

816/Paint[™]

**instruction
manual**



*816/Paint*TM

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Introduction

816/Paint is a full-featured paint program that works with all Apple II high resolution graphics modes; including Standard Hi-Res, Double Hi-Res, and the 4096 color Super Hi-Res 320 and 640 modes. Features include full-page pictures, full-screen painting, variable magnification zoom, and color animation using palette cycling.

There are actually four paint programs in **816/Paint** (one for each Hi-Res graphics mode). Also included is a file utility program that will read and write DOS 3.3 as well as ProDOS disks. The Standard Hi-Res and Double Hi-Res modes provide compatibility with the Apple IIc and IIe and the existing base of Apple II graphics. The Super Hi-Res modes access the full graphics capability of the Apple IIGS.

816/Paint is extremely easy to learn and use. You will probably be able to accomplish a great deal without reading the manual. You should, however, read the manual (it's not long) to get the full benefit of all the program features. 🖱

Equipment Required

Equipment Required

The Super Hi-Res graphics modes require an Apple IIgs with at least 512K RAM available to the program.

The Standard Hi-Res and Double Hi-Res modes require an Apple IIc, IIe, or IIgs with at least 128K RAM.

All modes require an Apple II mouse or compatible input device.

816/Paint comes with two ProDOS disks; a 3½" 800K disk for the Apple IIGS, and a 5¼" disk for the Apple IIc and IIe.

A printer is optional. Printers supported include the ImageWriter, ImageWriter II (color), and other popular printers.



Getting Started

This chapter covers some basic concepts like using the mouse, running the programs, pull-down menus, and special keys. For proper equipment setup and operation, you should refer to the owner's manuals that came with your computer and printer.

Using the Mouse

When you move the mouse around, a small arrow, called a **pointer** or **cursor**, moves on the screen tracing the mouse movements.

Click means press and quickly release the mouse button. When you want to select something on the screen, move the pointer to that item and click.

Double-Click means click the mouse button twice in rapid succession. Double-clicking is used to select an item for some special or alternate action.

Drag means hold the mouse button down while moving the mouse.

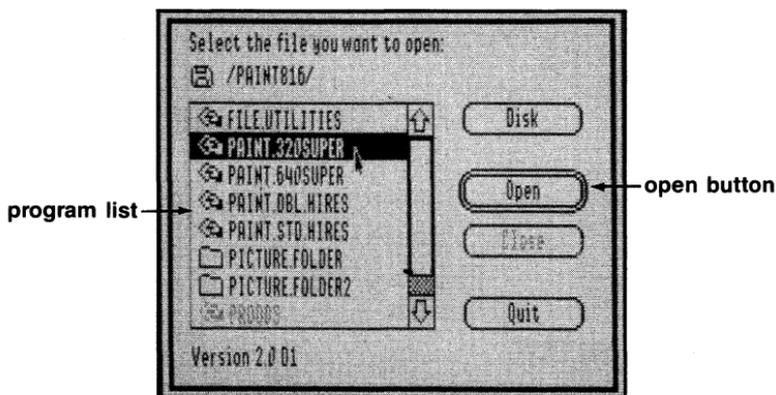
Highlight means an object or menu item is displayed with a bright outline or inverse of its normal appearance.

If you are not using a mouse as your input device, read Appendix B for instructions on alternate input devices.

Getting Started

Starting up 816/Paint

Insert the 816/Paint program disk in the drive (label facing up) and turn on the computer. After a few moments, the **Program Selection Menu** will appear.



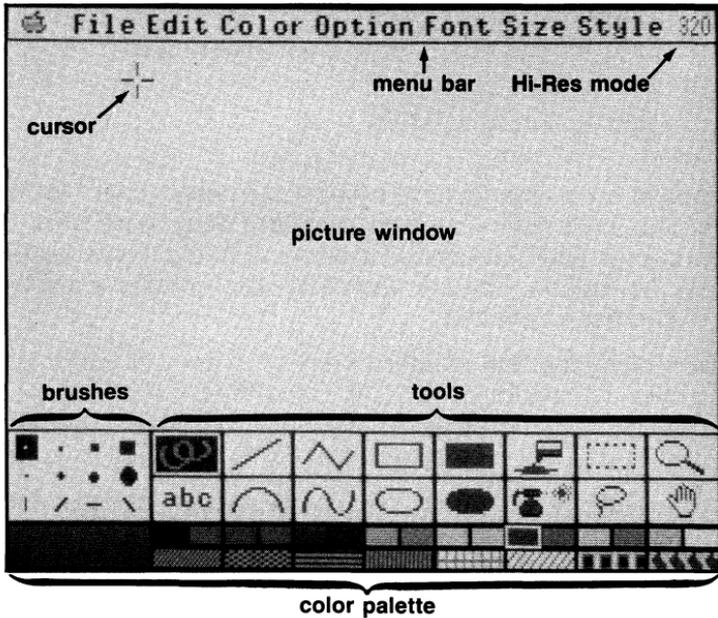
To run a program, move the pointer to the desired program and click to highlight the selection. Then click on the open button and the program will start loading. You can also use the arrow keys to highlight the desired program and press [Return] to run the program.

If this is your first session with 816/Paint and you are using an Apple IIgs, select **Paint.320Super**. On the Apple IIc or IIe, select **Paint.Dbl.Hires**.

NOTE: All of the paint programs in 816/Paint are similar in operation but there are some differences depending on the Hi-Res mode. These will be noted in the manual where appropriate. In general, any feature marked with an asterisk (*) is not available in Double Hi-Res or Standard Hi-Res modes. If you don't see a feature on the menus, it is not available.

The Paint Program Screen

It takes a few seconds for the program to load and then the screen will look like this:



The blank space in the middle of the screen is the **picture window**, ready for drawing. As you move the cursor around the screen, you will notice that it changes from a pointer to crosshairs when inside the picture window.

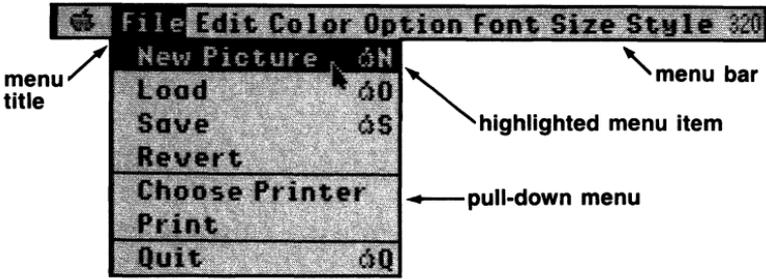


Try dragging the crosshair cursor inside the picture window (hold the button down while moving the mouse). As you drag, you will draw a line in the picture window that traces the mouse movements. Release the button to stop painting.

Pull-down Menus

The **menu bar** at the top of the screen provides access to several **pull-down** menus. Each word on the menu bar is the title of a different menu. To pull down a menu, move the pointer to the desired **menu title** and hold down the mouse button. The menu will appear and remain visible until you release the mouse button.

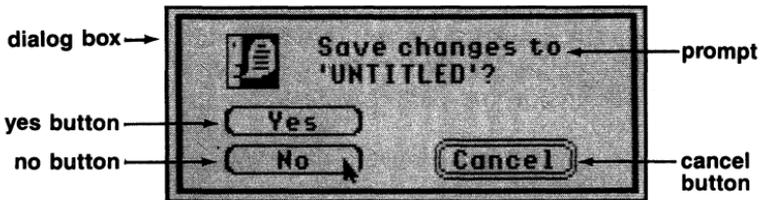
Getting Started



To choose a **command** from a pull-down menu, point to the menu title, hold down the mouse button, drag the pointer down the list until the desired command is highlighted, then release the button. The command will flash briefly to indicate that it has been selected.

Menu commands that appear in dim type are not currently selectable. For example, the Cut, Copy, Paste, and Clear commands (in Edit menu) are available only when a region of the picture has been selected with the marquee or lasso tools.

As an exercise, try clearing the picture window by selecting the **New Picture** command from the File menu. If you have changed the picture previously, you will be prompted by a **dialog box** asking if you want to save the current picture.



Click the **Yes** button if you want to save the current picture. Click **No** to clear the picture without saving it first. Click **Cancel** to remove the dialog box and go back to the current picture.

Special Keys

Some menu commands can be selected using special key combinations instead of pulling down the menu with the mouse. These shortcut commands are selected by pressing the [⌘] key and a letter key simultaneously. The available shortcut commands are indicated by an apple symbol and a

letter listed next to the menu item.

Other keys have special uses in 816/Paint. Their use is noted in the manual where appropriate.

The [⌘] Key — is called the command key, open-apple key, or apple key.

The [Option] Key — On the Apple IIe and IIc, the closed-apple key is the option key.

Undo

The **Undo** command in the **Edit** menu will undo the last action performed on your picture. This allows you to try things out before they become a permanent part of the picture. Undo can also be accessed by pressing the [Esc] key or the [⌘] and [Z] keys together. Selecting undo a second time will redo what was just undone.

Apple Menu

At the left end of the menu bar is an apple symbol which marks the **Apple** menu. This menu contains the **About . . .** command and any desk accessories that may be present on the system disk. Choosing the **About 816/Paint** command will display a dialog box with the current program version number.

Quitting the Program

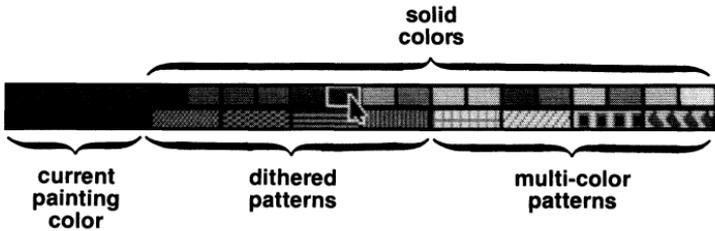
The **Quit** command will exit the program and return to the program selection menu. ✎

Painting Tools

Below the picture window are the various drawing tools, paint brushes, and a palette of colors and patterns that you will use to create your pictures.

The Color Palette

The palette of available colors and patterns is displayed at the very bottom of the screen.



The large box at the left end of the palette contains the **current painting color** (solid color or pattern). Anything you draw in the picture window will be drawn with this color.

There are 16 **solid colors** at the top of the color palette (only 8 solids in standard Hi-Res). Below the solid colors are 8 **patterns**. Clicking on any solid color or pattern will highlight it and cause it to become the current painting color.

The patterns are divided into two groups of 4 **dithered patterns** and 4 **multi-color patterns**. The dithered patterns are tight patterns made by mixing two solid colors. They are handy for creating shades in-between the available solid colors. To change the colors in the dithered patterns, click any two solid colors consecutively. The multi-color patterns can be changed by editing the existing patterns (see Advanced Techniques).

Painting Tools

Brush Selection

There are 12 different paintbrush shapes available. The current brush shape appears highlighted. To select a different brush, point at the desired brush and click.

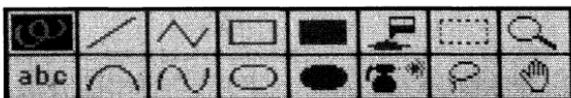


the brush set

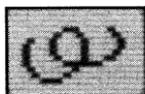
Entirely new brush shapes can be created by editing the existing ones (see Advanced Techniques).

The Drawing Toolbox

The icons above the color palette represent the tools used for drawing, painting, and manipulating objects on the picture window.



To select a tool simply click on its icon. The current tool selection is shown highlighted.



Freehand Sketch Tool — draws freehand lines using the current brush.

Place the cursor in the picture window where you want to start drawing. Hold down the mouse button and draw. Release the button to stop drawing.



Straight Line Tool — draws straight lines using the current brush

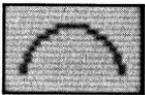
Position the cursor where you want the line to start. Then drag the mouse. A straight line will stretch from the starting point and follow your moves. Release the button when the line is positioned correctly.



Connected Lines Tool — draws connected straight lines, polygons, and rays using the current brush.

Works just like the straight line tool. When you release the mouse button after drawing the first line, a rubberband line will follow the cursor. Each time you click the mouse, a new line will be painted from the end point of the last line. Double-click to draw the last line segment, or click outside the picture window to unhook the rubberband line.

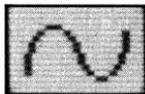
To draw rays that all connect to the starting point, hold down the [↵] key when starting the first line. When you release the mouse button the rubberband line will stretch from the starting point rather than the end point of the last line. Click once for each ray, double-click to draw the last ray.



Curved Line Tool — draws a smooth curve between two points using the current brush.

Position the cursor at the starting point and drag a straight line to the ending point. Then release the mouse button and move the mouse around. A rubberband curve will appear between the end points, changing shape as you move. The further you move from the endpoints, the steeper the curve. When the curve is shaped the way you want, click to paint it on the picture.

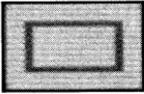
You can unhook the rubberband curve from the cursor by moving outside the picture window and clicking.



French Curve Tool — draws a smooth curve through several points using the current brush.

Position the cursor where you want the curve to start and click. Then click once at each intermediate point that you want the curve to pass through. Double click to mark the final point, or click outside the picture window. Then a smooth curve will be drawn through the marked points.

Painting Tools



Outline Box Tool — draws a rectangular box outline using the current brush.

Position the cursor at one corner of the desired box and drag. A rectangular outline will follow the cursor movement. Release the mouse button when the box is positioned correctly.



Solid Box Tool — draws a solid rectangular box filled with the current color or pattern.

Follow directions for outline box.



Outline Oval Tool — draws the outline of an ellipse or circle using the current brush.

Position the cursor at the *center* of the circle or ellipse to be drawn and drag the mouse. An ellipse will follow the cursor movement. When you move up or down, the ellipse will be tall and narrow. Moving sideways will make a short, wide ellipse. To get a circle, move diagonally from the starting point. Release the mouse button when the oval is the desired size and shape.



Solid Oval Tool — draw a solid oval filled with the current color or pattern.

Follow directions for outline oval.



Colorfill Tool — fill an enclosed area of the picture with the current color or pattern.

Position cursor inside the area to be filled and click. All enclosed pixels that are the same color as the starting point will change to the current color or pattern.

To fill an enclosed *pattern* area, first depress the [Ctrl] key. The cursor will change to an 8x8 square. Then position the cursor in the area to be filled and click. Any enclosed pixels that match the pattern in the square will be filled with the current color or pattern.

The fill will leak out of an area that is not completely enclosed.

Painting Tools



Spray Paint Tool — creates an airbrush effect by spraying the current color or pattern onto the picture.

Follow directions for freehand sketch. As you go over the same area, the coat of paint becomes thicker.



Hand Tool — moves the picture page in the picture window.

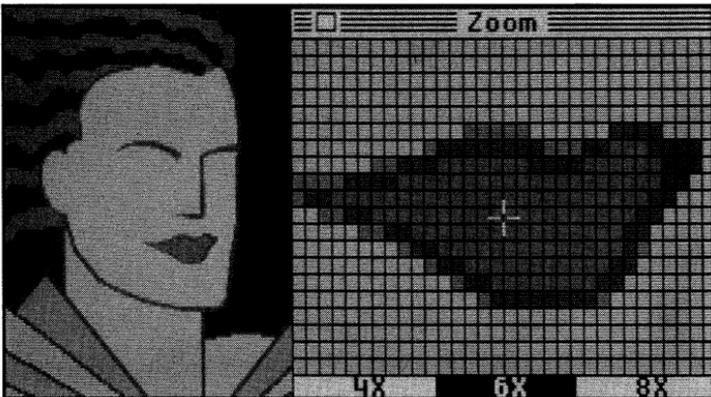
The picture window shows only part of the entire picture page. With the hand tool selected, you can press the mouse button to grab the picture page and drag it around in the picture window.

Holding down the [Option] key while the other drawing tools are active will change the cursor temporarily into the hand tool, enabling you to move the picture without first selecting the hand tool icon.



Zoom Tool — magnifies a small area of the picture so you can edit fine details.

The zoom tool is special in that it works with all of the other drawing tools. When the zoom tool is selected, the cursor becomes a rectangular box inside the picture window. Move the rectangle to the spot you want magnified and click. Then the **zoom window** will appear on the screen. A portion of the unzoomed picture is visible in the **view window** to the left of the zoom window.



view window

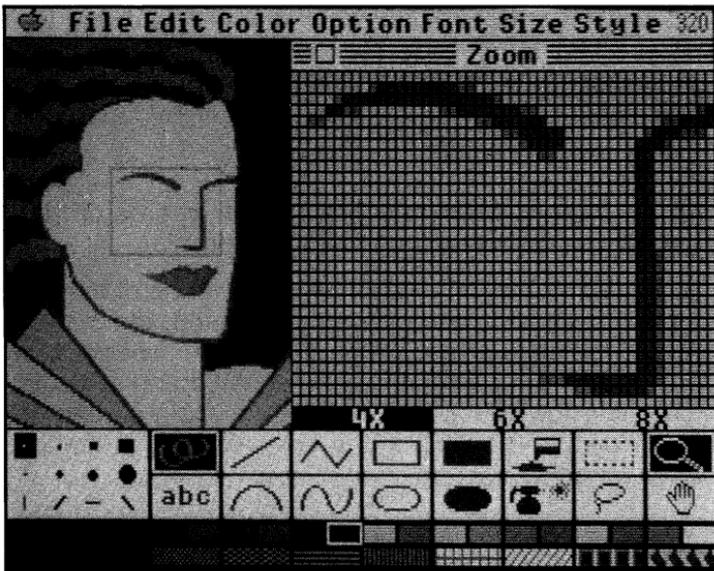
zoom window

Painting Tools

All painting is done inside the zoom window. The tools, brushes, and color selection work just like before.

There are 3 different zoom magnifications. Click on **4X**, **6X**, or **8X** at the bottom of the zoom window to change magnification. Only one magnification is available in Hi-Res and double Hi-Res modes.

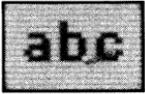
If you move the cursor over to the picture view window, it will change to a rectangle. Clicking in the view window will move the zoom to that area of the picture. When you drag in the view window the zoom window will track your movement. Also, the picture will scroll when you hit the edge of the view window, making it very easy to reposition the zoom without using the hand tool.



To close the zoom window, click the zoom tool icon, or click the small close box in the zoom window title bar. 🖱️

Adding Text

Text can be added to the picture at any time in a variety of typefaces, styles, and sizes. Clicking the Text icon activates the text tool.



The Text Tool

Text can be drawn with solid colors only. If the current color is a pattern, it will revert back to a solid color when you click the text tool. The cursor will appear as an I-beam when you move inside the picture window. Click on the spot where you want the text to begin. A flashing text prompt will replace the cursor.

Type the desired text using the keyboard. Use the [Delete] key to backspace over mistakes. The text does not wrap automatically when you reach the edge of the picture window. You must press [Return] to move down to the next line.

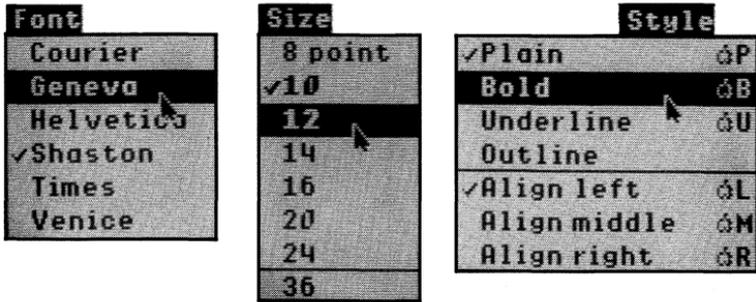
Changing Text

Text is *live* and may be deleted, resized, restyled, or recolored until you click somewhere else in the picture window or select a different tool. When you click in another part of the picture window, the current text becomes permanent and a new line of text is started.

To change the color of the current live text, click a solid color in the color palette.

Adding Text

The **Font**, **Size**, and **Style** menus are used to change the appearance of the text. The active Font, Size, and Style selections are indicated by checkmarks on the menus. Changing one of these selections will redraw any live text.



The font typefaces listed in the **Font** menu are those in the System/Fonts folder on the boot-up disk. The point sizes shown in heavy print on the **Size** menu will look best, because they are real fonts from the disk. The other sizes are scaled by the program.

The **Style** menu changes the text styling and alignment. **Align Left** will left-justify the text. **Align Middle** will center the text around the starting point. **Align Right** will right-justify the text.

Note: The Size and Style menus are not available in standard Hi-res and Double Hi-res modes. Only real fonts from the disk can be used in these modes.

Custom Font Size*

The last point size on the Size menu is a custom font size. To change this value, select the **Font Size** command in the **Option** menu. A dialog box will appear.

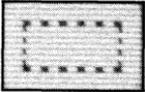


Type any size from 1 to 99 and click the **OK** button. ✎

Marquee and Lasso Selections

The marquee and lasso tools are used to select and manipulate images in the picture window. When an area of the picture is selected, it can be moved, cut, copied, or stretched.

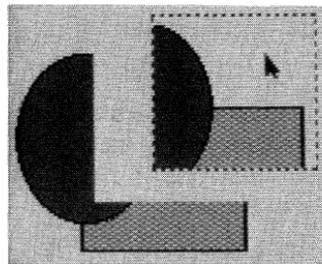
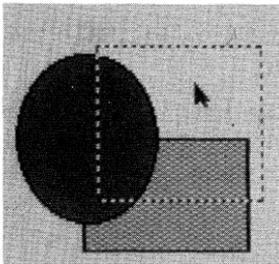
Selecting with the Marquee



The Marquee Tool — selects a rectangular area of the picture.

The marquee tool works like the outline box tool. Position the cursor at one corner of desired rectangle and hold down the mouse button. As you drag the mouse, the marquee box will follow. Release the mouse button when box is positioned correctly. The dotted marquee outline will remain on the picture indicating a **live** selection.

When you move the cursor inside the marquee, the crosshairs will change to an arrow. Pressing the mouse button inside the marquee will grab the selection for dragging around the window. The image is lifted from the picture when you drag it to a new location. It will leave behind a clear rectangle of the same color as the starting point of the marquee selection box.



Marquee and Lasso Selections

To drop a live selection on the picture, click outside the marquee box. This will paint the selection on the picture and remove the marquee. Selecting a different drawing tool will also drop the selection.

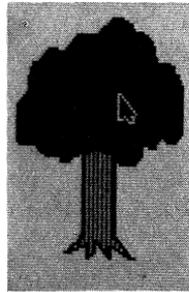
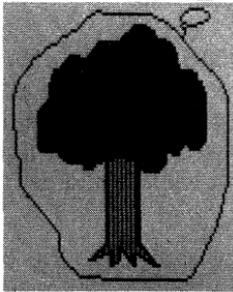
Double-clicking on the marquee tool will select the entire picture window. Pressing the [⌘] key while starting a new marquee causes the rectangle to shrink to enclose only those pixels that are a different color from the starting point.

Selecting with the Lasso*



The Lasso Tool — selects free-form shaped areas of the picture (this tool is not available in standard Hi-Res and double Hi-Res modes).

The lasso tool works like the freehand sketch tool. Drag the mouse to trace an outline (with the tip of the lasso) around the image you want to select. When you release the button, a straight line will connect the release point with the starting point, closing the region outline.



After the mouse button is released, the lasso region will shrink to exclude any pixels that are the same color as the starting point. Then a flashing dotted outline will appear marking the selected object.

If you want to select an area without shrinking, press the [Option] key while tracing the outline.

Once a lasso region is selected, it can be dragged around the picture window just like a marquee selection. It will leave behind a clear region the same color as the starting point of the lasso selection.

Marquee and Lasso Selections

Making Copies of Selections

You can make a copy of a live selection by holding down the [Option] key when you drag the selection. A copy of the selection will drop on the picture each time you click on the selection with the [Option] key down.

To make a trail of copies, hold down both the [Option] key and [⌘] key while you drag the selection. A series of multiple images will be left along the path you trace. The spacing between images will vary according to the speed you move the mouse.

Stretching and Shrinking Selections*

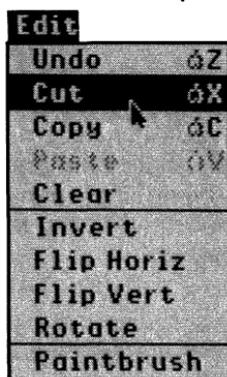
You can change the size of a live marquee selection by holding down the [⌘] key and dragging the selection. Start with the cursor just inside the marquee. Dragging toward the center of the marquee causes the selection to shrink. Dragging away from the center will stretch the selection.

Holding down both the [⌘] and [Shift] keys while stretching will constrain movement to horizontal or vertical only. Holding down the [⌘], [Shift], and [Control] keys together while stretching or shrinking will force the selection to retain its original proportions.

Cut, Copy, and Paste

By using the **Cut**, **Copy**, and **Paste** commands in the **Edit** menu, a live selection can be cut or copied to the clipboard and then later pasted back on the picture or pasted in other pictures or programs.

The **Cut** command will remove the selected image from the picture window and store it in the clipboard.



Marquee and Lasso Selections

The **Copy** command will leave the selection on the screen and store a copy in the clipboard. Only one image can be stored in the clipboard at a time.

The **Paste** command will place a copy of the clipboard image in the center of the picture window. The pasted image is a live selection that can be moved until you drop it by clicking outside the select region.

If you open a new marquee in the picture window, and then select **Paste**, the clipboard image will be scaled to fit exactly inside the marquee.

Other Edit Menu Commands

The **Undo** command will undo the last action performed on your picture. Selecting undo a second time will redo what was just undone.

The **Clear** command will erase the current selection from the picture (without disturbing the clipboard). The [Delete] key will also clear a live selection.

The **Invert** command will change the color of every pixel inside a live selection to its complementary color. For example, black will change to white and vice-versa.

The **Flip Horizontal** command will flip a live marquee selection horizontally, with the left edge of the image becoming the right.

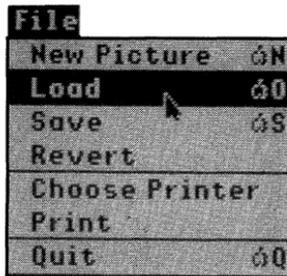
The **Flip Vertical** command will flip a marquee selection from top to bottom.

The **Rotate*** command will rotate a marquee selection 90 degrees clockwise.

The **Paintbrush*** command lets you use the clipboard image as a paintbrush with the Freehand Sketch Tool. First, cut or copy an image to the clipboard. Then select the Freehand Sketch Icon. Finally, select the Paintbrush command. The clipboard image will temporarily become the current paintbrush. This is a one-shot command; you must select Paintbrush for each freehand line segment you want to draw. Pressing the [C] key and the [T] key together is a shortcut to the Paintbrush command. ✎

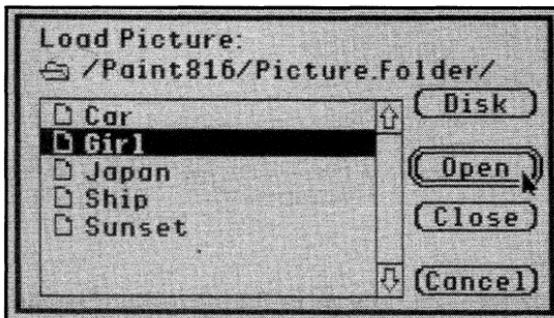
Loading, Saving, and Printing Pictures

The **File** menu is used when you want to load a picture from the disk, save or print the current picture, or quit the program.



Loading a Picture

To retrieve an existing picture from disk, use the **Load** command on the **File** menu. A dialog box will appear with a list of the picture files and file folders (sub-directories) on the current disk. Above the list of filenames is the current disk pathname. You can change to a different disk by clicking the **Disk** button.



Select a picture file by pointing at the filename and clicking to highlight the name. If the list of filenames is longer than will

Loading, Saving, & Printing

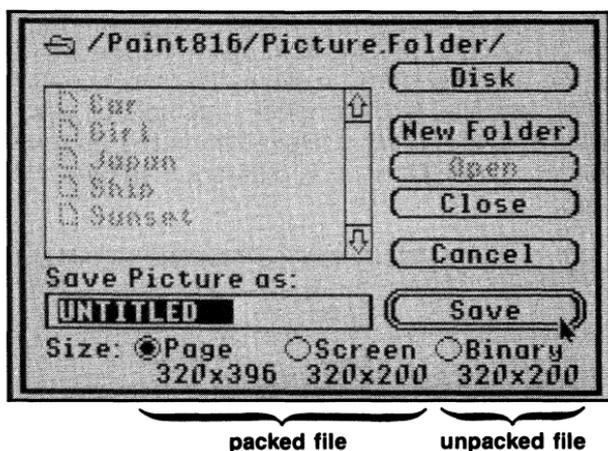
fit in the view box, you can scroll the list by clicking on the up and down arrows on the scroll bar. When the desired name is highlighted, click the **Open** button, or double-click on the filename to open the picture file.

If the picture was saved in a file folder (sub-directory), you can open the folder in the same manner as opening a picture file. To return to the previous folder, click the **Close** button.

Saving a Picture

You should save your picture often while working on it. This will insure against losing your work accidentally. You will need a ProDOS formatted data disk (see File Utilities).

When you select the **Save** command on the **File** menu, the save dialog box will appear. At the bottom of the box are the picture format options. The choices are: full page size* (packed image), screen size (packed image), and screen size (unpacked binary image). The *packed* picture files are compressed to use less space on the disk. The *screen* size will save the current portion of the picture that appears when the Full Screen command is selected from the Option menu.



Type a name for your picture in the space under *Save Picture* as. . . You can use the [Delete] key to back up if you make a typing error. When the name is entered, click the **Save** button.

You can open a folder (sub-directory) by highlighting the folder in the scroll box and clicking the **Open** button.

Loading, Saving, & Printing

You can create a new folder by first typing a name for the folder and then clicking the **New Folder** button.

Clicking the **Cancel** button will close the dialog window and return you to the program without saving.

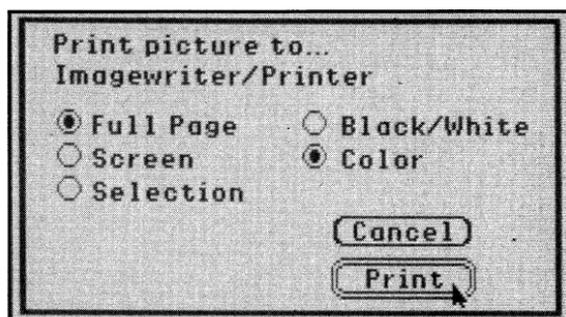
Revert

Selecting **Revert** from the **File** menu will replace the current picture with the last version saved. This command will undo all changes made to the picture since it was last saved.

Printing your Picture

Use the **Choose Printer** command on the **File** menu to select the printer and interface options that match your equipment setup. Once this selection is made, it will be saved to disk and will not need to be changed unless you change your hardware.

Use the **Print** command to print the picture. A dialog box will appear with the printing options. Make sure the printer is properly connected and turned on, then click the **Print** button.



Editing the Color Palette*

In the super hi-res modes, any solid color in the palette can be changed to any of 4096 possible colors. There are also 8 separate palettes available for each picture, allowing you to keep 8 different color schemes for your picture or create special effects by cycling the palettes.

Modifying Colors in 320 Mode*

To modify individual colors in the palette, use the **Edit Palette** command in the **Color** menu, or double-click the current color box at the left end of the palette. The **Palette Editing Window** will appear.



RGB sliders

HSI sliders

Pick the color you want to modify by clicking one of the 16 solid colors in the palette, or click any spot in the picture window to pick colors from the picture. To move the picture page in the picture window, hold down the [Option] key to get the hand tool.

There are two sets of slider controls that affect the current color. They represent two different methods of setting a color value. Each set can generate all 4096 colors. To adjust a slider control, drag the square knob in the control to the desired spot, or click in the control on either side of the knob.

The controls marked **H**, **S**, and **I** adjust **hue**, **saturation** (white content), and **intensity** (brightness). These are similar to the controls on a color TV. The hue control lets you select from a rainbow of colors. The saturation control sets the white level of the color. When the saturation control is maximum (all the way to the right), the color will always be white or grey, no matter where the hue is set. The intensity control adjusts color brightness. When this control is set to minimum, the color will be black.

Editing Palettes*

The **R**, **G**, and **B** controls adjust the **red**, **green**, and **blue** content of the current color. There are 16 levels of red, green, and blue possible. All 4096 colors can be produced by mixing these colors. To create a bright yellow, for example, set the red and green sliders to maximum, and set the blue slider to minimum.

It is usually easier to use the HSI controls to set the approximate color, and then fine tune with the RGB controls. Clicking the **Undo** button will undo the last change you made.

Clicking the **Copy** button will cause the current color to be copied to the next color picked. If you hold down the [↵] key while picking the second color, it will be swapped with the current color.

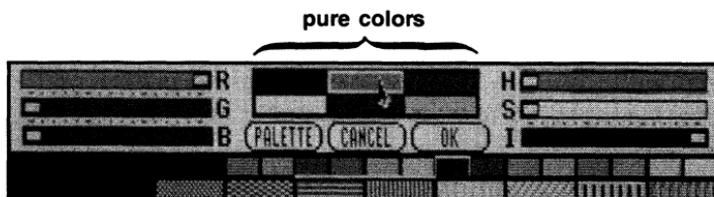
Clicking the **Spread** button will produce a smooth range of colors across the palette from the current color to the next color picked. For example, if you pick *black*, click the Spread button, and then pick *white*, the result will be a smooth transition of grey tones across the palette from black to white.

The **Palette** button will open a window where the 8 picture palettes can be selected and edited (see Palette Selection).

Click **OK** when the palette is set the way you want, or click **Cancel** to undo all of the changes you made to the palette. You can restore the current palette to the standard 16 super hi-res colors by selecting the **Std Palette** command in the **Color** menu.

Modifying Colors in 640 Mode*

Editing the color palette in 640 mode is similar to the 320 mode but there are some fundamental differences. The 16 colors in 640 mode are produced by *dithering* a smaller set of colors. Individual pixels in 640 mode can be one of 4 colors (compared to 16 colors in 320 mode) and they are half as wide as the 320 mode pixels. The 640 pixels are so small that when you place two different color pixels side-by-side, they blend to form a new color. The dither is so tight that the colors look pure even when viewed close up. The only two solid colors that are not dithered in 640 mode are the ones at the ends of the palette (black and white). Because of dithering, you cannot change one of the 16 solid colors without affecting some of the other colors in the palette. This eliminates spread and copy functions in 640 mode.

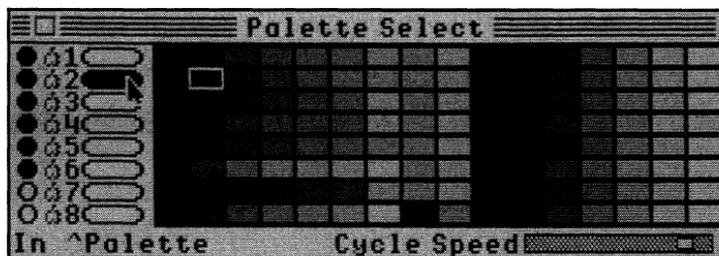


The 640 mode palette editing window is slightly different from the 320 mode version. In the center of the window are 6 color boxes which are the *pure* pixel colors that are dithered to make the 16 solid colors in the palette. The reason there are six pure colors is related to peculiarities in the IIGS video hardware.

When you pick a color from the palette or picture window, one of the six pure colors will flash momentarily and then another pure color will be highlighted. These two pure colors are dithered to make the current color. To modify one of the six pure colors, click in its color box to highlight it. The slider controls work just like in 320 mode. Every solid color in the palette that contains the selected pure color will be underlined. Any changes you make to the pure color will affect the underlined palette colors.

Palette Selection*

To access the 8 picture palettes and color cycling controls, click in the **Palette** button when the palette editing window is visible.

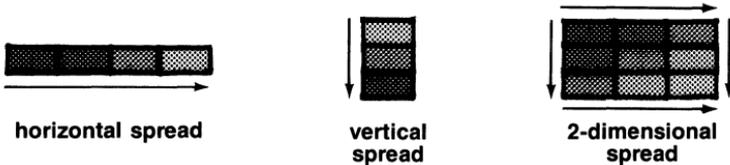


This is the **Palette Select** window. The palettes are numbered 1 to 8. Only one palette is active at a time. The highlighted palette button, to the right of the number, indicates the active palette. To select a different palette, click the palette button or any color box in the desired palette. Any color in the 8 palettes can be modified with the RGB and HSI slider controls.

Editing Palettes*

You can copy a color from any palette to another palette by using the **Copy** button. You can also copy an entire palette to another with the Copy button. First select the palette you want to copy, click the Copy button, and then click the destination Palette button.

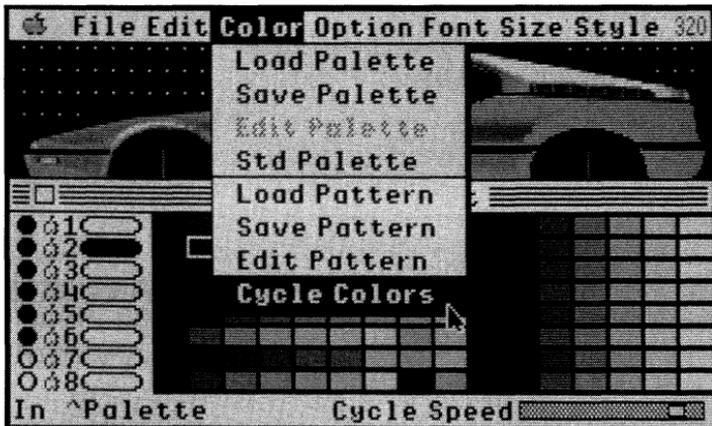
The **Spread** button can be used in several ways in the Palette Select window. You can spread **horizontally** between two colors in a single palette. You can spread **vertically** between two colors in the same column (but different palettes). If you pick two colors that are not in the same row or column, the spread will be **2-dimensional**, affecting all colors in the rows and columns inbetween.



To close the Palette Select window, click the Select button or the small close box at the left side of the window title bar.

Color Cycling*

Color animation and flashing neon sign effects can be created using **color cycling** (switching palettes at regular intervals). Use the **Cycle Colors** command in the **Color** menu to turn cycling on and off. When cycling is turned on, the picture palette will scroll through the selected palettes at a set speed.



At the left edge of the Palette Select window are small buttons labeled **In**. When these buttons are highlighted, they indicate which palettes will be included in the color cycling. The speed at which the palettes are changed is controlled by the **Cycle Speed** control at the bottom of the Palette Select window. All color cycling settings are saved when you save the picture.

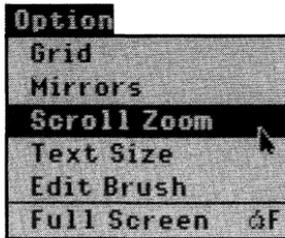
Clever use of color cycling can produce some very dramatic effects with a minimum of effort. A good example of color cycling techniques can be seen in the picture named MODERN.GIRL on the 816/Paint program disk. Load this picture and select the Cycle Colors command. By examining the 8 palettes in this picture, you will see how spreading and alternating colors create different animated effects.

Saving and Loading Palettes*

The current picture palette can be saved to disk and reloaded later for use in another picture. Choose **Load Palette** or **Save Palette** from the **Color** menu. The procedure is similar to loading and saving picture files. Only the current palette is affected, the other 7 picture palettes remain unchanged. 🖱

Options

The **Option** menu includes commands that modify the actions of the various drawing tools.



Full Screen Painting

It is often desirable to have the entire screen available for painting. Choose the **Full Screen** command in the **Option** menu to remove the menus and tools from the screen. The [Space] bar or the [↵] and [F] keys are a shortcut for this command. The current drawing tool will still be active in the full screen mode. To get the menus back, press [Space] or press [↵] [F] again. Note when the text tool is active [Space] bar does not toggle the menus.

Scroll Zoom

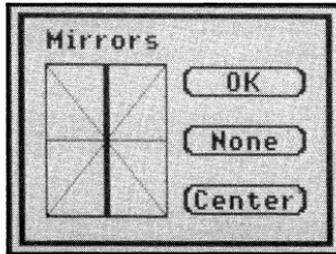
The **Scroll Zoom** option allows you to access the entire picture view window while drawing in the zoom window. When you reach the edge of the zoom window, it will automatically scroll in the direction you are moving. This allows you to draw or select images that are larger than the zoom window while zoom is active.

Choose **Scroll Zoom** to implement this option (a checkmark next to the menu command indicates Scroll Zoom is on). Choose Scroll Zoom again to turn it off.

Options

Mirrors

To paint symmetrical shapes using the *freehand sketch* or *straight line* tools, choose **Mirrors** from the **Option** menu. The Mirror selection dialog will appear.



There are four mirrors (vertical, horizontal, and two diagonal) represented by lines in the dialog box. You can use one or more mirrors at a time. Click the mirror lines that you want to set (indicated by a darker line). Click again to turn a mirror off. For each mirror that is set, any line that you draw in the picture window will also be drawn in a mirror reflection.

When the desired mirrors are set, click **OK** to turn on the mirror painting. To turn off mirroring, choose **Mirrors** and click the **None** button.

The center of mirror symmetry is the center of the drawing window. To change the center of symmetry, click the **Center** button and then click at the point in the picture window where you want the mirror symmetry to be centered.

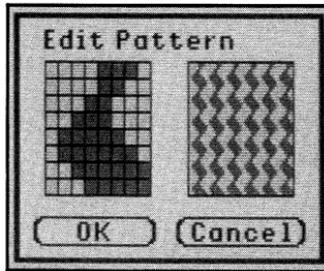
Grid

The **Grid** command places an invisible grid over the picture window. When the grid is active (indicated by a check mark next to the Grid command), the drawing tools will move in eight pixel increments. This will help you accurately line up images in columns and rows. Choosing Grid before moving marquee or lasso selections keeps patterns aligned exactly. The grid does not affect the colorfill and spray paint tools. To turn the grid off, choose the Grid command again. 🖱️

Advanced Techniques

Editing Patterns

You can create custom multi-color patterns by editing the existing patterns. Click on the multi-color pattern you wish to change and then choose **Edit Pattern** from the **Color** menu, or simply double-click the pattern.



This is the pattern edit window. The left side is a zoomed view of the pattern. Select a color from the palette and click in the zoomed pattern to change pixels to that color. Any changes you make will be shown in the normal size display at the right.

You can also capture any 8x8 pixel area of the screen as a pattern. Point at a spot outside the palette or pattern edit window and click.

Click **OK** to replace the original pattern with the new one. Click **Cancel** to restore the original pattern.

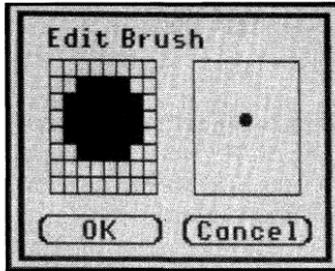
Loading & Saving Patterns

The four multi-color patterns are normally saved when you save the picture. You can also save these patterns separately by choosing **Save Pattern** from the **Color** menu. The procedure is the same as saving pictures. Once a set of patterns has been saved, you can load it with the **Load Pattern** command.

Advanced Techniques

Editing Brushes

Any brush shape can be edited except the single-pixel brush. Select the brush you want to change and choose **Edit Brush** from the **Option** menu.



The brush editing window has a zoomed view of the current brush at the left side. Click on the zoomed brush pixels to turn them on or off. When the brush is the shape you like, click **OK** to keep it. Click **Cancel** to revert back to the original brush shape. 🎨

File Utilities

816/Paint uses ProDOS for loading and saving files. The 816/Paint **File.Utilities** program allows you to format data disks, copy files from one disk to another (including DOS 3.3 files), delete files, and convert pictures from one Hi-Res mode to another. When you run the File Utilities, a text screen program menu will appear. Use the arrow keys to highlight a menu selection and press [Return] to select. On-screen prompts will guide you through the program options. The [Esc] key will let you back out of an option.

Formatting Data Disks

You will need a ProDOS formatted disk for saving 816/Paint pictures. It is a good idea to keep several blank formatted disks handy to store your work. Remove the 816/Paint program disk from the drive, insert a new data disk to be formatted, and then select the **Format Data Disk** option. You will be prompted to select the drive and type a volume name for the disk. You will be asked if you are ready to format, press [Y] for yes. The disk will spin for a few moments while formatting.

WARNING: Formatting a disk will destroy any files that were previously on it. Make sure you don't accidentally format a valuable data disk or the program disk.

Copying Files

The **Copy File** option will copy a file from one data disk to another (either ProDOS or DOS 3.3 disks). To use pictures that have been created with DOS 3.3 programs in 816/Paint, you must copy the picture files to a ProDOS data disk.

File Utilities

Deleting Files

The **Delete** option will delete a file from the data disk. Be careful not to accidentally delete the wrong file from the disk. Once you delete, the file is gone.

Converting Picture Files

This is a very handy option that will convert a picture file from one Hi-Res mode to another. When you choose **Convert Picture Files**, you will have the following options:

Standard Hi-Res to Double Hi-Res

Standard Hi-Res to Super Hi-Res

Double Hi-Res to Super Hi-Res

The converted picture files are unpacked binary images. Keep in mind that a converted picture takes up much more disk space than the original. When standard and double Hi-Res pictures are converted to super Hi-Res, the resulting picture will be somewhat smaller than the super Hi-Res screen. Note that you cannot convert from higher resolution to lower resolution (for example, super Hi-Res to standard Hi-Res).

320 & 640 Mode Compatibility

Super Hi-Res pictures created in 320 mode can be used in 640 mode and vice-versa, but there are some palette considerations. Pictures created in 640 mode will load in 320 mode with the original palette colors essentially unchanged. Pictures created in 320 mode will load in 640 mode but the palette colors will not be preserved. Instead, the standard 640 palette will be used. This is due to the dithered nature of the 640 mode colors. Palette number 4 in the 320 mode default palettes has the same colors as the 640 mode standard palette. 🖐

Shortcuts and Special Keys

The keyboard is used extensively in 816/Paint to provide command shortcuts and enhanced program functions. Items marked with a single asterisks (*) are not available in the standard and double hi-res modes. Items marked with double asterisks (**) are not available on the Apple IIc or IIe.

Keyboard Command Shortcuts

Most menu commands can be accessed directly from the keyboard using the [⌘] key in combination with another key.

- [⌘][1] to [8] Select picture palette.*
- [⌘][0] Turn Color Cycling on and off.*
- [⌘][-] Decrease color cycle speed.*
- [⌘][+] Increase color cycle speed.*
- [⌘][<] Decrease font size.*
- [⌘][>] Increase font size.*
- [⌘][Shift][<] Change font to font previous to current font in font menu list.*
- [⌘][Shift][>] Change font to next font in font menu list.*
- [⌘][B] Set text style to Bold.*
- [⌘][C] Copy a selected image to the clipboard.

Shortcuts and Special Keys

- [⌘][F] Turn Full Screen mode on and off.
- [⌘][G] Turn the Grid on and off.
- [⌘][H] Flip live marquee selection Horizontally
- [⌘][J] Flip marquee selection Vertically
- [⌘][K] Rotate marquee selection 90 degrees.*
- [⌘][L] Set text style to Align Left.
- [⌘][M] Set text style to Align Middle.
- [⌘][N] Erase page and start a new picture.
- [⌘][P] Set text style to Plain.*
- [⌘][Q] Quit the program.
- [⌘][R] Set text style to Align Right.
- [⌘][T] Get Paintbrush from the clipboard.*
- [⌘][U] Set text style to Underline.*
- [⌘][V] Paste the clipboard selection to picture.
- [⌘][X] Cut a selected image to the clipboard.
- [⌘][Y] Invert all colors in live selection to their complimentary color.
- [⌘][Z] Undo the last event.

Special Keys

The following keys are used in conjunction with the mouse to alter program functions.

The [Option] Key

Pressing the [Option] key while using any drawing tool (except marquee and lasso) changes it temporarily into the hand tool.

Pressing the [Option] key while dragging a marquee or lasso selection will leave a copy of the selection.

Pressing the [Option] key while making a lasso selection will select the entire region marked (no shrink wrap).*

Shortcuts and Special Keys

The [⌘] Key

Pressing the [⌘] key while dragging inside a marquee selection will stretch or shrink the selected image.*

Pressing the [⌘] key while starting a marquee selection causes the marquee rectangle to shrink to just fit the selected image.*

Pressing the [⌘] key while using the colorfill tool will fill into an enclosed pattern.

Pressing the [⌘] key while using the connected lines tool will draw rays.

Pressing the [⌘] key while using the Copy button in the Edit Palette window changes the copy function to swap.*

The [Option] and [⌘] Keys

Pressing both the [Option] and [⌘] keys while dragging a marquee or lasso selection will leave a trail of copies of the selected image.*

The [Shift] Key**

Pressing the [Shift] key while using the drawing tools will constrain movement to horizontal or vertical.**

The [Shift] and [⌘] Keys**

Pressing both the [Shift] and [⌘] keys while stretching a marquee selection will constrain movement to horizontal or vertical.*

The [Control] Key**

Pressing the [Control] key while using the drawing tools allows you to change the current color by picking it directly from the picture.**

The [Delete] Key

Pressing the [Delete] key will erase a marquee or lasso selection.

Shortcuts and Special Keys ---

The [Space] Bar

Pressing the [Space] bar will turn Full Screen painting on and off (except when text tool is active).

The [Esc] Key

Pressing the [Esc] key is a shortcut to the Undo command.

Double Click Shortcuts.

Double-clicking the current color box will open the Edit Palette window.*

Double-clicking the marquee or lasso icon selects the entire picture window.*

Double clicking a brush icon will open the Edit Brush window.*

Double clicking a multi-color pattern will open the Edit Pattern window. ✎

Appendix A

Error Messages

Occasionally you may encounter an error message while working with 816/Paint. These messages appear in a dialog box with choices to proceed or cancel the operation.

There are two types of error messages. One type is related to memory allocation problems and the other is related to disk access problems. Most errors are recoverable but some can be fatal to the system. It is always good practice to save your work often to guard against a fatal system crash.

One possible type of memory problem is insufficient memory to run the program. The Super Hi-Res modes require 512K minimum free RAM for the program to run. If you have set the RAM disk too large with the control panel, you may run into memory problems.

Disk errors normally occur during loading and saving of pictures and other files. When a Disk I/O Error appears, it can mean the disk is not properly seated in the drive, or the drive is out of alignment, or the disk itself is damaged or not formatted. Try removing the disk from the drive and carefully reinserting. If this doesn't work, the disk may not be useable.



Appendix B

Using Other Input Devices

You can use other input devices with 816/Paint instead of the standard Apple Mouse. These include graphics tablets and touchpads. There are some restrictions that apply to these alternate devices.

The Super Hi-Res modes require an Apple IIGS. For an input device to work in this mode, it must be designed specifically to work with the IIGS and have software device drivers that are installed at boot-up time. These drivers can be copied to the 816/Paint program disk. See the manual that comes with the device for installation instructions.

The Standard Hi-Res and Double Hi-Res modes work on the IIc and IIe as well as the IIGS. These programs have a configure option that allows you to select a different input device. Press both the [⌘] and [Esc] keys to use the configure menu. If there is not a mouse in slot 4, the configure menu will come up automatically. Only devices shown in the configure menu will work with 816/Paint. 🖱️

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