drawers within drawers, "subdrawers" or subdirectories, for further file management. Create as many drawers and "subdrawers" on your disk as needed.

A drawer icon is displayed in the disk window for each drawer created on a particular disk. Each drawer window contains the icons of the files and subdrawers that exist in it.

Paths

A path is a complete description of the location of a particular file on a disk. When a program requests the name of a file for retrieval, specify the file's path, including the volume or device name and all the drawers that lead to that file.

The method for specifying paths varies from program to program. Most programs use a file requester with a scrolling list, in which the disk name, any drawer names, and the file name are displayed. Click on the appropriate names to specify the path. However, for some programs you may have to type in the complete path name.

To enter a complete path:

1. Type the name of the disk followed by a colon. This name is the volume name of the disk, such as Mydisk:. You can substitute the disk's device name, such as DF0:, in place of the disk name. However, if you enter the device name rather than the volume name, be sure the correct disk is in that device.

Diskname:

2. For a file that is not in a drawer, specify the file name after the colon following the disk name.

Diskname:filename

3. For a file in a drawer, after the colon following the disk name specify the drawer name followed by a slash (/) followed by the file name.

Diskname:drawername/filename

4. If there are more drawers in the path, each drawer must be specified followed by a slash.

Diskname:drawername/subdrawername/filename

Note File and drawer names containing spaces can cause recognition problems. We recommend that you avoid using spaces in file or drawer names. If you have trouble referencing a name that contains a space, enclose the entire path in double quotation marks.

File and Drawer Names

The following rules apply for naming files and drawers:

- Names can be up to 31 characters long.
- Colons (:) and slashes (/) are not allowed within a name. These characters are reserved for path statements. However, other non-alphabetic characters may be used.
- The use of spaces before or after names should be avoided due to the possibility of confusion.
- Upper and lower case differences (capitalization) are preserved and displayed by the Amiga. However, the system is case-insensitive: upper and lower case are considered the same.
- Duplicate file names are not allowed within the same drawer. If you save a file with the same name as an existing file in a drawer, it overwrites the original file in that drawer.
- Two files with the same name can exist in separate drawers or within different paths.

Trashcan

The Trashcan is a special drawer in each volume for storing files that you no longer need and may wish to delete. Discard icons or pseudo-icons for the files to be deleted by dragging them into the Trashcan. If the icon to be discarded is a drawer, its associated files are also moved to the Trashcan.

Choosing Empty Trash from the Icons menu deletes the icons and all of their associated files from the Trashcan. Before choosing Empty Trash, you can still recover any of the Trashcan's contents by opening its window and dragging the icons back out.

Chapter 4

Workbench

This chapter describes the Amiga Workbench, an icon-based environment that allows you to give instructions by manipulating graphic symbols with a mouse rather than by typing in commands at a keyboard. Included in this chapter are descriptions of the following:

- The Workbench Screen
- The Workbench Window
- The Workbench Menu
- Workbench Programs

Workbench Screen

The Workbench screen, illustrated in Figure 4-1, is the primary visual component of your system. Icons and other windows appear on it.

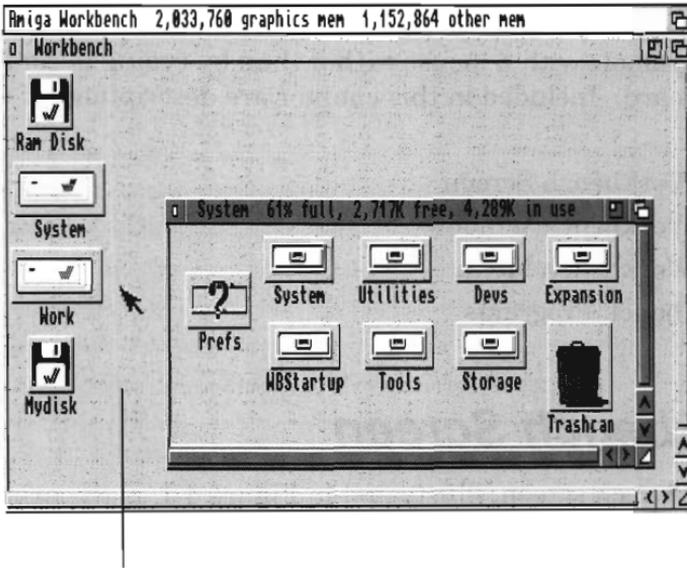
The Workbench screen is identified by the Amiga Workbench title bar located along the top border of the display. The Workbench screen's title bar also displays the number of bytes of graphics (Chip) memory and other (Fast) memory currently available for any selected window, except an open Shell window.

The Amiga provides Preferences editors (described in Chapter 5) that allow you to customize the Workbench screen. You can define an extra-large "virtual" Workbench screen that is larger than the viewable area with more space for windows.

Workbench Window

When you boot your Amiga, the Workbench window fills the Workbench screen. This window contains icons for any floppy disks inserted into floppy drives, the Ram Disk, and any other icons determined by your system's configuration.

Although the Workbench window appears and functions like an application window, it is an essential part of the Workbench screen.



Workbench Window

Figure 4-1. Workbench Screen

Workbench Menu

The Workbench menu contains general Workbench options and options for windows opened on the Workbench screen. You can, for example, use the Workbench menu to update the screen display or see which version of the system software is in use.

On the Workbench menu you can select the following options:

Backdrop

AB

The Backdrop menu item creates more room on the Workbench screen for displaying windows and icons. Backdrop switches between a normal window for your Workbench and a special borderless window that is always behind other windows opened on the Workbench.

Choosing Backdrop removes the Workbench window borders so that the disk icons appear to be on the Workbench screen without being enclosed in a window. To return to the normal Workbench window, choose Backdrop again. Backdrop is reset to off if you power off or reboot your computer. To save your Backdrop selection choose the Snapshot item in the Windows menu.

Execute Command

AE

Note This menu item is provided for users familiar with AmigaDOS.

The Execute Command executes (starts) an AmigaDOS command without opening a Shell window. Figure 4-2 illustrates an Execute Command requester.

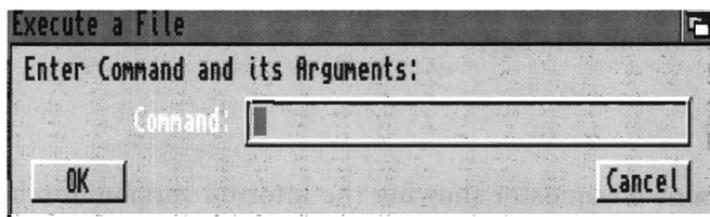


Figure 4-2. Execute Command Window

The command and all of its arguments should be entered in the requester.

A Workbench Output Window is automatically opened on the front of the screen when a command results in output and it remains there until you select its close gadget. The current directory for an Execute Command operation is RAM:.

Redraw All

Redraw All redraws all open Workbench windows on the Workbench screen and may be used in the event of a disturbance to the Workbench. If Redraw All does not restore the windows to their proper appearance, reboot the computer.

Update All

Update All reopens each open Workbench window, updating its appearance to show its current state.

Note If you have several windows open and have been using the Shell or an application to change to the contents of a disk, the changes may not be reflected in its windows until you close the windows and reopen them or choose Update All.

Last Message

Last Message retrieves the last information or error message that appeared on the title bar.

About

About opens a requester showing 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

Quit closes all Workbench operations, making additional RAM available if needed. The Workbench does not close if there are any programs running, including programs that do not open a window and programs that are in your WBStartup drawer.

The only windows that can remain open while using Quit are the disk, drawer, and Shell windows. Once you OK the Quit requester, a Shell window is your only link to the Amiga. You can use the Shell icon in the System drawer to open a Shell window before quitting the Workbench.

Return to the Workbench by typing LOADWB (load Workbench) at the Shell prompt and pressing Return. If there is no Shell window open, you must reboot to return to the Workbench.

The close gadget on the Workbench window is the same as choosing Quit.

Workbench Programs

The Workbench disk window contains a number of drawers that contain system and utility files.

These drawers are:

- System
- Utilities
- Devs/Storage
- WBStartup
- Expansion
- Tools

System Drawer

The System drawer contains programs that control system functions. Some offer access to Amiga accessory programs, such as AmigaDOS or ARexx.

FixFonts



FixFonts should be used after fonts are added to or deleted from your Fonts drawer.

For more information on fonts and FixFonts, see Chapter 8.

Format



Format a disk by opening the Format icon. The procedure follows the same steps as used with the Format Disk menu item, described in Chapter 3.

Intellifont



Intellifont manages the installation of Intellifont[®] outline fonts onto your Amiga. Intellifont and fonts are described in Chapter 8.

NoFastMem



Some very old programs may not run properly when memory other than graphics (chip) 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 "other mem" display in the Workbench title bar drops to 0 (zero). The icon works like a toggle switch. To restore expansion (Fast) memory to the system, double-click on the NoFastMem icon again. NoFastMem does not open a window.

RexxMast



RexxMast is the interpreter for the optional ARexx programming language. To use RexxMast double-click on its icon. To run RexxMast each time you boot, drag the icon into WBStartup.

Shell



Shell opens an Amiga Shell window, which gives you complete access to the AmigaDOS command line environment.

Utilities Drawer

The Utilities drawer contains programs that are helpful, but not necessary for working with your Amiga.

Clock



Clock displays the time and date on your Workbench screen. It can also be used as an alarm clock to signal you at a specified time.

When you open the Clock icon, a window with a round (analog) clock face appears. If the time shown is incorrect, use the Time editor in the Prefs drawer, described in Chapter 5, to set the correct time.

Clock has two menus for changing the display and settings: Project and Settings.

The Project menu lets you choose the display mode for Clock or choose Quit to close the Clock. Analog is the default display mode; its window size can be changed. Digital, the numeric clock, displays a digital clock the height of the title bar. (Note that the Digital clock uses your screen font.)

The Settings menu lets you:

Display the Date

Displays the date beneath the analog clock. The date and time are alternately displayed on the digital clock. Date off is the default.

Display Seconds

Displays the time with a sweep second hand on the analog clock. The default setting shows no seconds. The Display Seconds item is not available on the digital clock.

- Display a 24-Hour Clock** Displays the time in a 12 or 24 hour format, with or without seconds, for the digital clock only.
- Set the Alarm** Allows you to set the time for the alarm to signal you. Because the signal is a short audible tone, you must have audio output on your Amiga to use this feature.

To set the alarm:

1. Choose the Set Alarm menu item.
2. Change the time setting by dragging the hour and minute sliders to the right to increase the value or the left to decrease the value until the correct time is displayed.
3. When the requester displays the desired alarm time, select the Use gadget. Select the Cancel gadget to restore the previous alarm setting and exit.
4. Choose the Alarm menu item to turn the alarm on.

The alarm remains on and beeps at the same time each day until you deselect Alarm or close the Clock. The Clock must be running for the alarm to work. The next time you open the Clock, the alarm must be reset.

The Settings menu also lets you save your settings with the Save Settings item.

Tool Types

Tool Types in the Clock icon's Information window allow you to save the menu, size, and position settings on the Clock. The acceptable Tool Types are:

- | | |
|------------------------|---|
| DIGITAL | The clock opens in digital mode |
| 24HOUR | The clock opens in 24-hour mode |
| SECONDS | The clock displays the seconds |
| DATE | The clock displays the date |
| LEFT= <n> | The clock opens <n> pixels from the left edge of the screen |
| TOP= <n> | The clock opens <n> pixels from the top of the screen |

WIDTH= <n>	The clock is <n> pixels wide (disregarded if using a digital clock)
HEIGHT= <n>	The clock is <n> pixels high (disregarded if using a digital clock)
FORMAT= <n>	The digital clock is preset to the specified format; <n> = 0-5.

More

More displays ASCII files on the Workbench screen.

To move through the More 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 enter %60, you are placed 60% into the file.
Ctrl+L	Updates the window (this is useful if you have made the More window larger).
/text	Performs a case-sensitive search for the text specified after the slash (/).
.text	Performs a case-insensitive search for the text specified after the period (.). That is, the system ignores upper and lower case in the search.
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.

When the last page of the display is reached, an End of File message is displayed at the bottom of the screen. Press the space bar to exit More.

More searches for text in any form. A case-insensitive search is one that searches for the text in upper or lower case. For example, the words More, MORE, more, and mOre are all the same in a case-insensitive search. A case-sensitive search is one that searches for the text exactly as it is entered. If you enter the text in upper case letters, More only looks for occurrences of the text that appear in upper case letters.

MultiView



MultiView lets you view files, including picture files, text files, AmigaGuide help files, sound files, and animated graphics files. For more information on the Data Types used by MultiView, see page 4-15. Figure 4-3 illustrates the MultiView window.

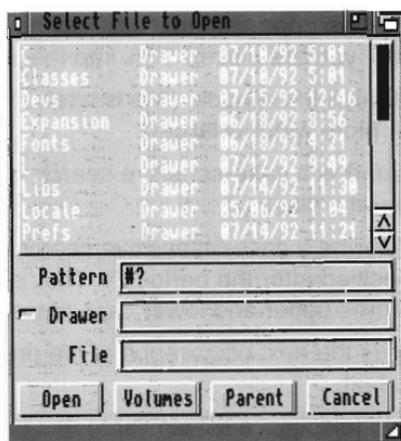


Figure 4-3. MultiView Window

Load files into MultiView using the file requester provided or drag icons onto MultiView. The following gadgets appear on the MultiView file requester:

Pattern	Searches for a file pattern
Drawer	Displays the drawer of the selected file
File	Displays the filename of the selected file
Open	Opens the selected file
Volumes	Displays the available volumes from which to select a file
Parent	Returns to the parent directory of the file or directory last viewed
Cancel	Cancels MultiView without opening a file

Move through the file you are viewing using the window gadgets, scroll bars, and sliders on the display window.

MultiView has four menus: Project, Edit, Windows, and Settings.

Project Menu

Open	Opens a MultiView file requester.
Save As	Saves object as ILBM or text files.
Print	Prints selected blocks or files.
About	Shows the MultiView release information and the type of document being viewed.
Quit	Quits Multiview.

Edit

Mark	Turns on the block selection cursor and lets you select a block. (This is only available for picture files.)
Copy	Copies selected block to the Clipboard and deselects the block. If no block is selected, copies the whole file.
Select All	Selects the whole file.
Clear Selected	Clears the selected block or file without copying or printing.

Windows

Minimize	Makes the window as small as it can be.
Normal	Sizes the window to the contents size.
Maximize	Makes the window the same size as the screen.

Settings

Save As Defaults	Saves the size, position, and location of the window for future use
-------------------------	---

Tool Types

MultiView supports the following Tool Types:

CLIPBOARD	View the Clipboard instead of the file.
CLIPUNIT= <number>	Specify the Clipboard unit to use when using the CLIPBOARD keyword. The range is 0 to 255; the default is 0.
SCREEN	Indicate that you want the object to appear on its own screen, using the environment specified by the object. For example, if an ILBM was Low Res, then the screen would match.
PUBSCREEN= <name>	Indicate that you want the window to open on the named public screen.
FONTNAME= <name>	Font to use when viewing text objects. Note that the .font extension must be left off.
FONTSIZE= <number>	Font size in points to use when viewing text objects.
BOOKMARK	Go to the object and position specified by the bookmark.
BACKDROP	Indicate that the window should be a backdrop window.
WINDOW	Open the MultiView window without an object so that it can be placed in the WBStartup directory.

WBStartup Drawer

The WBStartup drawer is provided to hold icons for programs that you want opened at the time the Workbench is started. For example, you may want the Clock program running when you reboot or power on your Amiga. Drag the icon for each desired program into the WBStartup window. The WBStartup drawer is empty by default.

Tool Types

Programs in the WBStartup drawer can include the following Tool Types:

- | | |
|-----------------------------------|---|
| DONOTWAIT | Normally the Workbench waits for one program to finish before it opens the next. DONOTWAIT overrides this delay. DONOTWAIT does not take an argument. |
| WAIT= <seconds> | Specifies how many seconds the Workbench should wait before opening the next icon in the WBStartup drawer. |
| STARTPRI= <priority> | Assigns 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. |

Expansion Drawer

The Expansion drawer is used to store software drivers for additional hardware devices that you install on your Amiga. If a hardware device uses the Expansion drawer, it is explained in the documentation packaged with that product. To activate the new device, drag the icon for the device's software driver into the Expansion drawer and then reboot your system to make the device available.

Devs Drawer/Storage Drawer

The Devs and Storage drawers both contain the following drawers:

- Data Types
- DOSDrivers
- Keymaps
- Monitors
- Printers

Note Floppy disk only systems use a Storage disk instead of a Storage drawer.

The Devs drawer contains the device driver files for the devices that are currently active on the system. The Storage drawer or disk contains device driver files that are not currently in use, except the Data Types. You can drag Data Types to store in the Data Types drawer in Storage if you wish. Storing unused files in the Storage drawer or disk can save disk space on your boot disk.

Moving From Storage

Moving from Storage moves device drivers out of the Storage drawer or disk and into the Devs drawer.

To activate a monitor or DOSdriver:

1. Double-click on the icon. The file is then active during the current session only.
2. To activate the icon across sessions, drag it from the Storage drawer into the corresponding Devs drawer and reboot your system.

To activate a keymap:

1. Drag keymap files into the Devs drawer.
2. Select the appropriate Keyboard Type in the Input Preferences editor.

To activate a printer driver:

1. Drag printer files into the Devs drawer.
2. Select the appropriate Printer Type in the Printer Preferences editor.

Data Types

Data Types are software files used by tools, utilities, editors, and applications. They are used to describe file formats to the system, such as picture files, sound files, and text files. The following default Data Types are available on the Workbench:

8SVX	IFF sound files
AmigaGuide	Amiga Help files
FTXT	IFF text files
ILBM	Bitmap picture files

Adding Data Types from other applications into the Devs/Data Types drawer makes them available for use by the Workbench, as well as the application. Add new Data Types by dragging them into the Devs/Data Types drawer.

DOSDrivers

DOSDrivers are software devices that extend the capabilities of AmigaDOS.

Keymaps

Keymaps control the keyboard configuration. The default keymap should be changed to use the keymap for any other keyboard configuration. A list of corresponding keyboards and keymaps appears in Chapter 5.

Monitors

The Devs/Monitors drawer and the Storage/Monitors drawer contain icons for the available monitor types that you can use on your system.

Printers

The Devs/Printers drawer holds your printer drivers. On a floppy disk system Devs/Printers is initially empty. Activating a printer driver differs for floppy and hard disk systems.

For floppy disk systems, the Printers subdirectory of the Workbench disk is initially empty. To use a printer with your Amiga:

1. Open the Devs drawer on your Workbench disk.
2. Insert your Extras disk and open the Storage/Printers drawer.
3. Drag your printer's icon onto the Devs/Printers drawer icon. (For single floppy systems, follow the messages to change disks.)
4. Select the appropriate printer type from the Printer Preferences editor.

If you have a hard disk system, the printer drivers you selected during installation are in your Devs/Printers drawer and the rest are in the Storage/Printers drawer.

To make a printer driver available:

1. Open the Storage/Printers drawer.
2. Drag the icon into the Devs/Printers drawer.
3. Select the appropriate printer type from the Printer Preferences editor.

Chapter 5

Preferences

This chapter explains the Preferences editors found in the Prefs drawer. These editors allow you to customize your Amiga environment by:

- Setting your preferred language
- Setting the time and date
- Choosing a keyboard driver
- Changing the Workbench colors
- Changing the shape of the pointer
- Changing the size of the display area
- Specifying a printer and setting it up for graphic output
- Setting up a modem for use with the Amiga

Prefs Drawer

The Prefs drawer contains the icons for the Preferences editors and the Preset drawer. Figure 5-1 illustrates the Preferences editors window.

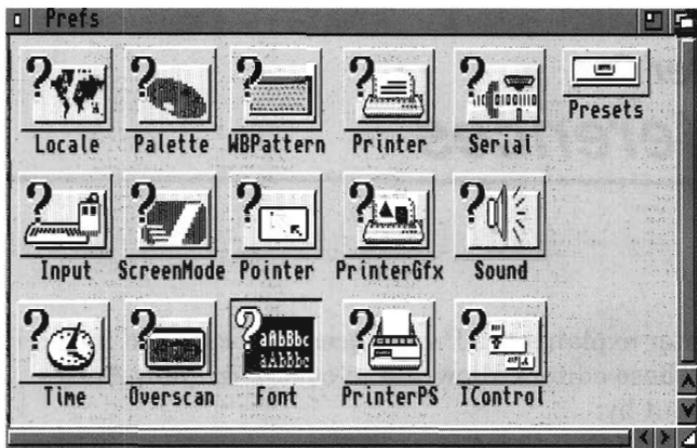


Figure 5-1. Preferences Window

The following editors are listed in the order in which they are described in this chapter:

Locale	For selecting the language and locality
Time	For setting the time and date
Input	For changing the mouse speeds, key repeat speeds, and selecting keyboard type
ScreenMode	For choosing a different monitor display mode
Overscan	For adjusting the size of the display area for text and for graphics
Palette	For changing the Workbench colors
WBPatter	For selecting or creating background patterns for the Workbench windows and screen
Pointer	For changing the size, shape, and color of the mouse pointer and busy pointer
Font	For changing the fonts used in the different areas of the screen
Printer	For specifying the printer driver that matches your printer and for specifying options, such as paper size and margin width
PrinterGfx	For setting up your printer to print graphics
PrinterPS	For controlling output to a PostScript printer

Serial	For setting the specifications for the serial port, which is used to communicate through modems or networking systems
IControl	For choosing miscellaneous system options, such as the key used for screen drag
Sound	For determining the sound your Amiga produces for its "display beep"
Presets	For storing different Preferences editor configurations changed through the Project, Edit, and Settings menus

Editor Menus and Presets Drawer

With the exception of Time, each editor has three menus: Project, Edit, and Settings. These menus let you save and load Prefs preset files, which allow you to quickly change to different configurations. By default, these files are saved in the Presets drawer, although they can be saved elsewhere. If you save icons for the files (by selecting Create Icons?), you can activate the settings by opening the file's icon, rather than opening the actual editor.

Project Menu

The Project menu options let you save the editor settings to a specific file and open previously saved files.

Open	Loads the information from a specified preset file.
Save As	Specify the preset file in which to save the currently displayed settings. The requester provides a default file name in the Presets drawer. If you want to change it, type in the complete path to a different file and select OK.
Quit	Exits the editor without performing any changes. The same as Cancel gadget.

Edit Menu

The Edit menu options allow you to restore previously used settings or the default settings. The options are:

Reset to Default	Returns the editor settings to the default settings.
Last Saved	Returns the editor settings to the last settings you saved.
Restore	Returns the editor to the settings displayed when the editor first opened.

The WBPatten and Pointer Edit Menus have the following additional options:

Cut	Copies and clears the whole work area to the Clipboard.
Copy	Copies the whole work area to the Clipboard.
Paste	Replaces the whole work area with the last thing cut or copied.
Erase	Deletes everything in the work area.
Undo	Undoes the last action performed.
Load Image	Opens a file requester for entering the name of an image file to use as a background pattern or picture.
Reset to Defaults	Resets the WBPatten to default settings.
Last Saved	Returns the last saved image to the magnified view box.
Restore	Restores the magnified view box to its original state when the editor was opened.

Settings Menu

The Settings menu contains the Create Icons? item that allows you to save project icons representing your editor settings in the same drawer as your files. For example, if you save printer specifications to the SYS:Prefs/Presets/Printer.pre file, the icon for the file appears in the Presets window. Double-click on the icon to activate the file's settings.

Using the Presets Drawer

Open the Presets drawer and double-click on a file's project icon to use its settings. Or open the editor, choose the Open menu item, and enter the file's complete path. Select Use to use the settings until you reboot or open another editor file.

Locale Editor

The Locale editor lets you choose the languages with which you interact with the Amiga. The default setting is USA English; however, you can use the Locale editor to choose another language. See Chapter 6 for a full description of the Locale editor.

Time Editor

The Time editor lets you set the date and time on your system. Figure 5-2 illustrates the Time Preferences editor window.

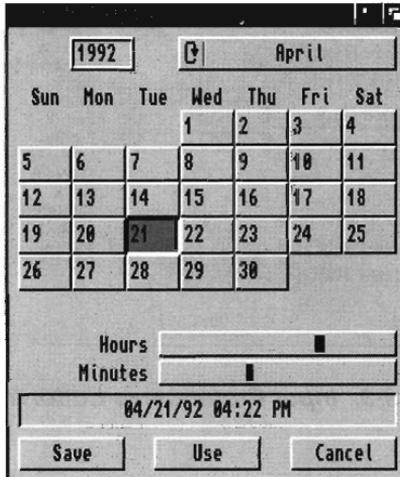


Figure 5-2. Time Preferences Editor Window

To set the date:

1. Click the cycle gadget in the upper right corner until the correct month is displayed.

2. Select the year text gadget, delete the incorrect year, and enter the correct year.
3. Select the correct day from the calendar display. The day is highlighted when selected.

To set the time:

1. Point to the slider bar in either the minute or hour slider.
2. Drag the bar to the right to increase the value and to the left to decrease the value. When the correct value is shown, release the selection button. Repeat these steps for the other slider.

Input Editor

The Input editor allows you to change the speed at which the mouse and keyboard operate and to select your keyboard type. Figure 5-3 illustrates the Input Preferences editor window.

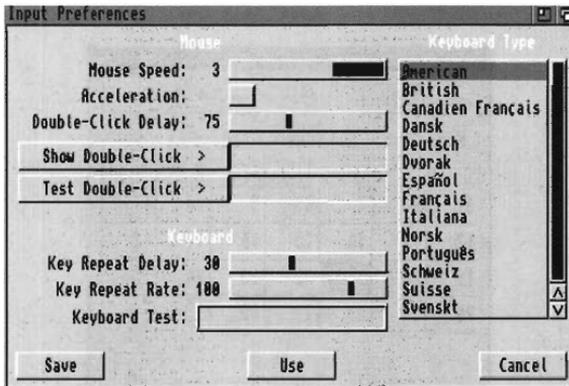


Figure 5-3. Input Preferences Editor Window

Mouse Speed

The Mouse Speed slider determines how fast the mouse pointer moves across the screen relative to mouse movement. The faster the pointer moves across the screen, the less surface space and effort is needed to move the mouse.

Choose from three mouse pointer speeds: 1, 2, and 3, where 1 is the slowest and 3 is the fastest. Set the mouse pointer speed by dragging the slider bar until the desired value is displayed. The mouse speed takes effect while you set it, allowing you to try each speed without exiting the editor. The default value is 3.

Acceleration

The Acceleration feature is used for moving the pointer quickly over large screen areas while retaining fine control for smaller movements. If acceleration is on, the pointer speed remains constant within a small area. However, as the pointer is moved further across the screen, its speed increases, moving it quickly over a large area of the screen.

Select the check box to turn acceleration on or off. The default value is off.

Double-Click Delay

The Double-Click Delay slider determines how fast the mouse registers a double-click of the selection button.

The range is from 1 to 200, with 1 being the least delay. The Show Double-Click gadget shows the amount of time for the selected value. The default value is 75.

Test your chosen speed by double-clicking in the Test Double-Click gadget. When the double-click takes place within the allotted time, a "Double-Clicked" message appears next to the gadget; if not, a "Too Slow" message appears.

Key Repeat Delay

Most of the keys on the keyboard automatically repeat when held down. Change the delay that occurs before the key repeats with the Key Repeat Delay slider.

The current setting is shown on the slider value. The range is from 1 to 75, with 1 being the least delay. To increase the delay, drag the slider bar to the right and to the left to decrease it. The default value is 30.

Key Repeat Rate

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

The range is from 1 to 125, where 1 is the slowest. To increase the speed, drag the slider bar to the right and to the left to decrease it. The default value is 100.

Keyboard Test

The Keyboard Test gadget allows you to test the settings chosen for the key repeat delay, the key repeat rate, and the keyboard type.

Select the gadget and hold down one of the alphabetic keys on the keyboard. The Keyboard Test gadget shows the current key delay and key repeat rate.

Keyboard Type

The Keyboard Type list lets you select the appropriate keyboard type for your language.

The available keymaps and the corresponding keyboards are:

Keymap	Keyboard
cdn	French Canadian
ch1	Swiss French
ch2	Swiss German
d	German
dk	Danish
e	Spanish
f	French
gb	Great Britain
i	Italian
n	Norwegian
po	Portuguese

Keymap (cont'd) Keyboard (cont'd)

s Swedish
usa2 Dvorak

Choosing a particular keyboard type activates the corresponding keymap file in the Devs/Keymap drawer. Select your keyboard type in the Input Preferences editor and your keymap in the Devs/Keymap. If your corresponding keymap is not in the Devs/Keymap drawer, open the Storage/Keymap drawer and drag the correct icon into the Devs/Keymap drawer.

ScreenMode Editor

The ScreenMode editor, illustrated in Figure 5-4, lets you select the display mode for the Workbench screen. Since the modes have different properties and hardware requirements, review the descriptions provided here and in Appendix B to determine which modes are available on your system and best meet your needs.

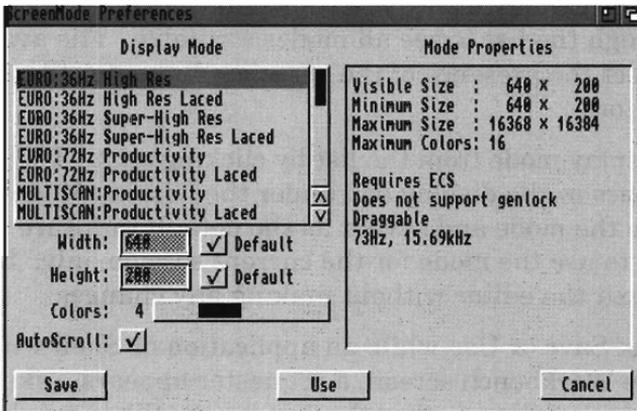


Figure 5-4. ScreenMode Preferences Editor Window

The available display modes are listed on the left; the properties of the mode selected is displayed on the right.

Types of Displays

A display mode is defined by:

- Resolution (horizontal and vertical dimensions in pixels)
- Vertical and horizontal scan rates (measured by Hz and kHz)
- Color palette (the largest number of colors that can be displayed on the screen at one time and the size of the palette from which the displayable colors can be chosen)

Most display modes have an interlace option. Interlacing doubles the vertical resolution to allow you to get twice as much information on the screen. It also makes the output of many display modes video-compatible. Interlaced screens may, however, flicker when used with certain monitors. Consult your monitor documentation to make sure that it supports interlacing before selecting this feature.

Some display modes have a Super-High Res option, which doubles the number of pixels displayable horizontally. While this increases the screen resolution, it reduces the number of colors available.

Using the ScreenMode Editor

The available display modes are shown in the Display Mode list. Scroll through the list to see all modes available. The available modes reflect the presence of the associated monitor files in Devs/Monitors.

Select a display mode from the list by clicking on it. The selected mode appears in the display box under the Display Mode list. Select Save to use the mode and save it as the default in future sessions. Select Use to use the mode for the current session only. Select Cancel to exit the editor without making any changes.

If you select Save or Use while an application or Shell window is open on the Workbench screen, a requester appears, asking you to close any open windows other than drawers. When you have closed the last open Shell or application window, the Workbench screen automatically resets to the new display mode.

Your chosen display mode pertains only to the Workbench screen. Applications opening their own screens supply documentation of the display modes they support.

Mode Properties

The Mode Properties display box lists information about the display mode selected. It displays screen sizes and maximum displayable colors for the selected display mode and other mode properties.

Screen sizes corresponding to the currently selected display mode are given in number of pixels. The first number represents the width of the screen; the second number represents the height.

Visible Size	The size of the text overscan area as determined by the Overscan settings.
Minimum Size	The smallest, or minimum, screen size supported by the selected display mode.
Maximum Size	The largest, or maximum, screen size supported by the selected display mode. The amount of Chip memory available may further restrict this size.
Maximum Colors	The maximum number of colors displayable on a screen in the selected display mode.

The possible mode properties that can be displayed include:

Interlaced	The display mode is interlaced.
ECS	Only available if your Amiga has the Enhanced Chip Set.
Supports Genlock	The display mode supports the use of video genlock equipment.
Draggable	The display mode supports a draggable Workbench screen. A draggable screen can be pulled down to reveal any other open screens behind it.

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 the number is entered, that number remains constant no matter what display mode is selected until the corresponding Default gadget is selected.

Entering numbers larger than the maximum or smaller than the minimum do not increase or decrease the display mode size beyond the default setting.

The Default check box to the right of each gadget lets you select the default setting for the width and/or height. This equals the visible size.

All modes, except the A2024 modes, allow you to specify a Width and Height much larger than the visible size. This extra-large "virtual" Workbench screen lets you open larger and more non-overlapping windows than otherwise possible, limited only by available Chip memory.

Colors

The Colors 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 and the less memory used.

AutoScroll

Selecting AutoScroll automatically scrolls the screen when the mouse reaches the edge of the screen's visible portion. This is useful when you have defined a Width and Height for the screen that is larger than the visible size.

Overscan Editor

The Overscan editor, illustrated in Figure 5-5, enlarges the size of your screen to use the normally extra space unused around the edges of the monitor screen, known as the overscan area.

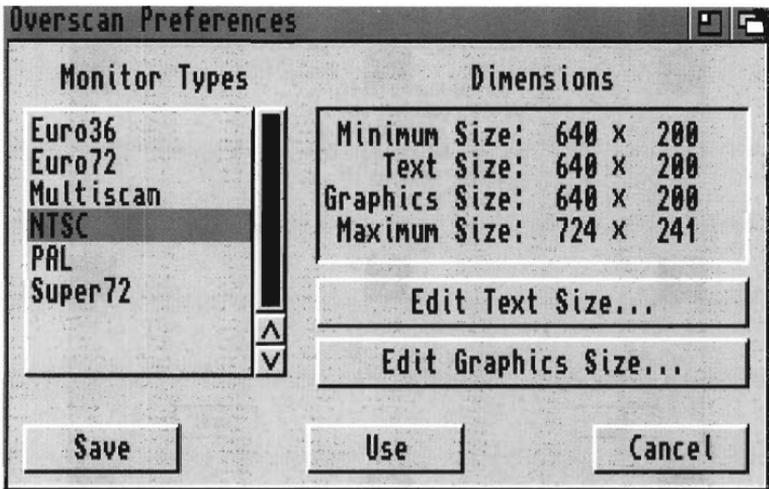


Figure 5-5. Overscan Preferences Editor Window

The MonitorTypes available reflect the presence of the associated monitor files in Devs/Monitors.

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 is highlighted in the scroll gadget.

Edit Text Size

The Edit Text Size gadget, illustrated in Figure 5-6, lets you adjust the area available for text display.

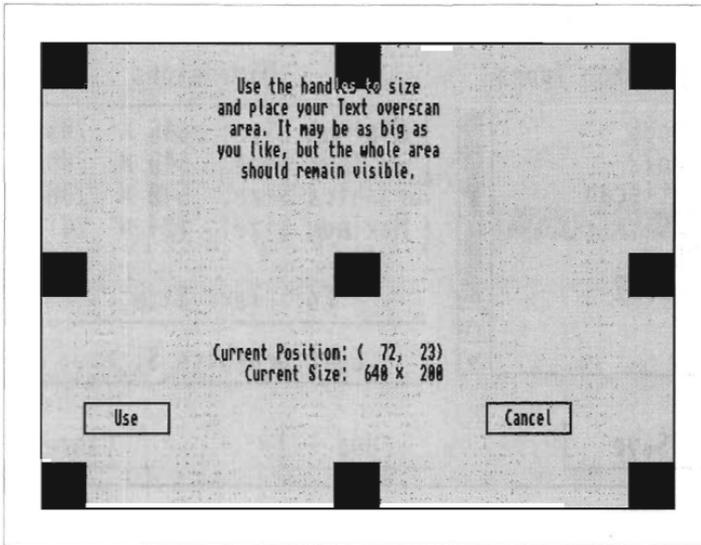


Figure 5-6. Edit Text Size Window

The black rectangles on the screen are handles and the line connecting the handles represents the outermost area where text can be displayed. Enlarge the overscan area by pointing to a handle, holding down the selection button, and dragging the handle to the edge of the screen. Only the active handle is visible on the screen when you drag it.

Moving any part of the handle off the screen or out of the viewing area overenlarges it, losing a portion of the visible text.

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 to center the display area on your monitor screen.

To accept changes and return to the Overscan editor, select Use. To exit the screen without accepting any changes and return to the Overscan editor, select Cancel.

Edit Graphics Size

The Edit Graphics Size gadget lets you adjust the standard display size with a screen similar to the Edit Text Size screen.

The handles and the lines connecting them represent the outermost area where images can be displayed. Use the mouse to drag the handles so that the line connecting them completely encompasses the screen. The resulting area should be slightly larger than the monitor screen. As with the Edit Text Size screen, use the center handle to position the screen. Only the active handle is displayed when you drag it.

To accept changes and return to the Overscan editor, select Use. To exit the screen without accepting any changes and return to the Overscan editor, select Cancel.

Dimensions

The different sizes of the overscan areas are displayed on the right of the Overscan window. The sizes are given in number of pixels, representing the width and the height of the screen.

For PAL or NTSC groups, the sizes correspond to the sizes for a standard High Res screen. If Multiscan is selected, the sizes for a non-interlaced Productivity screen are given. All other display modes in a group are affected proportionally.

The size categories are:

Minimum	The standard, non-overscan size of a screen
Text	The current Text Overscan size
Graphics	The Graphics Overscan size
Maximum	Maximum allowable size for any overscan area, text or graphics

Palette Editor

The Palette editor, illustrated in Figure 5-7, lets you change the colors of the Workbench.

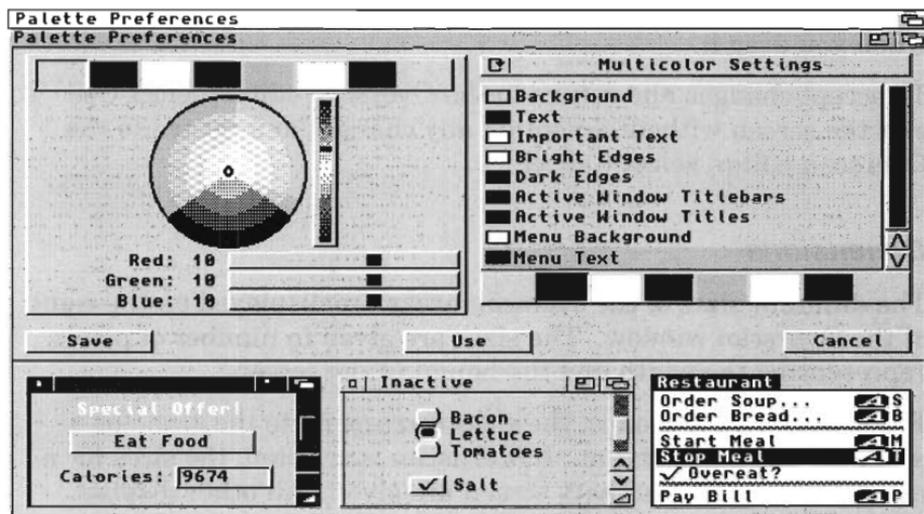


Figure 5-7. Palette Preferences Editor Window

The left side of the Palette Preferences editor window displays the four and eight current Workbench colors in the selection gadget, a color wheel with intensity indicator, and color sliders that can be RGB (red, green, blue) or HSB (hue, saturation, brightness) depending on your Slider Color Model menu selection. (RGB is the default setting.)

The right side of the Palette Preferences editor window has a Color Mode cycle gadget with two settings: Multicolor Settings and 4 Color Settings. The Multicolor Settings gadget is for setting eight Workbench colors. The 4 Color Settings gadget is for setting four Workbench colors. Both modes should be set to accommodate editors and applications that use one setting or the other.

The Palette Preferences editor window displays the following nine items for which you can select specific colors:

- Background
- Text
- Important Text
- Bright Edges
- Dark Edges
- Active Window Titlebars
- Active Window Titles
- Menu Background
- Menu Text

Depending on the display mode set in the ScreenMode Preferences editor, the bottom of the Palette Preferences editor window displays a sample window that changes as you change color selections. If this does not appear on your Palette Preferences editor window, a Show Sample gadget is displayed instead. Clicking on this gadget displays the sample window showing your color selections.

To change a color in RGB mode:

1. Point to a color in the selection gadget and click the selection button.
2. Use the slider gadgets to change the selected color. The color in the display box and on the sample screen changes as the bar is dragged through the slider box.

Changing the black and white settings may affect the three-dimensional appearance of the screen. Be sure colors replacing black are darker than colors replacing white.

To change a color in HSB mode:

1. Point to a color in the selection gadget and click the selection button.
2. Use the slider gadgets to change the selected color. The color in the display box and on the sample screen changes as the bar is dragged through the slider box.

The Hue slider changes the basic color, the Saturation slider changes the amount of color, and the brightness slider changes the lightness or darkness of the color.

To change color using the color wheel:

1. Point to a color in the selection gadget and click the selection button.
2. Point to the color intensity indicator within the color wheel and hold down the selection button.
3. Moving the mouse pointer moves the indicator on the color wheel, changing the color in the display box and on the sample screen as the indicator moves. Release the selection button when you reach the color you want.

In addition to the standard Preferences menus, the Palette editor also has a Presets menu item in the Edit menu that contains predetermined color settings and a Settings menu item that lets you determine which Slider Color Model to use for changing your colors.

If you have a monochrome monitor or if you choose a color setting of 2 in the ScreenMode Preferences editor, the Palette Preferences editor only displays RGB color sliders.

WBPattern Editor

The WBPattern editor lets you change the background display of the screen and the Workbench and its windows. The WBPattern editor window is illustrated in Figure 5-8.

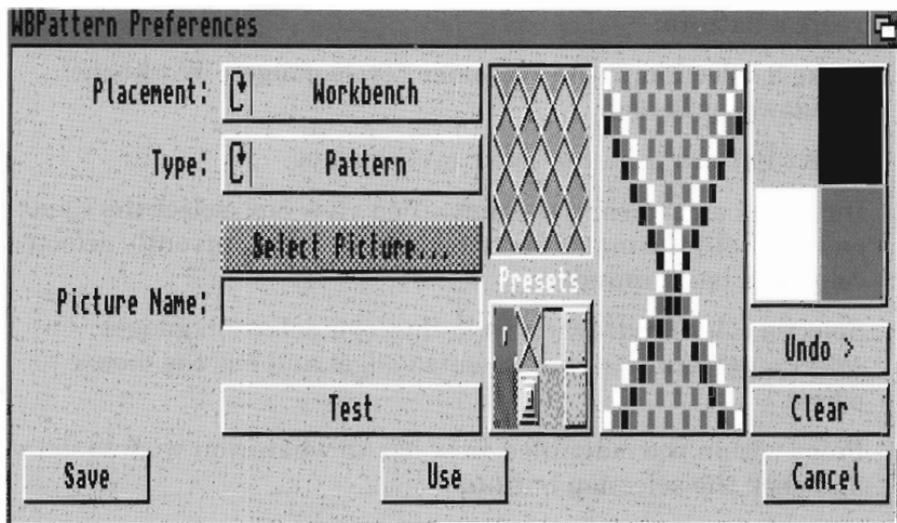


Figure 5-8. WBPattern Preferences Editor Window

The Placement cycle gadget lets you select Workbench, Windows, or Screen for displaying a background.

The Type cycle gadget lets you select either Pattern or Picture.

Applying Background Patterns

You can select an already existing pattern or create your own to fill any open areas of the window. The default is no pattern.

To choose a preset pattern:

1. Make a selection in the Placement cycle gadget: Workbench, Windows, or Screen.
2. Select Pattern from the Type: cycle gadget.
3. Select one of the patterns in the Presets gadget to show a sample in the display box above it.
4. You may optionally select the Test gadget to apply the pattern to the screen without exiting the editor.

To create a pattern:

1. Make a selection in the Placement cycle gadget: Workbench, Windows, or Screen.
2. Select Pattern from the Type: cycle gadget.
3. If there is a pattern in the magnified view box, select the Clear gadget to fill the magnified view box with the currently selected color as a background.
4. Select a color for drawing from the color selection gadget. Or select a pattern from the Presets gadget and use the mouse to edit it.
5. Point within the magnified view box to where you wish to draw and click the selection button.

One pixel of the selected color appears where you position the mouse pointer. Holding down the selection button and moving the mouse fills in several pixels at once. Switch to another color by moving the pointer over the color selection gadget and selecting the next color.

As the pattern is created in the magnified view, it also appears in the actual-size box. If you make a mistake while drawing, use the Undo gadget to erase the last action performed by the mouse.

6. When the pattern completes, select the Test gadget to see how it appears on the screen.

Applying Pictures

You can apply a picture or graphic file to the background of the Workbench, Windows, or Screen. Pictures can be created in a paint package or you can load digitized picture files into the editor. Pictures are mapped to the colors of the screen.

To select an existing picture file:

1. Select Picture from the Type: cycle gadget.
2. Click on the Select Picture gadget.
3. In the file requester, enter the filename of the picture you wish to use.
4. Optionally select the Test gadget to apply the pattern to the screen without exiting the editor.

WBPattern Edit Menu

The WBPattern Edit menu has additional items that let you use other drawing programs to create and edit patterns and to use existing images from other sources. For example, you can use the drawing capabilities of the IconEdit tool, described in Chapter 10, to create a design and then load it into WBPattern.

Cut	Copies the contents of the magnified view to the Clipboard and clears the view to the background color.
Copy	Copies to the Clipboard without clearing the view.
Paste	Copies an IFF image from the Clipboard to the magnified view, replacing whatever is currently there. (Images larger than the 16 x 16 pixel view are cut off on the bottom and right sides.)
Erase	Clears the magnified view to the background color.
Undo	Operates the same as the Undo gadget, exchanging the contents of the Undo and magnified views.
Load Image	Opens a file requester for entering the name of an image file to use as a background pattern.
Reset to Defaults	Resets the WBPattern to default settings.
Last Saved	Returns the last saved image to the magnified view box.
Restore	Restores the magnified view box to its original state when the editor was opened.

When you Save or Use, all selected patterns or pictures are saved and/or applied where designated. Selecting Cancel also cancels any patterns or pictures applied with Test gadget.

Chapter 9

Printers

This chapter describes how to set up your Amiga to communicate with a printer. It provides instructions on how to use:

- Printer drivers
- Printer Preferences editor
- PrinterGfx Preferences editor
- PrinterPS Preferences editor

To set up a printer, you must have the necessary printer driver in *Devs/Printers* and select the printer in the Printer Preferences editor. The PrinterGfx Preferences editor allows you to select optional printer graphics features. The PrinterPS Preferences editor allows you to set up and print using a PostScript printer.

Printer Drivers

A printer driver acts as a translator that enables the Amiga to communicate with a particular model of printer. 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 driver you select is used for both the text and graphic output.

A printer driver must be in the *Devs/Printers* drawer of the Amiga's boot volume for it to be available for use. Printer drivers are shipped in the *Storage/Printers* drawer on the Amiga Extras disk. If the printer driver you need is not in *Devs/Printers*, copy it from *Storage/Printers*.

The following are instructions for copying printer drivers on floppy-only systems:

1. Select the Workbench window and open the Devs drawer.
2. Insert the Extras disk into your disk drive and open its window.
3. Open the Storage drawer.
4. Open the Printers drawer in the Storage window. Scroll through the printer driver icons until you find the driver for your printer.
5. Drag the appropriate printer driver icon over the Printer drawer icon in the Workbench Devs window.

On a single drive system, requesters ask you to swap the Workbench and Extras disks to complete the copy.

On a dual floppy drive system, insert a disk in each drive and then copy from the Extras disk directly to the Workbench disk.

Printer Output Devices

The standard Amiga printer output device is PRT:, which is used by all Amiga printer drivers. You can bypass the Amiga printer driver by redirecting output to PAR: or SER:, which sends the output directly to the parallel or serial port. Redirecting to PAR: or SER: allows an application's printer driver to be used instead of the Amiga's printer driver.

Multiple Devices

On systems with more than one printer or with more than one parallel or serial port, use the UNIT Tool Type to select the output device you want to use.

Enabling the UNIT Tool Type for the Serial Preferences editor displays the Default Unit text gadget in that editor's window for designating your serial output device. Enter the serial port number to which the destination printer is attached and select Use. When the Printer Port is set to Serial in the Printer Preferences editor, print output is sent to that printer. (All parameters in the Serial editor must be set correctly for your serial printer to work.)

Enabling the UNIT Tool Type for the Printer Preferences editor displays the Device Unit text gadget in the editor's window. If you have serial or parallel hardware with multiple ports, each port has its own unit number. Refer to the hardware manufacturer's documentation for the proper unit number to use.

Printer Preferences Editor

The Printer Preferences editor lets you select a printer driver, the printer port, and various text options. Figure 9-1 illustrates the Printer Preferences editor window.

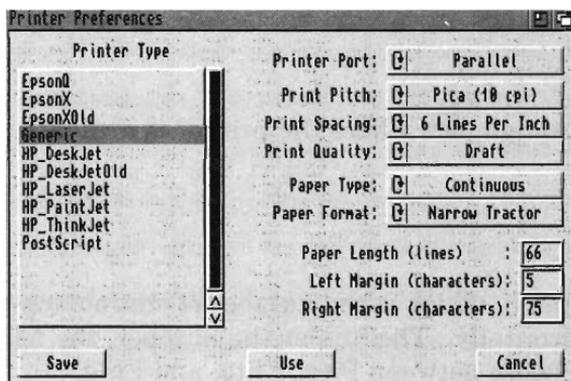


Figure 9-1. Printer Preferences Editor Window

The Printer Type scroll gadget displays a list of available printer drivers currently installed in the Devs/Printers drawer.

Select a printer driver by pointing to its name and clicking the selection button. The selected driver is shown in the display box underneath the scroll gadget.

Note If you are setting up a PostScript printer using the Printer Preferences editor, the text and graphics settings made in the Printer Preferences and PrinterGfx Preferences editors are overridden. However, you must still select a Printer Port here.

If a driver for your printer is not in the Devs/Printers drawer or the Storage/Printers drawer, select Generic. For many printers, this allows you to print plain text without graphics or other type styles, such as italics or boldface.

The Printer Preferences editor window contains the following gadgets:

Printer Port

Specifies the Amiga port where the printer is attached: Serial or Parallel.

Print Pitch

Specifies the pitch, which is the number of characters printed per inch (cpi) horizontally. The higher the number, the narrower the characters. Choose between Pica, Elite, and Fine.

Print Spacing

Specifies the number of lines of text that are printed in one vertical inch of space. Select 6 lines per inch (lpi) or 8 lpi; the higher the number, the less space between the lines.

Print Quality

Determines the quality of the printout. Selecting Draft produces lower quality printouts with faster printing. Selecting Letter produces higher quality printouts with slower printing.

Paper Type

Specifies the type of paper used. The options are Continuous (tractor feed paper) or Single (individual sheets).

Paper Format

Specifies the size of paper used. Selecting Custom as the paper size eliminates printing problems that occur with dot matrix printers. If Custom is selected, be sure to specify in the Paper Length gadget the correct number of lines that fit on the paper.

Paper Length

The total number of lines on the page, including top and bottom. For example, 11-inch paper with six lines to an inch is 66 lines to the page. To change the default value, select the gadget, delete the existing value, type in the new number, and press Return.

Left Margin

The width, in numbers of characters, from the left edge of the paper to the starting text position. The pitch of the type (number of characters in a horizontal inch) affects the size of the margin. For example, a one inch margin is equal to 10 when 10 pitch type is used. To change the default value, select the gadget, delete the existing value, type in the new number, and press Return.

Right Margin

The width, in numbers of characters, from the left edge of the paper to the position where the right margin is to begin. To change the default value, select the gadget, delete the existing value, type in the new number, and press Return.

PrinterGfx Preferences Editor

The PrinterGfx Preferences editor supports extended printer graphics features. Before using the PrinterGfx editor, be sure to select the printer driver for your printer with the Printer Preferences editor. Figure 9-2 illustrates the PrinterGfx Preferences editor window.

Note If you are setting up a PostScript printer using the Printers Preferences editor, the text and graphics settings made in the Printer Preferences and PrinterGfx Preferences editors are overridden.

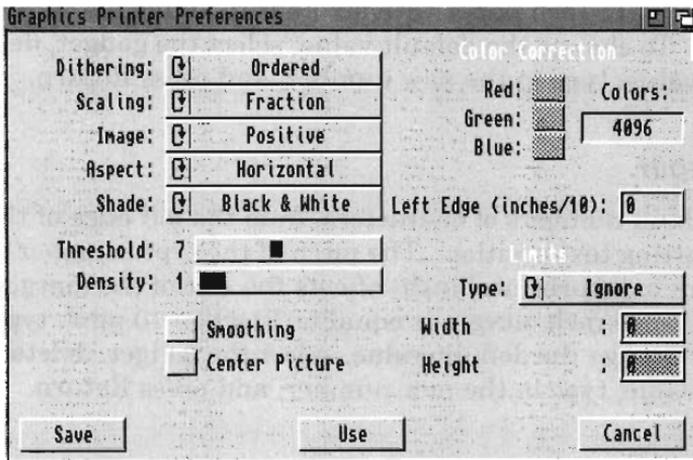


Figure 9-2. PrinterGfx Preferences Editor Window

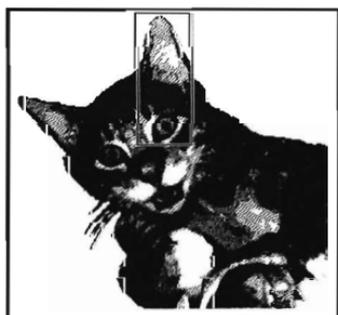
The PrinterGfx Preferences editor contains the following gadgets:

Dithering

Dithering prints patterns of dots in different colors (or different densities) so that they appear as one color or as shades of grey. The available dithering options are:

Ordered	The standard type of dithering. Color intensities are formed using an ordered pattern of dots. The dots vary in color, but are of the same density and are printed in straight rows and columns.
Halftone	Color intensities are formed by varying the size and density of the dots.
Floyd-Steinberg	Color intensities are formed by a complex algorithmic formula. Floyd-Steinberg dithering yields smoother shading by distributing the intensities of each pixel throughout the dots comprising that pixel, as well as throughout neighboring dots.

Figure 9-3 illustrates the results of the different dithering methods; the pictures were generated on a 300 dot per inch printer.

*Ordered**Halftone**Floyd-Steinberg***Figure 9-3. Dithering Methods**

Scaling

Scaling is the process of changing the size of an image. The actual size of the printout is determined by the Limits setting, described on page 9-11. The available Scaling options are:

- | | |
|-----------------|--|
| Fraction | Closely matches the size you have set in Limits, possibly distorting the image. Pixels are enlarged or reduced as necessary. This option works best when printing pictures with extensive shading. |
| Integer | Prints every pixel on the screen as an even number of dots on the printout. (If a picture on the screen is 320 x 200, the printed picture is either 320 x 200, 640 x 400, or 960 x 600.) Select this option when printing a picture that contains thin vertical and horizontal lines (such as a grid) or text. |

Image

Determines how an image is printed. This option affects only Black & White and grey scale printing. When set to Positive, the image is printed as it appears on the screen. When set to Negative, the image is reversed, similar to a photographic negative.

Aspect

Determines the direction on the paper the image is printed. When set to Horizontal (often called Portrait), the image is printed as it appears on the screen. When set to Vertical (often called Landscape), the image is printed sideways.

Shade

Allows you to select the colors to print. Not all printers support these options. The available options are:

- | | |
|--------------------------|--|
| Black & White | Colors are printed as either black or white, determined by the Threshold setting. Dithering has no effect. |
| Grey Scale 1 | Colors are printed in varying shades of grey. |

- Grey Scale 2** This option supports a maximum of four shades of grey and is used for printing pictures designed using the A2024 monitor.
- Color** Colors are printed as they appear on the screen. This can only be used with color printers.

Threshold

Determines the colors on the screen that are printed as black or as white. This setting is effective only in Black & White mode. Increasing the Threshold value causes more colors to be printed as black. Figure 9-4 shows the results of different Threshold settings.



Threshold = 8



Threshold = 13

Figure 9-4. Threshold Settings

Density

Selects the graphics print density. The lower the density, the faster the image prints on those printers with multiple densities. When a higher density is selected, more dots create a sharper image. However, it takes longer for the image to print.

This option is not supported by every printer.

Smoothing

Used to smooth any diagonal lines that appear jagged. This option is best suited for use with programs that do graphic dumps of text. When smoothing is turned on, printing may be slower.

Floyd-Steinberg dithering cannot be used with Smoothing.

Center Picture

Horizontally centers the printed picture on the page. Any value entered for the Left Offset is ignored when Center Picture is on.

Color Correction

Matches the colors on your printout more closely to the colors on the screen. Color correction can be used on red, green, or blue or on a combination of colors.

Color correction reduces the number of printed colors. When color correct is not used, all the available colors displayed by the Amiga can be printed on a color printer. For each color that is chosen for correction, several shades of that color are lost. The number of colors that can be printed is shown in the Colors gadget to the right of the color correction boxes.

Left Edge

Determines the distance to shift, or offset, the printed picture. This is similar to setting up a left margin. The Center Picture option disables Left Edge.

To enter the value, select the Left Edge gadget, delete the current value, enter the correct value, and press Return. Choosing Use Metric System? in the Settings menu lets you specify the value in millimeters rather than tenths of inches.

Limits/Type

Interprets the Width and Height limits, depending on the Type setting. The available options are:

Ignore Ignores Width and Height limits. The printed picture's size is the size requested by the application. The only restrictions are that its width cannot be greater than:

$$\frac{(\text{right margin} - \text{left margin}) + 1}{\text{characters per inch/mm}}$$

Height is usually restricted 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 can be up to 4.0 x 5.0 inches, set Width to 40, Height to 50, and select Bounded. Width and Height are interpreted in tenths of inches by default or millimeters if Use Metric System? has been chosen in the Settings menu.

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 distorts the picture as needed to fit. To use this option fraction scaling should also be selected. Choosing Use Metric System? in the Settings menu lets you specify the value in millimeters rather than tenths of inches.

You can, however, use Absolute to get a normal aspect ratio printout that is a specific width or a specific height, but 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 is 4.0 inches wide and as tall as necessary for the correct aspect ratio. If both dimensions are set to zero, the printed picture is as wide as possible and as tall as necessary to retain the picture's proportion.

Pixels The Width and Height limits are interpreted as pixels. If one of these values is set to zero, the same rules for the Absolute option apply. The printout is the width or height specified and as tall or as wide as necessary to retain proportion.

Multiply The Width and Height limits are used to multiply the source picture's width and height. For example, if you specified a Width of 2 and a Height of 4, the printed picture is two times the source picture's width in pixels and four times the source picture's height.

Width/Height Lets you specify the dimensions of your printout. The value is interpreted as increments of tenths of an inch or millimeters, unless Pixels or Multiply is the selected Type. To enter a value, select the text gadget, delete the current value, type the correct value, and press Return.

Hints for Faster Graphics Printing

- Lower the density.
- Use the horizontal rather than the vertical aspect setting.
- Set Shade to black and white if you are using a two color image. This is faster than grey scale or color printing.
- Use Smoothing for final copies only since it doubles the printing time.
- Use Ordered or Halftone dithering because they do not increase printing time. Floyd-Steinberg dithering doubles printing time.
- Speed up a High Res screen print that uses more than four colors by moving the screen to the back of the display after printing has started. Press left Amiga+N to do this.

PrinterPS Preferences Editor

The PrinterPS Preferences editor, illustrated in Figure 9-5, allows you to control text and graphics printing on PostScript printers. Use this editor only if you have a PostScript printer and if you choose PostScript in the Printer Preferences editor.

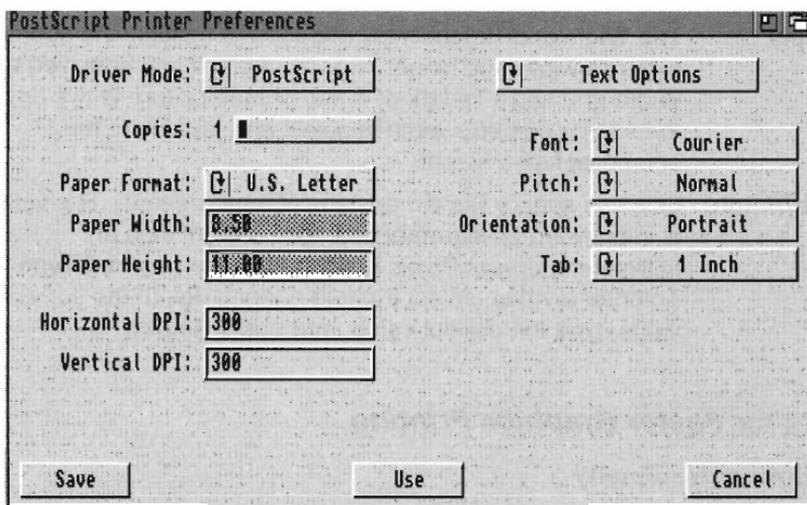


Figure 9-5. PrinterPS Preferences Editor Window

The PrinterPS Preferences editor has an additional item in the Settings menu: Measuring System. Its submenu lets you select Centimeters, Inches, or Points. The selected units are used to display values of your width, height, and margin settings. The default setting is Inches.

The PrinterPS Preferences editor contains the following gadgets:

Driver Mode

Driver Mode lets you select either PostScript or Pass Through. In PostScript mode the driver converts any text output it receives to PostScript and sends the results to the printer. The Pass Through option bypasses the PostScript driver and sends data directly to the printer. The Pass Through option lets programs that output PostScript send their PostScript code directly to the printer.

Copies

This specifies the number of copies of each page to print, from 1 to 99.

Chapter 10

Other Workbench Programs

This chapter describes the programs found in the Tools and Commodities drawers.

Tools Drawer

The Tools drawer window, illustrated in Figure 10-1, contains programs that expand your printing options, allow you to change the color of non-Workbench screens, define new keys, and create new icons.

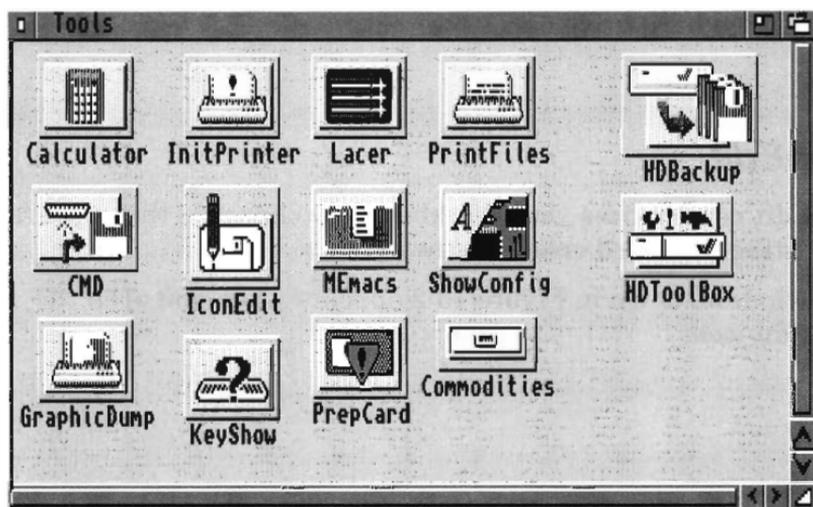


Figure 10-1. Tools Window

The following programs are found in the Tools drawer:

IconEdit	Allows you to change and create icons.
CMD	Allows you to redirect printer output to a file.
MEmacs	A text editor, explained in the <i>Using AmigaDOS</i> manual.
Calculator	A standard, four-function calculator.
KeyShow	Displays the current keymap.
GraphicDump	Allows you to print screen images.
InitPrinter	Initializes your printer.
PrintFiles	Sends files to the printer.
ShowConfig	Shows configuration information.
Lacer	Turns video interlace on and off.
PrepCard	Prepares PCMCIA memory cards for use on systems with a PCMCIA slot.
Commodities	A drawer containing programs that monitor your keyboard and mouse input.

HDBackup and HDToolbox are also included in the Tools drawer on hard disk systems. For more information on these programs, see your Amiga hard drive user's manual.

IconEdit



IconEdit personalizes your Workbench by changing the appearance of existing icons and creating new ones.

The window shown in Figure 10-2 appears when you open the IconEdit icon.

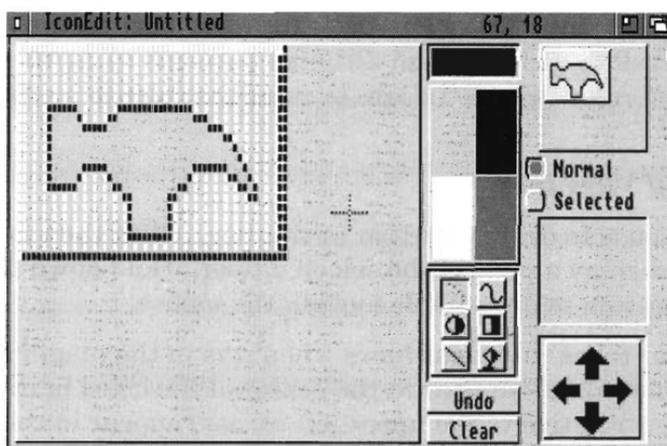


Figure 10-2. IconEdit Window

Draw and edit icons in the magnified view box of the IconEdit window. The Normal and Selected view boxes show the icon images at actual size. Several gadgets in the window draw squares, circles, and straight lines, giving you more control over your drawing.

There are three sub-windows in IconEdit: the Normal and Selected view boxes and the Magnified View Box, which fills most of the window. Each of these is an "AppWindow"-- you can drag an icon into that window to load it, rather than using menus. Clicking in the Normal view box displays the selected image of the icon as long as you hold down the selection button.

Color Selection Gadget

The Color Selection gadget lets you select a color for drawing. In addition to the standard method for selecting a color by pointing to it and clicking the selection button, this gadget 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.

To create a pattern of vertical bars, select the first color, hold down Alt, then select the second color.

Keyboard shortcuts: Press P to cycle forward through the colors. Press Shift+P to cycle through dithered patterns using the background color. Press / (slash) to reset the color to a solid pattern.

Magnified View Box

Use the mouse to draw your icon in this box. Click the selection button to display a pixel of the selected color. Hold down the selection button to draw while moving the mouse.

The pointer turns into cross hairs when it is in the magnified view box. The new pixels appear at the center of the cross hairs. Pixel coordinates (relative to the upper left corner) appear in the IconEdit window title bar to show the position of the crosshair.

To load an existing icon into IconEdit, drag the icon into the magnified view box.

Freehand Gadget



The Freehand gadget lets you quickly draw unstructured shapes. If you select this gadget and then draw in the magnified view box, the pixels fill in as the mouse passes over them. However, you may not get a continuous line and some pixels may not be filled in. Use this gadget to sketch an icon that you intend to fill in the details on later.

Keyboard shortcut: Press S to select the freehand gadget.

Continuous Freehand Gadget



The Continuous Freehand gadget is similar to the freehand gadget, except that it produces a continuous line. When drawing continuous lines, there is 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 or oval:

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.
3. Release the selection button when you reach the correct size and shape.

Selecting the right portion of the gadget draws filled circles. To fill the circle with a dithered pattern, select two colors from the selection gadget.

Selecting the left portion of the gadget draws an outline of a circle. To double the thickness of the circle's outline, hold down Ctrl before releasing the selection button.

Keyboard shortcut: Press E (for ellipse) to draw 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.
3. Release the selection button when the box is the correct size and shape.

Selecting the right portion of the gadget draws filled boxes. To fill the box with a dithered pattern, select two colors from the color selection gadget.

Selecting the left portion of the gadget draws an outline of a box. To double the width of the box's sides, hold down Ctrl before releasing the selection button.

To draw a three-dimensional box, similar in appearance to the Workbench gadgets, hold 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. Position the mouse where you want the line to start.
3. Hold down the selection button.
4. Move the mouse to the line ending position.
5. Release the selection button.

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



Use the fill gadget to fill an area of the magnified view box with the selected color. Select the fill gadget, then click within the area you want to change to the same color as the dot under the crosshair.

Note The fill gadget does not fill a patterned area. However, solid areas can be filled with the checkerboard or vertical bar patterns, if selected.

Keyboard shortcut: Press F to select the fill gadget.

Undo

Select Undo to cancel the last mouse action performed in the magnified view box. Undo acts as a toggle switch; selecting it again undoes the Undo.

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 fills 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 switch between unselected and selected images for an icon. The normal image is how an unselected icon looks. The selected image is how an icon looks after you have clicked on it.

When the Normal radio button is selected, any image drawn in the magnified view box appears in the normal view box at the top of the window.

When the Selected radio button is used, you can create the image that appears when the icon is selected. You can only use this radio button when the Image menu item is chosen from the Highlight menu. Any image created appears 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. Clicking on an arrow moves the image in the magnified view in the direction of the arrow. Use these arrows to control the placement of your image within the box surrounding the finished icon.

Note Any part of the image that is moved off the edge of the magnified view box is lost.

Keyboard shortcut: Press the corresponding arrow key to move the image.

Project Menu

The items in the Project menu let you open and save icon files.

New	⌘N	Loads the default icon for the currently chosen type of icon. (The type of icon is determined by the Type menu.) Any changes in the window that have not been saved produce a requester asking if you want to save them.
Open	⌘O	Opens an existing icon file. A requester appears for entering the name of the file. Only the names of drawers and .info files appear in the IconEdit Open file requester.
Save	⌘S	Saves an existing icon file, overwriting any file with the same name. In this case the previous icon is lost.
Save As	⌘A	Allows you to specify a filename for saving the current image. A requester lets you enter the destination for the edited icon. Use Save As to prevent overwriting an existing icon file.
Save As Default Icon	⌘D	Saves the current image as the default icon for the currently selected icon type. This image is used for any new icon or pseudo-icon of that type created, including those made with the New menu item in the IconEdit Project menu. For example, if you create a drawer icon and then choose Save As Default Icon, that icon is used to represent drawers when you choose the Show All Files menu item.
Quit	⌘Q	Exits the IconEdit program. If you have not saved the current image, a requester asks if you want to save the image before exiting IconEdit.

Edit Menu

The items in the Edit menu allow you to use the Amiga's Clipboard to import IFF ILBM clips that were created with other 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.
Erase		Erases any image in the magnified view box. You can erase everything or save before erasing.
Open Clip		Copies an existing IFF file into the Clipboard. A requester asks for the name of the file to open. You can then Paste the file into IconEdit.
Save Clip As		Saves the current contents in the Clipboard to a specified file.
Show Clip		Displays the current contents in the Clipboard using the Display program. To exit Show Clip, press Ctrl+C. If the Display program is unavailable, Show Clip cannot work.

Type Menu

The items in the Type menu let you specify the type of icon changed or created.

Disk	A 1	Represents the disk icons appearing in the Workbench window.
Drawer	A 2	Represents the drawer icons appearing 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, a file that has been created by a tool, or any of the icons in the Storage drawer.
Garbage	A 5	Represents the Trashcan drawer.

Highlight Menu

The items in the Highlight menu let you determine how an icon appears when it is selected.

- | | | |
|-------------------|-----------|--|
| Complement | A7 | Highlights the entire icon, including the background of the box surrounding the icon. For example, if you are using the default Workbench colors and the icon is surrounded by a field of grey, the grey becomes blue when the icon is selected. |
| Backfill | A8 | Highlights the icon, but not the background of the box. For example, if you are using the default Workbench colors and the icon is surrounded by a field of grey, the grey remains the same when the icon is selected. |
| Image | A9 | Allows an entirely different image for the selected icon (a dual image icon). For example, the drawer icons on the Workbench are dual image. When you select a drawer, a new image of an open drawer appears. |

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 graphics programs.

- | | | |
|---------------------|-----------|---|
| Exchange | AE | Swaps the images that appear in the normal view and the selected view. |
| Copy | | Copy is dependent on the selected radio button. If Normal is used, the image in the normal view is copied to the selected view. If Selected is used, the image in the selected view is copied to the normal view. |
| Use Template | | Copies a box resembling the standard Workbench icon "tile" into the magnified view. You can then create your new icon within this box. |
| Load | | Loads previously saved images, without changing the name of the icon being edited. When you point to the Load menu item, a submenu appears. |

- Save Image** **A**K Saves an image as a picture data type file.
- Restore** **A**R Returns the IconEdit window to its state prior to opening the window or selecting New or Open.

The available Load submenu items are:

- Image** **A**J Allows you to load a data type image 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 asks you to specify the file to be loaded. You must specify the correct drawer and filename.
- Normal Image** **A**Y Loads the unselected image of the specified icon into the normal or selected view box, depending on which radio button is selected. (This is equivalent to dragging an icon into one of the boxes.)
- Selected Image** **A**U Loads the selected image of the specified icon into the normal or selected view box, depending on which radio button is selected.
- Both Images** **A**I Loads both the normal and selected images of the specified icon into the appropriate view boxes.

Extras Menu

The items in the Extras menu control additional convenience features of IconEdit.

- Recolor** **A**M Swaps the second and third colors in the color selection gadget. By default the second color is black and the third color is white. Use this to convert pre-Release 2 icons to the current color scheme.
- Auto TopLeft** **A**T Moves the image to the upper left corner of the magnified view box.
- Color Palette** Opens the Preferences Palette editor to change the default colors.

Settings Menu

The items in the Settings menu allow you to save various IconEdit options.

Use Grid?	Use Grid? displays each pixel in the magnified view box distinctly, with the background color surrounding it. When Use Grid? is not chosen, the pixels blend together smoothly. The default is for the grid to be on.
Create Icons?	Create Icons? saves an icon with an IFF Brush file for the contents of the magnified view box. If Create Icons? is not chosen, no icon is 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, the file requesters, and all of the menu item settings.

Tool Types

IconEdit supports the following Tool Types:

CLIPUNIT=<n>	Specifies the Clipboard unit to use. The default is 0.
XMAG=<n>	Enlarges the width of the magnified view box. XMAG accepts a number from 4 to 16. The default is 4.
YMAG=<n>	Enlarges 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 example, FRLEFTEDGE=0 aligns 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 when the Color Palette menu item is chosen. The default is SYS:Prefs/Palette. Change this only 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, copy the Display program onto your Extras disk and change its path. Change this Tool Type if you use another program for displaying the Clipboard.
NOICONS	Disables the ability to create 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 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 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 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 used by the file requesters that appear when the Load menu item in the Images menu is chosen.



CMD (Change Main Device)

CMD directs your printer output to a file rather than to a printer, capturing output on disk.

To use CMD, Tool Types must be added in the CMD icon's Information window and you must indicate where to send the printer output.

The following lists the CMD Tool Types and their recognized KEYWORDS, arguments, and default settings.

DEVICE=<port>	The Amiga port where your printer is attached, either parallel or serial. DEVICE=parallel is the default.
FILE=<filename>	The name of the file to which the printer output is sent. FILE=ram:CMD_file is the default.
SKIP=true	Tells CMD to skip any short initial write. The first write sent to the printer may be a printer reset. You can use SKIP=true to ignore it. The default is SKIP=false (initial writes are not skipped).
MULTIPLE=true	Tells CMD to redirect more than one file. The default is MULTIPLE=false (only one file is redirected).
NOTIFY=true	Tells CMD to display progress messages. When CMD intercepts the file, a typical message that may appear is as follows: <pre>Redirected <# of bytes> from parallel.device to <filename></pre> After the output is sent to the file and CMD is turned off, another message may state: <pre>CMD redirection of parallel.device removed</pre> The default is NOTIFY=false (messages are not displayed).

To use CMD, double-click on its icon. The next time information is sent to your printer, it goes to the designated file instead.

MEmacs



MEmacs (MicroEmacs) is a screen-oriented text editor. A text editor works the same as a word processor, but it does not support style formatting options. MEmacs is described in detail in the *Using AmigaDOS* manual.

Calculator



The Calculator is a standard four-function calculator for adding, subtracting, multiplying, and dividing. Opening the Calculator icon activates it.

The calculator works like any standard calculator. 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.
x	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. You can use either the keyboard or numeric keypad keys. On the keyboard Return is equivalent to the equals (=) button.

The calculator displays a message for Overflow and Divide By Zero errors.

Select the close gadget to exit the Calculator.

Calculator menus

The calculator has three menus: the Project menu, the Edit menu, and the Windows menu.

On the Project menu:

- Clear Entry** Clears the current entry only.
- Clear All** Clears all entries and resets the display to zero.
- Quit** Turns off the calculator.

On the Edit menu:

- Cut** Copies and clears the current entry to the Clipboard.
- Copy** Copies the current entry to the Clipboard without clearing the area.
- Paste** Places the current clipboard contents into the calculator.

Show Tape is the only Window menu option. It displays a window showing the calculator entries and results. Show Tape can also be copied, but since it does not have a menu, use drag-select and Amiga+C to copy its contents to the Clipboard.

KeyShow



The KeyShow program shows the current keymap on your Amiga. Opening the KeyShow icon displays the default keyboard layout illustrated in Figure 10-3.

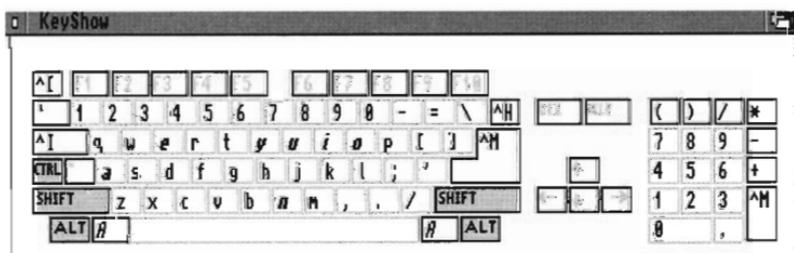


Figure 10-3. Default KeyShow Window

The initial display shows the characters that appear when a single key is pressed. For example, 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. That qualifier key is highlighted.
2. The KeyShow display changes 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 changes accordingly.
3. 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 press the corresponding key on the keyboard. The following list is a guide to interpreting the KeyShow display:

- Qualifier keys not currently pressed are shown in the Workbench background color (normally grey). 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.
- Dead keys are shown in the Workbench highlight color (normally blue). A dead key is one that modifies the output of the key pressed immediately afterward. For example, 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 superimpose the accent symbol over the e (è).
- Bold-italics indicate that a key may be used in conjunction with a dead key. In the previous example, E can be modified by a dead key.
- \$\$ indicates that it takes 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 qualifiers.

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 printers can print GraphicDump output.)

Before using GraphicDump, make sure the settings in the Printer, PrinterPS, and PrinterGfx Preferences 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 is the full width allowed by the printer.

To use GraphicDump, double-click on its icon. After a ten second delay, the front-most screen image is sent to the printer. The mouse pointer is not printed.

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 maintains the perspective of the screen. The Limits Type gadget in the PrinterGfx editor must be set to Ignore for GraphicDump, or else the size of the printout is determined by the Limits setting.

To set specific dimensions in a Tool Type, use:

```
SIZE=<xdots>:<ydots>
```

Substitute the width, in number of printer dots, for the <xdots> argument and the height for the <ydots> argument.

InitPrinter



InitPrinter sends the printer options specified in the Printer and PrinterGfx Preferences editors to the printer. It initializes your printer and loads it with the new or changed specifications when you turn on the printer and double-click on the InitPrinter icon.

Your printer resets automatically when it receives and processes initialization information on first access during a session. If you turn the printer off, you must use InitPrinter to reinitialize it.

PrintFiles



PrintFiles sends text files to your printer. It can accept multiple files selected with drag selection or extended selection. If PrintFiles cannot find or open one of the files, it skips it and goes to the next one. The files are printed using the settings specified in the Printer or PrinterPS Preferences editor.

To use PrintFiles:

1. Select the icon of the first file to be printed, hold down Shift and select the icons of any additional files 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, adding a form feed between each file puts it on a new page. Without a form feed, the next file starts printing on the same page on which the previous file ends. Add a form feed with the `FORMFEED=true` Tool Type in the Printfiles Information window.

ShowConfig

ShowConfig, illustrated in Figure 10-4, displays system configuration information, including processor information, custom chips, software versions, RAM information, and any plug-in boards. Use this information when requesting hardware/software technical support.

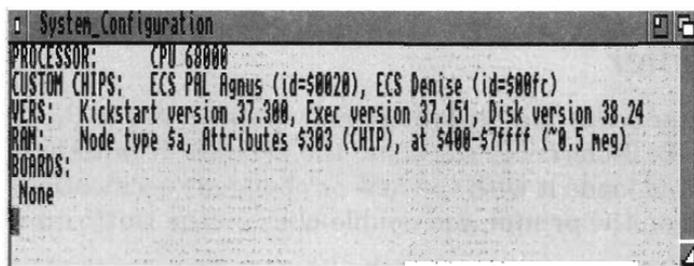


Figure 10-4. ShowConfig Window

Lacer

The Lacer program only works when a genlock device is attached to your Amiga. It toggles the display between interlaced and non-interlaced mode. This is used primarily for video recording and genlocking by allowing the Amiga to provide the interlaced input required by video devices.

PrepCard

The PrepCard utility is used for preparing PCMCIA "credit card" memory cards. It runs only on Amiga models equipped with a PCMCIA card slot.

PrepCard prepares standard PCMCIA static RAM cards either as a disk device or as system RAM. A card prepared as a disk can be used like a floppy disk: you can read from and write to the card just as you normally do from applications, the Workbench, or the Shell. Because the card's memory is battery-backed, the contents of the card remain when you remove the card or turn off the Amiga. Read and write operations using memory cards are very fast.

When prepared as system RAM, the card memory is added to the other memory in the Amiga, as if additional memory were installed internally. Cards are available in many sizes: from 64 KB to over a megabyte.

Open the PrepCard window, illustrated in Figure 10-5, by double-clicking its icon. If a card is inserted, its size and other information

are displayed. The message FAILED in the Battery display box indicates that the card's battery has run down and must be replaced before the card can be used.

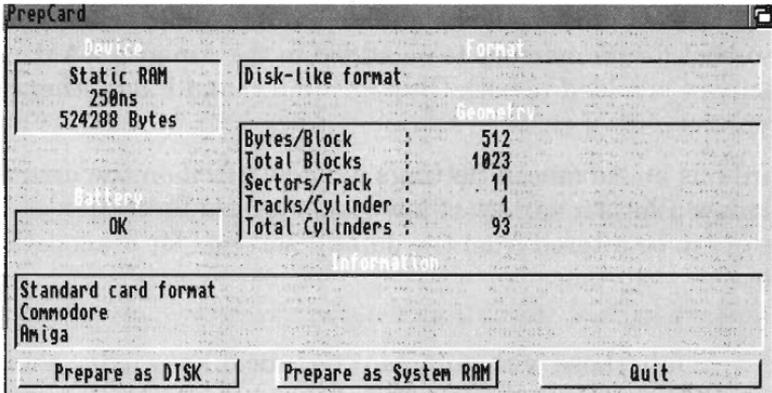


Figure 10-5. PrepCard Window.
PrepCard Display for a 512KB Card Prepared as Disk

You can use PrepCard to prepare cards that are new (unformatted) or that have been previously prepared as disk or RAM.

1. Select the appropriate gadget, either Prepare as DISK or Prepare as System RAM. A warning requester appears, reminding you that any information currently on the card will be erased if you continue.
2. Select Continue to prepare the card or Cancel to return to the PrepCard window. Preparation takes only a few seconds.

Note Preparation does not continue if the card is write-protected. You can flip the write-protect switch to make it write-enabled without removing the card from the card slot.

3. Select Quit to exit when you are finished with PrepCard. An icon for a card you have prepared as a disk immediately appears, labeled Empty.

You can work with the card disk as a normal disk, rename it, and reformat it with the Workbench Format program. A card disk is device CC0:.

To use the memory on a card prepared as system RAM, you must reboot. (The card must be write-enabled and inserted when you boot or reboot for its memory to be added to the Amiga's RAM.) Card memory is added to both Chip (graphics) and Fast (other) memory.

PrepCard has an Advanced Settings window listed on the menu. This window allows a variety of low level card configuration parameters to be altered from the default settings for diagnostic purposes.

Note Only those with sufficient technical knowledge should change the default settings in the Advanced Settings window. Improper settings do not harm the card or the Amiga, but it can keep the card from functioning properly.

When using PCMCIA cards, note the following:

- PrepCard does not run if a card is currently in use as RAM. To run PrepCard again on a card prepared as RAM, insert the card after booting.
- Removing a card that is currently in use as RAM immediately reboots the Amiga.
- Do not write-protect a card while it is in use as RAM; this causes the Amiga to lock up, requiring you to reboot.

Commodities Drawer

The Commodities drawer, illustrated in Figure 10-6, is in the Tools drawer and contains the Commodities Exchange programs. These programs monitor your keyboard and mouse input to the Amiga.

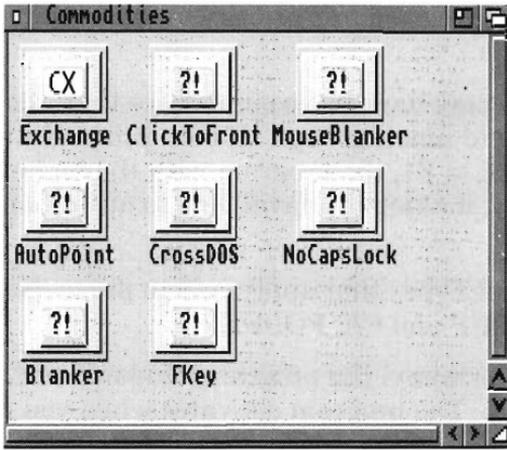


Figure 10-6. Commodities Window

AutoPoint	Automatically activates the window under the pointer.
Blanker	Causes the screen to go blank if there has been no keyboard or mouse activity for a specified period of time.
ClickToFront	Brings a window to the front of the screen by double-clicking in it.
NoCapsLock	Temporarily disables the Caps Lock key.
CrossDOS	See Chapter 7.
FKey	Assigns special functions to keys.
Mouse Blanker	Causes the mouse pointer to go blank when you are typing.
Exchange	Monitors and controls all the other Commodities programs.

Using Commodities Tool Types

All of the Commodities programs share two common Tool Types: `CX_PRIORITY=<n>`, which assigns priorities to the Commodities Exchange programs, and `DONOTWAIT`, which instructs the `WBStartup` file to continue processing without waiting for the commodity program to finish. All the programs are set to a default priority of 0. If you enter a Tool Type that changes the priority to a

Appendix A

Trouble Shooting

If you encounter problems while using system software, the following table describes how to resolve them:

Symptom	Cause	Solution
Display is flickering; screen is not positioned properly.	The wrong display mode is selected.	Open the ScreenMode editor in the Prefs drawer and select the appropriate display mode. If the screen display is totally indecipherable, 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 disk, partition, or assigned directory it is looking for. The disk containing the program may have been removed, renamed, or an ASSIGN was not made.	Check the volume name in the requester. If it is the name of a floppy disk you have removed, insert that disk. If you have mistyped a volume name in a requester or command, select Cancel, then enter the correct name. If the message appears while the Amiga is booting, you may need to add an ASSIGN statement to your User-startup file.

Symptom	Cause	Solution
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 and exit unnecessary programs.
You cannot move the pointer and keyboard input has no effect.	A program has crashed the Amiga. Keylock systems may have lock on.	Reboot. Turn key to enable position.
The screen goes blank and then a flashing red box appears stating an error, such as Not Enough Memory.	A program performed an illegal action that was serious enough to cause a system failure.	Press the left mouse button and the computer reboots.
A flashing amber box appears stating Recoverable Alert.	A program performed an illegal action that caused an error from which the system can recover.	Press the left mouse button.

Appendix B

Screen Display Modes

The following tables list display modes available on the Amiga. They are grouped according to the Amiga chip set, showing the possible modes under the original chip set first, followed by those that require the Enhanced Chip Set, and then those that require the AA chip set.

To determine if you can use a particular mode, check the horizontal and vertical scan rates listed in the Mode Properties display against the specifications for your monitor. If the display mode's scan rates are outside your monitor's acceptable range, you cannot use that mode.

Within the chip set groups, the modes are listed by the monitor file name that must be in your Devs/Monitors drawer for those modes to be available in the ScreenMode editor. To use any of the display modes shown, you must have the full custom chip set required and the appropriate monitor driver icon must be present in Devs/Monitors.

Screen Resolution is given in pixels, with the horizontal size followed by the vertical size. For example, 640 x 400 is a screen 640 pixels wide and 400 pixels high. In the Color Palette column, the maximum number of displayable colors is given first, followed by a slash, and then the size of the palette for that mode. For example, 16/4096 is a maximum of 16 displayable colors from a total palette of 4096 colors.

Monitors Available on Amigas with Original Chip Set

Note All monitors in this Appendix are available for use with the AA chip set. On Amigas using the AA chip set the color palette for all monitors is 256/16 million, except for A2024 monitors.

NTSC Monitor

Screen Display Mode	Screen Resolution	Color Palette
High Res	640 x 200	16 / 4096
High Res Laced	640 x 400	16 / 4096

PAL Monitor

Screen Display Mode	Screen Resolution	Color Palette
High Res	640 x 256	16 / 4096
High Res Laced	640 x 512	16 / 4096

The following are additional display modes that are available under the original Amiga chip set. These display modes can be used by applications and the Workbench screen. The Low Res modes are particularly helpful to users who are visually impaired since they offer an enlarged display.

NTSC Monitor

Screen Display Mode	Screen Resolution	Color Palette
Low Res	320 x 200	32 / 4096
Low Res Laced	320 x 400	32 / 4096
HAM	320 x 200	256,000 / 16 million
HAM Laced	320 x 400	256,000 / 16 million
Extra Halfbrite	320 x 200	64 / 16 million
Extra Halfbrite Laced	320 x 400	64 / 16 million

PAL Monitor

Screen Display Mode	Screen Resolution	Color Palette
Low Res	320 x 256	32 / 4096
Low Res Laced	320 x 512	32 / 4096
HAM	320 x 256	256,000 / 16 million
HAM Laced	320 x 512	256,000 / 16 million
Extra Halfbrite	320 x 256	64 / 16 million
Extra Halfbrite Laced	320 x 512	64 / 16 million

Monitors Available on Amigas with Enhanced Chip Set

Note All monitors in this Appendix are available for use with the AA chip set. On Amigas using the AA chip set the color palette for all monitors is 256/16 million, except for A2024 monitors.

The following additional display modes are available for the Workbench screen on ECS (Enhanced Chip Set) Amiga models:

NTSC Monitor

Screen Display Mode	Screen Resolution	Color Palette
Super-High Res	1280 x 200	4 / 64
Super-High Res Laced	1280 x 400	4 / 64

PAL Monitor

Screen Display Mode	Screen Resolution	Color Palette
Super-High Res	1280 x 256	4 / 64
Super-High Res Laced	1280 x 512	4 / 64

Multiscan Monitor

Screen Display Mode	Screen Resolution	Color Palette
Productivity	640 x 480	4 / 64
Productivity Laced	640 x 960	4 / 64

A2024 Monitor

Screen Display Mode	Screen Resolution	Color Palette
10Hz	1024 x 800	4 / 64
15Hz	1024 x 800	4 / 64

(On PAL Amigas, A2024 modes have a vertical resolution of 1024.)

Euro36 Monitor

Screen Display Mode	Screen Resolution	Color Palette
Low Res	320 x 200	32 / 4096
Low Res Laced	320 x 400	32 / 4096
High Res	640 x 200	16 / 4096
High Res Laced	640 x 400	16 / 4096
Super-High Res	1280 x 200	4 / 64
Super-High Res Laced	1280 x 400	4 / 64

Euro72 Monitor

Screen Display Mode	Screen Resolution	Color Palette
Productivity	640 x 400	4 / 64
Productivity Laced	640 x 800	4 / 64

Super72 Monitor

Screen Display Mode	Screen Resolution	Color Palette
High Res	400 x 300	16 / 4096
High Res Laced	400 x 600	16 / 4096
Super-High Res	800 x 300	4 / 64
Super-High Res Laced	800 x 600	4 / 64

Note

If you have an Amiga model with Display Enhancer circuitry, you should disable the the Display Enhancer in Super-High Res, Euro36, Euro72, and Super72 modes, to avoid distortion of the display.

A2024 modes require an A2024-style monochrome monitor. Do not attempt to use an A2024 mode if you do not have such a monitor.

Monitors Available on Amigas with AA Chip Set

Note

All monitors in this Appendix are available for use with the AA chip set. On Amigas using the AA chip set the color palette for all monitors is 256/16 million, except for A2024 monitors.

The following are display modes that are only available for the Workbench screen on AA chip set Amiga models:

DBLNTSC Monitor

Screen Display Mode	Screen Resolution	Color Palette
High Res	640 x200	256 / 16 million
High Res Laced	640 x 800	256 / 16 million
High Res Laced No Flicker	640 x 400	256 / 16 million
Low Res	320 x 200	256 / 16 million
Low Res Laced	320 x 800	256 / 16 million
Low Res No Flicker	320 x 400	256 / 16 million

DBLPAL Monitor

Screen Display Mode	Screen Resolution	Color Palette
High Res	640 x 256	256 / 16 million
High Res Laced	640 x 1024	256 / 16 million
High Res No Flicker	640 x 512	256 / 16 million
Low Res	320 x 256	256 / 16 million
Low Res Laced	320 x 1024	256 / 16 million
Low Res No Flicker	320 x 512	256 / 16 million

Appendix C

Special Boot Options

This appendix describes the following special boot options in the Amiga Early Startup Control system:

- Disabling devices to free memory for large game programs
- Choosing display options for running games
- Diagnosing expansion board failures

The Amiga Early Startup Control Screen, illustrated in Figure C-1, allows you to select Boot Options, Display Options, or Expansion Board Diagnostics. Access the Amiga Early Startup Control Screen by turning on or rebooting your Amiga while holding down both mouse buttons. You can toggle between NTSC and PAL display modes by pressing any key on the keyboard, except for the qualifier keys (Shift, Alt, and Control) and the cursor keys.

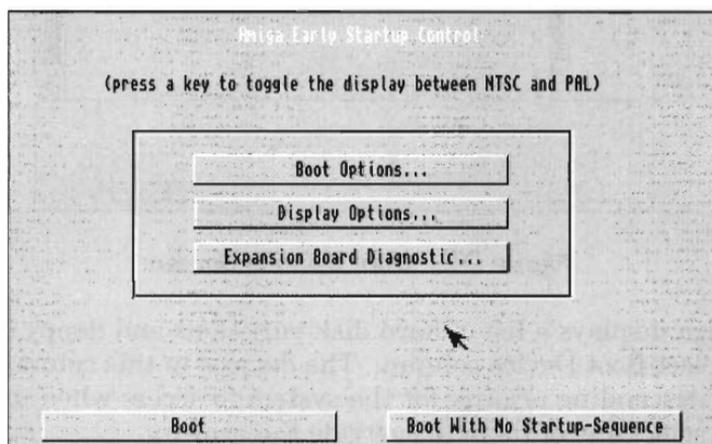


Figure C-1. Amiga Early Startup Control Screen

Exit the Amiga Early Startup Control screen by selecting the Boot button for a normal system boot or the Boot with No Startup-Sequence button to boot directly into an AmigaDOS Shell window.

Disabling Devices

The system software requires additional memory to support the operation of each hard disk partition or floppy disk drive. The extra memory that is used to maintain a hard disk or an extra floppy disk drive can prevent some floppy-based games from running.

Selecting Boot Options from the Amiga Early Startup Control Screen displays the Boot Options screen, illustrated in Figure C-2. This screen lets you selectively disable your hard disk partitions and any external floppy drives to leave enough RAM for the programs to run correctly.

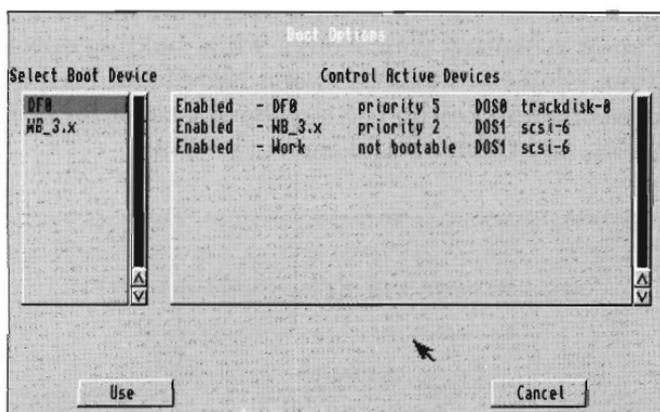


Figure C-2. Boot Options Screen

The Amiga displays a list of hard disk partitions and floppy drives in the Select Boot Device column. The devices in this column are listed in descending priority for the system to access when it boots. You can select any of them to override the priority.

The Control Active devices column shows the status of the devices. Clicking on the status line toggles between Enabled and Disabled.

If you are disabling hard drive devices in order to free memory for games, be sure to leave at least one bootable floppy drive enabled.

Note If your system has more than one floppy drive and the game lets you use additional drives, you can leave those drives (DF1, DF2, and DF3) enabled in the Control Active Devices column on the Boot Options screen.

Selecting Use implements your boot device choices for the current session only. When you reboot your Amiga, it returns to the same configuration as it had before you changed it. Selecting Cancel on the Boot Options screen cancels any changes you made and returns to the Amiga Early Startup Control Screen.

Choosing Display Options

Selecting Display Options from the Amiga Early Startup Control screen displays the Display Options screen, illustrated in Figure C-3. This screen lets you select the display type and chip set that your system uses.

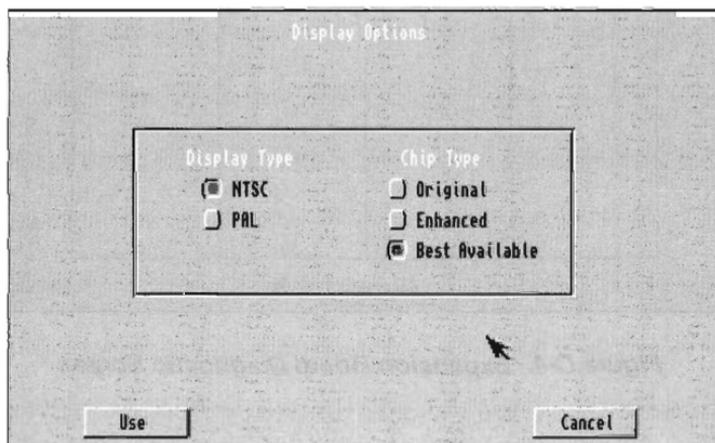


Figure C-3. Display Options Screen

Users with systems containing AA chip sets can choose the Best Available selection in which the system uses the AA chip set. If a game or application needs either the original chip set or the Enhanced Chip Set (ECS) you must select either one for the system emulate. Users with systems containing the ECS chip set can emulate the original chip set if selected. This option is ghosted for users with systems containing only the original chip set.

Diagnosing Expansion Board Failures

Selecting the Expansion Board Diagnostic option displays the Expansion Board Diagnostic Screen, illustrated in Figure C-4. This screen lets you view information about and the status of expansion boards in your system. If one of your expansion boards fails, this screen is automatically displayed.

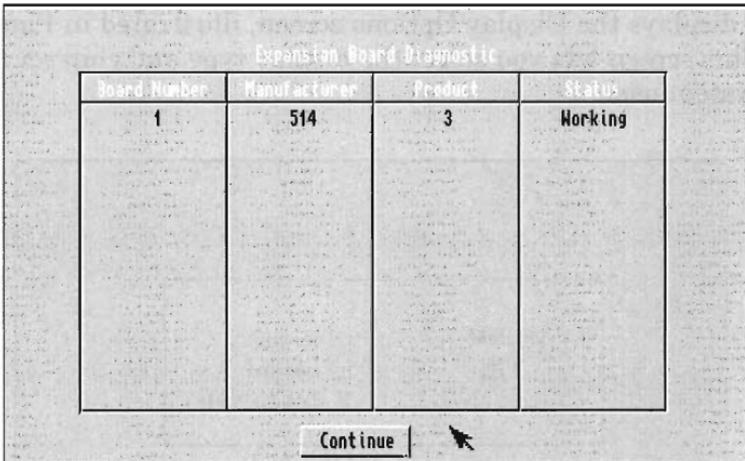


Figure C-4. Expansion Board Diagnostic Screen

Board Number	The number of the expansion board
Manufacturer	The number of the maker of the board
Product column	The manufacturer's product number for the board
Status column	The status of the board: Working or Defective

We recommend providing the manufacturer with this information when you contact them concerning a failed board.

Glossary

This glossary provides definitions of terms used in the Amiga manuals.

acceleration

An option, selected through the Input editor, that 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 gadget in a window that performs an operation in the window when you select the gadget. 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

A program or collection of programs that perform a specific task, such as 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 parameters on the command line for a program or command to follow.

ASCII (American Standard Code for Information Interchange)

A standardized format for text that assigns code numbers to characters, allowing the exchange of information between different types of computers.

aspect ratio

The proportion of an image's height to its width.

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 layers of subdirectories for it. For example, 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, and so forth) permissible on the file. Also called protection bits.

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 that uses only the digits 0 and 1.

bit

A single binary digit (1 or 0).

bitplane

A memory area that adds one bit to the graphic presentation of every pixel. If more than two colors are to be displayed, more than one bitplane is needed.

block

A contiguous series of bytes (usually 512) treated as a single logical unit in RAM or permanent storage media. Also, a user-marked area of a text file.

boot

To start the system by reading the information needed 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.

bridgeboard

An expansion board from Commodore that allows hardware emulation of PC-compatible computers.

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.

cache memory

A temporary area in memory with extremely fast access that improves the system performance.

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 Shell is the Amiga's CLI.

click

To press and release a mouse button.

Clipboard

An area in memory that is used to store text and graphics while they are being transferred between programs.

close

To remove a window from the screen.

close gadget

A gadget that 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 that 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, such as a Shell window.

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 or graphics and inserting it at a new location.

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 uses 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, that modifies the output of the next key to be pressed. For example, on an American keyboard, Alt-H superimposes 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 something else.

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.

delimiter

A special character marking the beginning and end of a string.

density

The number of dots per inch. Many printers support several print densities. Usually, the higher the density, the clearer the printout.

depth gadget

A gadget that 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:, PC1:, 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

The software that controls the basic input and storage 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 set of parameters, such as resolution and scan frequency, that define a screen. For example, a High Res display mode is 640 pixels wide and 200 pixels high (for NTSC Amigas).

dithering

1. Creating smoother color or grey-scale shading of screen or printed displays by alternating pixel color or density. The PrinterGfx and PrinterPS Preferences editors provides several settings for automatic dithering of printed graphics.

2. Creating the illusion of a color by using a pattern of other colors. For example, creating the illusion of purple by alternating pixels of red and blue.

double-click

To quickly 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 are 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 partition, such as DF0: or DH1:.

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 additional display modes (ECS modes) and expands previous graphics capabilities. Many of the benefits of the ECS are available only in conjunction with Release 2 or higher 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 editors, MEMacs and ED, for changing text files.

escape sequence

A sequence of characters, beginning with the Escape character, that 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.

Extra Halfbrite

A special graphics mode that doubles the number of colors on the screen by duplicating existing colors at half their brightness.

Fast RAM

General memory used by programs and data.

field

The screen area behind the text of a Workbench icon label. The color of the field can be changed with the Font editor.

file

An organized collection of data referred to by a name and is stored on some type of media.

file system

The organization and software that controls the data, files, and directories stored on a volume. The primary Amiga file systems are FFS (FastFileSystem) and OFS (OldFileSystem).

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 (880KB) of information.

font

Also called typeface. 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, and so on).

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.

fragmentation

A scattered distribution of data on a disk that results in lack of availability of contiguous areas of memory. If removing data does not alleviate this problem, reformatting may be necessary. This can also occur in RAM, requiring a reboot to resolve it.

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 that may appear in a window, requester, or screen and can be manipulated with the mouse to perform a certain function. Each gadget is of a specific type and performs a specific action. Most gadgets appear raised and when selected, appear to sink into the screen.

genlock

A piece of hardware that allows Amiga graphics to be overlaid onto another video source, for example, from a camera or VCR. The genlock is typically used for applying titles or captions to video or photographic media.

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 the full Amiga color palette to be displayed on the screen.

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.

hot spot

The pixel in a pointer, normally the tip of an arrow or the center of a crosshair that must be touching an object on the screen to select it.

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, sound, and other types of data.

.info file

A file containing the image and position data for an icon (referred to as "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 and makes it video-compatible..

Internal

Refers to an AmigaDOS command that is built into the Shell, rather than loaded from disk.

KB (Kilobyte)

1024 bytes. Often abbreviated as K.

keyboard shortcut

A method for performing a mouse action by pressing a key or key combination.

keymap

A file that 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 or a Tool Type entry as identifying an argument or specifying an option.

Kickstart

Refers to the portion of the Amiga operating system that is in ROM.

library

An integrated set of functions and data that can be used by different programs. On Amiga systems, libraries can be found in ROM and in the LIBS: drawer.

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)

1024KB (1,048,576 bytes). Often abbreviated as M or Meg

memory

The Amiga's internal storage circuitry that holds programs and data. The Amiga has Chip (graphics) memory, Fast (normal) memory, and 512K of ROM memory. The amount of RAM (Random Access Memory) 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 that 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.

multiscan

A type of video monitor than 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 example, an uppercase W is allotted the same amount of space as a lowercase l. Also called a monospaced font.

offset

To shift or move over.

open

To make the selected object available for use. 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, a window appears, displaying its contents. When you open a project or tool icon, a program is started.