

DreamWorld Software Presents:

# DreamGrafix

Unleashing the Power of 3200 Colors

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## Credits

DreamGrafix is a huge program. It was made possible by the following people.

Designed by: Jason Andersen, Steven Chiang and Shawn Martin

Programmed by: Jason Andersen and Steven Chiang

Screens and icons by: Shawn Martin and Yong Su Kim, with help from Steven Chiang, Jason Andersen and Dino Bagdadi.

Manual written by: Steven Chiang with help from Yong Su Kim and Jason Andersen.

Manual editors: Non-technical editor Meiwah Lam, C.K. Chiang, Steven Chiang, Kent Keltner, and Jim Mueller

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This has been a DreamWorld production. II Infinitum!

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## Preface

Thank you for purchasing DreamGrafix™. DreamGrafix is the only 16, 256, and 3200 color paint program available for the Apple IIGS®. DreamGrafix offers the ability to create and edit the highest quality pictures on a standard Apple IIGS.

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### List of Features:

- Uses the standard GS/OS™ desktop environment.
- Ability to load, edit and save all recognized super hires graphics formats on the Apple IIGS.
- Powerful drawing tools, including ten different brush modes.
- Comprehensive fatbits with four levels of magnification.
- Full color 3200 color picture editing.
- 640 dithered color mode support.
- Flexible and easy to use user interface.
- User programmable external commands.
- Written in assembly language for speed and efficiency.
- Not copy protected.
- Hard drive installable.

Chapter 1:

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# Getting Started With DreamGrafix



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## System Requirements

The minimum configuration needed to launch DreamGrafix™ is as follows:

- Apple IIGS® Computer
  - Rom 01 requires 1.25 megabytes of memory
  - Rom 03 requires 1.125 megabytes of memory (Standard)
- System Disk v5.02 or higher †
- One 3.5 inch disk drive
- RGB color monitor (recommended)

DreamGrafix will utilize more memory if available.

† To print in full 256 color mode on the ImageWriter II® printer, System Software v5.04 is required.

---

## Backing up DreamGrafix

*Generic Disk Icon*



DreamGrafix is not copy protected, and can be copied with any file or disk copier.

To back up DreamGrafix with the Finder™, launch the Finder by inserting the System Disk into the 3.5" disk drive and turning on the computer.

When the Finder appears, eject the disk, by pressing the button on the disk drive, and insert the DreamGrafix disk into the disk drive. Eject the DreamGrafix disk and insert a blank disk.

If the blank disk needs to be initialized, follow the Finder instructions and do so. Then drag the DreamGrafix disk icon onto the blank disk icon, and follow the messages until the copying is complete.

When the copying is done, put the original DreamGrafix diskette in a safe place.

For more information about the Finder disk copy, consult the **Apple IIGS Owner's Reference**, included with the Apple IIGS.

---

## Installing DreamGrafix on a hard drive.

DreamGrafix can be installed on any hard drive. Simply use the Finder to copy the DRMGFX.SYS16 file, the DG.Code file and the EXTERNALS folder with all of its contents to the desired location on the hard drive. The three files: DRMGFX.SYS16, DG.Code and EXTERNALS must be located in the same directory or subdirectory.

---

## Launching DreamGrafix

*The DreamGrafix Icon*



To launch DreamGrafix, insert the Apple IIGS System Disk into the 3.5" disk drive and turn on the computer.

When the Finder appears, insert a copy of the DreamGrafix disk and quickly click twice (double click) on the DreamGrafix icon.

If DreamGrafix has been installed on the hard drive, there is no need to use the DreamGrafix disk to launch DreamGrafix. Simply boot the hard drive, and double click on the DreamGrafix icon to launch DreamGrafix.

---

## The Apple IIGS Screen

This section outlines information necessary to get the most out of the DreamGrafix manual and software.

The Apple IIGS's graphics mode is called the super high resolution (SHR) mode, because it offers better graphics than the old Apple II's. Resolution refers to the number of pixels that go across and down the screen. A **pixel** is the smallest dot of color on the screen. A single picture is made up of thousands of pixels. The Apple IIGS SHR graphics modes are limited to 320 x 200 pixels and 640 x 200 pixels. This means that in 320 mode, there are 320 pixels from the left to the right of the screen and 200 pixels from the top to the bottom of the screen. In 640 mode, there are 640 pixels across the screen and 200 pixels going down the screen.

Another way to distinguish between the SHR graphics modes is by the number of colors a picture uses. Standard 320 mode pictures use 16 colors, while standard 640 mode pictures use 4 colors or 16 dithered colors. A dithered color is a color that is made up of two colors. For example, a dark

red would be made up of alternating black and red pixels. The Finder is a good example of a program that uses the 640 mode with 16 dithered colors. DreamGrafix only supports the dithered 640 mode, because it is more popular and useful.

Most artwork uses 320 mode with 16 colors. This allows a picture to have 16 colors on the screen at once. In 320 mode, the 16 colors can be chosen out of a range of 4096 colors. On the Apple IIGS, a **palette** refers to a set of 16 colors. A palette and a color table can be used synonymously.

Some rarely used modes on the Apple IIGS that are becoming more popular use multiple palettes. Multiple palettes allow the use of more than one palette of 16 colors, which will result in nicer looking pictures. The two multiple palette modes are called 256 and 3200 color mode. The Apple IIGS is still limited to 16 colors per line, but by using multiple palettes it is possible to use more than 16 color over the whole picture. In 256 color mode there are 16 palettes of 16 colors, while in 3200 color mode there are 200 palettes of 16 colors. DreamGrafix takes full advantage of these extended color modes. The extended color modes will be explained in more detail, in Chapter 7: Advanced SHR Modes.

The manual refers to the different 320 modes by the number of colors the picture uses. For example, 320 mode using 16 colors is called the 16 color mode, while 320 mode using 256 colors mode is called 256 color mode, and 320 mode using 3200 colors is called 3200 color mode. 640 mode is simply referred to as 640 mode.

Chapter 2:

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## Using DreamGrafix

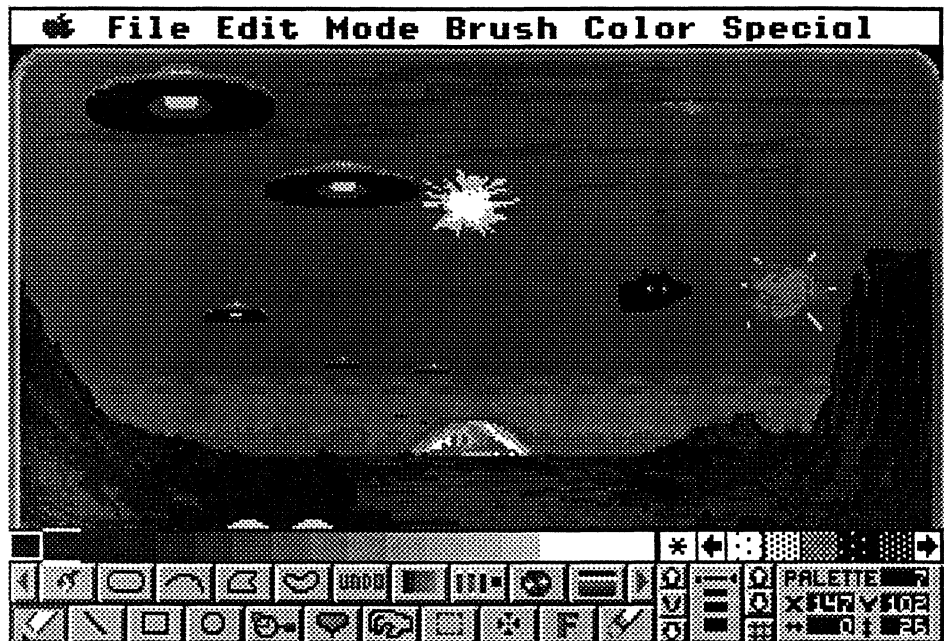
---

## Using DreamGrafix

This section gives a mini-tutorial on how to use DreamGrafix. DreamGrafix can be as simple or as complex as the user wants it to be. In the 16 color and 640 modes, DreamGrafix is very easy to use. For more experienced users, DreamGrafix offers the 256 and 3200 color modes, which allow users to use the best graphic modes available on the Apple II GS. For programmers, DreamGrafix offers user programmable external commands, which allow users to customize the DreamGrafix tool set.

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*The DreamGrafix Main Screen*



The DreamGrafix main screen is broken into three sections: the menu bar at the top of the screen, the edit window in the center of the screen, and the command bar at the bottom of the screen. They are described in the next three chapters.

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## The Basics

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*The Pencil Icon*



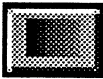
After launching DreamGrafix, press a key or the mouse button at the title screen to continue. At the DreamGrafix main screen, move the mouse cursor into the large white area of the screen. This area is called the edit window. Depress the mouse button and DreamGrafix will begin to draw. While the mouse button is depressed, DreamGrafix will continue to draw wherever the mouse cursor is moved. To stop drawing, release the mouse button. The current tool selected is called the Pencil. The Pencil button is depressed and appears in the lower left hand corner of the screen. The bar

at the bottom of the screen, which the tools reside on, is called the command bar. To choose a different tool, point the mouse cursor at the desired button, and click the mouse button. Experiment with some of the different tools. The command bar and all of the tools are described in Chapter 5: The Command Bar.

Now hold down the open apple key and press the **O** key. A dialog will appear allowing the user to select a file. Insert the DreamGrafix disk, if it is not already in the disk drive. Open the DreamGrafix volume and double click on the word that says **Pics.3200**, and then double click on the file named **Term2.2.3200**. The open dialog is described in more depth in Chapter 6: Standard Dialogs. After the file is opened, select the Pencil tool, and move around the edit window. As the mouse cursor moves through the edit window, a bar of color surrounds the cursor. The bar consists of fourteen lines of color and is called the true color bar. Make sure the <capslock> key is released, or the true color bar will not follow the mouse cursor. The current editing mode is called 3200 Color Mode. Press the **4** key on the numeric keypad. This command displays the picture in full color. When finished viewing, press a key or click the mouse button to continue.

---

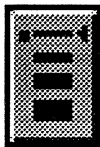
*The Intensity Sort Button*



Now, intensity sort the picture by double clicking on the button similar to the one shown on the left. Click on the Okay button at the warning dialog, and DreamGrafix will perform an intensity sort on the picture. When DreamGrafix is done, notice how much better the picture looks in greyscale. Select the Pencil tool again and move the mouse cursor into the edit window. Press the open apple and the **L** keys and DreamGrafix will switch into SBC 3200 color mode. SBC 3200, another 3200 color editing mode, differs from 3200 color mode, because it displays the picture in full color. Move the cursor on to the menu bar. Notice how the picture goes to greyscale; this is to speed up the pulldown menus.

---

*The Fatbit Size Selector*



While the mouse cursor is in the edit window, hold down the open apple and the <option> keys and click the mouse button. This jumps to a split screen fatbits mode. The upper section of the screen appears in actual size, while the bottom section of the screen is magnified. On the rightside of the command bar lies a column of different sized lines, shown to the left. The left side of the selector controls the different levels of magnification. Clicking on the leftside of the bottom-most line increases the level of magnification to the largest size. The picture can be moved around, by pressing any of the four directional arrow keys on the keyboard.

---

## Using Slippery Colors

Press the open apple key and the **O** key to open a file. On the DreamGrafix

disk, close the **Pics.3200** folder and open the **Demo.Pics** folder. Then double click on the **Slippery.demo** file.

---

*The Fill Button*



Click on the Fill button, as shown on the left. Slippery colors work in conjunction with the fill tool. Click on the color black on the color selection bar. Point the tip of the fill cursor at the red circle in the edit window, and click the mouse button. Everywhere that was red in the circle is now black. Press the open apple and the **Z** keys to undo the last command.

Enter the Slippery Colors Dialog, by pulling down the Colors menu, and selecting the Slippery Colors menu command. In the dialog, click on the color green and click on the Okay button. This makes green a slippery color. Now, click on the red circle again with the fill command, and notice how the green circle also turns black. A slippery color will be filled, when it borders a color being filled or it is the color being filled. Experiment with making different colors slippery to get a better idea of how Slippery Colors work. For more information, see *Slippery Colors* in Chapter 9: Other Dialogs.

---

## 256 Color Demo

The two files **Palettes.256** and **Message.256** are demo 256 color pictures. The two pictures are included to help build an understanding of the 256 color mode. Open the **Palattes.256** picture. At the main screen, notice the wide variety of colors. The picture consists of 16 horizontal sections drawn on the screen with colors 0 - 15. The variety of colors comes from multiple palettes of colors. See Chapter 7: Advanced SHR Modes for more details.

Go to the Palette Editor, by selecting Set Palettes in the Color menu. In the Palette Editor, notice the colors drawn on the border of the screen. This represents the different palettes used by the picture. Try clicking on a color at the bottom of the screen, and drawing with it on the borders. Notice how the colors on the screen change as different palettes are selected. What is happening is the same graphic data is being mapped to different color data, so it looks as if the graphic data is changing, when it is not. This picture shows some of power of using the 256 color mode, because it allows users to use more than the old limit of 16 colors on the screen at once.

Open the file **Message.256** and enter the Palette Editor. To shift the part of the screen being viewed, click on the FLIP button. Select palette 1 (red), and set the whole screen to palette number 1. This will reveal a hidden message. Experiment with the picture to learn how it was set up.

This section describes just a few things that can be done with DreamGrafix. Have fun learning about the other powerful editing feature of DreamGrafix.

Chapter 3:

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## The DreamGrafix Menus



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## The DreamGrafix Menus

This section gives an overview of all the DreamGrafix menus. The pulldown menus can be found on the menu bar at the top of the screen. The menu bar is similar to the menu bars found in other desktop programs.

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*The DreamGrafix Menu Bar*



**File Edit Mode Brush Color Special**

To see a pulldown menu, point the mouse cursor at the word of the menu to be viewed. Press and hold the mouse button down and drag the mouse toward the bottom of the screen. This action will "pulldown" a menu.

There are two ways to select a menu command on a pulldown menu. The first way is to pulldown a menu, as described above, and drag the mouse cursor on top of the item to be chosen and release the button. The item must be highlighted when the button is released. The second way to select a command is by using a keyboard equivalent. A keyboard equivalent appears after the command in a menu. For example, the About DreamGrafix command, see below, has the keyboard equate, open apple ?. This means the open apple key must be held down while the slash-question mark key (/?) is pressed. DreamGrafix does not require the <shift> key for any of the keyboard equates.

---

### The Apple Menu



This section describes each command in the Apple menu. In addition to the commands described here, the Apple menu lists any new desk accessories (NDAs) that have been installed on the startup disk.

#### About DreamGrafix... ⌘-?

Displays information about DreamGrafix such as the names of the authors, other credits, and the version number of the program. Click the mouse button to continue.

## Preferences...

This option allows the user to customize the startup configuration of DreamGrafix. For more information, see *Preferences* in Chapter 9: Other Dialogs.

## Control Panel

Displays the graphic Control Panel NDA, described in part in *The Control Panel* in Chapter 6: Standard Dialogs.

† There may be other options below Control Panel. These are used to run the various other NDAs which may be installed on the system disk. For more information about the Control Panel NDA, and NDAs, consult the **Apple IIGS Owner's Reference**.

---

## The File Menu

File	
New	⌘N
Open...	⌘O
Close	
Save "Untitled"	⌘S
Save as...	⌘A
Save Palette...	
Save Brush...	
Page Setup...	⌘U
Print...	⌘P
Delete...	
Transfer to...	
Quit	⌘Q

This section briefly explains each command in the File menu. These commands allow you to manipulate files, and print pictures.

### New



Erases the picture in the edit window and creates a new picture. A new picture consists of a white screen with the standard palette. This option should be used to create a new picture using DreamGrafix.

### **Open...**



Opens pictures, brushes and palettes and places them into the DreamGrafix edit window. For more information, see *Opening Files* in Chapter 6: Standard Dialogs.

### **Close**

Closes an open new desk accessory on the desktop. If there are not any NDAs open, this command will not do anything.

### **Save "<filename>"**



Saves the picture in the edit window to disk using the current filename. If the picture was created in the current session and has not been saved, the file will not have a name, and will appear as "Untitled". In this case, selecting save will automatically call the Save as... command, see below.

Save automatically defaults to the name and file format of the picture loaded. If users want to change the file format of the picture, they must use the Save as... command.

This option should be used periodically to save the changes made to the current picture.

### **Save as...**



Similar to the Save command, Save as... will also save the picture in the edit window to disk. Unlike the Save command, though, Save as... will display a save file dialog and prompt the user for information. For more information about using the Save as... dialog, see *Saving Files* in Chapter 6: Standard Dialogs.

### **Save Palette...**

Saves the current palette in the edit window to disk. DreamGrafix will display the save file dialog and prompt the user for a filename. For more information, see *Saving Palettes and Brushes* in Chapter 6: Standard Dialogs.

### **Save Brush...**

Saves the current custom brush to disk. DreamGrafix will display the save file dialog and prompt the user for information. If there is no custom brush, DreamGrafix will display an error message. For more information, see *Saving Palettes and Brushes* in Chapter 6: Standard Dialogs.

### **Page Setup... -U**

Displays the standard page setup dialog box. This command is used to set printing options such as the page size, orientation of the image on paper, and reduction modes. This information should be configured, before printing out the picture. For more information, see *Printing* in Chapter 6: Standard Dialogs.

### **Print... -P**

Prints the picture in the edit window onto paper. The Page Setup and printer should be configured before selecting this command. For more information, see *Printing* in Chapter 6: Standard Dialogs.

### **Delete...**

Displays a dialog allowing the user to select a file to be deleted. Deleting a file will remove it from the disk. Use this option to free up disk space and to remove unwanted files. For more information, see *Selecting Files* in Chapter 6: Standard Dialogs.

### **Transfer to...**

Displays a dialog allowing the user to select a file to be launched. After the file is selected, DreamGrafix will exit the program and launch the application selected. For more information, see *Selecting Files* in Chapter 6: Standard Dialogs.

### **Quit -Q**

Similar to Transfer to..., Quit exits DreamGrafix and returns to the launching application.

---

## The Edit Menu

Edit	
Undo	⌘Z
Cut	⌘X
Copy	⌘C
Paste	⌘V
Clear	
Choose Font...	⌘T
640 Mode	
16 Color	⌘H
✓ 256 Color	⌘J
3200 Color	⌘K
SBC 3200	⌘L

---

The **clipboard** is an area, which can be used to hold data.

---

A **desktop** application uses GS/OS and the toolbox.

This section describes the commands in the Edit menu. These commands allow the user to access the Apple IIGS **clipboard**, and select the picture mode.

The Apple IIGS clipboard is a standard method of transporting data, either graphic or text, between **desktop** applications. DreamGrafix supports the clipboard, which means that DreamGrafix automatically saves the clipboard upon exiting. This means that graphics placed on the clipboard can be imported to other programs, such as icon editors or desktop publishing programs. And the converse is true, items placed on the clipboard from other programs can be imported into DreamGrafix. Note: DreamGrafix only supports graphic items placed on the clipboard, which means that text from a word processor will not be recognized.

Within DreamGrafix, the clipboard acts as a work area. Using the rectangular marquee tool, or the lasso, users can Cut or Copy a selected area of the screen and put it into the clipboard for storage, and Paste the item back into the picture at a later time. The clipboard is flexible enough to allow the user to Copy a portion of a picture into the clipboard, load in another picture, and paste the item on the clipboard into the new picture. The Cut, Copy and Paste commands are described in more detail below.

Some NDAs also use the clipboard. For example, with the Quickie™ hand scanner, and the accompanying NDA scanning software, the user can scan an image directly into DreamGrafix. The Quickie NDA uses the clipboard to store the scanned image, and using the paste command, it can be pasted into the DreamGrafix edit window.

## Undo



Undo reverses the last operation performed by DreamGrafix. Not all commands can be reversed by the Undo command, but DreamGrafix will warn the user before executing such a command. Undo will also reverse the last Undo command, so if a line is drawn, selecting Undo will remove the line, and by selecting Undo again, the line will reappear.

## Cut



Cuts the selected area out of the edit window and onto the clipboard. Cut will destroy all information previously in the clipboard.

Cut will also replace the selected area in the edit window with the user-defined background color and unselect the area. For more information about selecting areas, see the sections in Chapter 5: The Command Bar, entitled *Rectangular Marquee* and *Lasso*.

## Copy



Copies the selected area to the clipboard, leaving the area in the edit window unmodified, and still selected. Copy will destroy any information previously in the clipboard. The Cut and Copy commands are identical, except Cut removes the selected area from the edit window, while copy does not. For more information about selecting areas, see the sections in Chapter 5: The Command Bar, entitled *Rectangular Marquee* and *Lasso*.

## Paste



Pastes the contents of the clipboard into the edit window and makes it the selected area. Information is stored to the clipboard via the Cut and Copy commands. Paste does not change the information in the clipboard.

Once the contents of the clipboard have been pasted onto the screen, the pasted area becomes the selected area. For more information about selected areas, see the section entitled *The Selected Area* in Chapter 5: The Command Bar.

DreamGrafix will save the contents of the clipboard upon exiting or when a new picture is created or loaded in. Using this command, it is possible to copy sections of one picture to another.



## 256 Color

⌘-J

Switches DreamGrafix into 256 color mode. 256 color mode allows the user to set up pictures using up to 256 colors.

## 3200 Color

⌘-K

Switches DreamGrafix to 3200 color mode. 3200 color mode allows a picture to use up to 3200 colors. In 3200 color mode, the screen gets changed to a **greyscale palette**, and 14 lines of color follow the cursor around. This is the faster of the two methods of editing 3200 color pictures.

---

A greyscale palette consists of all 16 shades of greys.

## SBC 3200

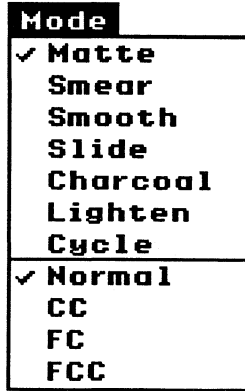
⌘-L

Switches DreamGrafix to SBC 3200 color mode. SBC is short for "Slow But Cool." Unlike 3200 color mode, SBC 3200 keeps the picture in full color. Like the name implies, SBC 3200 is slower than 3200 color mode. The two 3200 modes are exactly the same, except one is in full color and the other is not. The 3200 color and SBC 3200 color modes complement each other, because each mode has its own advantages.

In SBC 3200, the menu bar and command bar must be on the screen. Therefore, the Hide Menu Bar and the Toggle Tools commands do not work.

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## The Mode Menu



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## The Brush Modes

This section describes each of the options in the Mode menu. These options allow the user to control the drawing mode. The drawing modes can be split into two subcategories, brush modes and the 3200 drawing modes. DreamGrafix supports two types of brushes, preset brushes, which are 16



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A **brush** is an object that follows the mouse cursor around and can be drawn with.

x 16 pixels, and custom brushes, which are user-definable. The brush modes only work with preset brushes.

Drawing modes should not be confused with graphic modes, because they are entirely different. The drawing modes refer to the way a preset brush will draw, while the graphic mode refers to the format of the picture.

Matte, Smear, Smooth, Slide, Charcoal, Lighten and Cycle can be thought of as the brush modes, while Normal, CC, FC, FCC can be considered the 3200 drawing modes. The brush modes work in all graphic modes, while the 3200 drawing modes, as the name suggests, work only in the 3200 color graphic modes. For this reason, while in a non-3200 color graphic mode, the 3200 color drawing modes will be disabled. Only one brush mode can be active at a time, and only one 3200 drawing mode can be active at a time.

### **Matte**

Matte is the default brush mode for 16 color, 256 color, and 640 modes. In Matte mode, the main color or pattern selected will be the color or pattern drawn with. To select colors, see *Selecting Colors* in Chapter 5: The Command Bar. In 16 color and 640 modes, the main color will always be the color drawn with. However in 256 and 3200 color modes this color is not guaranteed, due to the nature of graphic modes. In these modes, different palettes can be set up vertically. This means that color 1 could be red on line 20 and it could change to blue on line 21. While drawing with Matte, using color 1, on line 20 it would appear red, while on line 21, it would appear blue. See Section 7: Advanced SHR Modes for a more in depth discussion of the graphic modes.

### **Smear**

Smears the picture while drawing. Smear "picks" up the area under the brush, moves the area with the mouse, and "drops" the area. Smear then starts the process over, until the mouse button is released. Smear works best when the brush is in connect mode. *Connect Brush* is described later in this chapter.

### **Smooth**

Smooths the picture while drawing. Smooth works, by averaging the area under the brush. Smooth makes the picture look softer. Smooth works best while in greyscale.

## **Slide**

Slides the area under the brush. Slide "picks up" the area under the starting position of the brush and makes that area the current brush. While the mouse button is depressed, the initial area under the brush will remain as the current brush.

## **Charcoal**

Charcoal is similar to drawing with a piece of charcoal. As the user draws with a brush, the area under the brush becomes darker by decreasing the color number by one. Darker means that if a pixel was color 3, after charcoaling the pixel, it will become color 2. Charcoal stops darkening when the color becomes 0. To get a better idea of what charcoal does, select a greyscale palette, and draw with a brush. Charcoal works best with a greyscale palette or with an intensity sorted picture.

## **Lighten**

Lighten is the opposite of charcoal. Instead of darkening the area under the brush, Lighten makes the area under the brush lighter. Lighten works in exactly the same way as Charcoal, except it lightens a color by increasing the color number. For instance, if the original pixel was color 3, after lightening once, the pixel would become color 4. Lighten stops when the pixel becomes color 15. To get a better idea of what lighten does, select lighten after using charcoal mode. As with Charcoal, Lighten works best with a greyscale or with an intensity sorted picture.

## **Cycle**

Cycles the colors while drawing with a brush. The brush draws as usual when cycle is activated, but the color to be drawn with gets changed at a regular rate. The color of the brush starts at 0 and increments as the brush moves around. When the color becomes 15, it resets to 0 and continues. This command creates interesting effects with the Cycle Color command. For more information see *Cycle Colors* later in this chapter.

---

## **3200 Modes**

The 3200 drawing modes are unique to the 3200 color graphic modes. Since a 3200 color picture has a different palette for each line, it makes drawing or editing a 3200 color picture difficult. DreamGrafix incorporates three 3200 drawing modes to help drawing in 3200 colors. See

Chapter 7: Advanced SHR Modes for more information about 3200 color pictures.

The 3200 drawing modes, unlike the brush modes are active with all of the DreamGrafix drawing tools, whereas the brush modes are only active with preset brushes.

Of the 3200 drawing modes, Normal and Closest Color do not change palette data within a picture, while Force Color and Force Closest Color do change palette data. Normal and Closest Color can be considered "safe" modes, because they do not change palette data. On the other hand, Force Color and Force Closest Color will change palette data and DreamGrafix will not undo changes to a picture's palettes.

### **Normal**

Normal is the default drawing mode in the 3200 color modes. Normal is identical to the Matte mode in 16 color, 256 color and 640 modes. The Normal drawing mode will draw in the selected color or pattern. As with Matte, the colors can change between lines while drawing in this mode.

Smear, Smooth, Slide, Charcoal, Lighten, and Cycle will only work in the 3200 color modes while Normal is selected.

Closest Color, Force Color, and Force Closest Color will only work while Matte is selected and while in the 3200 color modes.

### **CC - Closest Color**

In Closest Color mode, DreamGrafix determines the closest color on each line of the picture to the selected color. So, if a light red color is selected, and is drawn with, DreamGrafix will automatically select the closest color to the light red on the other lines. This may be the same shade of red, or a slightly different shade of red. Closest color mode chooses the closest color regardless of the color's location within a palette. If there is not a red on the line, a different color will be chosen.

Normal and Closest Color modes do not change the palette data.

### **FC - Force Color**

Force color mode automatically sets colors on the line being drawn on. FC

replaces the color with the same color number as the selected color with the selected color. For instance, the color blue is selected, which is at position 10 within a palette. All of the lines drawn on will have the same shade of blue set at position 10 on each line's palette.

Force Color will always draw in the selected color and changes palette data.

### **FCC - Force Closest Color**

Force Closest Color mode is a mix between Closest Color and Force Color modes. Similar to Force Color mode, Force Closest Color automatically sets colors on a line's palette. FCC differs from FC, by the location at which the selected color is placed. FC replaces the color with the same color number as the selected color, while FCC replaces the closest color to the selected color, regardless of color number. So if the color blue is selected, DreamGrafix will search the line being drawn on for the closest color to the selected blue, and change it to the selected blue.

This mode, like Force Color mode, will always draw in the selected color. If the color blue is chosen, everywhere that is drawn over will be blue, regardless of the fact that there was not a color blue in the previous palette data.

Both of the Force Color modes change palette data. This means that when a color is changed, all of the graphic data which used the old color will be changed to the new color. This could cause some problems in certain pictures. This is a limitation of the force color modes.

---

## **The Brush Menu**

<b>Brush</b>	
<b>Connect Brush</b>	<b>⌘R</b>
<b>Use as a Brush</b>	<b>⌘B</b>
<b>Paste Palettes</b>	<b>⌘G</b>
<b>Fill</b>	
<b>Invert</b>	
<b>Flip Horizontal</b>	
<b>Flip Vertical</b>	
<b>Rotate</b>	
<b>Halve</b>	
<b>Double</b>	
<b>Resize</b>	

This section describes the commands in the Brush Menu. The commands on the Brush Menu allow the user to manipulate a custom brush or a selected area. A custom brush is created using the Rectangular Marquee tool or the Lasso tool. See *Rectangular Marquee, Lasso* and *Custom Brushes* in Chapter 5: The Command Bar.

### **Connect Brush** -R

Toggles between the two brush drawing modes: Connect and Scatter. The only time this command will have an effect is while drawing with a preset brush or a custom brush. Connect mode is enabled when the check mark appears next to the menu command. Connect mode forces the brush to connect as it is drawing. This mode will be slower than Scatter mode, because DreamGrafix is forcing the brush to draw a continuous line. On the other hand, Scatter mode does not force the brush to connect. Scatter mode allows the brush to leave gaps while drawing. The default brush drawing mode is Scatter mode.

### **Use as a Brush** -B

Will make the currently selected area into a custom brush. While using a custom brush, the brush will follow the mouse cursor around, and allow the user to draw with it. Whenever the mouse button is depressed in the edit window, the object will be drawn on the screen.

An area must be selected before using this command. To select an area, use the Rectangular Marquee tool or the Lasso tool. For more information about selecting areas, see the section entitled *Custom Brushes*, in Chapter 5: The Command Bar.

### **Paste Palettes** -G

Pastes a custom brush's palettes into the picture at the position of the brush. Paste Palettes only works in the 3200 color graphic modes. When an area is selected, DreamGrafix stores the palettes of the area selected in the brush record, for future use.

For example, if a picture has some lettering that would look nice in another picture, these are the steps that should be taken in order to put the lettering in another picture. First, load in the picture with the lettering and select the area containing the lettering with the Rectangular Marquee tool. Then, load in the other picture, move the lettering to the desired location, select the Paste Palettes command, and click on another tool on the command bar

to unselect the area. DreamGrafix will color in the lettering automatically.

Pasting palettes will force the areas to the left and right of the brush to use the brush's palettes. This will make the areas outside of the brush look like garbage. For best results, select the area from the rightmost side of the screen to the leftmost side of the screen. Note: DreamGrafix will not undo this command.

### **Fill**

Fills in the selected area or the custom brush with the main color or pattern. Fill will destroy the previous contents of the selected area or the custom brush.

### **Invert**

Inverts the colors of a selected area or a custom brush. Invert works by remapping the pixels in the selected area or custom brush. An inverted selected area or custom brush would look as if the palettes were reversed. So if the palette went from black to white, the inverted palette would go from white to black. This is the effect on the brush, because invert does not change palette data. If a picture was in black and white, and black was color 0 and white was color 15, Invert would make a negative of the original picture.

### **Flip Horizontal**

Flips the selected area or custom brush horizontally. Flipping the selected brush or custom brush would be similar to looking at the selected area or custom brush in a mirror. Flip Horizontal will work in conjunction with Paste Palettes.

### **Flip Vertical**

Flips the selected area or custom brush vertically. Flipping the selected area or custom brush vertically would be the equivalent of turning the object upside down. Flip Vertical will work in conjunction with Paste Palettes.

### **Rotate**

Rotates the selected area or custom brush ninety degrees to the right. Rotating a selected area or brush will not work in conjunction with Paste

---

**Aspect ratio** refers to the squareness of the pixels. On the Apple IIGS, the pixels are rectangular.

**Palettes.** Due to the **aspect ratio** of the Apple IIGS screen, rotating a brush will distort the brush. For example, a square rotated once appears rectangular.

### **Halve**

Halves the size of the selected area or custom brush. Halve will halve the sizes of both the horizontal (X axis) and vertical (Y axis) axes of the selected area or brush. Halve works in conjunction with Paste Palettes.

With the Halve command, a picture could be loaded in, selected with the rectangular marquee, and halved. This would shrink the image to fit in the left hand corner of the screen. By selecting Paste Palettes, the true colors would be restored, while in 3200 color mode.

The minimum size allowed by halving is one pixel by one pixel. If halve is selected on an area of that size, DreamGrafix will display the error message: **The selected area cannot be halved again.**

### **Double**

Doubles the size of the selected area or custom brush. Double will double the sizes of both the horizontal and vertical axes of the selected area or brush. Double works in conjunction with Paste Palettes.

Doubling will make the selected area or brush appear blocky, because when doubling, one pixel becomes four pixels.

The maximum size of a selected area or a custom brush is 640 x 400 pixels, or about two screens tall by two screens wide. If the doubled area becomes larger than that size, DreamGrafix will display the error message: **The selected area cannot be doubled again.**

### **Resize**

Resizes a selected area. When resize is selected, four boxes will appear in the corners of the selected area. To resize the area, depress the mouse button, while the mouse cursor is in one of the boxes. By dragging the mouse while the button is down, the user can resize the selected area to a different sized rectangle. The selected area will be resized when the mouse button is released.

Resize will allow the selected area to get larger or smaller. Resize works

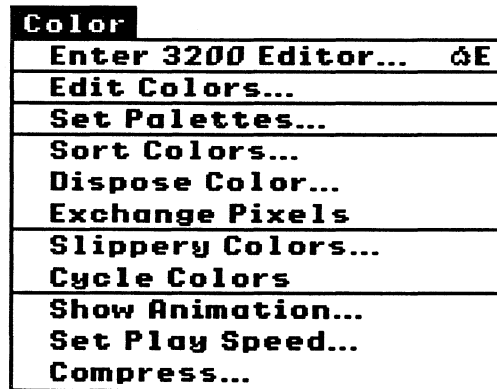
in conjunction with Paste Palettes, and the maximum size of the new rectangle is the size of the screen.

While resize is active, the selected area can be moved to any location by depressing the mouse while the mouse cursor is in the selected area, but not in the corner boxes. This "picks up" the selected area and allows the user to move it to the desired position. When in the desired position, releasing the mouse button will "drop" the selected area.

Clicking the mouse button outside of the selected area will place the selected area into the current picture, unselect the area and exit the resize command.

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## The Color Menu



This section describes the commands in the Color Menu. The color menu contains most of the commands that pertain to color.

### Enter 3200 Editor...



Enters the 3200 Color Mini-Editor. This command works in 3200 color mode only. For more information, see *The 3200 Color Mini-Editor* in Chapter 8: Auxiliary Editors.

### Edit Colors...

Enters the Color Editor. This is the Color Editor for all of the graphic modes. The Color Editor allows the user to edit the colors on any of the palettes. For more information, see *The Color Editor* in Chapter 8:



Auxiliary Editors.

### **Set Palettes...**

Enters the Palette Editor. Set Palettes is only enabled when in the 256 color graphic mode. The Palette Editor allows the user to set the Scanline Control Bytes (SCB) up for 256 color pictures. For more information about the 256 color mode, see the *256 Color Mode* in Chapter 7: Advanced SHR Modes. For more information, see *The Palette Editor* in Chapter 8: Auxiliary Editors.

### **Sort Colors...**

Enters the sort color dialog. Sort colors allows the user to rearrange the colors in a pictures. This is useful in 256 and 3200 color modes, because it will allow the user to line up colors vertically. Sort colors does not change the way the picture will look, because DreamGrafix will remap the picture to the new color scheme. For more information, see the *Sort Colors* in Chapter 9: Other Dialogs.

### **Dispose Color...**

Enters the dispose color dialog. Dispose colors allows the user to remove a color from a line. This is useful for the 256 and 3200 color modes, because sometimes an extra color is needed to add lettering or other artwork. For more information see *Dispose Color* in Chapter 9: Other Dialogs.

### **Exchange pixels**

Exchanges the pixel data of the two colors selected. The colors represent which pixels will be exchanged. This command will not modify palette data, but rather the pixel data will be exchanged. This command will work on a selected region or the current custom brush.

The first color is the main color. To choose the main color, click on the color desired. The second color is the outline color. To choose the outline color, hold down the open apple key and click on the color. Then select the area and choose the Exchange pixels command.

In 16 color and 640 modes, the colors selected will appear to be exchanged on the scen. In 256 and 3200 color modes, though, exchanging pixels will

not always retain the colors.

### **Slippery Colors...**

Enters the slippery color dialog. Slippery colors are colors that leak through when using the Fill tool. For more information, see *Slippery Colors* in Chapter 9: Other Dialogs.

### **Cycle Colors**

Toggles color cycling on and off. Color cycling rotates the colors of a palette or palettes by one color in a continuous loop. Cycle Colors only works in 16 or 256 color mode. For instance, color 15 becomes color 14, 14 becomes 13, etc. Color 0 becomes color 15 and the cycle continues. The color cycling runs on **interrupts**, so all of the tools are active.

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**Interrupts** stops the processor at regular intervals to run other tasks. The tasks do not affect other processes.

To get an example of what Cycle Colors does, double click on the brush tool and select a preset brush. Pull down the Mode Menu and select Cycle. Make sure that DreamGrafix is either in 16 or 256 color mode and select the Cycle Color command. Then draw with the preset brush and the colors will cycle as the preset brush is drawing.

### **Show Animation...**

Displays a dialog allowing the user to select a file to be shown. For more information, see *Selecting Files* in Chapter 6: Standard Dialogs. Show Animation is compatible with PaintWorks™ type animation file. DreamGrafix has two different playback modes described below.

The default player attempts to load in the whole animation file. After the file is loaded, DreamGrafix plays the animation directly out of memory until a key or mouse button is depressed. If there is not enough memory, DreamGrafix will play the animation file using the player, as described below.

The second method uses virtual memory and therefore does not require as much memory. DreamGrafix will read in the animation file in 64k segments, play the segment, read more, play more, until the animation is finished. This method will display the animation once and then quit.

An animation file is similar to a little movie. With animation files, the user has the ability to sequence a series of pictures, to be played back at one time.

The animation can be of anything, from a bouncing ball to a movie clip.

### Set Play Speed...



Allows the user to edit a previously compressed animation's playback speed. The user must select a file to edit. For more information, see *Selecting Files* in Chapter 6: Standard Dialogs.

The playback speed pop-up menu allows the user to delay between frames. The speed is measured in video ticks, approximately 1/60th of a second each. Click on the Okay button when finished to save the speed to disk.

### Compress...

Generates a PaintWorks type animation file as described above. The individual pictures must be created beforehand and saved with a filename in a certain format, see below. A PaintWorks animation does not support 3200 color pictures. The DreamGrafix implementation of animation files allows the user to compress 256 color pictures that remain compatible with older animation viewers.

To start compressing an animation, select the first file in the sequence, select a volume to save the animation file to and select the playback speed. See *Selecting Files* in Chapter 6: Standard Dialogs and *Set Play Speed* (above). DreamGrafix will scan the directory for the remainder of the files and begin compiling the animation. The animation file is limited only by disk space. Note: Both disks must be online while creating an animation.

DreamGrafix sequences frames in order by number. The proper format of the filename is **<filename>.000**. The following frames should retain the same filename, but the number at the end of the name should be incremented. It is best to begin numbering by 10's, which makes inserting frames into the animation easier. DreamGrafix will quit, when there is no file with the next higher number. The Compress command supports loading in all of the filetypes that the Open... command supports.

## The Special Menu

<b>Special</b>	
<b>Hide Menu Bar</b>	⌘M
<b>Toggle Tools</b>	⌘W
<b>Fix Tool Palette</b>	⌘F
<b>Toggle Fat Window</b>	⌘,
<b>Free Spare Page</b>	
<b>Show Page</b>	⌘D
<b>Show Spare Page</b>	
<b>Copy to Spare</b>	
<b>Swap Pages</b>	
<b>Copy Palettes</b>	
<b>Swap Palettes</b>	
<b>Copy SCBs</b>	
<b>Swap SCBs</b>	

This section describes the commands on the Special Menu. The Special Menu contains commands that change the configuration of the screen, and commands associated with the spare page. The spare page allows the user to have an additional screen for work space.

### **Hide Menu Bar** -M

Makes the menu bar at the top of the screen disappear, thus creating a larger edit window to work with. To make the menu bar reappear, press the open apple M keys. The keyboard equivalents work, even when the menu bar is off. Hide Menu bar does not work in SBC 3200 color mode.

### **Toggle Tools** -W

Toggles the command bar at the bottom of the screen on and off. Toggling the command bar off will allow the user to utilize more of the edit window. The commands on the command bar can still be accessed through the keyboard equivalents, while the bar is off. Toggle Tools does not work while in SBC 3200 color mode.

Pressing the spacebar is another way to toggle both the tools and menu bar on or off. Spacebar works in all modes, except SBC 3200 Color mode.

### **Fix Tool Palette** -F

Toggles between the colors on the command bar and the true colors on the screen. This command only works in 256 color mode.

DreamGrafix uses the colors on palette 15 for the command bar. This allows the DreamGrafix command bar to remain the same colors, while editing pictures. In 256 color mode, though, a user may wish to use palette 15. This is no problem, because with Fix Tool Palette, the user can switch between the actual colors on the picture and the command bar colors.

### **Toggle Fat Window**                      -,

Toggles the fat window on and off. The fat window is the actual size display window in fatbits mode. Turning the fat window off will give the user a larger edit window to work with, while in fatbits.

### **Create Spare Page/ Free Spare Page**

This menu command changes depending on the spare page. The spare page is an auxiliary page, which gives the user another page to use for cutting and pasting to.

If the Create Spare Page command is displayed, this means that currently there is no spare page initialized. By selecting Create Spare Page, memory will be allocated, and the current picture will be copied to the spare page. The spare page only needs to be created once.

If Free Spare Page is displayed, this means that a spare page has already been created. By selecting this command, the memory used by the spare will be freed.

The spare page was changed to accommodate low memory users. DreamGrafix now allows the user to free the memory used by the spare page, which may make a difference in borderline memory situations.

### **Show Page**                                      -D

Displays the whole picture in the edit window on the screen and waits for a key press or a mouse click. Show Page will display the picture in full 640 mode, 16, 256, and 3200 color mode. Show Page is different from pressing the spacebar, because Show Page does not allow for editing.

### **Show Spare Page**

Show Spare Page is exactly the same as Show Page, except it will display the spare page instead. After a key press or mouse click, DreamGrafix will

return to the original page.

DreamGrafix does not know or care what graphic mode the spare page is in, therefore, DreamGrafix will display the spare page in whatever mode the main page is in. Thus, if a 640 mode picture is in the spare page and a 3200 color picture is in the edit window, displaying the spare page will display the 640 mode picture as a 3200; or, in other words, with the wrong colors. There will not be a problem with this, as long as the two pictures in memory use the same graphic mode.

### **Copy to Spare**

Copies the main page to the spare page. Copy to Spare copies all graphic, SCB and palette data

### **Swap Pages**

Exchanges the main page with the spare page. Swap Pages will swap all graphic, SCB and palette data.

### **Copy Palettes**

Copies the palette data from the main page to the spare page. Copy Palettes copies both 256 and 3200 color palettes to the spare page.

### **Swap Palettes**

Swaps the palettes between the main page and the spare page. Swap Palettes will exchange both 256 and 3200 color palettes.

### **Copy SCBs**

Copies the SCB's from the main page to the spare page. This is only useful in 256 color mode.

### **Swap SCBs**

Swaps the SCB's between the main page and the spare page. This is only useful in 256 color mode.

Chapter 4:

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## The Edit Window

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## The Edit Window

This section describes the edit window. The edit window fills the majority of the screen and is located between the menu bar and the command bar. The DreamGrafix drawing tools are active within the edit window, which is where all of the drawing takes place. The edit window is where the current picture resides. Opening a picture will load the picture into the edit window, and saving a picture will save the picture in the edit window. When DreamGrafix is first loaded, the edit window is completely white. There are some features of the edit window that are specific to the 256 and 3200 color modes. These features are described below.

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### Window Features

The following features are available in all of the graphic modes. When the mouse moves around the edit window, the coordinates in the lower right hand side of the command bar follow the cursor around. The coordinates are the X (horizontal) and Y (vertical) positions in the edit window.

The mouse cursor changes depending on what section of the screen the mouse cursor is in. While in the edit window, the mouse cursors changes depending on the command. The cursor could appear as a pencil, a hand, or a crosshair. While the mouse cursor is on the menu bar or command bar, the mouse cursor switches back to the regular pointer.

Holding down open apple and <option> keys while clicking on the mouse button in the edit window will jump to fatbits at that location. Clicking again while in fatbits, with those keys depressed, exits fatbits.

### 256 and SBC 3200 Color Mode Features

In the 256 and SBC 3200 color modes the palettes follow the cursor around the screen. This will be described in depth below.

### 3200 Color Mode Features

In 3200 color mode the palettes follow the cursor. Another feature of DreamGrafix unique to the 3200 color mode is the true color bar that follows the cursor. In 3200 color mode, the screen is in greyscale, so the true color bar represents the true colors in the pictures.

The true color bar consists of fourteen lines of color. These 14 lines represent the actual colors from the picture, and the area inside of the bar will appear as it would in full color. The true color bar follows the cursor



when it is in the edit window, and when using the tools to draw. The bar gives the user a view of the surrounding area and the area being drawn in. 3200 color mode is quicker, because it does not maintain full screen color, like SBC 3200. The true color bar is also active in fatbits. Pressing the <capslock> key will stop the bar at that location. The <capslock> key will also stop the palettes from following. See below for more details.

### **Palette Following**

In the multiple palette modes, the palettes can change from line to line. This makes keeping track of the colors on every palette nearly impossible. DreamGrafix incorporates a feature which is very useful when drawing. While the cursor is in the edit window, the palette corresponding to the current line is displayed on the color selection bar. This means that while drawing, the current palette is always visible on the screen. This allows the user to see the true colors on the current line, and select from them using keyboard equivalents. Palette following works in both 256 and 3200 color modes.

The <capslock> key must be released, for palette following to be active.

### **Locking Palettes**

Sometimes it is necessary to stop the palettes from following. With DreamGrafix, this can be done at the touch of a key. By pressing <capslock> key down and leaving it down, the palettes will be frozen at the current line. Remember to release the <capslock> key when finished, or the color selection bar may not refresh properly.

Locking palettes is useful for color selection. For example, if the color red only appears on the top half of the screen and it needs to be selected, move the mouse cursor to the area with the desired shade of red, press the <capslock> key down, and move the cursor down to the command bar and select the color by clicking on the color. Then move the cursor back to the area to be drawn in and release the <capslock> key. Sometimes it is helpful to remember the Y position where the red appeared. In 3200 color mode, the palette number and the Y position are equal, so the Y position does not have to be remembered.

The same action can be achieved without locking the palettes, by using the keyboard equivalents. When on the line with the desired color, select the color desired with the top row of the keyboard.

Chapter 5:

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## The Command Bar

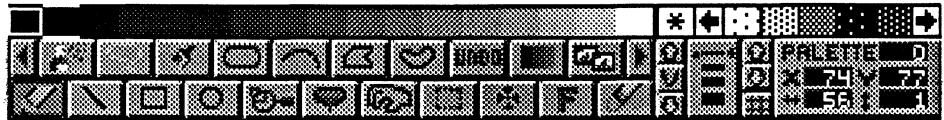
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## The Command Bar

This section describes the DreamGrafix command bar. The command bar resides at the bottom of the screen and it contains the drawing tools of DreamGrafix.

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*The DreamGrafix Command Bar*



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## Selecting Colors

The color selection bar consists of 17 squares, and is separated from the patterns by a line. The leftmost box contains the current color information, and the remaining 16 boxes are used to select colors.

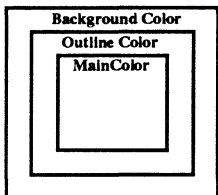
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*The Color Selection Bar*



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*Current Color Box*



The current color box consists of three parts. The outermost ring, which is one pixel wide, represents the background color. The next ring inside, which is also one pixel wide, represents the outline color or pattern. The remainder of the box represents the main color or pattern. The default colors are white for the background color and black for both the outline and main colors. To get an enlarged view of the current color box, point the mouse cursor at it and depress the button. The box will remain on the screen, as long as the button is depressed. An alternate method of viewing the box is by pressing the <esc> key on the keyboard. As with the mouse button, the box will stay out as long as the <esc> key is depressed.

The next sixteen blocks of color are used to select the color on the palette. To select a color, point the mouse cursor at the color and click the button. To choose among the main color, outline color or background color, a key may have to be depressed, while clicking on the color.

- |                  |                                 |
|------------------|---------------------------------|
| Main color       | - No key needed.                |
| Outline Color    | - Hold down the open-apple key. |
| Background Color | - Hold down the <option> key.   |

Again, the key must be held down, while clicking on the color. The Pencil, for instance, uses the main color, while the Eraser uses the background

color.

The white lines above and below a color on the bar represent the main color. Note: If a pattern is selected, the color highlighted will remain highlighted, even though it is not the main color.

There are keyboard equivalents to select colors. The top row of keys on the standard keyboard are mapped to the sixteen colors. The **1** key corresponds to color 0, **2** to color 1, **3** to color 2, and so on. The <delete> key maps to color 12 and the keyboard equivalents continue on to the number pad. Skip the <clear> key, which is mapped to the Clear menu command and continue on to the =, /, and \*. These three keys correspond to colors 13, 14, and 15. By using any of these keys, the main color can be set. There is no way to set the outline color or the background color from the keyboard.

Double clicking on any of the colors enters the Color Editor. For more information, see *The Color Editor* in Chapter 8: Auxiliary Editors.

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## Selecting Patterns

The patterns are located to the right of the color selection bar. The first pattern box has a "\*" in it, which represents the see through color.

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*The Pattern Bar*



The "\*" can only be chosen as the main color. When selected, this tool will not draw anything where the main color would appear. This only affects tools that use the main color. For example, choosing the "\*" for the main color and black for the outline color will draw just the black frame when drawing with the oval tool.

The rest of the pattern selection bar consists of two arrows and five patterns. The arrows scroll the patterns left and right. To select a pattern, point the mouse cursor at the pattern and click the button. A pattern can be either the main color or the outline color. Choosing between the two is done in exactly the same manner as with colors. Hold down the open apple key and click on the pattern to select the outline pattern, or just click on the pattern to set the main pattern. The background color cannot be set to a pattern.

If a pattern or asterisk is selected, it appears in the current color box. Once again, to view a larger box, click on the current color box and depress the button, until finished viewing. For more information, see *Selecting Colors* above. There are no keyboard equivalents to select patterns.

To enter the pattern editor, double click on the pattern to be edited. For more information, see *The Pattern Editor*, in Chapter 8: Auxiliary Editors.

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## Shifting the Screen

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### *The Screen Shifting Buttons*



The up and down arrows are used to control the position of the screen in the edit window, while the button with the "V" in it is used to view the screen.

The up arrow shifts the screen to the up position. The down arrow does the exact opposite. The up position shows the bottom section of the screen, while the down position shows the top section of the screen. Neither arrow has a function in fatbits.

The "V" button views the page. It displays the whole picture in the edit window on the screen, in full color. For more information, on the "V"iew button, see the section in Chapter 3: The DreamGrafix Menus, entitled *Show Page*.

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## Selecting Fatbit Sizes

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### *The Fatbit Selector*



The selector consists of four differently sized horizontal lines and a square to mark the current size. The fatbit size selector is on the left and the pen size selector is on the right side. The fatbit size selector changes the magnification, while the pen size selector changes the pen size.

To select a fatbit size, fatbits should be enabled. To enter fatbits, depress the magnifying glass on the command bar. Each of the differently sized lines represents a different magnification of fatbits. The different sizes are listed below.

- |             |                                      |
|-------------|--------------------------------------|
| First line  | - x 2 magnification. No grid.        |
| Second line | - x 4 magnification. Grid available. |
| Third line  | - x 6 magnification. Grid available. |
| Fourth line | - x 8 magnification. Grid available. |

To change the fatbits size, simply click on the left side of the line representing the size desired. The indicator box will change positions, and the edit window will be updated as well. The grid select button is described below.

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## Selecting Pen Sizes

The pen size selector is to the right of the fatbit size selector. It is built into the right side of the horizontal lines, and uses a triangle to show the current pen size selected. The pen size selector controls the line thickness.

To select a pen size, point the mouse cursor at the desired size, and click the

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### The Pen Size Selector



button. The triangular pointer points at the current line selected. Each line on the pen size selector represents a different line thickness. The different sizes are listed below.

- First line - 1 x 1 pen size.
- Second line - 2 x 2 pen size.
- Third line - 3 x 3 pen size.
- Fourth line - 4 x 4 pen size.

The pen size is used by most of the tools. Check each individual command for more details.

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## Changing Palettes

DreamGrafix allows the user to view any of the palettes in the picture on the command bar. The current palette's colors are displayed on the color selection bar. This is useful when viewing palettes in order to determine what colors are available.

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### The Palette Selection Arrows



The up arrow increases the palette number, while the down arrow decreases it. If the colors in the palette change, then so will the colors on the color selection bar.

While in 16 color or 640 mode, there can be only one palette, so the palette display to the right will always read 0. In 256 color mode, the maximum palette number is 15, and in 3200 color mode the maximum palette number is 199.

Note: To insure that this command works, make sure that the <capslock> key is up, and that the mouse cursor is on the command bar, while viewing the different palettes. This is explained in *Locking Palettes* in Chapter 4: The Edit Window.

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## Selecting the Grid

The grid button controls the grid settings and the Mini-Color Editor. The grid is only visible while in fatbits, and the button toggles between three settings: no grid, black grid, and white grid. The color of the grid may vary.

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### The Grid Select Button



The grid is a set of horizontal and vertical black (color 0) or white (color 1) lines that separate the fatbit pixels. Again, the grid cannot be turned on while using the smallest magnification of fatbits. The grid helps users visualize individual pixels.

---

## Entering the Mini-Color Editor

The grid button is also used to toggle the Mini-Color Editor on and off. The Mini-Color Editor appears on the command bar in place of the shift screen

commands, the fatbit size selector, and the pen size selector. The Mini-Color Editor allows the editing of the red, green, and blue components of the main color on the current palette.

There are two ways to enter the Mini-Color Editor. Pressing the open apple key while clicking on the grid button or by double clicking on the grid button both enter the Mini-Color Editor. The Mini-Color Editor is explained in detail later in this chapter.

## Keyboard Equates

### The Numeric Keypad

<C>	=	/	*	
7	8	9	+	
4	5	6	-	
1	2	3		} <enter> key
0	.	/		

All of the commands in the lower right side of the command bar have keyboard equivalents. Compare the layout of the numeric keypad to the lower right section of the command bar. Each vertical section of the command bar corresponds to a vertical section of the keypad. The keyboard equivalents are logically assigned to the numeric keypad, and are as follows:

The shift screen up, view, and the shift screen down buttons correspond to the 7, 4, 1 column of the numeric keypad.

The fatbit size selector corresponds to the 8, 5, 2, 0 column, and the pensize selector corresponds to the 9, 6, 3, . column. These two columns of the numeric keypad change fatbits magnification and the current pensize. Each number corresponds to a different size.

The last column of the numeric keypad corresponds to the increment and decrement palette buttons and the grid select button. The + and - represent the increase and decrease palette buttons, respectively. These keys only work when the <capslock> key is depressed, or when the mouse cursor is on the command bar.

The <enter> key is equivalent to the grid select button. By holding down the open apple key and pressing the <enter> key, the user can enter the Mini-Color Editor.

**Note:** As previously mentioned, the top row of the numeric keypad is mapped to the Clear menu command and colors 13-15.

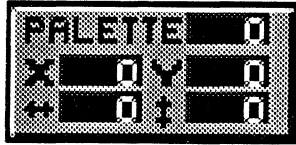
## The Information Box

The information box contains information about the current palette and the current X and Y coordinates on the screen. There is nothing to press or select in this area, since it is for informational purposes only.

The first line of the information box displays the palette number DreamGrafix

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### The Information Box



is currently on. The palette number is updated automatically while the mouse cursor is in the edit window, or it can be adjusted with the palette control buttons while the mouse cursor is on the command bar. The palette number and the colors in the color selection bar correspond to the colors in the picture at that particular palette. In 16 color mode or 640 mode, the palette number is fixed at 0. In 256 color mode, the maximum palette number is 15, while in 3200 color mode the maximum palette number is 199. In the 256 and 3200 color modes, the palettes follow the cursor as it moves around the edit window, and as it moves, the palette number will be updated.

The second line of the information box displays the X and Y coordinates in the edit window. The horizontal value (X) and vertical value (Y) are measured in number of pixels. The upper left corner of the screen is the position at which X = 0 and Y = 0. When the mouse cursor moves to the right of the screen, the X value gets larger, and as the mouse cursor moves to the bottom of the screen, the Y value gets larger.

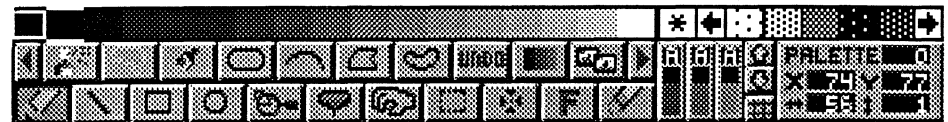
The third line of the information box, shows the local X and Y coordinates in the edit window. The horizontal value (<->) and the vertical value (^) are calculated with respect to the initial point at which the mouse button was depressed. The local X and Y are only updated while using certain drawing tools. For instance, the Rectangle tool requires the user to depress the mouse button at the first point of the rectangle, and to move the mouse to the second point and release the button. When the button is released, the rectangle will be drawn through the two points. At the initial mouse button press, the normal X and Y coordinates lock at that position, and only the local values change. If the mouse cursor is not moved from the initial location, the local coordinates will read <->=0, and ^=0. As the rectangle gets larger, so will the values. The local coordinates are absolute values, so the coordinates will always appear as positive numbers.

The information box values are only updated while the mouse cursor is in the edit window.

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### The Mini-Color Editor

*The Command Bar with the Mini-Color Editor active.*



To enter the Mini-Color Editor see *Entering the Mini-Color Editor* above.



The Mini-Color Editor (MCE) replaces some of the other buttons on the command bar, but those buttons are still accessible by the keyboard equivalents.

The MCE edits the main color on the palette selected. To select the main color, see *Selecting Colors*, above, and for more information about selecting palettes, see *Changing Palettes*, also above. The color to be edited appears in the color bar and has white lines above and below it. The current palette colors will be displayed on the color bar, and the palette number will be displayed in the information box beside the word **Palette**.

The MCE consists of three bars and three numeric displays. Each bar represents one of the three color components, red, green, or blue. The numbers above the bar displays the value of the component. In all of the modes, except the 3200 color mode, each of the component bars appears in the color the bar represents, red, green and blue. Due to the limited space, the numeric display uses an alternate numbering system, called hexadecimal. Hexadecimal is base 16 as opposed to decimal which is base 10. The numbers 0 - 9 are the same in both system, but the numbers 10 - 15 are different. The differences are listed below.

Decimal		Hexadecimal
10	=	A
11	=	B
12	=	C
13	=	D
14	=	E
15	=	F

The number of the component is used for duplicating colors. If one wants to duplicate a color, one should take note of the value of the color, and set the new color to the same values. To be consistent, the same numbering scheme is used in the Color Editor and the 3200 Color Mini-Editor.

As the mouse cursor is moved around the MCE, the cursor changes colors and shape. As mentioned previously, in 3200 color the command bar is in greyscale, and thus the colors will not appear to change. When the cursor is an up arrow, clicking the mouse button increases the level of the component by one, and if the cursor is a down arrow, clicking the mouse button decreases the level of the component by one. To tell which component is being edited, look at the color of the cursor, since it changes from red to green to blue depending on the component being edited. The color changing cursor makes it easier to determine which component is

being edited. The current color is displayed on the color selection bar in true color.

The MCE is great for editing 3200 color pictures in fatbits, because the colors of a pixel can be changed without leaving the main screen. Another useful feature of DreamGrafix is its the ability to lock the palette on the current line. For full details, see *Locking Palettes* in Chapter 3: The Edit Window. By pressing the <capslock> key down, DreamGrafix will lock the current palette. For example, if the color is on a line in the middle of the screen, then pressing down the <capslock> key down allows the mouse to be moved, without changing the current palette. Now, the user can see the exact colors on the line and edit any of them in true color. Remember, to re-enable the palette following features of DreamGrafix, the the <capslock> key must be let up.

Note: There is no way to undo changes made with the MCE. An easy way to undo a change made is to remember or record the beginning color component values. Thus, it will be easy to change the color back, if the results are unsatisfactory.

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## The Tools

The command bar contains two rows of buttons. The bottom row is fixed and cannot be moved, while the top row can be shifted left and right by the corresponding arrow buttons. The top row slides to allow for extra externals commands to be added to the bar.

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*The Tool Bar*



The left arrow slides the top row of buttons to the left, while the right arrow slides the top row of buttons to the right. The tools are activated by pointing the mouse cursor at the tool button and clicking the mouse button. There are several features that are built into each button on the bar. They are listed below.

Pressing the open apple key and clicking on a button command gives the user online help for the particular command. After clicking on the button, the bottom row of buttons will disappear, and the online help will scroll by. To change speeds, press the spacebar to toggle between the fast and slow speeds. To exit this help option, press the mouse button or press any other

key.

Some buttons are pop-up buttons. This means that after clicking on the button, it will pop back up, and the button previously selected will become selected again. The Undo button works in this manner. Other buttons must be double clicked on in order to activate the command. This is to prevent users from accidentally activating the command. The intensity sort button works this way. And yet, other buttons have options that can be set by double clicking on the button. The Round Rectangle tool allows the user to set the roundness of the corners by double clicking on the button. Each individual button description describes how to use the tool.

Pressing the <shift> key while clicking on a button allows the button to be dragged to another position. This exchanges the two buttons' positions on the tool bar. The buttons can be in any position on the bar. The most used buttons should be placed on the bottom bar, because then those buttons cannot be scrolled off the command bar.

## Pencil



Allows the user to draw freehand lines in the edit window. The pencil uses the main color as its drawing color, and only draws in one pixel wide lines.

To use the pencil, move the mouse to edit window, and depress the mouse button. The pencil draws wherever the mouse is moved, while the button remains depressed.

DreamGrafix utilizes a "smart" pencil. This means that the pencil can both draw and erase pixels. This makes drawing with the pencil easier, because if a minor mistake is made, it can be erased by clicking on the unwanted pixel.

For example, clicking on a red pixel previously drawn in the current session with a red pencil will erase that pixel. Also, the pencil will remain in erase mode. Erase mode will erase all pixels drawn in the current session, until the button is released. Assuming the same conditions, except the red pixel was drawn before the current session, will put the pencil in copy mode. Copy mode draws the pencil color or pattern wherever the pencil moves. If the pencil color is different from the screen color, then the pencil will be in copy mode.

A session begins when the pencil button is depressed, and ends when another button is pressed, or when the Undo command is activated.

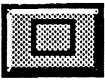
## Line



Draws lines in the edit window using the main color or pattern and using the current pen size.

To use the line tool, move the mouse cursor into the edit window to the first point, and depress the mouse button. While the button is depressed, move the mouse cursor to the second point and release the button.

## Rectangle



Draws rectangles in the edit window using the outline color, main color, and the current pen size.

To use the rectangle, oval, or round rectangle tools, move the mouse into the edit window to the first point of the rectangle, and depress the mouse button. While the mouse button is depressed, move the mouse cursor to the second point and release the mouse button.

The box, oval and round rectangle tools use the outline color or pattern for the frame of the box. The frame is also drawn in the current pen size. The inside of the box is drawn in the main color or pattern.

To draw just the frame of the box in the outline color and pensize, select the "\*" on the pattern bar.

Pressing the <shift> key while drawing boxes, ovals, or round rectangles will invoke the square ratios. The square ratios make the shape drawn appear more square or circular on the screen.

## Oval



The Oval tool functions exactly like the rectangle tool, except it draws ovals instead of rectangles.

## Magnifying Glass



Toggles fatbits on and off. Fatbits magnifies a section of the screen. The fatbits options include four levels of magnification, and grid settings. See *Selecting Fatbit Sizes* and *Selecting the Grid*, above, for more information on the fatbits options. A quick way to enter fatbits is to hold down the open apple and <option> keys while clicking in the edit window.

While in fatbits, the arrow keys will shift the picture in that direction. Thus, the down arrow will shift the screen down, until the edge of the screen is encountered. Also, pressing the <tab> key will toggle between the current tool and the Hand tool. See the *Hand*, below.

### Fill



Flood fills in an enclosed area with a color or pattern. All pixels with the same value will be filled in. In 16 color and 640 mode, all pixels filled will appear the same color. In the 256 and 3200 color modes the pixels may change colors.

To use the fill tool, select a color or pattern to be filled with, and click on the point to begin filling at.

Fill works in conjunction with Slippery Colors. For more information, see *Slippery Colors* in Chapter 9: Other Dialogs.

### Hand



Shifts the section of the screen being viewed while in fatbits.

To use the hand tool, fatbits must be enabled. See the *Magnifying Glass*, above. After fatbits is enabled, move the mouse cursor into the edit window, and depress the mouse button to "grab" the picture. While the button is depressed, the picture in the edit window will move in the same direction as the mouse. Releasing the mouse button will "drop" the picture at that location.

A short cut while using the hand is the <tab> key. While on any tool, besides the hand, pressing the <tab> key will toggle between the current tool and the hand. For example, assume the pencil is being used to draw in fatbits, and the edge of the edit window is encountered. Pressing the <tab> key changes the pencil into the hand, and then the picture can be moved around, Pressing the <tab> key again changes the hand back to a pencil.

### Rectangular Marquee



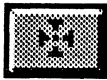
Allows the user to define a rectangular area, which becomes the selected area. The Rectangular Marquee and Lasso are the only tools that allow the user to define a selected area. Selected areas become important when

dealing with custom brushes and the menu commands that manipulate custom brushes and selected areas.

The Rectangular Marquee functions exactly like the Rectangle tool. First, move the mouse cursor to the first point of the rectangle and depress the mouse button. Then move the mouse cursor to the second point and release the mouse button. This action will select the area.

For more information, see *The Selected Area* at the end of the chapter.

### Color Finder



While in the edit window, the Color Finder determines what color is underneath the cursor. Depressing the mouse button while the mouse cursor is on a color on the color selection bar will flicker the areas in the picture where the color clicked on appears.

To use the Color Finder in the edit window, position the mouse cursor over the pixel in question, and depress the mouse button. While the mouse button is depressed, DreamGrafix will highlight the color of the pixel in the color selection bar. While the mouse button is depressed, the mouse can be moved anywhere in the window, and DreamGrafix will display the color of the pixel. The <capslock> must be released in order to have the Color Finder display the true colors of the pixel.

The pixel in question is displayed in the center of the Color Finder cursor.

**Note:** The command bar must be on the screen for the Color Finder to highlight the colors.

To use the Color Finder with the command bar, move the mouse cursor over the color to be searched for and press the button. This will flicker the areas in the edit window where the color is used. This option works a little differently in each of the modes.

In 16 color and 640 mode, the color selected by the user will be flickered over the whole edit window.

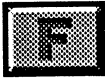
In 256 color mode, the color selected by the user will be flickered over the areas on the same palette as the palette number displayed in the information box. Use the palette up and down buttons to change the current palette. For example, if the palette is set to one, and the mouse cursor is on red when the button is depressed, it will only flicker the color red in the areas of the

picture where the palette is set to one. For more information, see the *Palette Editor* in Chapter 8: Auxiliary Editors.

The 3200 color mode works like the 256 color mode, except the palette number corresponds to the line number. In 3200 color mode, the true color bar is moved to surround the line number, and the color selected will be flickered on a single line. For instance, if the palette number reads 34 and the color red is selected, then the true color bar will be centered around line 34, and the pixels colored red on line 34 will flicker.

The SBC 3200 mode Color Finder works like 16 color mode Color Finder. The SBC Color Finder uses a true color search. This means that the Color Finder will search the whole screen for areas of the same color. For example, if a shade of red is clicked on, DreamGrafix will flicker all of the pixels using the same shade of red that appear in the edit window. The palette number itself does not matter, but different palettes will contain different colors used throughout the picture.

## Font



Allows the user to type text onto the picture in the edit window. The Font tool gives users access to the various fonts, type styles and colors.

To use the Font, move the mouse cursor to the starting location of the text, and click the mouse button. Clicking the mouse button will put DreamGrafix in text-entry mode.

While in text-entry mode, typing on the keyboard will display the letters in the current font type, style, size and outline color at the location of the flashing cursor. Clicking anywhere else in the edit window will make the cursor jump to that location and leave DreamGrafix in text-entry mode.

While in text-entry mode, DreamGrafix allows the user to position the cursor anywhere on the picture. The keys active while in text-entry mode are listed below.

- <Esc> - exits out of text entry mode.
- Left Arrow - moves the cursor one pixel to the left. The cursor cannot be moved any further left than the initial X location.
- Right Arrow - moves the cursor one pixel to the right.
- Down Arrow - moves the cursor one pixel towards the bottom of the screen.

- Up Arrow - moves the cursor one pixel towards the top of the screen.
- <Return> - moves the cursor down one full line, and reset the X location to the initial X location.
- <Delete> - deletes the last character, direction key, or <return> key. If the last thing typed was a character, <delete> will remove the last character typed. Otherwise, <delete> will delete all of the direction or <return> keys, until a letter is encountered.

DreamGrafix gives the user full cursor control while typing, which is very useful when positioning text. The <delete> key is powerful, because DreamGrafix records all of the cursor movements and the characters typed, so no matter what has been typed or where the cursor has been moved, DreamGrafix will still be able to delete it.

If the Control Panel NDA is set properly, pressing the <option> key and a letter will print the extended characters of a font, such as <sup>TM</sup>, or †, while in text-entry mode. For more information, see *The Control Panel* in Chapter 6: Standard Dialogs.

Double clicking on the Font button will display the standard Choose Font dialog. For more information, see *Choosing Fonts* in Chapter 6: Standard Dialogs.

Note: Changing the font attributes or the outline color, while in text-entry mode will change all of the characters typed to the new font and color.

### Eraser



Allows users to erase portions of the picture in the edit window. The eraser uses the background color, and erases an area approximately equivalent to the size of the cursor.

To use the Eraser, move the mouse cursor over the area to be erased. Depress the button to begin erasing. While the mouse button is down, moving the mouse will erase the area underneath the mouse cursor.

Double clicking on the Eraser button will erase the picture to the background color. However, this is not the equivalent of the New menu command. Double clicking only erases the pixel data, leaving palettes, SCB's, and patterns intact.



## Airbrush



Sprays random drops of color in the edit window, using the main color or pattern.

To use the Airbrush, move the mouse cursor into the edit window, and depress the mouse button. While the mouse button is depressed, the Airbrush will spray drops of color.

The Airbrush has several options, which can be accessed by double clicking on the Airbrush button. For more information, see *Airbrush Options* in Chapter 9: Other Dialogs.

## Lasso



Allows users to define an area of any shape, which will become the selected area. The Rectangular Marquee and Lasso are the only tools that allow the user to define a selected area. Selected areas become important when dealing with custom brushes and the menu commands that manipulate custom brushes and selected areas.

The Lasso differs from the Rectangular Marquee, because it allows the selected area to be of any shape, and because it ignores all areas that use the background color. For instance, if the letter A is drawn in black on a white background and the color white is selected as the background color. If the Lasso is used to draw around the A, all of the white area will be ignored, so the selected area will consist only be the areas that are in black, or simply the letter A. It does not matter what size or shape the initial area drawn is, because DreamGrafix will automatically remove the areas that are white. This feature is important, because it makes all of the white areas see through, which means if the A is moved over a picture, the areas inside of the A will appear as the picture. This feature makes overlaying text in a picture very easy.

To use the Lasso, move the mouse cursor into the edit window. Then depress the mouse button, and encircle the area to be selected with the mouse cursor. When finished, release the mouse button, and DreamGrafix will close the area. DreamGrafix will then analyze the area and shrink the selected area down, ignoring the background color.

For more information see *The Selected Area*, below.

## Brush



The brush button performs several tasks. If an area has already been selected, pressing the brush button will make the selected area a custom brush. Pressing the brush button while an area is selected is the same as choosing the Use as a Brush menu command. For more information, see *Custom Brushes* at the end of the chapter.

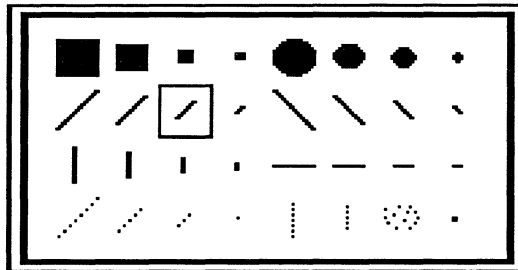
If an area or preset brush has not been selected, pressing the brush button will display the brush selection window, described below.

To use a preset or custom brush, move the mouse cursor into the edit window. Notice, that the current brush follows the cursor wherever it moves. While in the edit window, clicking the mouse button draws the brush at the current location. Holding down the button, will make the brush draw wherever the mouse cursor travels. Releasing the mouse button will stop the brush from drawing. The preset brush draws in the main color or pattern.

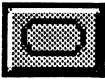
The brush defaults to scatter mode, which means the brush does not connect from point to point. To change the brush drawing mode to connect mode, select the Connect Brush menu command. For more information, see *Connect Brush* in Chapter 3: The DreamGrafix Menus.

Double clicking on the brush button will display the brush selection window. The brush selection window allows users to choose from 32 different preset brushes, or create their own. To select a brush, point the mouse cursor at the desired brush, and click the button. A preset brush may be edited by pressing the open apple key, while clicking on the brush to be edited. For more information, see *Edit Brush* in Chapter 8: Auxiliary Editors.

*The Brush Selection Window*



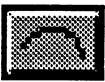
## Round Rectangle



The Round Rectangle tool functions exactly the same as the Rectangle tool, except it draws rectangles with rounded corners.

Double clicking on the Round Rectangle button displays a dialog, which allows users to edit the roundness of the rectangle's corners. For more information, see *Round Rectangle Options* in Chapter 9: Other Dialogs.

## Arc



Draws three point curves in the edit window using the outline color, the main color and the current pen size.

To use the arc tool, move the mouse cursor to the first point in the edit window. Depress the mouse button and move the mouse cursor to the second point. Release the button and move the mouse cursor to the final point. DreamGrafix will draw the curve between the the first two points and the mouse cursor and the curve will change as the mouse cursor is moved. Click the mouse button when finished, and DreamGrafix will draw the curve at that position.

The Arc tool uses the outline color or pattern for the frame of the arc, and the main color or pattern for the area inside of the frame. The frame is also drawn in the current pen size. To draw just the frame of the arc, select the "\*" as the main color.

Double clicking on the Arc button will display the Arc Options dialog. The Arc Options dialog allows the user to change the smoothness of the arc, and whether or not DreamGrafix should close the arc. For more information, see *Arc Options* in Chapter 9: Other Dialogs.

## Polygon

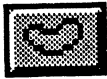


Draws objects with any number of straight edges in the edit window, using the outline color, the main color and the current pen size.

To use the polygon, move the mouse cursor to the first point in the edit window. Click the mouse button, and move the mouse cursor to the next point. Repeat the above step, until the desired shape is obtained. To close the polygon, click the mouse button in the same place twice, or move the mouse cursor to the beginning point and click the mouse button.

The Polygon tool uses the outline color or pattern for the frame of the polygon, and the main color or pattern for the area inside of the frame. The frame is also drawn in the current pen size. To draw just the frame of the polygon, select the "\*" as the main color.

### Freehand Shape



Draws objects of any shape in the edit window using the outline color, main color, and the current pen size.

To use the Freehand Shape tool, move the mouse cursor to the starting point in the edit window. Depress the mouse button, and draw the desired shape. When finished, release the button, and DreamGrafix will close the object.

The Freehand Shape tool uses the outline color or pattern for the frame of the shape, and the main color or pattern for the area inside of the frame. The frame is also drawn in the current pen size. To draw just the frame of the arc, select the "\*" as the main color.

### Undo



The Undo button functions exactly like the Undo menu command. For more information, see *Undo* in Chapter 3: The DreamGrafix Menus.

### Intensity Sort



Sorts all of the colors in a picture by intensity or brightness. The Intensity Sort command only changes the order of the colors, because it remaps the pixel data accordingly.

To use the Intensity Sort command double click on the Intensity Sort button and DreamGrafix will do the rest.

The Intensity Sort command organizes a picture's colors and pixel data, which makes it useful in 3200 color mode. In 3200 color mode, most of the picture is in greyscale and a greyscale 3200 color picture will look bad if it has not been intensity sorted. A 3200 color picture in greyscale looks more like the true image when intensity sorted, because intensity sorting organizes the picture.

The Intensity Sort command is also useful when converting a 16 color picture to greyscale. To convert a 16 color picture to greyscale, intensity

sort the picture and go to the color editor and set up greyscale palette. For more information, see *The Color Editor* in Chapter 8: Auxiliary Editors.

Note: DreamGrafix will not undo this command. Also, the Intensity Sort command is disabled while in 640 mode.

### Swap Pages



Exchanges the main page with the spare page. The Swap Pages button command acts exactly like the Swap Pages menu command. Swap Pages will swap all graphic, SCB and palette data.

To use the Swap Pages command press the Swap Pages button. Pushing the button again will swap the pages back.

Note: This command will have no effect if the spare page has not been created. For more information, see *Create Spare Page/ Free Spare Page* in Chapter 3: The DreamGrafix Menus.

### Edit Colors



Enters the Color Editor. This button command acts exactly the same as the Edit Colors menu command. The Edit Colors button command is an alternate way of entering the Color Editor.

To use the Edit Colors button command press the Edit Colors button and DreamGrafix will enter the Color Editor. For more information, see the *Color Editor* in Chapter 8: Auxiliary Editors.

### Set Palettes



Enters the Palette Editor. The Set Palettes button command acts exactly the same as the Set Palettes menu command. The button command is an alternate way of entering the Palette Editor. This button is only active while in the 256 color mode.

To use the Set Palettes button command press the Set Palettes button and DreamGrafix will enter the Palette Editor. For more information, see the *Palette Editor* in Chapter 8: Auxiliary Editors.

## Cycle Colors



Toggles color cycling on and off. The Cycle Colors button command acts exactly like the Cycle Colors menu command. The button command is an alternate way of toggling color cycling on and off.

To use the Cycle Colors button command press the Cycle Colors button and DreamGrafix will begin cycling colors. To stop colors from cycling press the Cycle Colors button again.

While the colors are cycling, all commands are active. For more information, see *Cycle Colors* in Chapter 3: The DreamGrafix Menus.

---

## The Selected Area

The selected area is easy to distinguish, because it has a rotating dotted line surrounding it, in the shape of the area. The selected area can be moved around, by depressing the mouse button, while the mouse cursor is in the selected area. This "picks" up the the selected area, and the selected area will move with the mouse cursor. Releasing the mouse button will "drop" the selected area at the current location. When the selected area is first moved, the background color will replace the area behind the selected area. Notice that the cursor changes when the mouse cursor is inside the selected area, which helps when trying to determine where the mouse cursor is. Selecting another tool, or clicking outside of the selected area will de-select the area.

---

## Custom Brushes

A custom brush is made by selecting an area with the Rectangular Marquee or the Lasso tools, and by either pressing the brush button on the command bar, or by selecting the Use as a Brush menu command.

A custom brush, similar to a preset brush, follows the mouse cursor around while in the edit window. Pressing the mouse button while in the edit window, will draw the brush at that location.

A custom brush can also be modified by the menu commands in the Brush Menu. While a custom brush is active, the Connect Brush, Paste Palettes, Fill, Invert, Flip Horizontal, Flip Vertical, Rotate, Halve, and Double commands are active. The resize command cannot be used while a custom brush is active.

Chapter 6:

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## Standard Dialogs

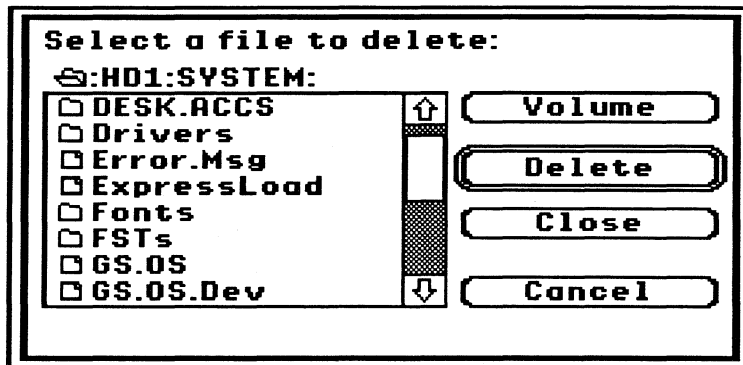
---

## Standard Dialogs

This section describes the standard and slightly modified dialogs, which are found in DreamGrafix. DreamGrafix uses many of the same dialogs that can be found in other desktop applications.

---

### Selecting Files



The above dialog represents the standard dialog used to select files in an Apple IIGS desktop application. This dialog and variations of it are used throughout DreamGrafix.

#### **Select a file to delete:**

Represents the title of the dialog. The title varies from dialog to dialog and is included to give the user an idea of the operation to be performed.

#### **↵:HD1:SYSTEM:**

Represents the name of the currently opened folder. Clicking on this line, will close the current folder. For instance, clicking on the name would close the "SYSTEM" folder, leaving "HD1" open. Clicking on this line or the Close button does exactly the same thing. See Close below.

#### **Volume**

When clicked on, DreamGrafix will display all of the different disk volumes on-line in the file display area. Any of the volumes may be double clicked upon, and the respective volume will be opened. For instance, double clicking on volume may display "HD1", "DreamGrafix" and "Ram5" in the file area. Clicking on any of the volumes opens that volume. The <tab> key can also be used to switch to the next volume.



**Delete**

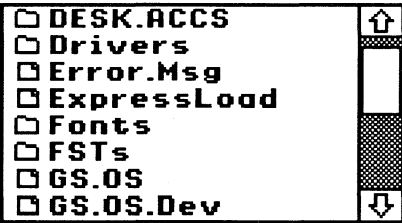
This button changes from dialog to dialog, depending on the operation to be performed. Usually, though, this button will say "Open" or "Save". Clicking on this button will select the file that is highlighted and perform the operation. In this case it would delete the selected file. If the highlighted file is a directory, then clicking on this button will open the directory. The double ring around the button means that pressing the <return> key also activates this button.

**Close**

Closes the top directory. In this case, the current directory is ":HD1:SYSTEM:" and clicking on the Close button will close the top directory, or the "SYSTEM" directory, leaving "HD1" opened. "HD1" is considered the root directory, because it is where all of the files and directories originate from. While at the root directory, clicking on the Close button will have the same effect as clicking on the Volume button. See Volume above. Pressing the <esc> key also activates this button.

**Cancel**

Cancels the current operation. Clicking on this button will exit the dialog, without changing anything. Pressing the open apple period also exits the dialog.



This is the file display area. The area on the left contains a list of the files in the current directory. The bar on the left is used to scroll through a list of files, if it is longer than the window. The list of files can be scrolled through in many ways. Clicking on the arrows scroll the list by one file in the respective direction. The white box between the arrows, or thumb control can be "picked" up by depressing the mouse button while the mouse cursor is on the control. While the mouse button is down, the thumb control can be moved to any position in the list and releasing the button will "drop" the thumb control. The list of files can be scrolled by pages, by clicking in

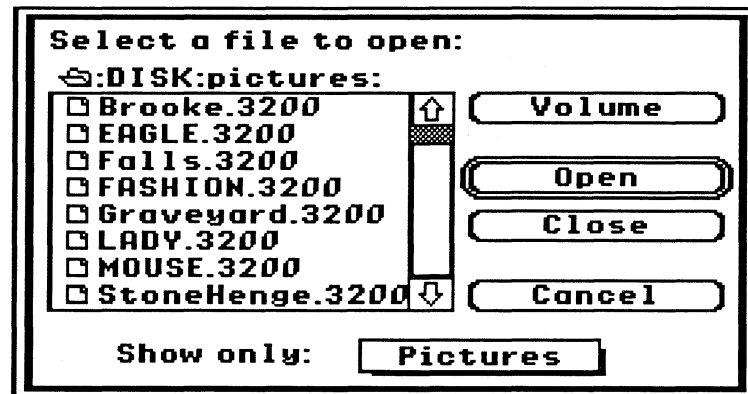
the area above or below the thumb control. A list can also be scrolled through by using the keyboard. Typing a letter will automatically jump to the first file that begins with the letter that was typed in. Note: The file list, usually, does not contain all of the files in the directory.

To the left of the file is an icon that lets the user know whether the file is a directory or a document. A directory is represented by an icon that looks like a folder, while a document is represented by an icon that looks like a piece of paper with the upper right corner bent over. A directory or subdirectory can be opened to list more files. A document is a file that can be opened, delete or saved over.

To select a file, go to the directory the file is in, using the Delete/ Open and Close buttons. To open a subdirectory, either double click on the subdirectory to be opened, or click on the subdirectory and then click on the Open button. Once the correct directory is found, select the file by double clicking on it or by clicking once on the file and clicking on the Open button.

---

## Opening Files



This section describes the open dialog of DreamGrafix. The open dialog allows users to select the file to be opened and acts exactly like the dialog described above. DreamGrafix will open pictures, brushes and palettes from this dialog. To select a file, see the section *Selecting Files* above.

---

*The Show only pop-up menu.*



**Show only:**

This item is called a pop-up menu. To operate a pop-up menu, press and hold down the mouse button while the mouse cursor is on the pop-up menu. A menu will appear like that shown on the left. To select an item, highlight

the desired item and release the button.

The Show only pop-up menu controls the DreamGrafix file filter. The file filter controls which files appears in the file display area. The pop-up menu has five options, Pictures, Palettes, Brushes, Binary, All and each is described below.

**Pictures** - Lists all files that DreamGrafix recognizes as a picture. DreamGrafix uses a file's filetype, auxiliary type and filelength to determine whether or not it is a picture. Note: the French 3200 color picture format (APP) will not appear while Pictures is selected, but will appear when Binary or All is selected.

**Palette** - Lists files in recognized palette formats. See Appendix A for more information about the palette filetypes that DreamGrafix supports.

**Brushes** - Lists files in recognized brush formats. See Appendix A for more information about the brush filetypes that DreamGrafix supports.

**Binary** - Lists all files with the BIN filetype and subdirectories. All APP 3200 color pictures have the filetype BIN, and will be shown when Binary is selected.

**All** - Lists all files in the directory, regardless of type.

The file filter is used to cut down on the number of files to choose from in the file display area. This is useful for finding files in long directories. The file filter does not remove files from the directory, it just does not display certain files.

After a file is selected, DreamGrafix will load in the file and determine if the file is a brush, palette, or picture and acts accordingly. If the file is not recognized DreamGrafix will display a dialog indicating the file was not recognized.

Brushes are automatically loaded into the edit window and placed at the location where it was saved. If the brush was originally selected with the rectangular marquee tool, the marquee button will depress, and the loaded brush will become the selected area. If the brush was originally selected with the lasso tool, the lasso button will depress, and the loaded brush will become the selected area. Loading in a brush does not affect the current picture in the edit window, but it will replace the current brush in memory.

Palettes are automatically loaded into the edit window and replaces the current palette in memory. DreamGrafix determines whether the palette is a 256 color palette or a 3200 color palette, and loads in the palette accordingly. Loading in a 256 or 3200 color palette while in the wrong mode will not do anything. Loading in a palette will replace the colors in the edit window with the colors of the palette loaded in.

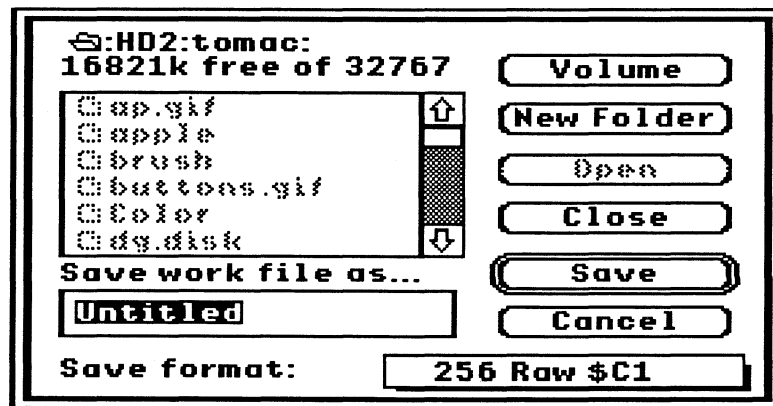
Pictures are loaded into the edit window and DreamGrafix will set the appropriate color mode and screen resolution.

When loading an Apple Preferred Format or a Paintworks Format picture, the screen may be larger than the DreamGrafix edit window. If the picture is larger than the edit window, the mouse cursor will change to a hand and allow the user to select the area to work on. To use the mouse, depress the mouse button, to "pick" up the picture, and move the mouse cursor the direction the screen is to be moved. Press the any key key to select the area.

DreamGrafix currently does not support pictures which are larger than one screen or 320 x 200 pixels.

---

## Saving Files



This section describes the save dialog of DreamGrafix. The save dialog allows users to choose a filename and a location for the file to be saved. The save dialog is very similar to the open dialog, with the exception of a few extra commands. This dialog is only used for saving pictures to disk.

### **New Folder**

Creates a new subdirectory. Clicking on this button creates a folder using the name in the edit line item, and then opens the folder.

**Save work file as...**

**Untitled**

This area allows users to enter or change the filename of the picture in memory to be saved to disk. The rectangle with the word "Untitled" is called an edit line item. Edit lines are described below in the section called *Edit Line Items*.

A filename must conform to certain standards, which are explained below in the section entitled *Valid Filenames*.

**Save format:**

**256 Row \$C1**

This is a pop-up menu similar to the one described in the open dialog. For more information on how to use a pop-up menu, see the section in *Opening Files* dealing with pop-up menus. This pop-up menu allows the user to select the format the picture will be saved in.

For a description of each of the different file formats, see Appendix A: File Formats.

To save a picture, choose the directory to save the file in, using the Open and Close buttons. Then enter a filename for the file, and choose a format for the picture. Then press the Save button, or hit the <return> key.

---

## Edit Line Items

This section describes how to use an edit line item. An edit line item is used to get information of any type from the user.

To use an edit line item, simply start typing. Typing letters will place the characters to the left of the blinking cursor. If a section of text is highlighted before typing, it will be replaced by the new text.

The <delete> key is used to delete the letter to the left of the cursor or the highlighted text. For instance, if the letters "nt" of the word "Untitled" are highlighted, pressing the <delete> key would delete the letters "nt". The <clear> key will also delete all of the text within the edit line.

To highlight a section of text, point the mouse cursor at the beginning of the text to be highlighted. Then depress the mouse button and move the mouse cursor over the letters to be highlighted, releasing the mouse button when finished.

The blinking cursor position can also be changed, by pointing the mouse cursor at the new location in the text and clicking the mouse button.

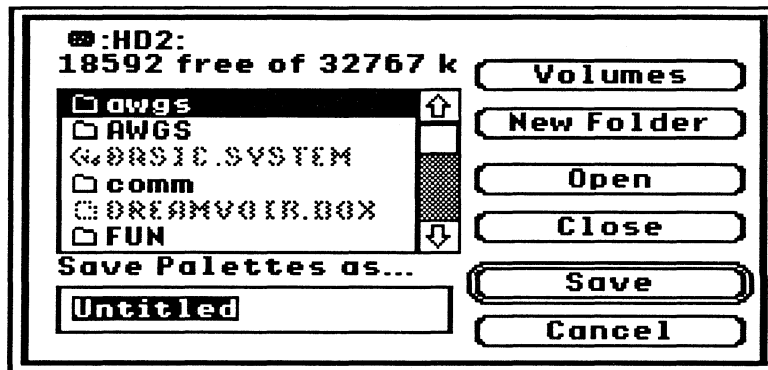
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## Valid Filenames

A valid ProDOS™ filename consists of letters and numbers. A filename must start with a letter and cannot have spaces within the name. Periods can be used instead of spaces. If an invalid filename is entered, a dialog will be displayed saying the filename is invalid.

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## Saving Palettes and Brushes



Saving palettes is done exactly the same way as saving brushes. When either of these options is selected, a save dialog similar to the Save As... dialog appears. This command saves either the current palette in memory or the current custom brush or selected area.

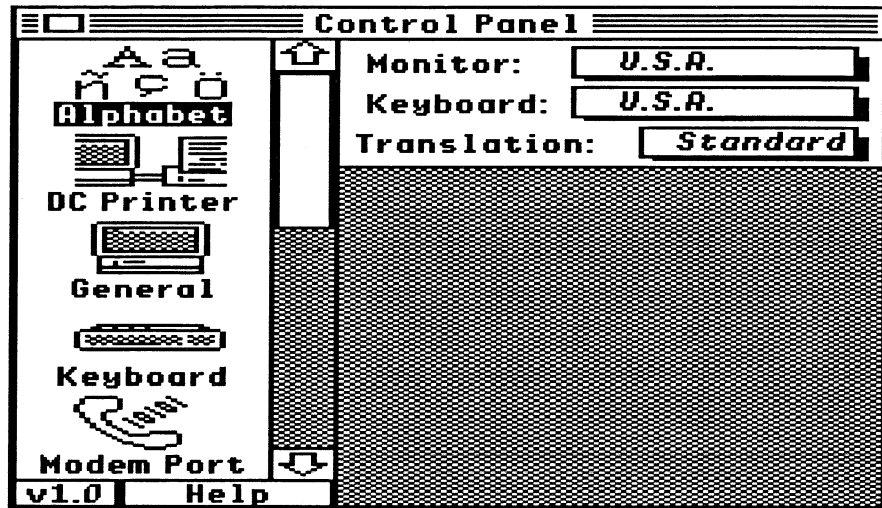
The only difference between the Save Palettes dialog and the Save Brush dialog is the title of the dialog. The Save Palette dialog says "Save Palettes as..." while the Save Brush dialog says "Save Brush as...". These two dialogs are exactly the same as the Save As... dialog, minus the pop-up menu.

To save a palette or brush, choose the directory to save the file in, using the Open and Close buttons. Then enter a filename for the file and click on the Save button, or press the <return> key.

For more information about using the dialog, see *Saving Files* and *Selecting Files* above.

---

## The Control Panel



This is the Control Panel NDA. It can be accessed by pulling down the Apple menu on the far left, and selecting it from the menu. The Control Panel NDA allows users to customize the computer's configuration. Only certain parts of the Control Panel NDA are described in this section. The Control Panel NDA is described more fully in the **Apple IIGS Owner's Reference**.

On the left side of the Control Panel NDA is a column of icons called Control Panel Devices or CDevs. Each icon represents a different CDev and each CDev controls different functions. The two CDevs important to DreamGrafix are the Alphabet and the Direct Connect CDevs.

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*The Alphabet CDev Icon*



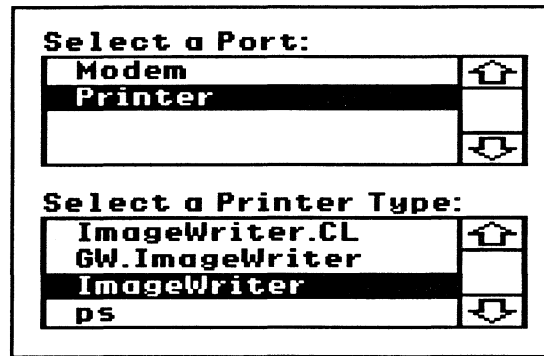
The Alphabet CDev, shown above, allows users to select the display language, the keyboard language layout and the <option> key translation. The Translation pop-up menu controls the function of the <option> key, which is important to the Font tool. While Translation is set to "Standard", pressing the <option> key while typing a letter will display the extended characters of a font. If Translation is set to "None", pressing the <option> key while typing will not display the extended characters, but rather it will be used by certain keyboard command sequences.

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*The Direct-Connect CDev Icon*



The Direct Connect CDev allows the user to set up information about the system's printer. The Direct Connect CDev is used when the printer is connected directly to the computer. The LaserWriter CDev, not described here, is used when the printer is connected to an AppleTalk™ network.



There are two parts to the Direct Connect CDev. First, a port must be selected. The top section lists possible ports or slots that the printer can be connected to. To select one, point the mouse cursor at it and click the button. Usually, the printer is connected to the printer port, so select **Printer**. The bottom section lists the printers available. In this case, the system's printer is an **ImageWriter**, so it is selected.

It is important to configure the Direct Connect CDev before selecting the Page Setup or Print command.

To put away the control panel, click in the box in the upper left corner of the Control Panel window.

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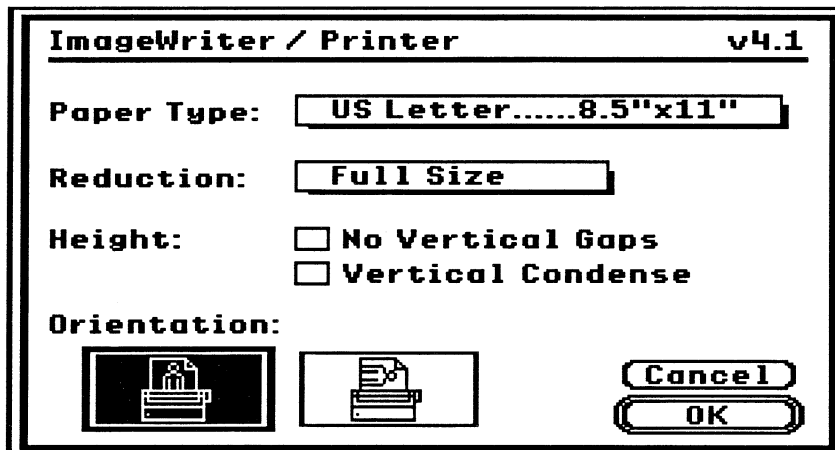
## Printing

Before printing, the printer must be selected and configured. To select the printer, see *Direct-Connect* in the section entitled *Control Panel*, above. The Page Setup command allows the user to set certain printing options and should be selected before the Print command. The Print command has a few more options that must be set before printing.

The Page Setup and the Print dialogs vary according to the printer that is selected in the DC Printer CDev. The ImageWriter II dialogs will be shown because it is probably the most commonly used printer on the Apple IIGS. Other printer drivers have similar options within the Page Setup and Print Dialogs.

The Page Setup dialog, shown below, allows users to select the size of the paper to be printed on, reduce the size of the image to print, change the orientation of the picture and edit the vertical size of the printout.





The Paper Type pop-up menu allows the user to change the size of the paper being used. The ImageWriter II supports a broad range of paper sizes, including envelopes, disk labels and European paper sizes.

The Reduction pop-up menu allows users to print the picture at half the normal size, which can make pictures look a little nicer.

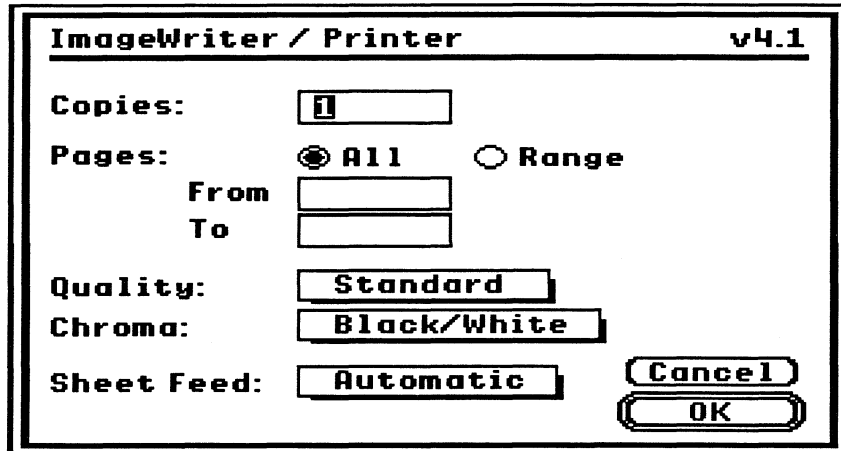
No Vertical Gaps turns the page margins on and off. Vertical Gaps are important, when the end of the page margin is reached or about the last inch of the paper. When Vertical Gaps are on, the printer will advance past the bottom and top margins to the next page and continue printing. When Vertical Gaps are off, the printer will continue printing in the margin, and across the page divider.

Vertical Condense shrinks down the picture vertically. Vertical Condense should be turned on when printing text, because it makes the printout look better. Vertical Condense should be turned off while printing anything but text, because otherwise the pictures will look distorted.

To exit the Page Setup dialog, click on the Okay button to save the options or click on the Cancel button to ignore all changes made.

After the printer is chosen and configured, the Print command may be selected. Selecting the Print command will bring up the dialog shown below, allowing the user to select the range of pages to print and other attributes about the printer.

The Copies edit line item allows the user to enter the number of printouts desired.



The Pages option allows the user to choose what pages to print. If All is selected, all of the pages will be printed. If Range is selected, then page numbers must be entered into the From and To edit line items. The From line is the page number to start printing at, and the To line is the page number to end at. To print just one page, type the same number into the From and To edit lines. DreamGrafix does not allow a picture to be more than one page long, so selecting a range has no effect.

The Quality pop-up menu allows the user to set the quality of the printout. The four choices are Text Only, Fast, Standard and Best. The Text Only does not work with DreamGrafix, because a DreamGrafix picture is not stored as text. In general, rough copies should be printed in Fast, and final copies should be printed in Standard or Best modes.

The Chroma pop-up menu allows the user to set the printer to print in color, if a color ribbon is installed. Note: if a color ribbon is not installed, the Color menu item will be disabled.

The Sheet Feed pop-up menu allows the user to set some information about the printer paper being used. If the paper is a continuous sheet, Automatic should be selected. If the paper must be loaded sheet by sheet, Manual should be selected. If Manual is selected, DreamGrafix will prompt the user to insert paper when needed.

If everything is okay, make sure the printer is turned on and selected, and click on the OK button or press the <return> key to begin printing. Otherwise, click on the Cancel button to exit out of the dialog without printing the current picture. While a picture is being printed, pressing open apple period will make DreamGrafix stop printing.

Currently DreamGrafix supports printing color pictures in 16 and 256 colors, which is all the printer drivers support. To print 256 color pictures, the ImageWriter v4.1 drivers are required.

DreamGrafix uses standard printer drivers and therefore it is compatible with third party printer drivers, such as Harmonie™ and Independence™.

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## Creating PostScript Files

A feature of the System Software that DreamGrafix supports is the ability to create PostScript™ files. This section is included for information purposes, it is not necessary to understand this section in order to use DreamGrafix.

To create a PostScript file, first, install the LaserWriter driver onto the startup disk. Rename the LaserWriter driver to something like PS, short for PostScript. From the Control Panel NDA, the PS driver must be selected from the DC Printer CDev.

Load the picture the PostScript file is to be generated from. Select the Page Setup command and configure it, then select the Print command and configure it. After clicking on the OK button or pressing the <return> key, press the open apple F keys. DreamGrafix will respond with a message similar to **Creating PostScript File...** The PostScript file be created on the startup disk in the folder :System:Drivers. The filename will appear in this format, **PostScript.GSxxx**, where xx is a number.

The generated PostScript file is compatible with most Macintosh® PostScript utilities.

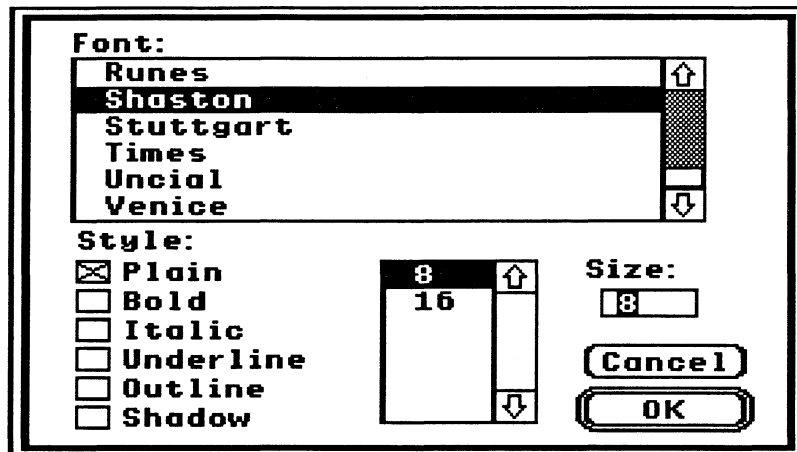
Note: after the PostScript file is created, the command bar may be appear all black or the colors may be wrong. In this case press the open apple F keys again, to restore the colors.

---

## Choosing Fonts

To select a font, the Choose Font Dialog, shown below, must be used. The Choose Font dialog, like the rest of the dialogs in this chapter, is standard to most desktop applications.

The box below the word Font:contains the list of fonts installed on the startup disk. Clicking on the name of the font will highlight the name and thus select it. Whichever font is highlighted will become the new font upon exit.



The check boxes below the word **Style:** represent the different typefaces of the font. More than one box may be selected (checked) at once. The styles are as follows: **Plain** - no style, **Bold**, *Italic*, Underline, **Outline**, and **Shadow**.

There are two ways to select the **Size**, in points, of a font. The box to the left of the word **Size** contains a list of font sizes that are on the disk. Click on the size of the font desired and it will become selected. The font sizes that appear in this box will look the best because they are already scaled to that size. The edit line item below the word **Size**, allows the user to enter the size to scale the font to. The font will then be scaled to the appropriate size.

Clicking on the **OK** button will change the font to the new font family, the new size, and/or the new style, if necessary. Clicking on the **Cancel** button will exit out of the dialog without making any changes.

Chapter 7:

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## Advanced SHR Modes

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## Advanced SHR Modes

This sections describes the 256 and 3200 color super high resolution graphics modes available on the Apple IIGS. DreamGrafix supports and uses all possible methods of displaying super hires graphics in 320 x 200 pixel resolution.

To use the 256 and 3200 color modes in DreamGrafix, it is necessary to understand the setup of each of the modes. The 16, 256 and 3200 color modes utilize the 320 x 200 screen resolution. DreamGrafix only supports the 16 color dithered palette in the 640 x 200 screen resolution. The 16, 256 and 3200 color modes use true colors, not dithered colors.

---

### 16 Color Mode

The 16 color mode is described briefly in the *The Apple IIGS Screen* in Chapter 1: Getting Started with DreamGrafix. The 16 color mode is the most widely used 320 x 200 screen mode.

The 16 color mode is easy to use because the user works with a single palette, which means that the user does not have to be concerned with color placement on the screen. However, the user is limited to a total of 16 colors on the screen which is inadequate for more realistic pictures. 16 color mode is ideal for people who are just getting started in computer art, or for those who are just experimenting with DreamGrafix.

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### 256 Color Mode

The 256 color mode is probably the best kept secret on the Apple IIGS. A 256 color picture is displayed exactly like a 16 color picture but it allows for more colors on the screen, which makes it ideal for educational and entertainment software.

The 256 colors are broken down into 16 palettes of 16 colors. The 16 palettes are always stored in the Apple IIGS video memory, so 256 color mode does not require any extra processor time. Each horizontal line has a Scanline Control Byte (SCB) which controls what palette the line points to. This allows the user to use up to 256 colors spread out among 16 zones on the screen. Demonstrations of the 256 color mode is performed in Chapter 2: Using DreamGrafix.

The Palette Editor and the Color Editor are used to set up zones of colors and to edit the colors, respectively. Both editors are described in their respective sections in Chapter 8: The Auxiliary Editors.

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## 3200 Color Mode

The 3200 color mode is an extension of the 256 color mode. Instead of having 16 palettes to be distributed over the whole picture, each horizontal line has its own individual palette. Since one screen is 200 pixels tall, that means there can be 200 different palettes.

The Apple IIGS can only display pictures with up to 16 palettes at a time without any extra overhead, but by using the computer to switch the palettes on and off the screen, while the picture is being displayed, it is possible to have 200 distinct palettes. This allows for a total of 3200 colors, because there are 200 palettes of 16 colors and  $200 \times 16 = 3200$ .

The 3200 color mode allows the Apple IIGS to display pictures of photographic quality. However, since the computer must switch the palettes on and off the screen, the process uses about 80% of the computer's processor time just to display the picture. Therefore, it is not feasible to use 3200 color mode for games or large animations. The large amount of processor time required to display a 3200 color picture is the main reason why SBC 3200 runs so slowly.

The 3200 color mode is ideal for title pages and for displaying pictures converted from other computers with better color capabilities than the Apple IIGS.

---

## Drawing in 256 and 3200 Color Modes

The problem with drawing in the 256 and 3200 color modes is that different scanlines can be assigned to different palettes. This causes problems with objects that are drawn between two palette regions. For example, in palette 1, color 2 is black and in palette 2, color 2 is red, so if a line is drawn from the palette 1 region to the palette 2 region, the line will appear black in region 1 and red in region 2. This problem can be avoided by designating certain color positions within a palette to be the same color on every palette.

One way to solve this problem is to use CC Sort in the Sort Colors Dialog. The CC Sort button is capable of lining equal colors up vertically, so this problem will not occur. For more information see *Sort Colors* in Chapter 9: Other Dialogs.

Another way to solve this problem in 3200 color mode is to use the 3200 color drawing modes. The Closest Color mode will automatically search for the closest color on the line and use it as the user draws.

Chapter 8:

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## Auxiliary Editors



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## Auxiliary Editors

This section describes the three DreamGrafix support editors. The auxiliary editors are: the Color Editor, the Palette Editor, the 3200 Mini-Editor, the Pattern Editor, and the Preset Brush Editor.

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### The Color Editor



This section describes color modeling on the Apple IIGS and the Color Editor. The Color Editor is used to edit any of the colors in a picture.

There are many ways for a computer to model color. DreamGrafix utilizes the red, green, blue (RGB) model because the Apple IIGS itself utilizes this model internally to represent color. In the RGB model, a color is made up of varying amounts of the red, green and blue components. In this model, black is the absence of color (all components equal zero), while white is the presence of all colors (all components at their maximum value).

Each component has sixteen different values or shades, which limits the number of possible colors to 4096. This number 4096 is derived by multiplying sixteen by sixteen by sixteen, where each sixteen represents one of the three component's possible values.

## **The Color Editor**

There are three ways to enter the Color Editor. The first way is by selecting the Edit Colors menu command on the Color menu. The second way is by double clicking on a color in the color selection bar, and the third way is by clicking on the Edit Colors button on the command bar.

The Color Editor is shown at the beginning of this section and can be broken down into different parts. The current color box is the large box in the center of the screen. The five vertical bars are the color bars, which control the color in the current color box. Below the current color box is the work area and the two arrows beside the work area contain pop-up menus to control the preset palettes and the color commands. Above the current color box are the picture's palettes and above the palettes are three buttons: Undo, OK, and Cancel.

### **Dragging Colors and Palettes**

To drag a color, press and hold down the mouse button while the mouse cursor is on the color to be dragged. While holding down the mouse button, move the mouse cursor to the desired location and release the button.

To drag a palette, hold down the open apple key while clicking on the palette to be dragged, and drag the palette as if it were a color.

Dragging colors and palettes is important in the color editor, because it allows the user to copy colors, swap colors and edit colors. Any square of color in the Color Editor can be dragged to the current color box, to a color on the work area palette, or to a color on the picture's palettes. Any picture palette, color bar, or work area may be dragged as a palette to the work area or to one of the picture palettes.

### **Current Color Box**

Displays the current color. The current color is determined by the values of the red, green and blue color bars, as described below. The current color can be changed by adjusting any one of the five color bars.

The current color box is used as a temporary work area. Changing the color in the box will not affect any of the colors in the picture, until the color is dragged to one of the picture's palettes. Colors from the picture's palettes, work area, or color bars can be dragged to the current color box, edited, and

dragged back to the work area or to the picture's palettes.

### **The Color Bars**

The color bars are used to control the color in the current color box. Each of the color bars operates in exactly the same fashion. Clicking on the up arrow or the down arrow of one of the color bars shifts the white box indicator in that direction. Note: The top of the color bar is equal to 0, so clicking on the up arrow decreases the value of the bar. Depressing the mouse button while the mouse cursor is on the white box indicator allows the user to move the indicator to the desired value.

The five color bars in the Color Editor can be broken down into the component bars and the intensity bars. The component bars lie to the left of the current color box, while the intensity bars lie to the right of the current color box.

The three component bars are labeled R, G and B, which represent the red, green and blue components, respectively, of the color in the current color box. Each component bar controls the amount of its respective color that is mixed into the color in the current color box.

The numbers below each of the component bars display the current value of that component. The numbers are displayed in hexadecimal to assure consistency with the Mini-Color Editor. For more information about hexadecimal, see the section entitled *The Mini-Color Editor* in Chapter 5: The Command Bar. The numbers are useful when comparing or duplicating colors.

The intensity bars are used to lighten or darken a color. The bar on the left darkens the current color, while the bar on the right lightens the current color. The intensity bars default to the top of the bar for each color. As the white box indicator is brought towards the bottom of the bar, the color will approach black or white, respectively.

The component and intensity bars display a spread of colors on the individual bars. This spread changes as the current color does. The colors on the bar represent the color that would appear in the current color box, if the bar is set to that value. For example, if the current color is set to the brightest red, then the value of the bars would read F 0 0. Notice that the green component bar has the color yellow at the bottommost position of the bar. Now, click on the down arrow of the green component bar until the white indicator is at the very bottom of the bar (F F 0), and look at the current

color. The current color is the same shade of yellow that appeared at the bottom of the green component bar. The colors displayed on the intensity bars are similar. If the current color is yellow, notice that on the left intensity bar, the spread of colors from yellow to black. This bar shows all of the colors between the current color and black. The intensity bar to the right is similar, except it displays the colors between the current color and black.

The color bars allows users to drag a color off a color bar and onto a palette, work area or current color box. All sixteen colors on a color bar can be dragged onto a palette or work area by holding down the open apple key, and clicking on the color bar.

### **The Work Area**

The work area consists of one palette of colors, with a button on each side. The work area is used to hold preset palettes, and it is also the area where the color commands work. Clicking on the button to the left of the work area displays the preset color pop-up menu. Clicking on the button to the right of the work area displays the color commands pop-up menu.

#### *The Preset Palettes Pop Up Menu*

<b>Default</b>
<b>Apple Standard</b>
<b>Terrain</b>
<b>Spectrum</b>
<b>Chalks</b>
<b>Border Colors</b>
<b>Command Bar</b>

The preset palette pop-up menu contains seven different preset palettes. They are as follows: Default, Apple Standard, Terrain, Spectrum, Chalks, Border Colors and Command Bar. Selecting any of these palettes will change the colors in the work palette to the colors of the preset palette. The different palettes are described below.

**Default** - Appears upon first entry into the Color Editor. The default palette contains an assortment of different colors.

**Apple Standard** - Consists of the standard 320 mode desktop colors. This palette can be used when designing icons for a 320 mode application.

**Terrain** - Consists of dark earth colors.

**Spectrum** - Consists of the colors in a rainbow.

**Chalks** - Consists of bright pastel colors.

**Border Color** - Consists of sixteen colors that match the Apple IIGS border and text colors.

Command Bar - Consists of the DreamGrafix command bar colors. This palette should be used when designing external command buttons.

*The Color Commands Pop Up Menu*



The color command pop-up menu contains seven different commands that affect the work area. They are as follows: Reverse, Spread, Invert, Lighten, Darken, Shift Left and Shift Right. The different commands are described below.

**Reverse** - Reverses the order of the colors within the work palette. This will exchange color 0 and color 15, color 1 and color 14, etc...

**Spread** - Performs a spread between the top left color and the the lower right color of the work palette. Spread creates a continuum of colors on the work palette. For instance, spreading the colors black and blue will generate the fourteen shades of the colors between the color black and the color blue on the work palette.

**Invert** - Inverts all of the colors on the work palette. Invert modifies the colors by making a color component that was a 0 an F, a 1 an E, a 2 a D, etc... and vice versa.

**Lighten** - Lightens all of the colors on the work palette by one shade. Selecting lighten fifteen times will change all of the colors on the work palette to white.

**Darken** - Darkens all of the colors on the work palette by one shade. Selecting darken fifteen times will change all of the colors on the work palette to black.

**Shift Left** - Shifts all of the colors in the work palette one color to the left. For example color 1 becomes color 0, color 2 becomes color 1, etc.

**Shift Right** - Shifts all of the colors in the work palette one color to the right. For example color 0 becomes color 1, color 1 becomes color 2, etc.

The color commands can be performed on any colors, but the colors must be dragged into the work area. Any of the colors or palettes may be brought into the work area.

The work area can be used to build a palette of colors and then moved to the picture's palettes, or it can be used to temporarily hold a palette when copying from palette 0 in a picture to palette 10.

Colors from the work palette can be dragged to the current color box or to any of the picture's palettes. Palettes from the work area can only be dragged onto the picture's palettes.

The work area is not modified when exiting the color editor. This means that the Color Editor will have the same colors in the work area the next time it is entered.

### **The Palettes**

The Color Editor displays three palettes at a time. The current palette number is displayed under the middle palette. The number displayed corresponds to the middle palette, so the topmost palette is one number lower, while the bottommost palette is one number higher than the number displayed.

While in 256 or 3200 color mode, the palettes can be scrolled by clicking on the arrows. The down arrow increases the palette number and the up arrow decreases the palette number. In 256 color mode, there are 16 palettes, while in 3200 color mode there are 200 palettes.

Dragging a color to a different place in the same palette will automatically switch the two colors around, while dragging a color from one palette to another palette copies the color to the other palette. Note: Exchanging the positions of two colors will not remap the picture data. This means that the picture may look corrupt, because the two colors are in the wrong places. To exchange the position of the colors without changing the appearance of the picture, use the Sort Colors command. Dragging a palette to another palette copies the palette to the new location.

Colors can be dragged from the palettes to the current color box to be edited, or to the work area. The picture's palettes can also be dragged to the work area for editing.

The Color Editor is also capable of pasting a palette into a picture vertically. To paste a palette vertically, hold the <option> key down while clicking on the palette. Drag the palette to the desired starting location within the palette and release the button. Pasting a palette vertically places color 0 at the current palette at that location, color 1 at the same location in the next palette, color 2 at the same location in the next palette, and so on for the next 16 palettes. The vertical paste is helpful for doing backgrounds in 3200 colors, because each palette maps to a different line, and a nice spread of colors can be used.

## The Buttons

The buttons at the top of the screen allows users to undo changes or to quit. The buttons are as follows: Undo, OK and Cancel. They are described below.

**Undo** - Reverses all changes made after entering the Color Editor and remains in the Color Editor. Pressing open apple **Z** serves the same purpose.

**OK** - Makes all changes permanent and returns to the DreamGrafix main screen. Pressing the <return> key serves the same purpose.

**Cancel** - Reverses all changes made after entering the editor and returns to the DreamGrafix main screen. Pressing open apple . serves the same purpose.

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## The Palette Editor



There are two ways to enter the Palette Editor, as shown above. Users may select the Set Palettes command on the Color Menu or the corresponding button on the command bar. The Palette Editor, as described below, is only used in the 256 color mode.

The Palette Editor allows users to set Scan Control Bytes (SCB's). The SCB's control the different zones in a 256 color picture. For more information about the 256 color mode, see Chapter 7: Advanced SHR Modes.

The sixteen palette limit in 256 color mode is perfect for representing the palette zones using the sixteen border colors. DreamGrafix assigns a border color to a palette, and wherever that palette appears in the picture, the corresponding line on the border is changed to the appropriate color. The Palette Editor command bar shows the relationship between the different border colors and the different palettes.

## **Selecting a Palette**

The boxes numbered 0 to 15 represent the palette selection bar. The numbers 0 to 15 correspond to each of the sixteen palettes in a 256 color picture. The color of each box is the same color as the border color it represents. For example, the first box is numbered 0 and its color is black. This means wherever black appears on the border, that area of the picture is defined as palette 0.

Clicking on any of the 16 boxes will select that palette. After clicking on a box, the border color on the top and bottom of the screen will change to the corresponding border color.

## **Defining Palette Zones**

While in the Palette Editor, the current picture is displayed above the command bar. The area above the command bar is where all of the editing takes place.

After a palette has been selected, move the mouse cursor to the line to be set and click the mouse button. To set more than one line, keep the mouse button depressed and drag the mouse cursor over the area to be defined.

## **Changing the Screen Position**

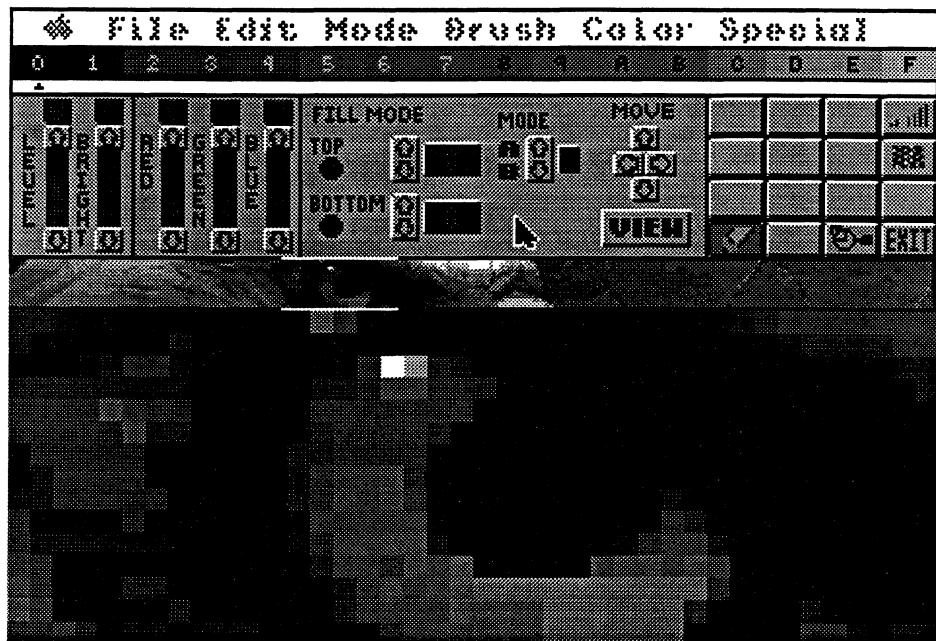
The FLIP button changes the screen position. If the top of the picture is being displayed, clicking on the FLIP button will display the bottom of the screen, and vice versa.

## **Exiting the Palette Editor**

The CANCEL and OKAY buttons will exit the Palette Editor. Clicking on the CANCEL button will ignore all changes made and exit to the Palette Editor, while clicking on the OKAY button will make the changes permanent and exit the Palette Editor. Pressing <return> key acts as if the OKAY button were clicked on.



## The 3200 Color Mini-Editor



This section describes the 3200 Color Mini-Editor, as shown above. The mini-editor provides the user with an alternate method of editing 3200 color pictures.

The mini-editor is permanently in fatbits. The top part of the editor contains the various buttons that control the different commands of the mini-editor. The middle part of the screen contains the true size box. The true size box displays fifteen lines of the current 3200 color picture in actual size and in full color. The bottom part of the screen displays a portion of the true size box in fatbits.

### The Color Selection Bar

The menu bar is disabled in the mini-editor, so the menu commands cannot be accessed from the mini-editor. Below the menu bar is a color selection bar, which is similar to the one found on the main command bar.

To select a color, move the mouse cursor to the desired color and click the mouse button. A little triangular pointer indicates which color is selected.

### The Control Bars

The five vertical bars on the left of the command bar control the level of the

picture as well as the current color. The control bars have arrows pointing up and down at the top and the bottom of the vertical bar. Clicking on the up arrow will increase the value of the bar, while clicking on the down arrow will decrease the value of the bar. The red indicator between the arrows moves up or down according to the value of the control bar. The number above the control bar displays the current value of the bar from 0 - F (15). Again, the number is in hexadecimal, in order to retain consistency with the other color editors. For a more information about hexadecimal, see *The Mini-Color Editor* in Chapter 5: The Command Bar. The title of each control bar appears to the left of the bar.

### **The Level Control Bar**

Each line of fatbits on the screen has its own palette, which is controlled by the position of the LEVEL control bar. The lines are numbered from the bottom to the top, with the bottommost line corresponding to level 1, the next line up level 2, etc... The top line of fatbits corresponds to level F.

The LEVEL control bar is important when selecting colors, because the colors may change on every line of the picture and the only way to view the correct colors is by changing the level.

Level 0 represents the command bar palette. Editing this palette will not affect the picture in memory, but it may change the way the command bar looks.

The + and - keys on the numeric keypad may also be used to control the level. The + key increases the level, while the - key decreases the level.

### **The Bright Control Bar**

Changes the brightness of the selected color. The bright value varies from color to color. The BRIGHT control bar will be set to the largest value of the red, green or blue control bars. For example, if the values of the red, green and blue are 0 7 3, the BRIGHT control bar will be set to 7, because 7 is the largest of the three values.

Increasing the bright value will make the selected color appear brighter, while decreasing the bright value will make the selected color appear darker. A color cannot be brightened if the bright value is already F, and the same applies for darkening colors if the bright value is already 0.

## The RGB Control Bars

Changes the red, green or blue components of the selected color. The red, green and blue components act the same as they do in the Color Editor and the Mini-Color Editor. Adjusting any of the component values will alter the amount of that component in the selected color. For more information about color, see the section entitled *The Color Editor* found earlier in this chapter.

Editing the selected color only changes the color on the current line. It is possible to edit colors on more than one line at a time. See *Fill Mode*, below.

The RED, GREEN and BLUE control bars are mapped to the numeric keypad. The red control bar is controlled by the 7 and 4 keys, the green control bar is controlled by the 8 and 5 keys, and the blue control bar by the 9 and 6 keys. The 7, 8, and 9 keys increase the values, while the 4, 5, and 6 keys decrease the values.

## Mode Buttons

The MODE buttons control which mode the mini-editor is in. The mini-editor has two modes, A and B. Mode A is Normal mode, which is the normal editing mode. Normal mode allows the user to select colors, edit colors, and draw on the screen. Mode B is Fill mode, which allows the user to edit a range of colors. Fill mode is described below.

To set mode A, click on the up arrow beside the A, and to set mode B, click on the down arrow beside the B. Typing the letters A or B will also set the mini-editor to either mode. The letter to the right of the buttons corresponds to the current mode.

## Fill Mode

Fill mode is set when the letter to the right of the mode buttons is a B. To set Fill mode, see above. Fill mode allows the user to set a range of lines to the same color. This is one of the most useful commands in the mini-editor.

The buttons to the left of the Mode buttons are used in conjunction with fill mode. To the right of the TOP and BOTTOM labels are a set of up and down arrows and a line number indicator. The line number indicators

display the range of lines to be filled. The up and down arrows are used to change the line number of each individual line number indicator. The top line number indicator displays the starting line number, while the bottom indicator displays the ending line number.

The ` and ~ keys control the TOP line number, and the \ and | keys control the BOTTOM line number. The ` and the \ keys increase the numbers, while the ~ and | decrease the numbers.

Clicking on the round button below the label TOP sets the starting line to the current LEVEL in the fatbit window. Clicking on the round button below the label BOTTOM sets the ending line to the LEVEL in the fatbit window. The TOP and BOTTOM buttons provide an easier way to set the range, because the user can set the level by the surroundings in the picture. To use the buttons, move the fatbit window to the beginning location and set the LEVEL and click on the TOP button. Then move the fatbit window to the ending position, set the LEVEL, and click on the BOTTOM button. This selects the range of lines to fill.

To perform a fill, select the range of lines to fill. Then select the color to be filled in. Set Mode B, edit the selected color to the desired color, and click on the color again to fill it in. In mode B, clicking on a color will fill in that color over the selected range.

For example, color 5 on lines 100 - 150 has to be set to red (F 0 0). Set the TOP to 100 and the BOTTOM to 150. Select color 5 and change the mode to B. Change the RGB control bars to F 0 0, and click on the color 5 again. Then set the mode back to A. Now color 5 on lines 100 - 150 will be red.

**Warning:** Because the fill mode can ruin a picture, make sure normal mode is set back after using fill mode.

## **Move**

The four arrow buttons below the label MOVE scrolls the fatbit window in the respective directions. These buttons allow the user to move the fatbit window to any location in the picture.

The arrow buttons are mapped to the four arrow keys. Each arrow key corresponds to the button that points in the same direction. Pressing the arrow key will scroll the screen in that direction.

## **View**

Clicking on the View button displays the current picture in memory in full color. Pressing a key will return back to the mini-editor. No editing can take place while viewing the picture.

The <clear> key can also be used to view the picture in memory.

## **The Mini-Editor Buttons**

Only five of the buttons are active in the mini-editor. The blank buttons are reserved for future expansion. The five active buttons are as follows: pencil, zoom, intensity sort, view palettes, and exit.

### **Pencil**

Allows the user to freehand draw. Currently, the pencil is the only drawing tool available in the mini-editor and it is always active.

To use the Pencil, move the mouse cursor into the fatbit window, and depress the mouse button to begin drawing. As long as the mouse button is depressed, the pencil will draw. The pencil draws using the selected color, which may not be the same for each line.

### **Zoom**

Displays the picture in full color and allows the user to select the location of the fatbit window on the picture. While the picture is being displayed, the mouse cursor becomes a box the size of the fatbit window.

To use the Zoom command, click on the Zoom button, and move the box to the desired location and click the mouse button. The area inside the box will then appear in the fatbit window.

The spacebar will also execute the Zoom command.

### **Intensity Sort**

Sorts all of the colors in the current picture by intensity. The Intensity Sort functions exactly like the Intensity Sort button on the main command bar. For more information, see *Intensity Sort* in Chapter 5: The Command Bar.

## **View Palettes**

Shows all of the palettes in the current picture on the screen. This command divides the screen into sixteen sections horizontally in order to display each of the sixteen colors per line. Vertically, each palette only has one line.

The View Palettes button has no real purpose, but it is nice for displaying the color distribution within a picture. The View Palettes command is another command only available in the mini-editor.

## **Exit**

Exits the mini-editor and returns the user to the DreamGrafix main screen. The <esc> key also exits the mini-editor.

The mini-editor does not have an undo command. However, it is possible to use the regular Undo command from the main screen. The Undo command from the main screen will reverse all graphic changes made while in the mini-editor. The Undo command will not reverse an intensity sort or any color changes.

## **The True Size Box**

The True Size Box resides in the center of the screen, and displays fifteen lines of the current picture. The True Size Box displays the whole horizontal section of the picture in actual size. Therefore, the True Size Box has a white line above and below the box, in order to indicate the section of the picture being displayed in the fatbit window.

The section of the screen being displayed can be changed by moving the mouse cursor between the white lines in the True Size Box and depressing the mouse button. While the button is down, the white lines can be dragged left and right on the True Size Box. Releasing the button will display the new section of the screen in the fatbit window.

## **The Fatbit Window**

The fatbit window resides at the bottom of the screen. The fatbit window is where all of the drawing takes place. In the fatbit window, each large square represents one pixel.

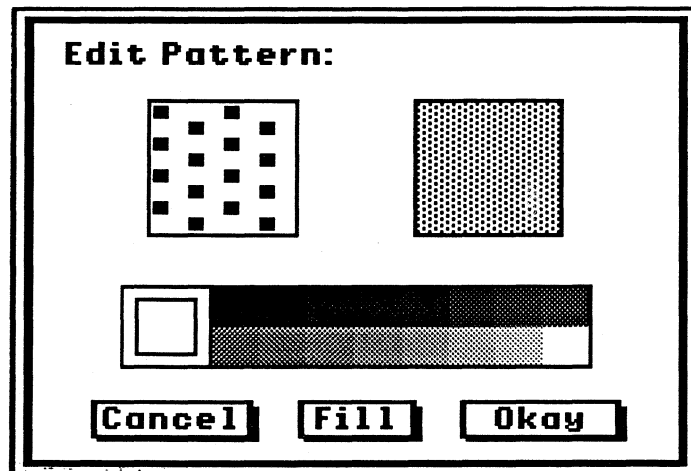
To draw in the fatbit window, move the cursor to the pixel to draw on and

depress the mouse button. To continue drawing, keep the mouse button down and move to the next pixel. The pencil draws in the selected color.

The LEVEL must be set to the proper line, or else the color that is drawn with may not be the same as the selected color.

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## The Pattern Editor



This section describes the Pattern Editor. A pattern is 8 x 8 pixels large, and can use any number of the sixteen colors. To enter the Pattern Editor, double click on the pattern to be edited. The palette used by the Pattern Editor is determined by the current palette before entering the editor. The current palette is determined by the PALETTE number in the information box on the command bar. See *Locking Palettes* in Chapter 4: The Edit Window and the *Information Box* in Chapter 5: The Command Bar.

Near the top of the Pattern Editor are two large boxes. The left box contains a magnified view of the 8 x 8 pixel pattern, and the right box contains a sample of the pattern over a large area. Below the pattern boxes lies the color selection bar, and below it are the button commands.

The magnified pattern on the left allows the user to edit the pattern. The normal view on the right is automatically updated as the pattern is edited. To draw, move the mouse cursor to the desired location, and depress the mouse button. To continue drawing, keep the mouse button depressed and move the mouse cursor to the next location. Drawing occurs in the selected color, see below.

The Pattern Editor uses a "smart" pencil, which allows the user to both draw and erase pixels. The pencil in the Pattern Editor is similar to the pencil

tool, see *Pencil* in Chapter 5: The Command Bar. In the Pattern Editor, a session is started or ended when a new color is selected.

To select a color, click the mouse button while the mouse cursor is pointing at the desired color. The selected color appears in the box at the left of the sixteen color boxes.

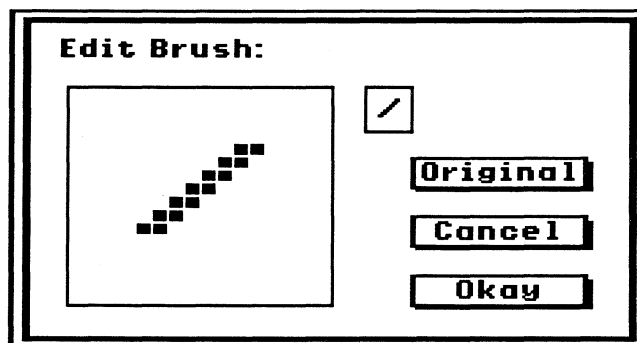
Clicking on the Fill button will fill the current pattern with the selected color. Fill fills in all 64 pixels in the pattern with the selected color.

Clicking on the Cancel button will exit the Pattern Editor, without modifying the previous pattern.

Clicking on the Okay button exits the Pattern Editor and replaces the old pattern with the new pattern.

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## The Preset Brush Editor



This section describes the Preset Brush Editor. A preset brush is 16 x 16 pixels, but does not have any color, because it draws in the main color or pattern. To enter the brush editor, hold down the open apple key while clicking on the brush to edit from the Brush Selection Menu. To enter the Brush Selection Menu, double click on the brush button. For more information, see *Brush* in Chapter 5: The Command Bar.

The large box in the brush editor allows the user to edit the preset brush in fatbits. To add or remove a pixel, point the mouse cursor at the pixel and click the mouse button. To continue, keep the mouse button depressed and move the mouse cursor to the next point. The brush editor pencil works differently than the other pencils, because a preset brush cannot have color. In a brush, the pixel is either on or off.



To the right of the brush editing area is the actual size brush. This area is updated as the brush is modified.

Clicking on the Original button will erase the current brush, and restore the original brush. If the current brush is the same as the original brush, nothing will appear to happen. The original brushes are shown on the Brush Selection Menu, see *Brush* in Chapter 5: The Command Bar.

The preset brushes are saved in the preferences data file. To save the brushes, enter the Preferences dialog, and click on the button labeled Okay, Save. Upon launching, DreamGrafix will load in the preset brushes from disk.

Clicking on the Cancel button will exit the brush editor and ignore all changes made since entering the editor. Exiting selects the old brush.

Clicking on the Okay button will exit the brush editor and replace the old brush with the new brush. Exiting selects the new brush.

Chapter 9:

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## Other Dialogs

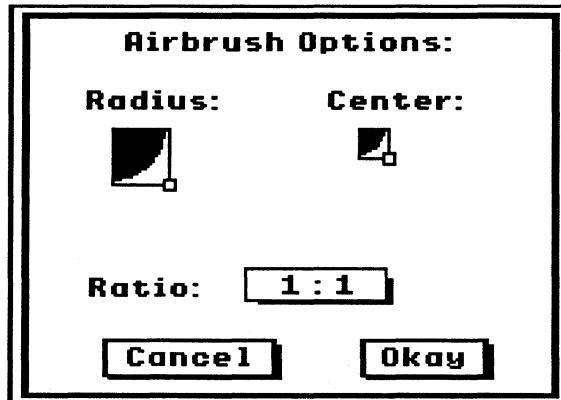
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## Other Dialogs

This section describes the other dialogs in DreamGrafix. The dialogs are arranged in alphabetical order beginning with Airbrush Options, Arc Options, Dispose Color, Preferences, Round Rectangle Options, Slippery Colors, and Sort Colors.

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### Airbrush Options



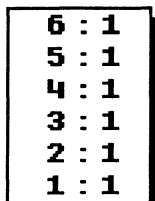
This section describes the Airbrush Options. The Airbrush Options control several aspects of the Airbrush. To enter the Airbrush Options, double click on the Airbrush button.

The Airbrush Options allow the user to control the size of the spray area and the size of the center of the spray. The Airbrush may be configured to concentrate the spray in the center of the spray area.

The Radius and Center controls work in exactly the same ways. The Radius controls the size of the spray area, while the Center controls the size of the concentrated area. Each control consists of a box, which contains a quarter circle, representing one fourth of the spray area or the center area. In the lower right corner resides a square, which allows the user to resize the large box.

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#### *The Ratio Pop-up Menu*



To use the Radius or Center controls, move the mouse cursor to point at the square in the lower right corner of the size box, and depress the mouse button. While the mouse button is depressed, the radius and center can be resized to the desired size. The radius cannot be smaller in size than the center, and the center cannot be larger in size than the radius.

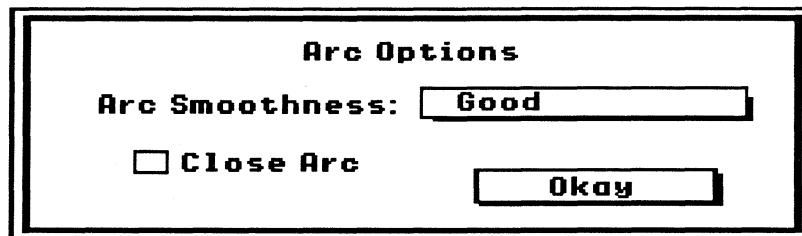
The Ratio pop-up menu controls the number drops that hit the center to the number of drops that hit outside the center. At 1 : 1, the distribution is even, while at 6 : 1, the center will be painted much more heavily than the rest of the spray area.

Clicking on the Cancel button will exit the Airbrush Options dialog, and ignore all changes made.

Clicking on the Okay Button will exit the Airbrush Options dialog, and install the changes.

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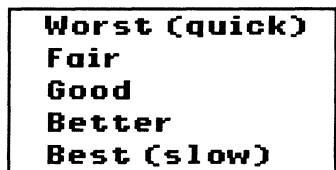
## Arc Options



This section describes the Arc Options. The Arc Options allows the user to change the Arc tool attributes. To enter the Arc Options, double click on the Arc button.

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### *The Arc Smoothness Pop-up Menu*

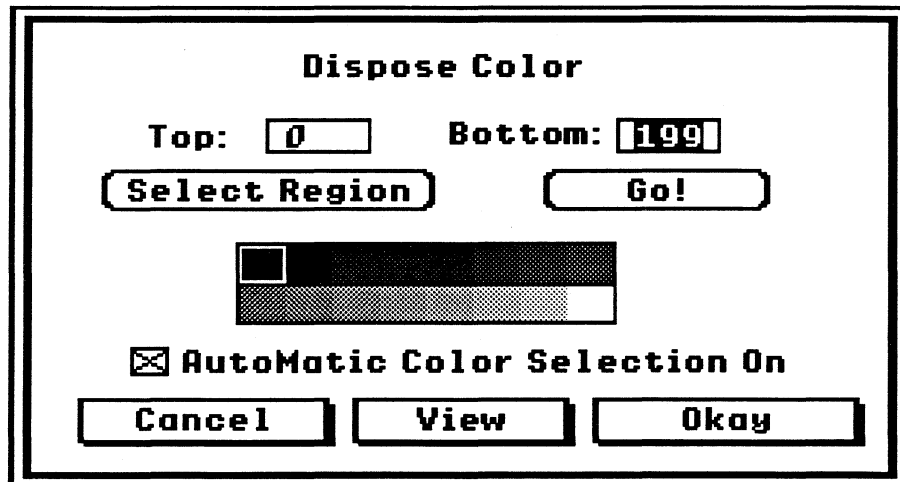


The Arc Smoothness pop-up menu allows the user to change the smoothness of the arc. The pop-up menu has the following items: Worst (quick), Fair, Good, Better, and Best (slow). The pop-up items describe how smooth the arc will be. In general, the Good setting is adequate for most uses.

The Close Arc checkbox allows the user to have DreamGrafix close the arc after it is drawn, or to leave it open. To toggle the box on and off, move the mouse cursor on top of the box and click the mouse button. If the box is checked, DreamGrafix will draw a continuous frame around the entire area.

Clicking on the Okay button will exit the Arc Options dialog and install the changes.

## Dispose Color



This section describes the Dispose Color dialog. Dispose Color allows the user to remap a color in the picture to a different color, thus freeing the color. To enter the Dispose Color dialog, select the Dispose Color menu command on the Color menu. There are three steps to disposing a color: a region must be selected, a color must be chosen, and the color selection mode must be selected.

Dispose Color works by analyzing the color to be disposed, and finding the closest color to the color to be disposed. DreamGrafix then searches the line corresponding to the palette for every occurrence of the color to be disposed. Every time the color is used on the line, it is changed to the closest color to the old color, and this process continues until the region is finished. The above process occurs when using Automatic Color Selection mode. Manual mode works the same, except the user, rather than DreamGrafix selects the color to remap to.

### Selecting a Region

There are two ways to select a region. The first way is to type the range of lines into the Top and Bottom edit line items. The Top edit line item is the line to begin disposing the color at, and the Bottom edit line item is the line to stop disposing the color at. Edit line items are described in *Edit Line Items* in Chapter 6: Standard Dialogs.

Another way to select a region is by clicking on the Select Region button. After clicking on the button, DreamGrafix will display the whole picture in greyscale, and allow the user to select a region. In this command, an inversed line follows the mouse cursor. To select a region, move the mouse cursor to the beginning line of the region, and depress the mouse button.

While the mouse button is depressed, drag the mouse cursor over the region to be selected. When finished, release the button and DreamGrafix will return to the Dispose Color dialog. After selecting a region, the Top and Bottom edit line items are updated to display the range selected. For best results, the picture should be intensity sorted before using this method of selecting a region. Intensity sorting the picture will make the picture more coherent in greyscale, and thus it will make selecting a region easier. The Intensity Sort button is described in *Intensity Sort* in Chapter 5: The Command Bar.

### **Choosing a Color**

The color selection bar lies in the center of the screen. To choose a color, point the mouse cursor at the color, and click the mouse button. The color indicator will move to the new color, indicating that it is selected.

A color may be deemed "unusable". An unusable color is marked by a dithered black and white pattern in place of the color. An unusable color cannot be selected as the color to remap the pixel data to. For example, a color that is disposed is marked unusable immediately after disposing the color, in order to prevent a problem when disposing more than one color over the same region. If a color was not marked unusable, the second color that is disposed could be remapped to the first color disposed, and thus remapping data to the first color disposed. This would make the Dispose Color command useless for disposing more than one color per region.

Therefore, DreamGrafix does not reset which colors are usable and unusable. Therefore a color can be made usable or unusable by holding down the open-apple key while clicking on the color. In general, if it is the first color to be disposed, all of the colors should be usable. An exception might be if a color is reserved for color cycling.

### **Color Selection Mode**

The Color Selection Mode is determined by the checkbox labeled Automatic Color Selection ON. If Automatic Color Selection is checked, DreamGrafix will automatically select the closest color and remap the line to the new color.

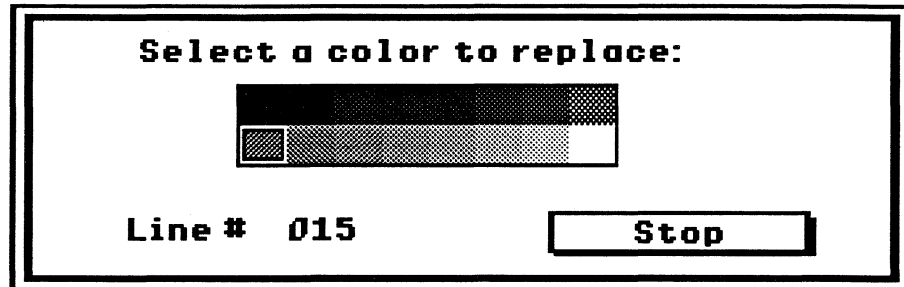
If Automatic Color Selection is off, DreamGrafix will prompt the user to select a color, to remap the picture to for each line.

In general, it is best to leave DreamGrafix in the Automatic Selection mode, because it is faster than selecting colors manually. Also, the results are very good.

Once the above steps are completed, click on the Go! button to begin disposing colors. DreamGrafix will then display a smaller dialog showing the progress.

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*The Replace Color Dialog*



While Automatic Color Selection Mode is on, the line number increases as DreamGrafix finishes the line and the indicator shows which color is replacing the disposed color.

While Automatic Color Mode is off, the dialog waits for the user to click on a color to replace the color being disposed. If the user clicks on an unusable color, the line will be skipped unaltered. The Stop button can be clicked on at any time to exit the Replace Color dialog. Exiting the dialog will keep all changes made before clicking on the Stop button, and return to the main Dispose Color dialog.

When DreamGrafix is finished disposing a color, it automatically sets the Fill mode parameters, TOP and BOTTOM in the 3200 Color Mini-Editor. This saves a step when using Fill mode to fill in the disposed color.

For best results, dispose color 7 or 8 on an intensity sorted picture.

### **Dispose Color Commands**

Clicking on the View button displays the picture in full color. Click the mouse button or press a key to return to the Dispose Color dialog.

Clicking on the Cancel button exits the dialog, ignoring all changes.

Clicking on the Okay button records all changes to the picture in memory.

## **Dispose Color Errors**

There are several errors that could occur while disposing colors. They are described below.

### **You must dispose a `>FREE<` color!**

This error occurs when the user tries to dispose an unusable color. To fix the problem, either choose another color, or free the color by pressing the open apple key while clicking on the color marked unusable.

### **Parameters out of range.**

This error occurs when there are invalid inputs in the Top and Bottom edit line items. To fix the problem, make sure the edit line items contain valid information, and try again. Valid data is between the range of 0 and 199, and the Top must be smaller than the Bottom.

### **You must have at least two free colors!**

This error occurs if more than 14 colors are unusable. To solve this problem, make more colors usable by clicking on them while holding down the open apple key.

## **Dispose Color Uses**

The Dispose Color command is a very powerful command when used with Fill mode in the 3200 Color Mini-Editor. After disposing a color, Fill mode can fill in the disposed color to whatever color desired. This makes Dispose Color useful for adding lettering to a picture in 3200 color mode.

To dispose a color and add a font to a 3200 color picture, follow the following steps. Intensity sort the picture by using the button command. Then enter the Dispose Color dialog and dispose color 7, the last color on the right-side of the top row of colors, over the whole picture. Click on the Okay button and exit the dialog. Enter the 3200 Color Editor, click on color 7, and change its components to the values 0 F 0 (bright green). Click on the **B** under the word Mode, and click on color 7 again. Then click on the **A** under the word Mode, and exit the mini-editor. On the main screen, select the font tool, select color 7 as the outline color, and type text on the screen. The letters will appear in the same bright green color on the picture.



To dispose a color in 16 color mode, record the number (0-15) of the color disposed. Then enter the Color Editor or the Mini-Color Editor, and change the same color to the desired color.

Disposing a color in 256 color mode is a little more tricky. The user must keep track of the palettes that the color was disposed from, and change the appropriate colors on those palettes. It is easier to dispose a color from the whole screen. For example, if color 7 was disposed from the whole screen, then copy the desired color onto color 7 over all sixteen palettes while in the Color Editor.

Using similar techniques, a logo could be overlaid onto a picture, by determining what colors the logo uses with the Color Finder tool and disposing them from the picture. Then just fill in the appropriate colors on those lines, and use the marquee or lasso to move the logo onto the new picture.

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## Preferences

The image shows a dialog box titled "DreamGrafix™ Preferences". It contains several options and buttons. The options are: "Save Patterns" (checked), "Warning Dialogs" (checked), "Auto-Save Button Position" (checked), "Grey Menus" (checked), and "Create Spare" (unchecked). Under the heading "Default Edit Mode", there are four radio button options: "640 Mode", "16 Color", "256 Color" (which is selected), and "3200 Color". Below the options are four buttons: "Restore Defaults", "Temp Save", "Cancel", and "Okay, Save".

This section describes the DreamGrafix Preferences. The preferences allow users to customize the DreamGrafix environment. The different options are described below.

The Save Patterns option only affects DreamGrafix Preferred Format. When Save Patterns is on, DreamGrafix will save patterns when saving in DG preferred format. The other two formats capable of saving patterns are PaintWorks and Apple Preferred Format. DreamGrafix always saves patterns when saving in these formats.

The Grey Menu option is only used when in SBC 3200 color mode. While Grey Menu is on, whenever the mouse cursor moves onto the menu bar or the command bar, the picture in the edit window goes to greyscale. This is useful for increasing the speed of the pulldown menus.

While the Warning Dialogs are off, DreamGrafix displays less warning dialogs, such as **\*\*\* Warning \*\*\*DreamGrafix will not undo**. However, turning Warning Dialogs off will not disable error messages.

The Create Spare option allows users to configure DreamGrafix to create a spare page upon launching. Creating a spare page requires more memory, so if memory is a problem, it is best to leave the Create Spare option off.

The Auto-Save Button Position option controls the saving of the button position. The DreamGrafix command bar allows each button to be moved around, by holding down the <shift> key while clicking on the button. When Auto-Save is on, the button positions and the preset brushes will be saved when exiting the dialog, and when quitting DreamGrafix.

The buttons below the words Default Edit Mode control the default startup mode of DreamGrafix. Clicking on any of the five buttons will make that mode the default mode. The five editing modes are 640 mode, 3200 color, 16 color, SBC 3200, and 256 color. Changing the default mode will not change anything until the next time DreamGrafix is launched. This option is useful for users who use one mode almost exclusively.

Clicking on the Restore Defaults will restore the default settings of DreamGrafix. The default settings are shown above in the diagram of the Preferences dialog. Restore defaults will also restore the original button positions and the original preset brushes. Restoring Defaults will not save the preferences to disk until the Okay, Save button is clicked.

Clicking on the Temp Save button exits the preferences dialog, saving the preferences in memory only. Upon exiting DreamGrafix, all of the changes made to the preferences will be lost.

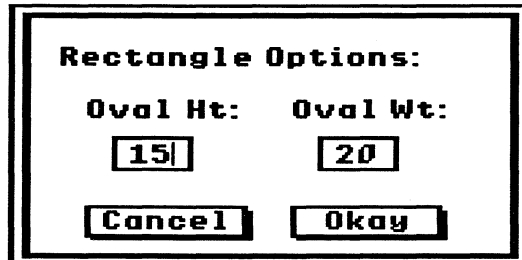
Clicking on the Cancel button exits the preferences dialog and ignores all changes made while in the dialog.

Clicking on the Okay, Save button exits the preferences dialog, and saves the preferences to disk. If the DreamGrafix program is not online, DreamGrafix will prompt the user to insert it.

The preferences file is saved in the **Externals** folder in the DreamGrafix directory. It is called **DG.Prefs**. The preference file also includes the 32 user-definable preset brushes.

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## Round Rectangle Options



This section describes the Round Rectangle Options. The Round Rectangle Options allows users to edit the roundness of the corners. To enter this dialog, double click on the Round Rectangle button.

The Oval Ht and Oval Wt control the height and width at which to begin rounding the corners. For example, if the upper left corner of a round rectangle is at 0,0, the corner would begin at 0,15 and end at 20,0, and the corner would be drawn between those two points.

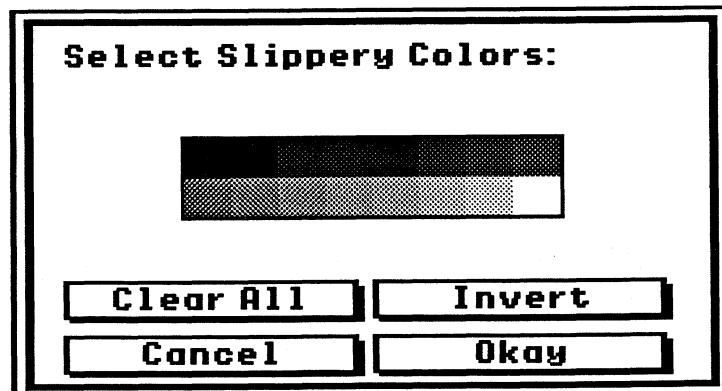
The Oval Ht and Oval Wt are edit line items, as described in *Edit Line Items* in Chapter 6: Standard Dialogs. Valid parameters range from 1 - 99.

Clicking on the Cancel button will exit the dialog, and ignore all changes made.

Clicking on the Okay button will exit the dialog, and save the changes in memory.

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## Slippery Colors



This section describes the Slippery Colors dialog. Slippery colors affect only the Fill tool. Slippery colors allows users to fill multiple adjacent colors. Usually, the Fill tool fills all pixels with the same value. However, if slippery colors are defined they will also be filled, if they come in contact with the original pixel value. A slippery colors demonstration is performed in Chapter 2: Using DreamGrafix. The Slippery Colors dialog allows the user to select which colors are slippery.

To make colors slippery, click on the color. To make the color normal, click on the color again. The black and white box indicates which colors are slippery and which are not.

Clicking on the Clear All button de-selects all of the slippery colors.

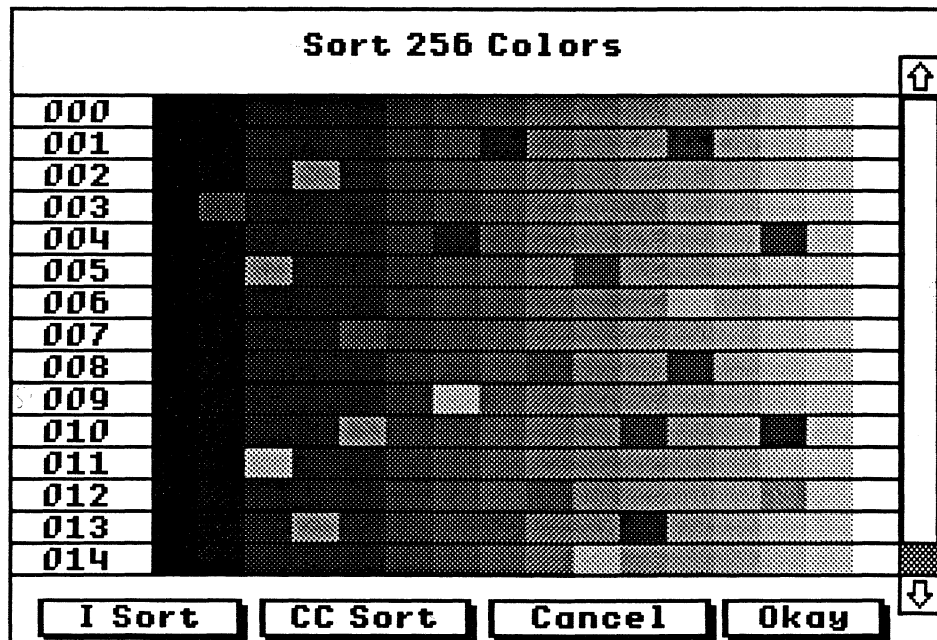
Clicking on the Invert button de-selects all selected colors and selects all unselected colors.

Clicking on the Cancel button exits the dialog and ignores all of the changes made.

Clicking on the Okay button exits the dialog and saves the changes in memory.

Note: DreamGrafix will not automatically de-select slippery colors. Once a slippery is selected, it must be de-selected by the user.

## Sort Colors



This section describes the Sort Colors Dialog. The Sort Colors dialog allows the user to rearrange the colors in the picture, without changing the appearance of the picture. Sort Colors does not work while in 640 mode.

The Sort Colors dialog varies, depending on the mode DreamGrafix is in. While in 16 color mode, only one palette is displayed on the screen. While in 256 color mode and 3200 color mode, 15 palettes are displayed at one time. In the Sort Colors dialog, the palettes lie horizontally across the screen, and the palette numbers appear to the left of the palette.

The Sort Colors dialog allows the user to switch colors around on a palette. This is useful for lining up colors vertically, to make drawing easier. Sort Colors only allows the switching of colors on a palette. Copying colors and palettes must be done in the Color Editor.

To use the Sort Colors dialog, point the mouse cursor at the color to be moved, and depress the mouse button. While the mouse button is depressed, move the mouse cursor to the new location for the color and release the button. This will swap the two colors' positions. To scroll through the palettes in 256 or 3200 color mode, use the scroll bar on the right side of the screen. The arrows at the top and bottom of the scroll bar shift the palettes up and down by one, respectively. Clicking in the area above and below the thumb control will scroll the palettes by one screen, or 15 palettes. It is also possible to move the thumb control by clicking the mouse button while the mouse cursor is on the thumb control and moving the control to the desired location.

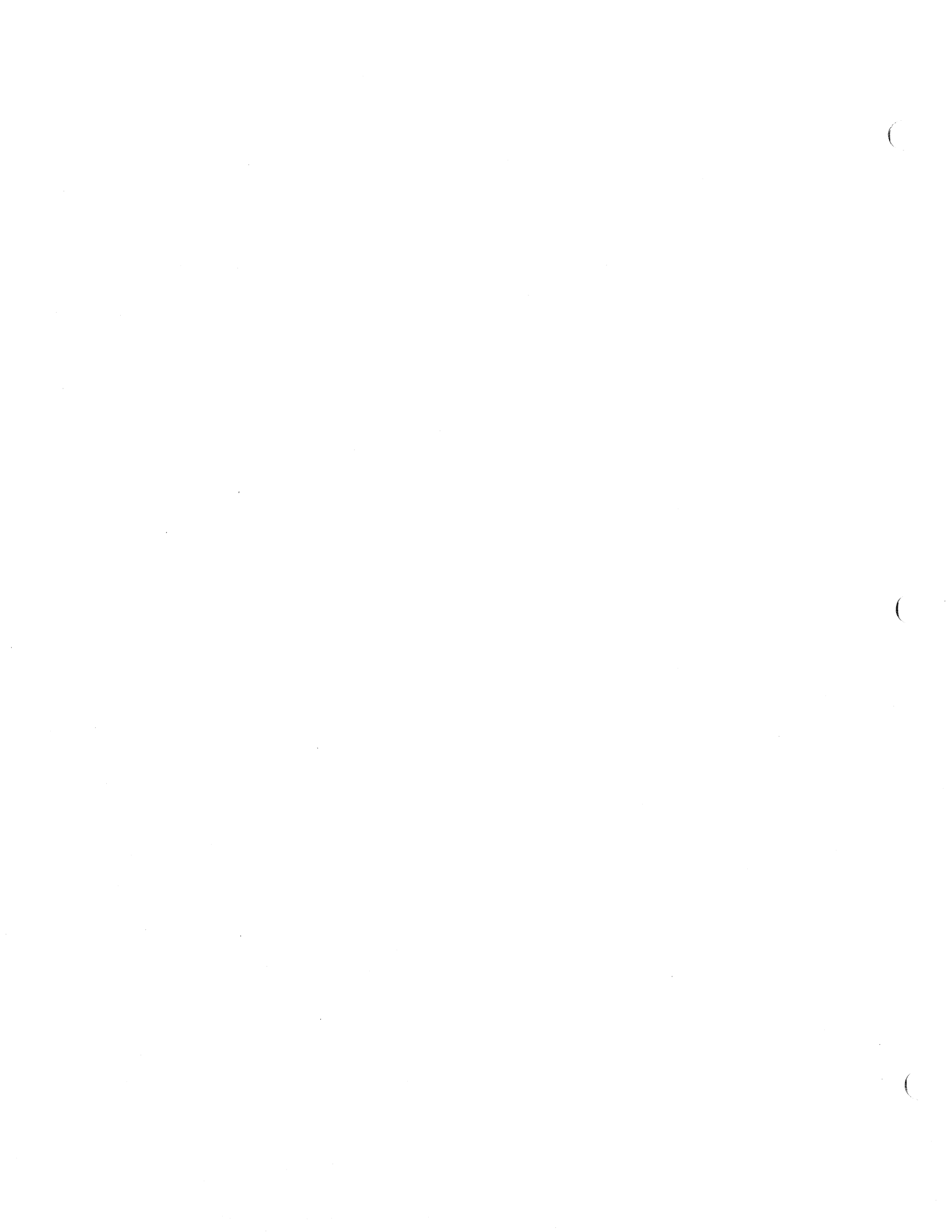
Depressing the <capslock> key will display the free colors in each of the palettes. The free colors are easy to distinguish, because the colors are cycling through a range of colors. Knowing which colors are free helps when deciding what colors can be changed.

Clicking on the I Sort button will perform an intensity sort on the picture, just like the Intensity Sort button on the command bar.

Clicking on the CC Sort button will perform a closest color sort on the picture. The purpose of a closest color sort is to line up colors vertically that are exactly the same. This helps make 256 and 3200 color pictures easier to edit.

Clicking on the Cancel button will exit the dialog and ignore all changes made.

Clicking on the Okay button will exit the dialog and remap the colors to the new color organization.



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## Appendix A: File Formats

This section describes the file formats DreamGrafix supports.

DreamGrafix loads in the following picture formats:

Filetype	Auxtype	Length	Description
\$C0	\$0000	Variable	PaintWorks 16 color picture.
\$C0	\$0001	Variable	PackByte 16/256 color picture.
\$C0	\$0002	Variable	Apple Preferred 16,256 or 3200.
\$C0	\$3200	Variable	BRAIN 3200 color picture.
\$C0	\$8005	Variable	DreamGrafix Preferred 256/ 3200.
\$C1	\$0000	\$8000	Uncompressed 16/256 color picture.
\$C1	\$0002	\$9600	Uncompressed 3200 color picture.
BIN	\$xxxx	\$8000	Same as \$C1 \$0000.
BIN	\$xxxx	\$9600	Same as \$C1 \$0002.
BIN	\$xxxx	Variable	French APP 3200 color picture.
\$F1	\$0004	Variable	PackByte 3200 color picture.

DreamGrafix saves in the follow picture formats:

Filetype	Auxtype	Patterns	Description
\$C0	\$0000	Yes	PaintWorks 16 color picture.
\$C0	\$0002	Yes	Apple Preferred 16 color picture
\$C0	\$0002	Yes	Apple Preferred 256 color picture
\$C1	\$0000	No	Uncompressed 16/256 color picture.
\$C0	\$0001	No	PackByte 16/256 color picture.
\$C0	\$8005	Yes	DreamGrafix Preferred 256
\$C0	\$0002	Yes	Apple Preferred 3200 color picture.
\$C1	\$0002	No	Uncompressed 3200 color picture.
BIN	\$xxxx	No	Same as \$C1 \$0002.
\$F1	\$0004	No	PackByte 3200 color picture.
BIN	\$xxxx	No	French APP 3200 color picture.
\$C0	\$8005	Yes	DreamGrafix Preferred 3200.

The list above appears in the order of the pop-up menu in the Save as... dialog.

DreamGrafix (v1.0) will not save a picture larger than the screen. When saving a file larger than the screen back to disk, a different name should be chosen, because all data outside the screen boundaries will be lost.



DreamGrafix loads and saves brushes using the following filetype.

<u>Filetype</u>	<u>Auxtype</u>	<u>Description</u>
\$F1	\$CODE	DreamGrafix brush.

DreamGrafix loads and saves palettes using the following filetypes.

<u>Filetype</u>	<u>Auxtype</u>	<u>Length</u>	<u>Description</u>
\$C3	\$0100	\$0300	256 color palette.
\$C3	\$0C80	\$1900	3200 color palette.

For more information about specific filetypes, write or call:

DreamWorld Software  
P.O. Box 830  
Iowa City, IA 52244-0830

319-338-6491

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## Appendix B: 3200's and the VOC

This section describes how to make 3200 color pictures work with the Apple Video Overlay Card.

Step 1 - Connect an RCA plug from the composite signal of the Apple IIGS to the input of the VOC. This provides the VOC with a signal to synchronize itself against.

Step 2 - In the Video Mix NDA, set both scroll bars to the top-most position.



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## Appendix C: Programming DreamGrafix

DreamGrafix supports programmable user external commands. External commands reside in the EXTERNALS folder on the DreamGrafix volume.

To add an external command, copy the external command into the EXTERNALS folder. DreamGrafix will automatically install the external upon launching.

To remove an external command, either remove the file from the EXTERNALS folder, or set the inactive flag (high bit of the auxtype).

For more information about writing external commands or about incorporating 3200's in other programs, write or call:

DreamWorld Software  
P.O. Box 830  
Iowa City, IA 52244-0830

319-338-6491