

GRiDPaint User's Guide



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About This Book

This user's guide demonstrates the use of GRiDPaint and explains GRiDPaint commands and capabilities.

What Is GRiDPaint? GRiDPaint is an application for drawing images and typing text on an electronic "canvas" on your computer screen. With GRiDPaint, you can

- Create images, including logos and templates for charts and forms.
- Modify files previously created with GRiDPlot, GRiDMaster, or the ScreenWatch utility program.
- Type text using typefaces of various sizes and styles.

The canvases you create with GRiDPaint can be used for demos that you show on the computer. They can also be printed and used in presentations, forms, and charts.

To use GRiDPaint, you should be familiar with your computer's keyboard, menus, forms, and the procedures for creating and handling files. These elements are described in the *Getting Started* tutorial and the *GRiD Management Tools Reference* manual.

How Do I Begin? If you like learning through hands-on exercises, start with Chapter 1, "Getting Started with GRiDPaint." Do exercises 1 to 5 in sequence. Exercises 6 and 7 modify a GRiDPlot graph. If you do not work with GRiDPlot, you may wish to skip exercises 6 and 7 until you gain some familiarity with the GRiDPlot application. See "Session 3: GRiDPlot Graphs" in the *Getting Started* tutorial for an introduction to GRiDPlot.

If you prefer to skip Chapter 1 (the GRiDPaint tutorial) and read an introduction to the application, then work on your own GRiDPaint images, start with Chapter 2, "GRiDPaint Overview."

Chapter 3 provides a detailed description of each command. Chapter 4 shows sample business applications of GRiDPaint.

Other Books You May Need If you are a new user of GRiD Management Tools software, you may need to refer to the following publications:

- *Getting Started*, a tutorial that includes step-by-step instructions on using GRiDTerm and the GRiD Management Tools.
- *GRiD Management Tools Reference* manual for detailed reference information on the basics of using GRiD applications.

Screen Image Conventions The screen images in this guide appear just as they would if you printed them. Keep in mind, however, that the images on the screen are the “negatives” (as in photography) of those in the printed images.

Typographical Conventions This guide follows certain typographical conventions concerning keycaps and using the keyboard. You should be aware of these conventions as you read.

Keycaps

Keycap labels are in upper case, just as they appear on your keyboard. Thus, when you see the symbol CODE, you should press the key labeled CODE rather than typing the word “CODE” letter by letter.

Multi-Key Operations

Throughout this manual, you are instructed to perform operations such as “press CODE-RETURN.” When you see a hyphen between two keycap names, press the keys in the order in which they appear and hold them down together. Thus, when you see “press CODE-RETURN,” press down the CODE key and, while holding it down, press the key labeled RETURN. If you see three keycap names linked with hyphens, all three must be held down together.

Confirm

You are instructed both in this manual and in prompts that appear on your computer screen to “confirm” that a form is filled out correctly or that you are ready to go on to the next step of the task. The proper response to a “confirm” request is to press CODE-RETURN.



Part 1: Getting Started

Chapter 1: Getting Started in GRiDPaint

This chapter defines the terms used in GRiDPaint and introduces the application through hands-on exercises that give step-by-step instructions on how to draw and modify images on your computer screen.

Preparatory Steps As you get ready to use GRiDPaint, think of the following preparatory steps to painting on an artist's canvas and note the parallel GRiDPaint steps in parentheses.

- Set up your canvas (retrieve a canvas file).
- Take up a brush (issue a command that displays a cursor).
- Dip your brush in paint (issue another command that lets you begin drawing).
- Draw (use the Arrow keys on the computer keyboard to move the cursor).

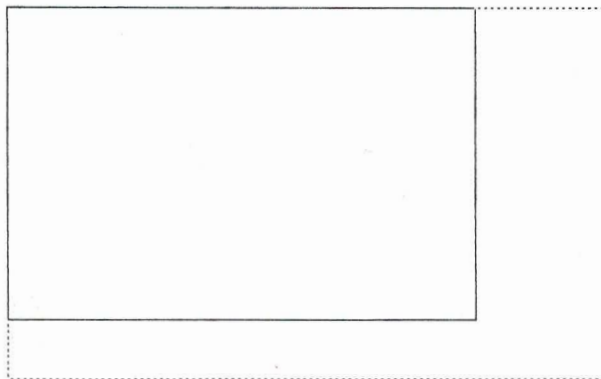
GRiDPaint Terminology This section defines terms that you must know to use GRiDPaint and this manual.

The Canvas

The *canvas* is the rectangular area on which you draw, all or a portion of which you see on your computer screen. The canvas size is initially the same as the screen. The largest canvas that you can create in GRiDPaint is one that uses 64K of memory.

Figure 1-1 shows a canvas that is larger than the computer screen. The bottom and right-most portions are hidden from view. You can view the right portion by pressing CODE-→, and the bottom portion by pressing CODE-↓.

Figure 1-1. *A GRiDPaint Canvas*



The Pixel

A *pixel* is one dot on a GRiDPaint canvas. It is the unit of measurement used in GRiDPaint. A GRiDPaint image is made up of highlighted pixels. Think of the highlighted pixel as the smallest dot of “paint” you can put on your canvas or erase from it.

The GRiDPaint Cursors

GRiDPaint has five cursors. The cursor you select determines the shape of the image on the screen, as shown in Table 1-1.

Table 1-1. *GRiDPaint Cursors*

Cursor	Shape Drawn	Displayed By
☐	Rectangle	CODE-R
●	Circle	CODE-C
⌘	Line	CODE-L
.	Pen	CODE-P
▲	(Character typed)	Any keyboard character typed

The Grid

Each canvas is overlaid by an invisible grid of horizontal and vertical lines. The grid helps you position and align the cursor on the screen. When you press SHIFT-← or SHIFT-→, the cursor moves to the next vertical line of the grid; when you press SHIFT-↓ or SHIFT-↑, it moves to the next horizontal line. You can increase or decrease the number of pixels between the lines of the grid by using the Grid command—CODE-G.

The Mouse

The *mouse* is a device that you use to draw images “freehand” on the GRiDPaint canvas. The mouse connects to the SERIAL connector at the back of your computer. To use a mouse, you need the file with the Title “Serial” and the Kind “Device” under the “Programs” Subject.

GRiDPaint Exercises The exercises that follow provide a hands-on introduction to a range of GRiDPaint capabilities. You start with basic procedures. Then, doing the exercises in sequence, you learn new commands as you draw. The last two exercises modify a graph that was created with another application, GRiDPlot.

An overview of commands to be used in the exercise introduces each exercise.

NOTE: The screen images printed in the book are the *inverted*, or reversed, versions of those on the screen. Think of the image on the screen as the photographic negative of the image printed in the book.

Exercise 1: Practicing Basic Procedures Exercise 1 shows the basic procedures for changing the fill pattern, drawing shapes, and erasing the entire canvas. This exercise uses the following commands:

- CODE-R (Rectangle) to display the rectangular cursor (needed only if another cursor is currently displayed).
- CODE-F (Fill) to start drawing.
- CODE-C (Circle) to display a circular cursor.
- CODE-O (Options) to set `FillPattern`.
- CODE-E (Erase) to erase the canvas picture.

To Draw a Rectangle (with a Solid Fill Pattern)

1. Create a file with `Kind` set to `Canvas`.
2. Move the rectangular cursor to a starting point on the canvas.
3. Press CODE-F (Fill).
4. Press SHIFT-→ five times, then SHIFT-↓ three times.
5. Confirm the completed rectangle (see illustration below) by pressing CODE-RETURN.

NOTE: The initial setting for `FillPattern` is `Solid`.

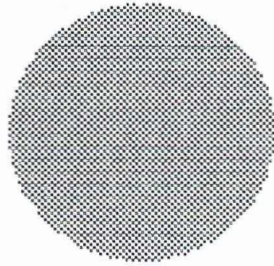


To Draw a Circle (with a Grey Fill Pattern)

(Draw the circle on the same canvas file as the rectangle.)

1. Press CODE-O (Options) and set `FillPattern` to `Grey`.
2. Move the cursor to a starting point, which is to be the center of the completed circle.
3. Press CODE-C (Circle), then CODE-F.

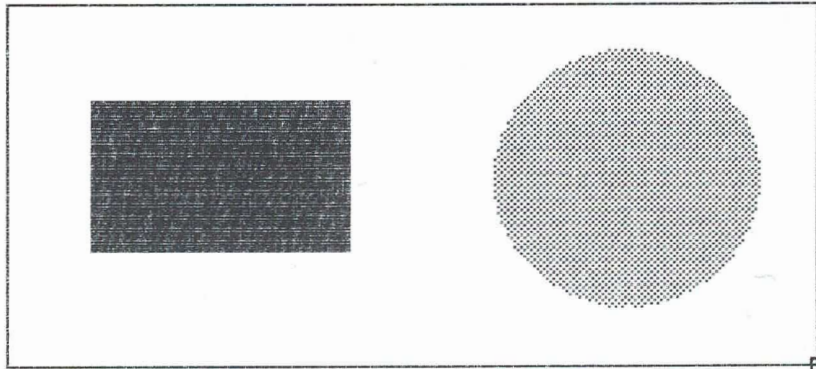
4. Press SHIFT→ three times. Confirm the completed circle (see illustration below.)



NOTE: The larger the shape and the more complex the fill pattern, the longer it takes to fill and display.

To Erase the Shapes You Have Drawn

1. Position the cursor at a starting point from which you can enclose the design.
2. Press CODE-R (Rectangle), then CODE-E (Erase).
3. Enclose the selection by pressing an Arrow or a SHIFT and Arrow keys. Confirm.



NOTE: To erase the entire canvas, use CODE-SHIFT with Arrow keys to position the cursor at one corner of the canvas (as a starting point for selecting the entire canvas); then follow the same Erase procedure you just used.

Exercise 2: Drawing Three-Dimensional Shapes Shading can make a figure appear three-dimensional. So can the use of vanishing points on a horizon line as reference points for drawing the figure. Exercise 2 has you draw a three-dimensional circle and a three-dimensional rectangle. The exercise uses the following new commands:

- CODE-G (Grid), *Show cursor position* item, to get back readily to a reference point on the canvas.
- CODE-J (Jump) to jump to a reference point within a circle.
- CODE-Z (Zoom) to *zoom in* on, that is, display an enlarged version of an area on your canvas.
- CODE-?, *Fill Enclosed Area* command, in order to shade one side of the three-dimensional rectangle.

Before starting to draw, look at the illustrations accompanying the exercise. The sequence gives you an overview of the steps followed to complete the three-dimensional circle.

Draw a Three-Dimensional Circle

Use the same canvas file created in Exercise 1 (currently with no image on it).

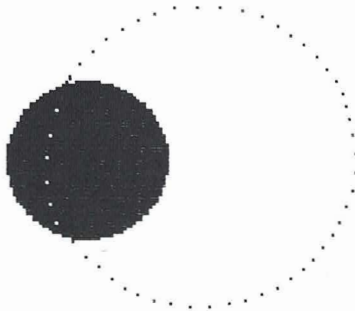
To Draw the Initial Circle for the Three-Dimensional Drawing

1. Position the cursor at a starting point on the canvas. Press CODE-G and set *Show cursor position* to Yes.
For reference to be used in the last steps of this exercise, write down the numbers that appear after *Here:*. The first number is the x-coordinate; the second, the y-coordinate.
2. Press CODE-O and set *Fill Pattern* to Solid. Confirm.
3. Press CODE-C, then CODE-F. Press SHIFT-→ twice to draw a circle. Confirm.



To Form a Crescent Shape

1. To move the cursor back to the starting point, press CODE-J (Jump) and set Horizontal destination and Vertical destination to Last midway point. Confirm.
2. Pressing →, move the cursor outside the first circle (about 10 pixels).
3. Press CODE-E (Erase) and draw a larger circle, as shown.



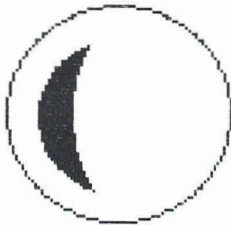
4. Confirm to form a crescent.



To Draw a Circular Shape Around the Crescent

1. Press CODE-O and set Fill Pattern to Frame Only.
2. Check the numbers you noted down earlier. Position the cursor at the same y-coordinate as the original circle, at the right edge of the crescent.
3. Move the cursor by pressing SHIFT→ twice.

4. Press CODE-C, then CODE-F, and draw a circle around the crescent. Confirm.



Draw a Three-Dimensional Rectangle

The instructions that follow have you draw a three-dimensional rectangle.

To Draw a Horizon Line

(The horizon line serves a reference for drawing a three-dimensional rectangle.)

1. Create a new canvas.
2. Press CODE-O and set Fill Pattern to Grey. Confirm.
3. Move the cursor close to the left edge, about two thirds of the way down the screen.
4. Press CODE-R, then CODE-F. Draw the line, then confirm.



5. Move the cursor back to the starting point of the line, using CODE-SHIFT-←, then pressing → several times, as needed.

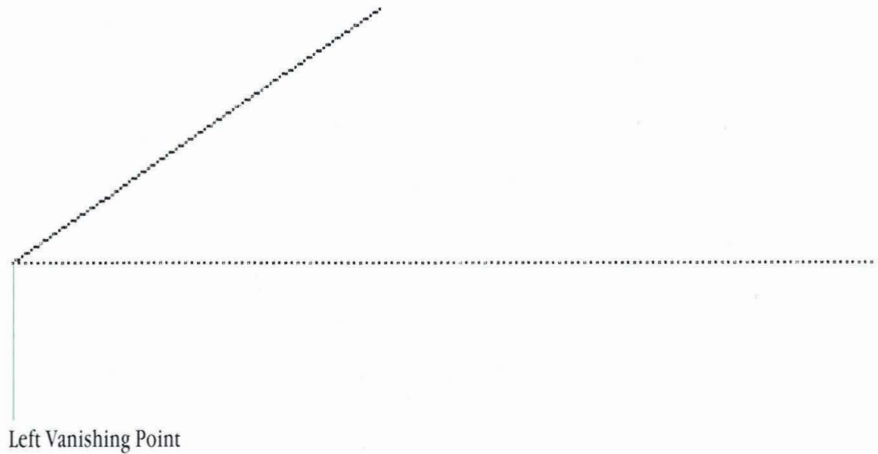
To Draw a Vanishing Point Guide

1. Press CODE-Z (Zoom) to display an enlarged portion of the area where the cursor is. Adjust the cursor position as needed.



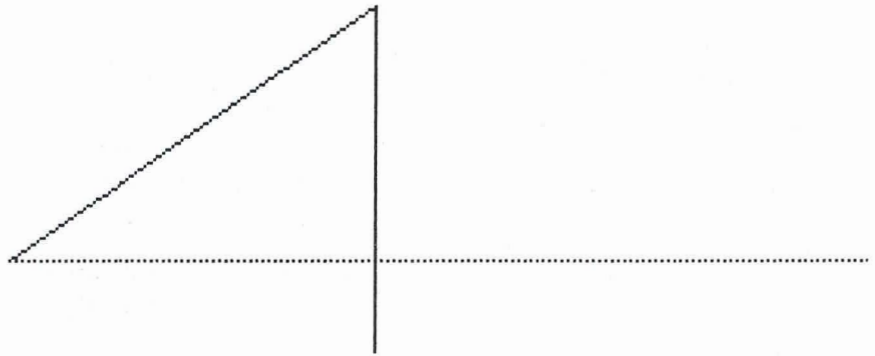
2. Press CODE-Z to display the normal-sized image again.

3. Draw a diagonal line with CODE-L and CODE-F. Confirm.

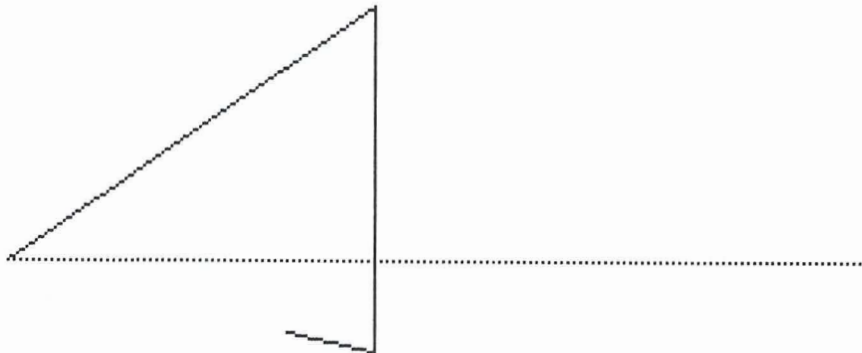


To Draw the Shaded Side of the Rectangle

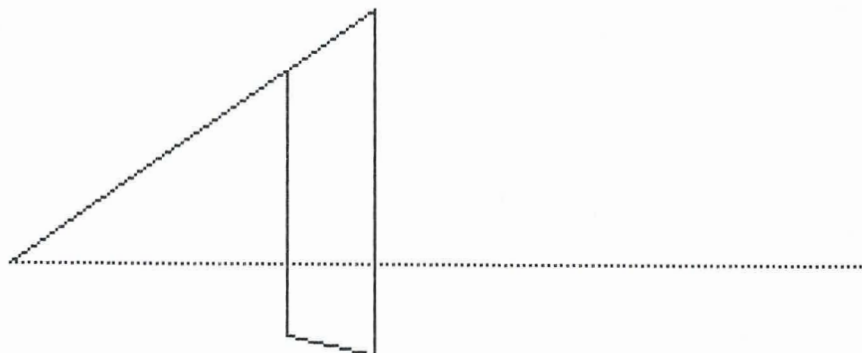
1. Press CODE-F and draw one edge of the rectangle, extending it past the horizon line. Confirm.



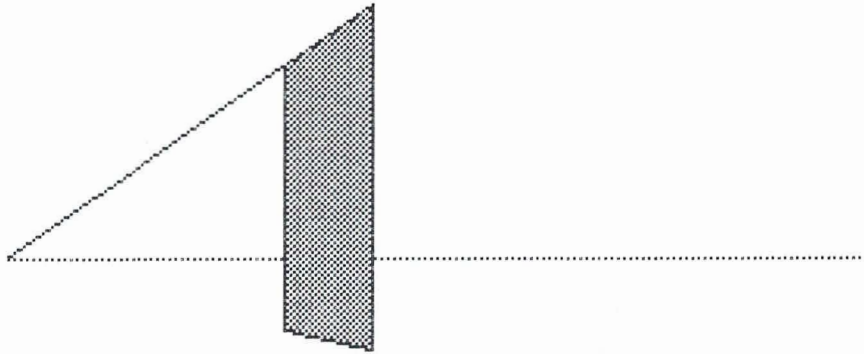
- Using the horizon line's left vanishing point as reference, press CODE-F and draw the bottom edge (slanting upwards towards the left vanishing point). Confirm.



- Press CODE-F and draw the next vertical edge to complete the rectangle. Confirm.



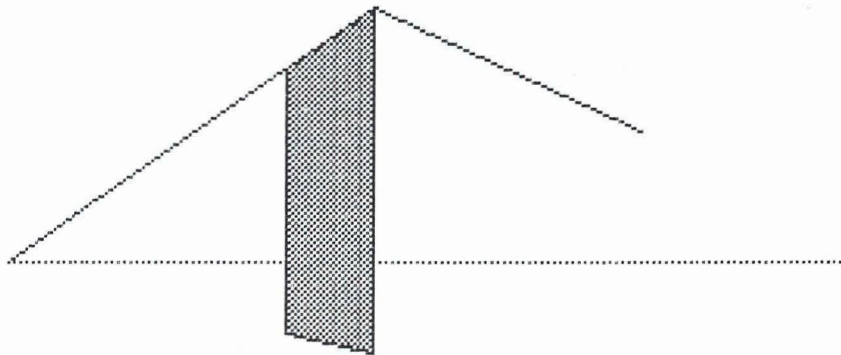
4. Move the cursor inside the rectangle. Press CODE-? and confirm the Fill Enclosed Area command.



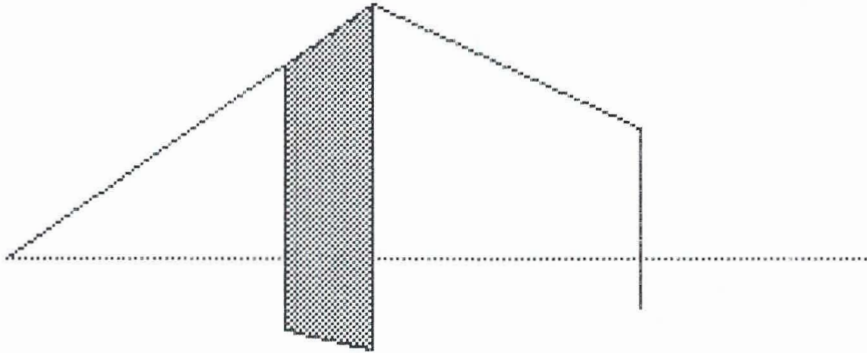
NOTE: You can use the Fill Enclosed Area command in the Commands (CODE-?) menu to fill any shape that you outline. The filling process proceeds from border to border, so make sure that there are no gaps in your outline.

To Draw the Second Side of the Rectangle

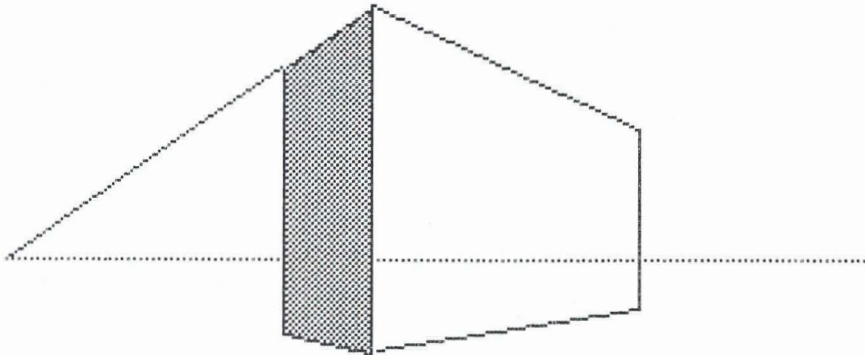
1. Move the cursor to the upper-right corner of the rectangle, the starting position for drawing the second side of the three-dimensional figure.
2. Press CODE-F. Using the right vanishing point as reference, draw a diagonal line. Confirm.



3. Press CODE-F. Draw a vertical line past the horizon line. (To determine where to end the line, lay a straight edge from the right vanishing point to the lower-right corner of the first rectangle. The line you are drawing should stop where it meets the straight edge.) Confirm.



4. Press CODE-F. Draw the bottom edge of the second side. Confirm.



Exercise 3: Draw a Picture and Define It As a Rubber Stamp Exercise

3 has you draw an engine and save, or *define*, it as a rubber stamp. This exercise uses the following new commands:

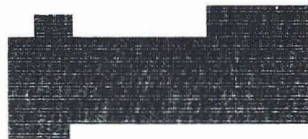
- CODE-O (Options) to select Pen: Width and Pen: Height, in order to set the dimensions of the “pen” cursor.
- CODE-D (Duplicate) to “draw” the engine wheels by duplicating a circle.
- CODE-B (Begin) to restart a selection to be duplicated.
- CODE-I (Invert) to *invert* a section of a circle, so that highlighted areas become darkened and darkened areas become highlighted.

NOTE: The smallest area on the canvas that can be individually highlighted or darkened is called a *pixel*. You see it as one dot on the screen.

- CODE-?, Define a Rubber Stamp command, to define the picture as a rubber stamp that can later be duplicated, or *stamped*, on the canvas.
- CODE-S (Stamp a Rubber Stamp), to stamp the rubber stamp on a section of the canvas.

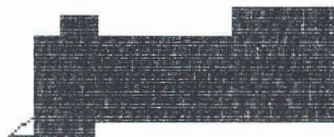
To Draw the Engine Body

1. Create a new file with Kind set to Canvas.
2. Press CODE-O and set Pen: Width to 10 and Pen: Height to 28, then confirm.
3. Move the cursor to a starting point near the center of the screen.
4. With CODE-P and CODE-F, fill in the rectangular shapes that form the engine body. Experiment to get the feel of the cursor as a pen. (If you need to erase, press CODE-E, and use the cursor as an eraser, then confirm.)
5. Confirm the completed shape.



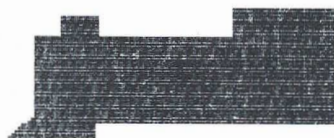
To Draw the Cowcatcher

1. Outline the triangular "cowcatcher" in front of the engine with CODE-L and CODE-F. Confirm to complete one side.
2. Press CODE-L and CODE-F again, then confirm to complete the other side.



Cowcatcher

3. Fill in the outline by moving the cursor inside the triangle and selecting and confirming the Fill Enclosed Area command of CODE-?.



To Draw the Engine Wheels

1. Change Fill Pattern to Frame Only.
2. On a separate section of the canvas, draw and confirm two circles with CODE-C and CODE-F, approximating the wheel sizes shown. Confirm.

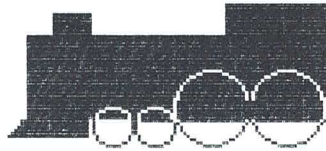


3. Move the cursor to one side, just above the larger circle, then press CODE-D (Duplicate).
4. With the rectangular cursor of CODE-D, enclose the circle within a rectangle. The size of the rectangle does not matter, provided you enclose the entire circle.



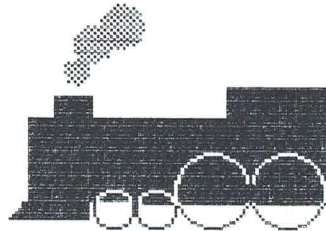
NOTE: If you need to, you can move your cursor to a new starting point after pressing CODE-D, then press CODE-B (Begin). CODE-B restarts the selection while remaining within the Duplicate command.

5. Confirm the selection, then move the rectangular outline and cursor to a destination (see illustration below for wheel positions).
6. Confirm the destination, then choose and confirm the Text/Line invert from the Dup/Move Display menu that appears.
7. “Draw” the second wheel of the same size by moving the Duplicate rectangle to the new position and confirming.
8. Repeat the duplication process above to “draw” the other two wheels.



To Draw the Engine Smoke and Frame the Completed Drawing

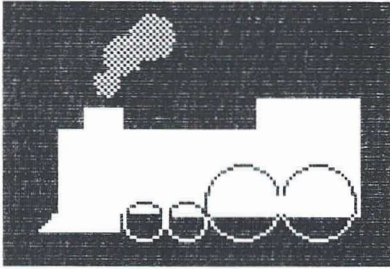
1. Change Fill Pattern to Grey (CODE-O), then press CODE-F and draw the smoke above the engine (three overlapping circles, as shown), then confirm.



2. Press CODE-R and CODE-I (Invert).



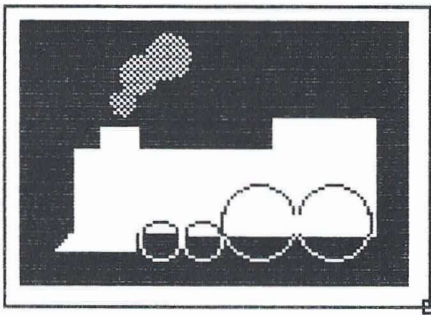
3. Draw a rectangular frame around the drawing and confirm.



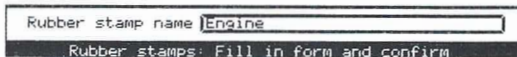
4. Save the drawing by pressing CODE-T, then confirming `Save this file.`

To Define the Engine Drawing As a Rubber Stamp

1. Position your cursor as you would if you were about to duplicate or invert the drawing.
2. Press CODE-? and confirm the Define a Rubber Stamp command.
3. Enclose the drawing or the part of it that you want to define as a rubber stamp. Confirm.



4. Type a name, such as `Engine` to identify the rubber stamp. Confirm.



5. To try out the rubber stamp, press CODE-S (Stamp a Rubber Stamp), then confirm the rubber stamp name. Position the rectangular frame that appears, then confirm.
Press ESC to exclude the rubber stamp frame.

Exercise 4: Modifying a Canvas File Exercise 4 copies the picture from a canvas into a new file, then modifies it by adding text. This exercise uses the following new commands

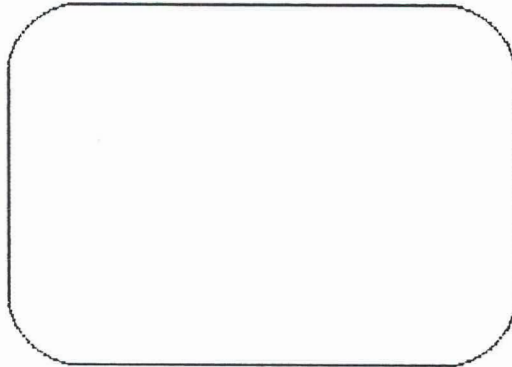
- CODE-T (Transfer) to select `Include from a Canvas` in order to include a picture from another canvas file.
- CODE-O (Options) to select `Text: Typeface` in order to set new typeface for use on the canvas.

For this exercise, you need the Sample Canvas file under the "GRiDPaint Files" Subject on the GRiDPaint diskette.

▶ To Copy the Picture from a Canvas File

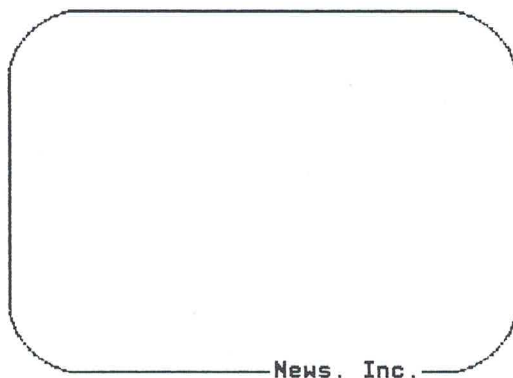
(You need more than 256K RAM to complete the steps that follow.)

1. Create a new file with `Kind` set to `Canvas`, or erase the picture from your current canvas.
2. Press CODE-T and confirm `Include from a canvas`.
3. Select the Sample Canvas file under the `GRiDPaint Files` Subject by filling in the File form that appears.
4. Confirm `Picture` in the Include menu. When the rectangular frame (illustrated below) appears, center it on the screen.
5. Confirm to display the "included" picture, a frame with rounded edges.

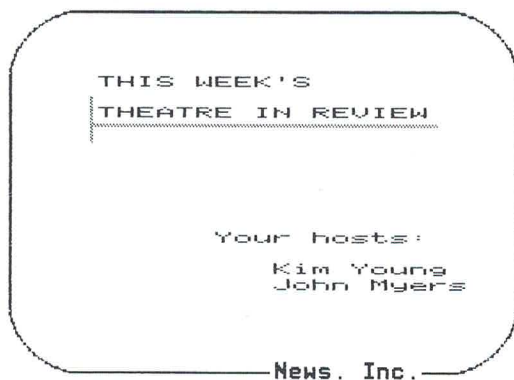


To Type Text on the Canvas

1. Press CODE-O.
2. Set the following Text items: Typeface to TypeBlock9x12, Reposition to Yes, and Display to Overwrite.
3. Following the illustration below, either type News, Inc. or a company name you prefer at the bottom-right section of the frame. Confirm.



4. Reposition as needed and confirm.
5. Reset Text: Typeface (CODE-O) to TypeExpand12x8. Confirm.
6. Press SHIFT-ESC to type all uppercase letters if desired, then press SHIFT-ESC again to type both uppercase and lowercase letters.
7. Type the text shown or alternate text. Confirm. (Optional: Press CODE-O and set Fill Pattern to Grey and both Pen: Width and Pen: Height to 2. Draw the lines shown using CODE-P and CODE-F. Confirm.)

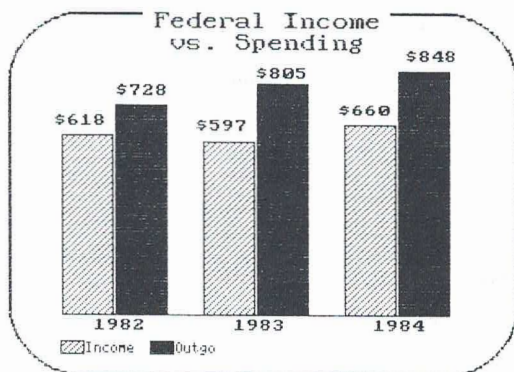
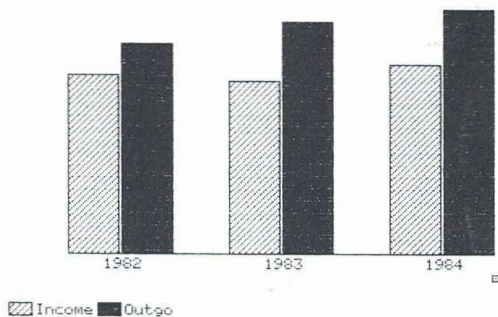


8. Reposition and confirm.

Exercise 5: Modifying a GRiDPlot Graph

Exercise 5 modifies a GRiDPlot graph after writing it to a canvas file.

Figure 1-2. GRiDPlot Graph Versus the Graph As Modified with GRiDPaint

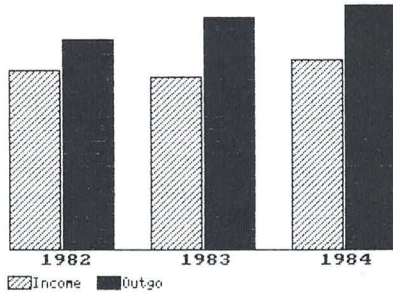


(For this exercise, you need the Sample Graph file under the "GRiDPlot File" Subject. You also need the GRiDPlot application. If you do not have it, use the DemoGRiDPlot program from the "GRiDPlot Files" Subject on the GRiD-Paint release diskette. Copy DemoGRiDPlot to the "Programs" Subject of the storage device currently attached to your computer.)

NOTE: Remember that in this exercise you start out in a GRiDPlot, then write the graph to a GRiDPaint file.

To Write a GRiDPlot Graph to a Canvas File

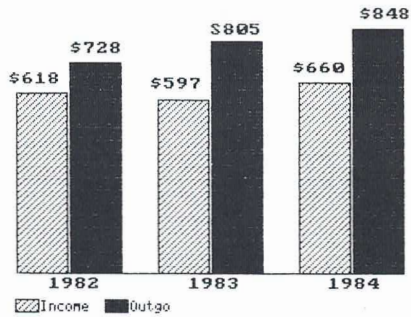
1. Retrieve the Sample Graph file under the "GRiDPlot File" Subject on the GRiDPaint diskette.
2. Press CODE-G (Graph), then confirm to display the graph.



3. Press CODE-T (Transfer) and confirm Writegraph to a file.
4. When the File form appears, select the Subject GRiDPaint Files and type in a title of your choice.
5. Move the outline to Kind and select Canvas (currently set to Screenimage).
6. Move the outline to Next Action and select Get new file and its application. Confirm. When the graph appears again, you are in GRiDPaint.

To Modify the Graph

1. Erase the borders of the graph with CODE-E.
2. Press CODE-O. Set Text: Typeface to TypeColonial8x8 (CODE-O), Text: Reposition to Yes, and Text: Display to Overwrite. Confirm.
3. Type the numbers, as shown, moving the Reposition frame over the old text, where applicable (1982, etc.), then confirm.



Exercise 6: Modify a Graph for Use in a Presentation Exercise 6 uses the following new commands:

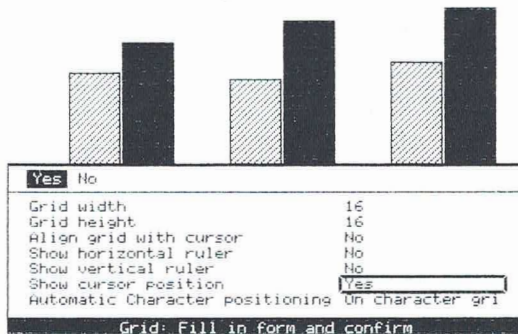
- Move command (CODE-M) to move portions of the graph closer together.
- Transfer command (CODE-T) to select the Print item and print the graph.

This exercise continues from the preceding exercise. You need the Frame file you used in Exercise 4 for this exercise.

To Move the Graph's Bars Closer Together

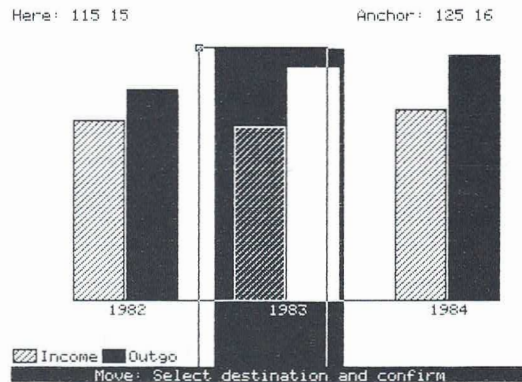
1. Display the cursor's position by pressing CODE-G and set Show Cursor Position to Yes. Confirm.

Here: 0 0



2. Press CODE-O and set Dup/Move display to Overwrite. Confirm.
3. Move the bars closer together. Press CODE-M (Move).
4. Move the cursor to select the first pair of bars. Make the selection and confirm.
5. Move the rectangular frame 10 pixels to the left, then confirm.

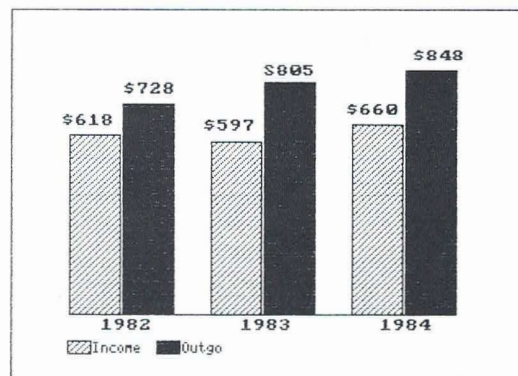
6. Repeat the above procedure with the other bars, moving the second pair 20 pixels and the third pair 30 pixels to the left.



To Enclose the Graph Within a Frame

(You need more than 256K RAM to complete the steps that follow.)

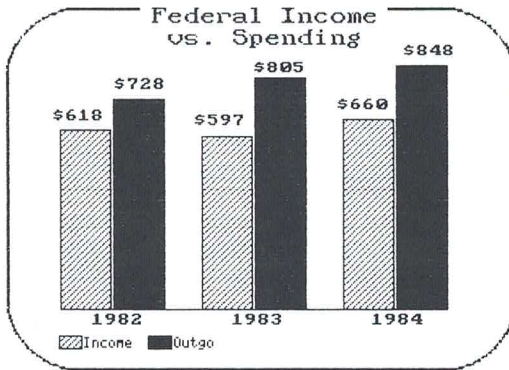
1. Press CODE-G and reset Show cursor position to No.
2. Press CODE-T and confirm Include from a canvas.
3. On the File form that appears, select the Sample Canvas file under the "GRiDPaint Files" Subject. Confirm.
4. Select and confirm Frame.
5. Press CODE-S and confirm Frame.
6. Press CODE-SHIFT-↓ to center the rubber stamp frame on the screen. Confirm.



7. From the Display form that appears, select and confirm "Merge", then press ESC.

To Type a Title and Print the Canvas

1. Set Text: Typeface to TypeColonial10x12 (CODE-O) and confirm.
2. Type Federal Income vs. Spending in two lines, as shown. Confirm.



3. Print this canvas with CODE-T. You can then photocopy of it on an acetate sheet and use it as a presentation slide or transparency.

Part 2: GRiDPaint Reference

Chapter 2: GRiDPaint Overview

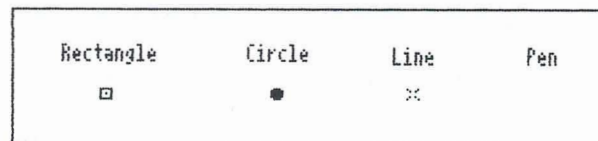
This chapter shows the general steps to follow in creating and modifying GRiDPaint canvases. It introduces GRiDPaint to readers who choose not to do the hands-on exercises in Chapter 1. It also provides a quick review for the reader who has done the exercises.

Creating a Canvas A GRiDPaint *canvas* is a rectangular area with adjustable dimensions on which you draw or type. You see the canvas, or a portion of it, on your computer screen. *Canvas* is also the Kind you specify to create or retrieve a GRiDPaint file.

To Draw with GRiDPaint

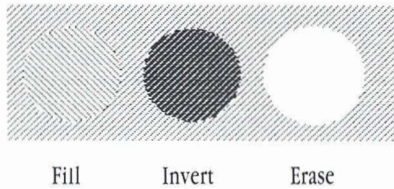
1. Create a file with the Kind item set to "Canvas".
NOTE: If you are a new user of GRiD software, consult "Session 1: Filling in the File Form" of the *Getting Started* tutorial that you received with your software for information on creating files.
2. Adjust settings on the Options (CODE-O), Grid (CODE-G), and Style Keys (CODE-?) forms to fit your design requirements. (As a new user, you may prefer to skip this step until you've tried using these commands in the exercises that follow this overview.)
3. Display the appropriate cursor by pressing CODE-R (Rectangle), CODE-C (Circle), CODE-L (Line), or CODE-P (Pen). Figure 2-1 shows the four GRiDPaint cursors that you use for drawing.

Figure 2-1. GRiDPaint Cursors



4. Position the cursor at a starting point for drawing.
5. Press CODE-F (Fill) to begin drawing.

If you are drawing over an existing pattern, you might press CODE-I (Invert) or CODE-E (Erase) instead. CODE-I inverts the pixels within the new design, producing an image that you might think of as the "negative" (as in photography) of the existing pattern. CODE-E erases the shape you draw. Figure 2-2 shows examples of drawings using the three commands. ➤

Figure 2-2. *Drawing over an Existing Pattern*

6. To move the cursor on the canvas, use the Arrow keys in combination with SHIFT, CODE, and CODE-SHIFT as described in Table 2-1 at the end of the chapter.
7. Press CODE-RETURN to confirm each completed design element. If you have drawn a rectangle or a circle, the shape disappears temporarily, then reappears, this time filled in with the fill pattern (set with CODE-O).

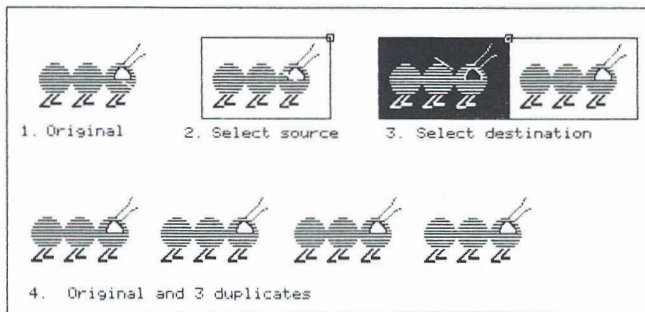
Modifying the Canvas GRiDPaint provides a variety of commands for modifying and refining a canvas, as discussed in the following sections.

Moving and Duplicating

You can move and duplicate images within the canvas.

- Move the selection with CODE-M.
- Duplicate it with CODE-D.

NOTE: You follow the same procedure to move or duplicate a selection. The difference between the two commands is that with CODE-M, you end up with one image in a new location; with CODE-D, you have two or more images, the original and the duplicate(s). Figure 2-3 shows the duplication process.

Figure 2-3. *Duplication*

Defining a Rubber Stamp

You can define an image as a rubber stamp (CODE-?), then stamp it where needed using the Stamp a Rubber Stamp (CODE-S) command. You can stamp several copies of the same rubber stamp onto your canvas. Once you have defined a rubber stamp, you can also include it in other canvas files using the Transfer (CODE-T) command's Include from a Canvas item. Figures 2-4 and 2-5 show an image defined as a rubber stamp then stamped on a canvas.

Figure 2-4. *Defining a Rubber Stamp*

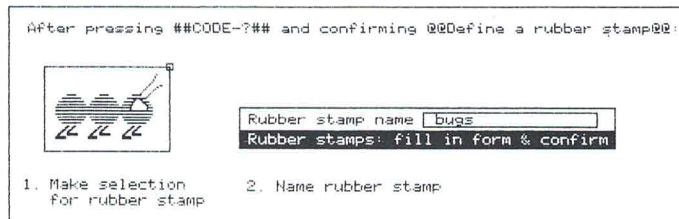
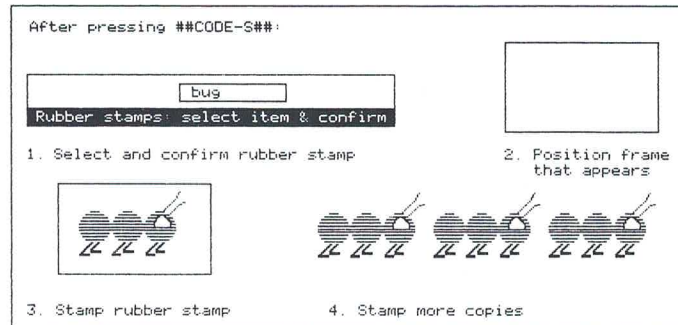
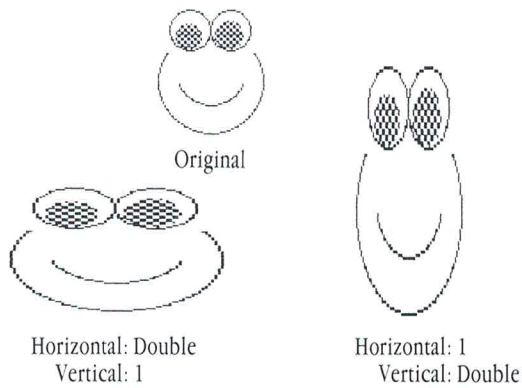


Figure 2-5. *Stamping a Rubber Stamp*



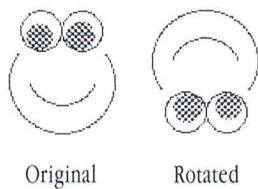
Enlarging and Reducing Images

You can enlarge or reduce an image using the Scale a Selection command in the Commands (CODE-?) menu. Figure 2-6 shows scaled images.

Figure 2-6. *Scaling a Selection*

Rotating an Image

You can rotate an image using the Rotate a Selection command of the Commands (CODE-?) menu. Figure 2-7 shows a rotated image.

Figure 2-7. *Rotating a Selection*

As you work, save with the Transfer (CODE-T) command. This protects you against the loss of all your work through a power failure or surge.

Typing Text on the Canvas The GRiDPaint release diskette includes files that allow you to change the font—the style of the characters you see on the screen. Make sure that you copy these typefaces onto the “Programs” Subject of the storage device that you use with GRiDPaint.

To Type Text on a Canvas

1. Retrieve the typeface you want, using the Text: Typeface item of CODE-O. For example, you may want to use a large typeface for headings and a smaller one for the body of the text. Figure 2-8 shows the typefaces that you received with GRiDPaint.

Figure 2-8. *GRiDPaint* Typefaces

```
TypeGRiD4x8
TypeGRiD5x8
TypeGRiD6x8
TypeColonial18x8
TypeExpand12x8
TypeBlock9x12
TypeColonial10x12
TypeGRiD8x14
TypeColonial9x15
TypeTextbook9x15
TypeBlock12x16
TypeTextbook12x19
TypeModern15x20
TypeBlock24x32
```

If you find a few typefaces that you want to retrieve in combination with other GRiDPaint options, such as pen dimensions (height and width) and a fill pattern, you can define this combination with the Define a Style Key command in the Commands menu (CODE-?). To use the combination, you retrieve the given style key with CODE-K, the Style Key command.

2. If precision in positioning your text is important, set Text: Reposition to Yes in the Options form (CODE-O).
3. Set Text: Display (CODE-O). The initial setting is to show the Display menu each time you confirm text. If you want to use a specific type of display for all of the text you type, change the setting.
4. If you want the text to be centered or aligned on the right edge, rather than the left, reset the Text: Alignment item (CODE-O).
5. Position the cursor where you want text to appear, then begin typing. The text appears inside a bracket-like frame, which expands as you type. The cursor changes to a blinking triangle.
6. Edit text by moving the cursor to the letter you want to erase. Erase with BACKSPACE, then type the new letter. To erase a word, use CODE-BACKSPACE. RETURN moves the cursor to a new line. ESC cancels the text that you have been typing.

Pressing RETURN moves the cursor to a new line.

7. Confirm when completed. If Text: Display has the initial setting Show Menu, the Display menu appears. Select and confirm the desired item. If you have set Text: Reposition—(CODE-O) to Yes, reposition text as needed, then confirm again.

Printing the Canvas When you are ready to print a canvas, press CODE-T. Select and confirm Print, then from the Print menu, select Print This File and confirm.

If you are printing on a file server device, you can also use Write Printer Copy to a File in CODE-T's Print menu. See the "How to Use GRiD Server Devices" chapter of the *GRiD Server User's Guide* for information on how to print on a file server device.

Exiting from GRiDPaint When you complete a canvas, several commands are available for you to exit GRiDPaint. These commands are summarized below.

- You can transfer data to and exchange your canvas file for another canvas file by using Write to a Canvas in the Transfer (CODE-T) command. This command can save the current canvas file before exchanging to the new file.
- You can exchange your canvas file (without transferring data) for any other file by using Exchange for Another File in the Transfer (CODE-T) command. This command can save the current canvas file before exchanging to the new file.
- You can exit the canvas file, save any changes you made to the file, and return to the File form by using the Quit (CODE-Q) command.
- You can exit the canvas file *without* saving changes and return to the File form by using the Cancel (CODE-ESC) command. The canvas that remains in the file is the same as it was the last time you retrieved or saved it.

Canvases Larger Than Computer Screen Initially the blank canvas is the same size as the screen on your computer. You can enlarge the canvas by typing new values for the Canvas: Width and Canvas: Height in the Options form (CODE-O). Use the following guidelines to determine what canvas dimensions you need for a design:

- On the GRiD Compass, 72 pixels = 1 inch.
- On the IBM PC,
 - 70 pixels = 1 inch (measured vertically)
 - 36 pixels = 1 inch (measured horizontally)

The number of pixels per inch may vary according to the monitor you use with your IBM PC.

Maximum Canvas Size

The largest canvas size that you can create uses 64K.

To Enlarge the Canvas

1. Press CODE-O and set the values for the new Canvas: Width and Canvas: Height.
2. If you get a Not enough memory for canvas message, press CODE-O again; set Canvas: Width and Canvas: Height from the current setting to a minimum size, such as 10 pixels x 10 pixels. Confirm.

NOTE: The computer uses memory space for both the old canvas and the new one as it processes the change from one size to the other. Hence, the smaller the "old" canvas size is, the more memory is available for the new canvas.

3. Change the canvas size to the new dimensions. (Keep in mind that 8 pixels = 1 byte of memory.) Confirm.

Note to Programmers Determine the maximum canvas size using these formulas:

- Canvas size (GRiD Compass):
$$\text{Free space} - 10\text{K} + [(\text{height} * \text{width})/8] \geq 0$$
- Canvas size (IBM PC):
$$\text{Free space} - 32\text{K} + [(\text{height} * \text{width})/8] \geq 0$$

Modifying Organizer, Graph and Screenimage Files You can modify images previously created using GRiDMaster, GRiDPlot, the ScreenWatch utility program, or of an early version of GRiDPaint with Kind "Screenimage". The following sections explain how to make a GRiDPaint copy of these files.

GRiDMaster Organizational and Activity Charts

You can write a printer copy of an organizational or activity chart from a GRiDMaster file to a GRiDPaint canvas file. The following instructions give the steps needed to make the copy.

To Modify a GRiDMaster File to a GRiDPaint Canvas File

1. Retrieve the GRiDMaster file needed and press CODE-4 (Organizational Charts) or CODE-6 (Activity Scheduler).
2. Select and confirm a chart.
3. Press CODE-T. Select and confirm the Print item.
4. Select and confirm Write Printer Copy to a File.
5. Type in a title of your choice in the File form that appears. Set the Next action item to Get New File and Its Application. Confirm.

NOTE: If the canvas file appears to be blank, the chart is offscreen. Press CODE-SHIFT→ to display the chart.

6. Modify and/or print the segment of the chart needed. (You may want to use the Rotate command to turn the chart segment "right side up" before printing.)

NOTE: Only one page of the organizational chart is copied onto the canvas file created.

GRiDPlot Graphs

The following instructions show how to copy a GRiDPlot graph to a GRiDPaint canvas.

To Modify a GRiDPlot Graph to a GRiDPaint Canvas File

1. Retrieve the GRiDPlot file needed and display with the desired graph with CODE-G.
2. Press CODE-T. Select and confirm Write Graph to a File.
3. Type in the title of your choice. Set the Kind item to Canvas and the Next Action item to Get New File and Its Application. Confirm.
4. Modify the graph as desired.

Screen.Init or any Screenimage File

You can modify your Screen.Init file or any file of Kind "Screenimage" with GRiDPaint.

To Modify a Screenimage File with GRiDPaint

1. Specify the GRiDPaint application in the File form.
2. Erase Canvas from the Kind item by pressing CODE-BACKSPACE. Type in Screenimage, so that the new setting becomes Run Screenimage.

3. Confirm twice. This creates a file of 0 length that enables you to modify screenimage files with GRiDPaint.

You can now simply retrieve the desired screenimage file and modify it when it appears on the screen.

Using a Mouse For freehand drawing, you can use a mouse. The mouse is a small device with an attached cable that plugs into the serial connector on your computer. You move the mouse in different directions over your desktop or other flat surface to create a canvas image that corresponds with the movements of the mouse.

You can use the following mice with GRiDPaint:

- Microsoft (2-button)
- Mouse Systems (3-button)
- Logitech (3-button)

For information on connecting your mouse, read the instructions in the mouse packing box. Read Appendix A of this guide for information on using your mouse.

Cursor Movement Table 2-1 shows how the cursor moves on the screen.

Table 2-1. *Cursor Movement*

Key	Result When Pressed
SHIFT-→	Moves the cursor to the right horizontally to the next grid.
SHIFT-←	Moves the cursor to the left horizontally to the next grid.
SHIFT-↑	Moves the cursor upward vertically to the next grid.
SHIFT-↓	Moves the cursor downward vertically to the next grid.
CODE-SHIFT-↑	Moves the cursor to the top of the canvas.
CODE-SHIFT-↓	Moves the cursor to the bottom of the canvas.
CODE-←	Moves the cursor to to the left edge of the computer screen. If the cursor is already at the left edge of the screen, and additional canvas exists, displays the hidden canvas to the left.



Key	Result When Pressed
CODE-→	Moves the cursor to to the right edge of the computer screen. If the cursor is already at the right edge of the screen, and additional canvas exists, displays the hidden canvas to the right.
CODE-SHIFT-←	Moves the cursor to the left edge of the canvas.
CODE-SHIFT-→	Moves the cursor to the right edge of the canvas.
CODE-↓	Moves the cursor to bottom of the computer screen. If the cursor is already at the bottom of the screen, and additional canvas exists, moves the cursor downward to the next page.
CODE-↑	Moves the cursor to the top of the computer screen. If the cursor is already at the top of the screen, and additional canvas exists, moves the cursor upward to the next page.

Chapter 3: GRiDPaint Commands Reference

This chapter contains a detailed description of each of the GRiDPaint commands.

The Commands menu shown in Figure 3-1 lists the commands available when using GRiDPaint. Press CODE-? to view this menu.

NOTE: Press CODE-SHIFT-↓ to view the commands in the lower portion of the menu. They aren't normally visible on most computer screens.

Figure 3-1. *GRiDPaint Commands*



The following sections discuss the commands shown in Figure 3-1 in alphabetical order.

Begin—CODE-B The Begin command (CODE-B) lets you mark the start of a selection after you issue one of the following commands: Erase, Fill, Rotate a Selection, Scale a Selection, Define a Style Key, Duplicate, Invert, Move, or Print.

For example, when you issue the Erase command, you are prompted to select the area you want to erase. You can move the cursor to a starting point, then press CODE-B. If the cursor is already at the desired location, you don't need to use CODE-B.

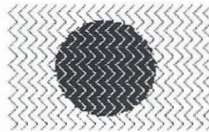
Cancel—CODE-ESC This command lets you exit the canvas without saving changes you made since the last time you saved your file. Changes you just made in the Grid, Style Key, and Options forms are not saved either.

Circle—CODE-C This command changes the cursor and design shape to a circle. You can then press CODE-F (Fill), CODE-I (Invert), or CODE-E (Erase) to perform the following:

- CODE-F to draw a circular pattern that overwrites (cancels) any existing pattern on the canvas, as shown below.



- CODE-I to invert highlighted and dark areas of a circular portion within an existing pattern on the canvas, as shown below. Think of this inverted image as the “negative” (as in photography) of the original image.



- CODE-E to erase a circular portion of a filled section of the canvas, as shown below.



Define a Rubber Stamp—CODE-? The Define a Rubber Stamp (CODE-?) command lets you save, or *define*, an existing image on the canvas. You can then duplicate the defined rubber stamp on the same canvas using CODE-S, or include it in another canvas using CODE-T.

To Define a Rubber Stamp

1. Press CODE-? and confirm the Define a Rubber Stamp item.
2. Select the image on the canvas that you want to duplicate, then confirm.

NOTE: All rubber stamp selections in GRiDPaint are rectangular. The contents of the selection defined as a rubber stamp might be text, an image, or a combination of both.

3. Type a name on the form that appears and confirm. This saves the image as a rubber stamp.

Once defined, you can retrieve a rubber stamp with CODE-S, the Stamp a Rubber Stamp command.

Figure 3-2 shows a diagram illustrating the procedure for defining a rubber stamp.

Using the Define a Rubber Stamp command, you can create a rubber stamp “library” in one canvas file, with logos or other designs that you use frequently. From this library, you can include (with CODE-T) the needed rubber stamps in a new canvas that you create. This library file can hold up to 255 rubber stamps. To see how much memory a large rubber stamp takes up, press CODE-U before and after defining the rubber stamp.

Figure 3-2. *Defining a Rubber Stamp*



1. Selection

Rubber stamp name <input type="text" value="Apple cross section"/>
Rubber stamps: Fill in form and confirm

2. Rubber Stamp Name

Define a Style Key—CODE-? The Define a Style Key command (CODE-?) lets you define settings for a group of design elements that you might use together. For example, you might set a large text typeface and a broad pen width in one style key. Or you might have a fill pattern, text typeface, and text alignment that you use in a certain combination, for logos.

➤ To Define a Style Key

1. Press CODE-? and select the Define a Style Key command. Confirm.
2. Set the items (each item is discussed in the section that follows) in the form that appears. Confirm. ➤

NOTE: The style key name must be filled out before you confirm the Style form.

Once defined, you can retrieve a style key by pressing CODE-K (Use a Style Key).

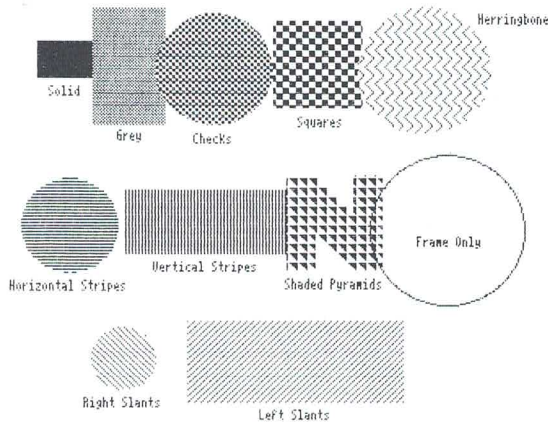
If you use certain style keys on a regular basis, you may want to create all of them (up to 255) in one Style Key canvas. Then, as needed, you can include from this Style Key canvas the specific style keys required for each new canvas.

Fill Pattern

Initial setting is Solid. Other choices are Grey, Checks, Square, Herringbone, Horizontal stripes, Vertical stripes, Shaded pyramids, Frame only, Left Slants, Right Slants. See Figure 3-3.

This item sets the pattern within a rectangle, circle, or within a line drawn with the pen cursor.

Figure 3-3. *GRiDPaint Fill Patterns*



Pen: Height

Initial setting is 1 pixel. Choices include any value you type indicating the height in pixels or Text Line Height (height of one line of the text typeface currently set in the Options form).

Pen: Width

Initial setting is 1 pixel. Choices include any value that you type indicating the pixel width or Character Width (width of the text typeface currently set in the Options form.)

Text: Alignment

Initial setting is Left. Other choices are Center, Right.

This item lets you align text on the canvas to the left, center, or right. For example, if you select centered alignment for titles, each line of text you type is automatically centered within the bracket-like frame that appears when you type text. The reference point for centering is the bracket-like frame, not the computer screen.

Text: Display

Initial setting is Show Display Menu. Other choices are Overwrite, Merge, Line/Text Invert, Paint New Pattern Over Solid, Mirror.

This item determines the action that GRiDPaint takes after you confirm text that you have typed. If you use the initial setting, Show Display Menu, a menu appears from which you select one of the other choices given above.

If you set this item to one of the other choices, the text is displayed on the screen accordingly. See the Duplicate—CODE-D section for a description of each display item.

Text: Typeface

Initial setting is System-wide. Other choices correspond with the files under the “Programs” Subject and Kind “Font” in the storage device(s) you are currently using.

This item sets the typeface for text that you type on the canvas. The typefaces released with the GRiDPaint application are shown in Figure 3-4. These typefaces must be copied on to the storage device you are currently using, under the “Programs” Subject.

Figure 3-4. *GRiD Typefaces*

TypeGRi04x8
 TypeGRi05x8
 TypeGRi06x8
 TypeColonial18x8
 TypeExpand12x8
 TypeBlock9x12
 TypeColonial10x12
 TypeGRiDBx14
 TypeColonial9x15
 TypeTextbook9x15
 TypeBlock12x16
 TypeTextbook12x19
 T^y P^e M^o d^e rⁿ 15x20
 TypeBlock24x32

Style Key Name

This item lets you type a name of your choice for the Style Key that you have just defined. See the Use a Style Key—CODE-K.

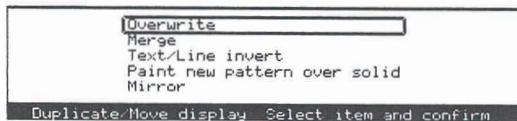
Duplicate—CODE-D The Duplicate command (CODE-D) lets you copy a selection—the “source”—to another section of the canvas—the “destination.”

To Duplicate a Selection

1. Press CODE-D.
2. Select the image on the canvas that you want to duplicate, then confirm.

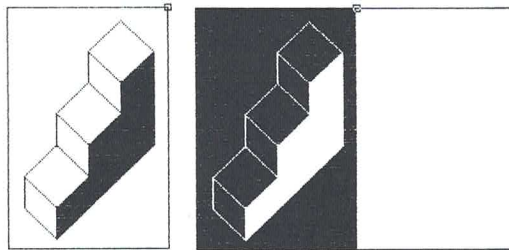
NOTE: All Duplicate selections in GRiDPaint are rectangular. The duplicated image may or may not appear within the rectangle, depending on the setting of Dup/Move Display menu in the Options form (CODE-O). Confirming the selection displays an *inverted* image of the source within a rectangular frame. *Inverted*, as used in this guide, refers to highlighted areas becoming dark and dark areas, highlighted.
3. Move the rectangular frame to the destination, and confirm. If you have chosen one of the Display items other than Show Display Menu in the Options form, the duplicated image appears accordingly.
4. If you have chosen the Show Display Menu item, the following menu (Figure 3-5) appears. Select and confirm a menu item that creates the desired display. Each menu item is explained in the sections that follow.

Figure 3-5. *The Dup/Move Display Menu*



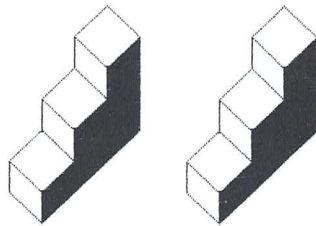
5. To make another copy using the same Display menu item, move the rectangular frame to another destination and confirm.

NOTE: To make another copy using a different Display menu item, press CODE-D and confirm.
6. To cancel the Duplicate command, press ESC or issue another command. Figure 3-6 shows a diagram of the duplication process. If you want to duplicate a design to another file, define the design as a rubber stamp. See the Define a Rubber Stamp—CODE-? and Stamp a Rubber Stamp—CODE-S sections for more information.

Figure 3-6. *Duplicating a Selection*

1. Selection

2. Selection inverted and frame positioned at destination



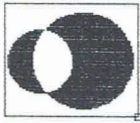
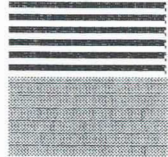
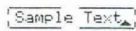

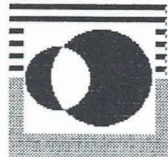
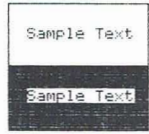
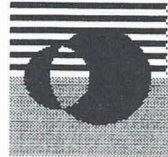
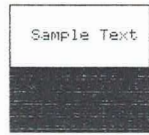
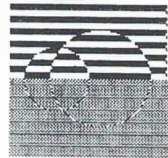
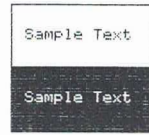
3. Original and duplicate (Overwrite)


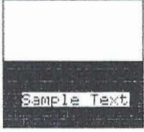

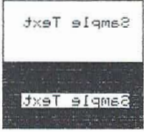
The Display Menu

The items in the Display menu specify how the copy is to appear at the destination. These items work the same way for the Duplicate command, the Move command, and for text. The five items on the Display menu are explained in the following sections.

When you move or duplicate an image, you may do so either on a blank portion of the canvas or over an existing pattern. Your choice of Display items determines whether the new image completely covers the existing pattern or lets it show through. Table 3-1 shows the parts of the duplicated or moved image that become “transparent” depending on the Display menu item chosen. The table also shows the text display for each item.

Table 3-1. *The Dup/Move and Text Display Items*

Source	Pattern over which source is duplicated		
			
			
Item	Transparent Parts	Duplicated Image	Text Display
Overwrite	None		
Merge	Darkened Areas		
Text/Line Invert	Darkened and high-lighted areas (see explanation in Text/Line Invert section below)		

Item	Transparent Parts	Duplicated Image	Text Display
Paint New Pattern Over Solid	Highlighted Areas		
Mirror	None		

The five items on the Display menu are explained in alphabetical order in the following sections.

Merge This item displays the highlighted areas of both source and destination. When you merge an image with one fill pattern over an image with another fill pattern, you create a new pattern. See Table 3-1.

NOTE: Do not use the Merge item to duplicate over a solid fill pattern; if you do, the source, having “merged” with the destination, disappears.

Mirror This item reverses right and left orientations when it copies an image. See Table 3-1.

Overwrite This item makes an exact copy of the source image at the destination. It also cancels whatever image or text might already be at the destination. See Table 3-1.

Paint New Pattern Over Solid This item superimposes any fill pattern over a shape that has a solid pattern. For example, you might create a design using a solid fill pattern, then test how other patterns look on this design. You could start by defining the design as a rubber stamp and stamp a copy on the canvas. On another section of the canvas, draw a rectangle slightly larger than the design, filling it with the desired pattern. When you use the Paint New Pattern Over Solid item to duplicate the rectangle over the design, you see the design with the new fill pattern. See Table 3-1.

Text/Line Invert This item darkens lines, outlined shapes (Frame Only fill pattern), or text when copied or typed over any background. The line, outlined shapes, or text is darkened when duplicated over a highlighted background or highlighted when duplicated over a dark area. See Table 3-1.

Note to Programmers

Three of the items on the Dup/Move and Text Display menus describe Boolean operations:

- Merge is the OR operation.
- Text/Line Invert is the XOR operation.
- Paint New Pattern Over Solid is the AND operation.

Erase—CODE-E The Erase command (CODE-E) erases an area that you select on the canvas. To erase a selection, enclose the area you want to erase with the shape drawn by the current cursor. If the cursor is a rectangle, circle, or line, the area is erased after you confirm. If you are using the pen cursor, the cursor erases as it moves; confirm when you have finished erasing the selection.

Fill—CODE-F The Fill command (CODE-F) lets you draw with the current cursor. The design you draw is filled in with the fill pattern you specify in the Fill Pattern item of the Options form (CODE-O).

Fill Enclosed Area—CODE-? The Fill Enclosed Area command lets you fill in any bounded area with the current fill pattern. To fill the area, position the cursor within the area to be filled, then press CODE-? and confirm the Fill Enclosed Area command.

NOTE: If the area you are filling is open at any (even just one) point, the pattern “spills” outside the area, then eventually stops filling.

Grid—CODE-G The Grid command (CODE-G) displays the Grid form, the settings of which let you align your designs on the canvas as described in the following sections. The unit of measurement used in the Grid form, the pixel, is one dot on your screen.

The settings for each item on the Grid form are described in this section.

Align Grid with Cursor

Initial setting is No. Choices are Yes, No.

When this item is set to No, the grid positions start from point 0,0 at the top left corner of the canvas. When the setting is Yes, the grid moves with the cursor; that is, a new grid line begins at the point where the cursor is.

You would use the No item if you wanted to align items on your canvas with the left or top edge of the canvas. You would use the Yes item if you wanted to align the cursor with a point in an image you are drawing.

Grid: Height

Initial setting is 16. Choices include any value you type indicating the number of pixels between each horizontal grid line or Text Line Height (the height of one line of the text typeface currently set in the options form).

To move the cursor one Grid height, you press SHIFT-↑ or SHIFT-↓.

Grid: Width

Initial setting is 16. Choices include any value you type indicating number of pixels between each vertical grid line or Character Width (the width of the text typeface currently set in the Options form).

To move the cursor one grid width, you press SHIFT-← or SHIFT-→. For example, if you set the grid width to 72 pixels (equivalent to an inch), to move the cursor 72 pixels (one inch) horizontally, you press SHIFT-← or SHIFT-→.

Show Cursor Position

Initial setting is No. Choices are Yes, No.

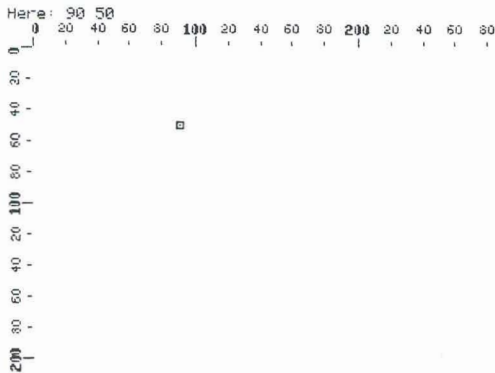
The Yes item shows the cursor position as coordinates of a point, where the top left corner is 0,0. The first number in this pair of coordinates indicates the position on the horizontal, or x, axis; the second number indicates the position on the vertical, or y, axis.

When you set the item to Yes, the cursor position is displayed on the top left corner of the canvas, preceded by *Here:*, for example, *Here: 90, 50* (see Figure 3-7); these numbers mean that your cursor is 90 pixels from the left edge of the screen and 50 pixels from the top. When you issue one of the commands that involves selecting, such as Duplicate or Erase, the Midway and Anchor positions are also displayed. *Midway* is the midpoint between the starting and ending positions. *Anchor* is the starting point.

Show Horizontal Ruler

Initial setting is No. Choices are Yes, No.

The Yes item shows the horizontal ruler at the top of the screen with every 20th pixel of the regular canvas marked and labeled (see Figure 3-7) and every 10th pixel when “zooming.”

Figure 3-7. *Showing Grid Rulers and Cursor Positions*

Show Vertical Ruler

Initial setting is No. Choices are Yes, No.

The Yes item shows the vertical ruler at the left edge of the screen with every 20th pixel of the regular canvas marked and labeled (see Figure 3-7) and every 10th pixel when “zooming.”

Invert—CODE-I The Invert command (CODE-I) *inverts* an area on the canvas that you select. This means that all highlighted areas in the selection become darkened, and dark areas become highlighted.

Jump—CODE-J The Jump command (CODE-J) displays the Jump form, which lets you set the coordinates of the point where the cursor is to move. The items in the form, Horizontal Destination and Vertical Destination, are explained below.

Horizontal Destination

Initial setting is Point. Choices are Point, Last Midway Point, Canvas Right.

Point lets you type in the point on the x (horizontal) axis where you want to move the cursor. Last Midway Point moves the cursor to the midpoint of the last selection. Canvas Right moves the cursor to the right edge of the canvas.

Vertical Destination

Initial setting is Point. Choices are Point, Last Midway Point, Canvas Bottom.

Point lets you type in the point on the y (vertical) axis where you want to move the cursor. Last Midway Point moves the cursor to the midpoint of the last selection. Canvas Bottom moves the cursor to the lower edge of the canvas.

Line—CODE-L The Line command (CODE-L) lets you draw lines and changes the cursor to crossed diagonals. To draw a line, press CODE-L, followed by CODE-F; then, use the Arrow keys to draw a horizontal, vertical, or diagonal line.

If you are drawing a line over a section that already has a fill pattern, use CODE-I instead of CODE-F. CODE-I highlights the darkened pixels and darkens the highlighted pixels, thus defining the line clearly.

Move—CODE-M The Move command (CODE-M) lets you move an image, or a portion of an image—the “source”—to another section of the canvas—the “destination.” The Move command is the same as the Duplicate command, except that, after Move is executed, the source is erased.

To Move a Selection

1. Press CODE-M.
2. Using the Arrow keys, enclose the area you want to move, then confirm.

NOTE: All Move selections in GRiDPaint are rectangular. The Dup/Move Display item of the Options form (CODE-O) determines whether or not the moved image appears within the rectangular frame of the selection at the destination.

Confirming the selection displays an *inverted* image of the source and a rectangular frame attached to the cursor. *Inverted*, as used in this guide, refers to highlighted areas becoming dark and dark areas, highlighted.
3. Move the rectangular frame to the destination, and confirm.
4. The Dup/Move Display menu appears; select the item that creates the desired display and confirm. See the Duplicate—CODE-D section for a detailed description of how the menu items work.

Figure 3-8. *The Dup/Move Display Menu*

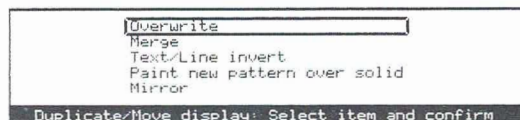
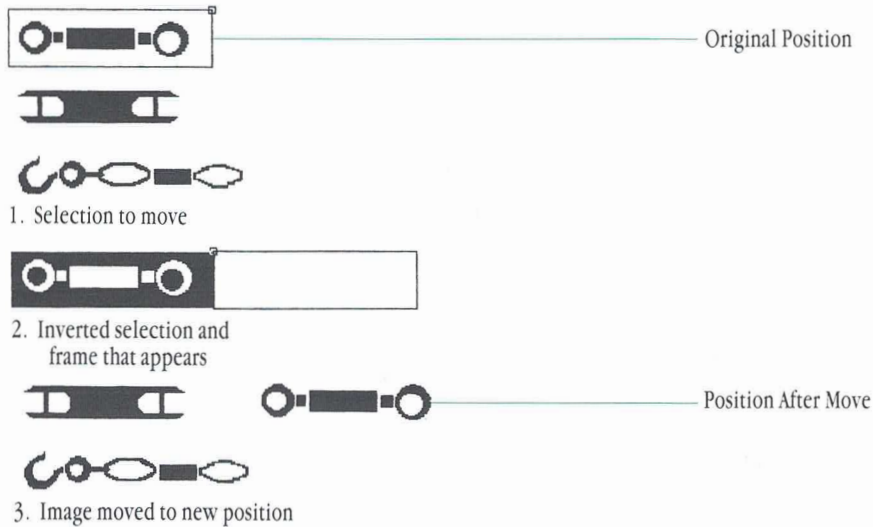


Figure 3-9 shows a diagram of the Move process. The items in the Display menu work the same way for the Duplicate and Move commands and for text. For a detailed discussion of these items, see the Display Menu section of Duplicate—CODE-D.

Figure 3-9. *Moving a Selection*

Options—CODE-O The Options command (CODE-O) displays the Options form (Figure 3-10).

Figure 3-10. *The Options Form*

Solid		Grey	Checks	Squares	Herringbone	Horizont
Fill Pattern	Solid					
Text:	Typeface	System-wide				
	Alignment	Left				
	Reposition	No				
	Display	Show display menu				
Pen:	Width	1				
	Height	1				
Canvas:	Width	320				
	Height	240				
Dup / Move display	Show display menu					
Mouse (<# Buttons>)	None					
Current typeface	System-wide					
Options: Fill in form and confirm						

This section discusses each item in the Options form in alphabetical order.

Canvas: Height

The Canvas: Height item determines the bottom boundary of the canvas.

Initial setting is the height of your computer screen, indicated in pixels.

Choices are Window Height or a value you type indicating the canvas height in pixels.

NOTE: When a frame appears on the screen (set in the Options form of GridManager), the window height is two pixels shorter.

Since the top border is always 0 on the vertical axis, you set the canvas height by defining the bottom border. For information on setting the canvas dimensions, see the *Canvases Larger than Screensize* section of Chapter 2.

Canvas: Width

The Canvas: Width item determines the right boundary of the canvas.

Initial setting is the width of your computer screen (without frame), indicated in pixels. Choices are Window Width or a value you type indicating the canvas width in pixels.

NOTE: When a frame appears on the screen (set in the Options form of GRiDManager), the window width is two pixels narrower.

Since the left border is always 0 on the horizontal axis, you set the canvas height by defining the right border. For information on setting the canvas dimensions, see the *Canvases Larger than Screensize* section of Chapter 2.

Current: Typeface

Initial setting is System-wide. Choices are System-wide, Built-in.

This item lets you set the typeface for forms, menus, and messages.

System-wide is the typeface that is set in the GRiDManager Options form. In this form, you can set any of the typefaces that you have in files of Kind "Font" under the "Programs" Subject as your system-wide typeface. For more information, see the Options (Systems Characteristics)—CODE-O section of the GRiD Manager chapter of the *GRiD Management Tools Reference* manual.

Dup/Move Display

Initial setting is Show Display Menu. Other choices are Overwrite, Merge, Text/Line Invert, Paint New Pattern Over Solid, Mirror.

This item determines the action that GRiDPaint takes after you move or duplicate data with CODE-M or CODE-D. Show Display Menu causes a menu to appear from which you select one of the above choices.

If you set this item to one of the other choices, the image is displayed accordingly. See the explanation of the Duplicate (CODE-D) command for information on each item of the Display menu.

Fill Pattern

Initial setting is Solid. Other choices are Grey, Checks, Square, Herringbone, Horizontal stripes, Vertical stripes, Shaded pyramids, Frame only, Left Slants, Right Slants. See Figure 3-3.

This item sets the pattern within a rectangle, circle, or within a line drawn with the pen cursor. Fill Pattern may be set as part of a style key; see the Define a Style Key—CODE-? section for information.

Mouse

Initial setting is None. Other choices are MicroSoft (2), Logitech (3), Mouse Systems (3).

See Appendix A for more information about each of the mouse devices that you can use with GRiDPaint.

Pen: Height

Initial setting is 1 pixel. Choices include a value you type indicating the height in pixels of the line drawn with the pen or Text Line Height (height of one line of the text typeface currently set in the Options form).

The Pen: Height item may be set as part of a style key; see the Define a Style Key—CODE-? section for information.

Pen: Width

Initial setting is 1 pixel. Choices include any value you type indicating the width in pixels of the line drawn by the pen or Character Width (width of the text typeface currently set in the Options form).

The Pen: Width item may be set as part of a style key; see the Define a Style Key—CODE-? section for information.

Text: Alignment

Initial setting is Left. Other choices are Center, Right.

This item lets you align text on the canvas to the left, center, or right of your starting point. The Text: Alignment item may be set as part of a style key; see the Define a Style Key—CODE-? section for information.

Text: Display

Initial setting is Show Display Menu. Other choices are Overwrite, Merge, Line/Text Invert, Paint New Pattern Over Solid, Mirror.

This item determines the action that GRiDPaint takes after you confirm text that you have typed. Show Display Menu causes a menu to appear from which you select one of the above choices.

If you set this item to one of the other choices, the text appears on the screen accordingly. See the explanation of the Duplicate (CODE-D) command for information on how these choices act on your text.

The Text: Display item may be set as part of a style key; see the Define a Style Key—CODE-? section for information.

Text: Reposition

Initial setting is No. Choices are Yes, No.

This item lets you reposition text. Setting the item to Yes displays a rectangular frame after you confirm a Text: Display item. You reposition the text by moving this rectangular frame, then confirming. Using the Yes setting allow you to position text on the canvas more precisely.

Text: Typeface

Initial setting is System-wide. Other choices are the titles of any files under the “Programs” Subject with Kind set to “Font.”

This item sets the typeface for text that you type on the canvas (as opposed to the typeface used for messages, forms, and menus). The typefaces released with the GRiDPaint application are shown in Figure 3-4. These typefaces must be copied into the “Programs” Subject on a storage device currently connected to your computer.

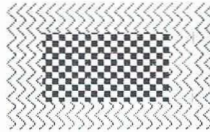
The Text: Typeface item may be set as part of a style key; see the Define a Style Key—CODE-? section for information.

Pen—CODE-P The Pen command (CODE-P) lets you use the cursor as a pen. See the Options—CODE-O and Define a Style Key—CODE-? sections for information on setting the dimensions of the pen.

Quit—CODE-Q The Quit command lets you exit GRiDPaint and saves any changes you made on the canvas since you last saved it.

Rectangle—CODE-R The Rectangle command changes the cursor and the design shape to a rectangle. Press CODE-F (Fill), CODE-I (Invert), or CODE-E (Erase) to draw a rectangle on a canvas. You use

- CODE-F to draw a rectangular pattern that overwrites (cancels) any image over which it might be drawn, as shown below.



- CODE-I to invert the pixels within a rectangular portion of an existing pattern on the canvas, as shown below. Think of the inverted version and the original pattern as the equivalent of the negative and the print of a photograph, respectively.
- CODE-E to erase a rectangular portion within a filled section of the canvas, as shown below.



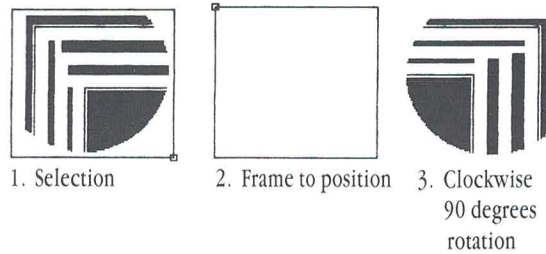
Remove a Rubber Stamp—CODE-? This command displays a menu from which you select and confirm a defined rubber stamp you want to remove. This command removes the rubber stamp from the list of rubber stamps. To erase an image that you have stamped on the canvas, use the Erase (CODE-E) command.

Remove a Style Key—CODE-? This command displays a menu from which you select and confirm the style key that you want to remove.

Rotate a Selection—CODE-? This command lets you rotate a selection 90 degrees, either clockwise or counterclockwise, and 180 degrees. The Rotate a Selection command displays a menu that lets you choose how you want the selection rotated. See examples in Figure 3-11.

NOTE: All selections that you rotate are rectangular. The larger the selection that you rotate, the longer it takes for the selection to appear in its rotated position.

Figure 3-11. *Rotating a Selection*



Scale a Selection—CODE-? This command allows you to enlarge or reduce a selected area of the canvas. Confirming the Scale a Selection command displays the Scale form, which lets you choose a factor that determines the size of the enlargement or reduction. Figure 3-12 shows a diagram of the Scale a Selection process.

Grey Scale Factor

Initial setting is Line Art. Choices are Line Art, Picture.

This item highlights or darkens pixels in the detail of an image. If you are reducing or enlarging text or a line drawing, set the Grey Scale Factor item to Line Art. If you are reducing or enlarging a picture that has detail or half-tones, set the item to Picture.

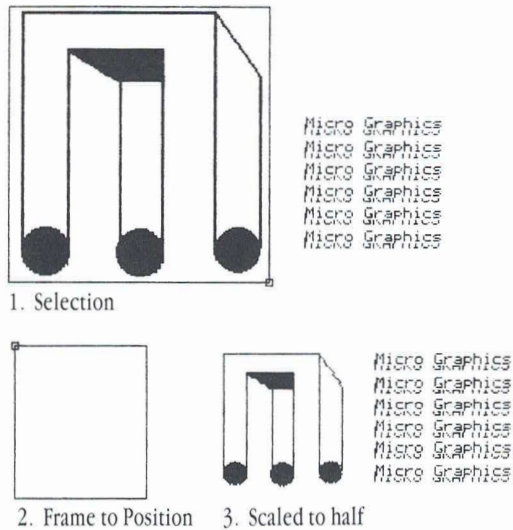
Horizontal Scale Factor

Initial setting is 1. Other choices are Double, Quadruple, Half, Quarter.

Vertical Scale Factor

Initial setting is 1. Other choices are Double, Quadruple, Half, Quarter.

NOTE: All Scale selections are rectangular. The larger the old image, the longer it takes for the new image to appear.

Figure 3-12. *Scaling a Selection*

Stamp a Rubber Stamp—CODE-S The Stamp a Rubber Stamp command (CODE-S) lets you stamp a desired rubber stamp on any area of the canvas.

To Stamp a Rubber Stamp

1. Press CODE-S.
2. From the list that appears on the Stamp menu, select the name of the desired rubber stamp, then confirm.
Confirming the rubber stamp name displays a frame.
3. Move the rectangular frame to the destination, and confirm. If you have chosen one of the Display items other than Show Display Menu in the Options form, the duplicated image appears accordingly.
4. If you have chosen the Show Display Menu item, the Display menu (Figure 3-5) appears. Select and confirm a menu item that creates the desired display. Each menu item is explained in the sections that follow.
5. To make another copy using the same Display menu item, move the rectangular frame to another destination and confirm.

NOTE: To make another copy using a different Display menu item, press CODE-S and confirm.

6. To cancel the Stamp a Rubber Stamp command, press ESC or issue another command.

Transfer—CODE-T CODE-T invokes the Transfer menu, which lists the following functions as items on the menu.

Erase a File

This item lets you erase individual files while remaining within the current canvas. The Erase a File item is especially useful when you receive the `Device full` message and need to create additional space to store your current file.

Exchange for Another File

This item exits the current file and retrieves the new file you select.

After you select and confirm Exchange for Another File, the File form appears. In addition to the items that let you identify the new file, this File form has items that let you specify

- Whether you want the new file and its application retrieved (Next Action item).
- Whether you want to save the last changes made on the current file (Save Changes item).

Include from a Canvas

This item lets you include another source canvas file to your current canvas file. Confirming Include from a Canvas displays the File form on which you specify the canvas file you want. Confirming the File form then displays the Include menu. The menu has the following items:

- Picture, which displays a rectangular frame the size of the canvas from which you are including. Confirming this item includes the source canvas and all style keys and rubber stamps. To display the picture from the source canvas, confirm the rectangular frame that appears. The picture overwrites any image currently on the screen.
- All Style Keys, which includes all style keys (if present) in the current file.
- [Individual Style Keys]—Each defined style key in the source canvas appears below the All Style Keys item. You can include a style key into your current file by selecting and confirming it by name.
- All Form Settings, which includes the settings for the Options form and Grid form.
- All Rubber Stamps, which includes in the current canvas file all rubber stamps in the source canvas file. This item appears in the Include menu only when rubber stamps are defined in the source file.

- [Individual Rubber Stamps]—Each defined rubber stamp in the source canvas file is listed in the Include menu. You can then select one and include it into your current file.

Print

Selecting and confirming this item displays the Print menu.

NOTE: All Print selections are rectangular.

The Print menu choices are the following:

- Print This File, which prints out the current canvas or a part of the canvas that you select.

NOTE: If the canvas is wider than the margins you allowed on your printer, this command rotates the canvas and prints it across the length of the page. If the canvas is wider and longer than the width of the printer page, you get the message *Canvas is too big to fit on a page.*

- Print Page-size, which prints an enlarged copy of the canvas or a selection from the canvas on an 8 1/2-inch page. This item scales the selection to as large a size as will fit onto the page.
- Print Copy to File, which puts a copy of the filled canvas into a canvas file that you specify. Only the canvas (drawing and text) is copied to this file, that is, no rubber stamps, style keys, or options are on the printer copy. You use this option when you want to print your document on a printer attached to a file server device. See the *GRiD Server User's Guide* Printers section of the "GRiD-OS: How to Use Devices" chapter for information on how to print on a printer attached to a file server device.

NOTE: You cannot include a Print Copy file into a GRiDWrite file.

- Print Page-Size Copy to File, which puts an enlarged copy of the canvas or a selection from the canvas into a canvas file that you specify. This item scales the selection to as large a size as will fit onto an 8 1/2-inch x 11-inch page. You print this file the same way you do the previous item.

NOTE: You cannot include a Print Page-Size Copy file into a GRiDWrite file.

Save This Canvas

This item saves a copy of the current canvas. The entire canvas file, including picture, grid settings, style keys, Option form settings, and rubber stamps are saved.

NOTE: If your file Kind is ScreenImage (or Screenimage), only the picture is saved. See Appendix C for more information.

Show Characteristics of a File

This item displays a report giving you information on a file. Selecting and confirming the item displays a File form. Specify the desired file and then confirm.

Write to a Canvas

This item lets you write the current canvas to a destination you specify. After you select and confirm the Write to a Canvas item, the File form appears. In addition to the usual items (Device, Subject, Title, Password), this File form has items that let you specify

- Whether you want the destination file and its application retrieved (Next Action item).
- Whether you want to save the last changes made on the current file (Save Changes item).

Usage—CODE-U The Usage (CODE-U) command displays a report (Figure 3-13) that shows the space usage both in RAM, or Random Access Memory, and on the permanent storage devices (Bubble Memory, Hard Disk, and Floppy Disk) currently attached to your computer. In the report, the usage of the permanent device is shown at the top, and the RAM usage is shown in the highlighted message strip at the bottom of the display. The amount of storage in use and available is shown in thousands of characters (one character is equivalent to one byte).

This command helps determine whether adequate space is available on a device for a new file or the current file. If space is scarce on your primary storage device, you may want to erase unnecessary files, or move them to GRiD Central, floppy diskette, a file server device, or some other permanent storage device.

Figure 3-13. *The Usage Report*

Wednesday 27-Jun-84 5:21 pm			
Device	Floppy Disk		
Subject	Programs		
Title			
Kind			
Bubble Memory	356 In Use	29 Free	
Hard Disk	4294 In Use	950 Free	
Floppy Disk	163 In Use	195 Free	
System: 155 Application: 48 Data: 21 Free: 300			
Usage (in 1000s of characters)			

Use a Style Key—CODE-K The Use a Style Key command (CODE-K) displays the names of all the style keys that you define with the Define a Style Key command. Selecting and confirming a style key retrieves the settings you

set for this style key. For example, if you select a style key that has a Vertical Stripes fill pattern, pen width of 2 pixels, pen height of 6 pixels, and TypefaceGRiD 80, you retrieve all these settings by simply confirming the style key by the name you specified when you defined the style keys.

Zoom—CODE-Z This command enlarges the area of the canvas where the cursor is to four times its original size. Pressing CODE-Z the first time zooms in on the enlarged section; pressing it again restores the canvas to the regular size.

CODE-Z does not affect the operations of a command already initiated. For example, after pressing CODE-M (Move), you could zoom in on the canvas area to make a precise selection, then zoom out again without affecting the operation of CODE-M.

Typing Text There is no command for typing text. You simply position the cursor where you want the text to start and begin typing.

NOTE: If you are zoomed in on an area of the canvas, you must press CODE-Z to get back to the normal-sized image before typing text.

The cursor changes to a blinking triangle and the text that you type appears on the screen, enclosed by a rectangular bracket-like frame that expands as you type.

NOTE: If your canvas is larger than window-size, you may type text beyond the right edge of the screen. However, you will not see what you type beyond this right edge until you confirm the text and scroll to the right margin with SHIFT-→ or CODE-SHIFT-→.

Displaying Text

You have choices for displaying the text that you type. These choices are in the Text: Display item of the Options form (CODE-O). This item works in the same way as the Dup/Move Display item works in the Duplicate and Move commands.

Initial setting is Show Display menu. Other choices are Overwrite, Merge, Text/Line Invert, Paint New Pattern Over Solid, Mirror. See Table 3-1 and the Duplicate—CODE-D section for more information regarding the various display choices.

Repositioning Text

You can either display text where you type it in, or move it to another area of the canvas after you confirm the completed text. You set this choice in the Text: Reposition item of the Options form (CODE-O).

Initial setting is No. Choices are Yes, No.

If the setting is No, confirming (and, if applicable, a Display: Text item) automatically displays the text on the screen, in the exact position where you typed it. If the setting is Yes, a rectangular frame appears. You use this frame to reposition your text, then confirm.

NOTE: Edit your text before confirming it. You cannot erase a letter after you have confirmed the text; you can only type over it.

Chapter 4: Using GRiDPaint for Business Applications

This chapter shows examples using GRiDPaint for

- Sketching designs, such as logos, product designs, maps, and floor plans.
- Producing charts and graphs to enhance textual material in a report or presentation.
- Setting the tone and style of a report or presentation through design elements.

The examples are included as source ideas for enhancing your business documents and presentations.

Sketching Designs Logos (Figures 4-1 and 4-2) and product sketches (Figures 4-3 and 4-4) produced on your computer can be displayed on the computer screen or printed out on paper.

Figure 4-1. *Initials (F and L) Used in Logos*



Figure 4-2. *Logos Using Company Name*

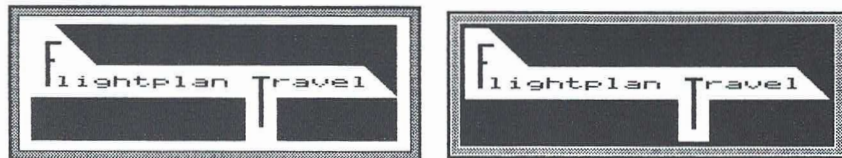


Figure 4-3. *Product Sketch 1*

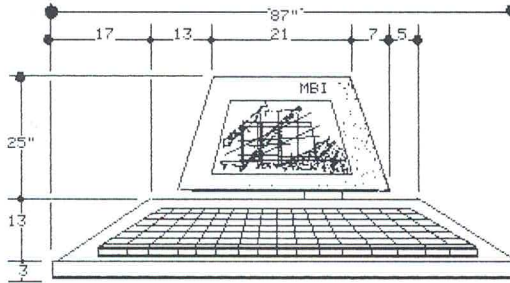
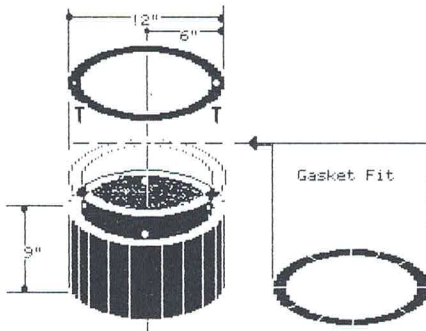


Figure 4-4. *Product Sketch 2*



Maps (Figures 4-5 and 4-6) and floor plans (Figure 4-7) can show location, relative size, and distance.

Figure 4-5. *San Francisco Map*

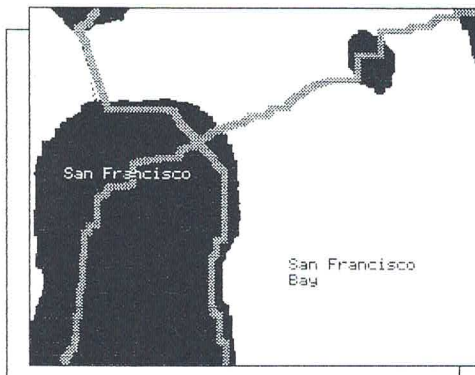
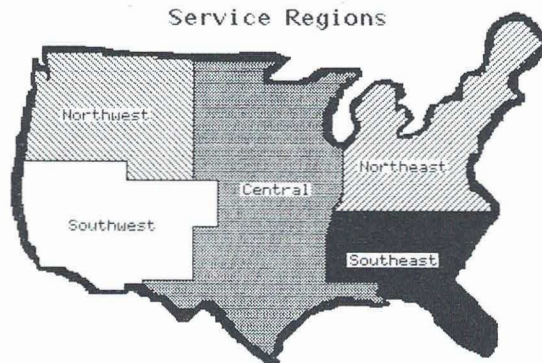
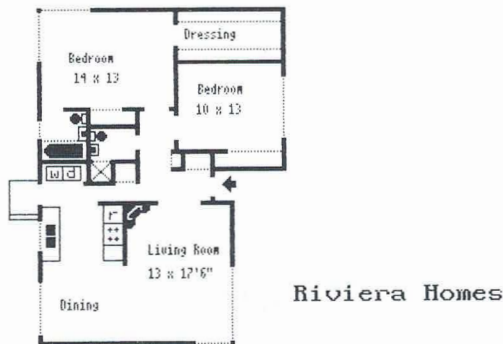


Figure 4-6. *Sales Regions Map*Figure 4-7. *Floor Plan*

Producing Graphs and Charts Presenting data in graphic form with the use of GRiDPaint demonstrates that, indeed, a picture is worth a thousand words. The samples in this section include charts and graphs produced just with GRiDPaint, as well as GRiDPlot graphs that have been modified using GRiDPaint.

Working Just with GRiDPaint

Figure 4-8 shows templates that are on the GRiDPaint diskette. They have been saved as rubber stamps in the Flow Chart Templates file under the "GRiDPaint Files" Subject. Figure 4-9 is a sample flow chart that uses some of these templates. See Exercise 3 in Chapter 1 and Include from a Canvas under the Transfer — CODE-T section of Chapter 3 for information on how to include rubber stamps into a new canvas file.

Figure 4-8. *Flow Chart Templates*

Flow Chart Symbols

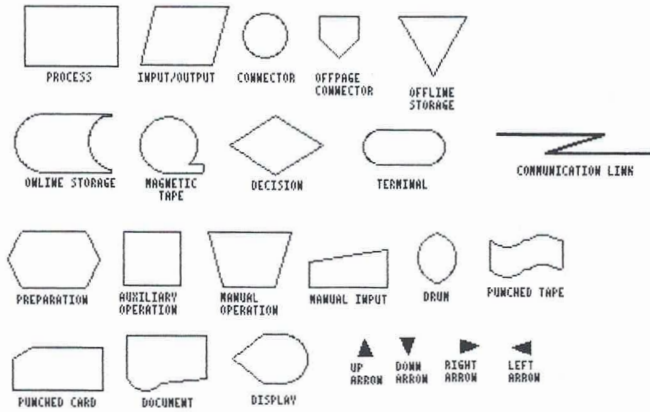
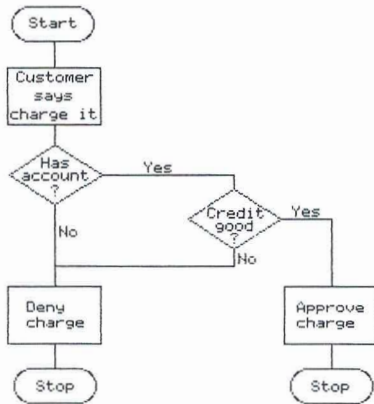


Figure 4-9. *Flow Chart*



Figures 4-10 and 4-11 show charts drawn with the basic design shapes and two typefaces.

Figure 4-10. *Impact Chart*

Projectile Impact Simulation

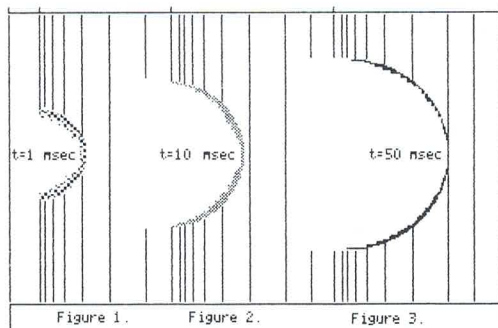
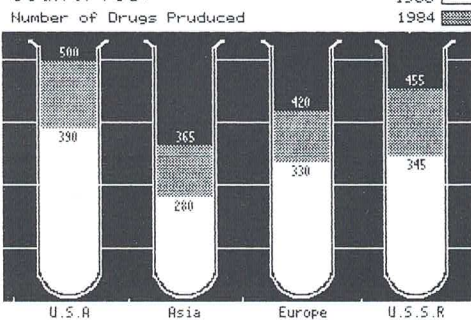


Figure 4-11. *Chemical Graph*

Major Drug Producing Countries.



Using GRiDPlot and GRiDPaint

Figures 4-12 and 4-13 have been produced by first plotting the data and creating a graph in GRiDPlot, then writing the graph to a file of Kind "Canvas" to modify the graph. See Exercises 5 and 6 of Chapter 1 for information on how to modify a GRiDPlot graph with GRiDPaint.

Figure 4-12. *Employees Graph*

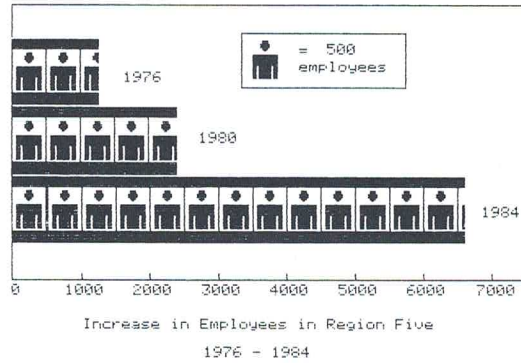
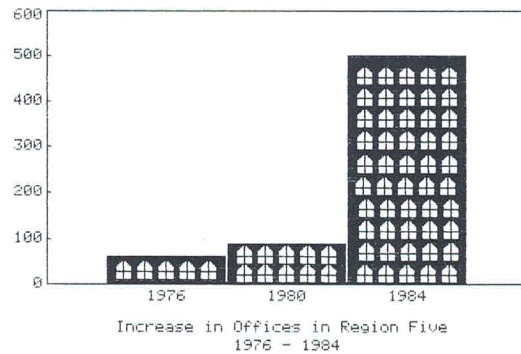


Figure 4-13. *Offices Graph*



Setting Style and Tone You can set the style and tone of your document on the cover page of a report, the introductory slide of your presentation, or the logo that appears when you turn on your computerized demo. The examples in this section suggest some ways to make an initial statement about the material presented in the body of your document.

Formal Reports and Presentations

Figures 4-14 and 4-15 show the use of line, repetition, and choice of typeface to design front covers for a formal report.

Figure 4-14. *Cover Design 1*

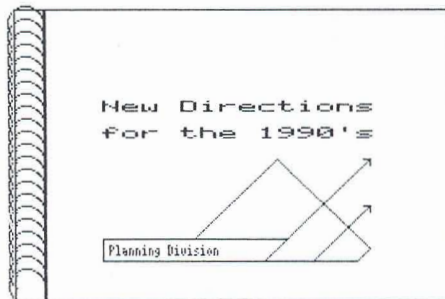
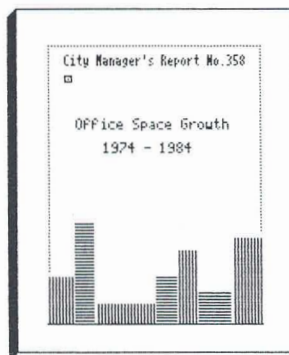


Figure 4-15. *Cover Design 2*



Figures 4-16 and 4-17 show the title slide of two presentations.

Figure 4-16. *Title Slide 1*

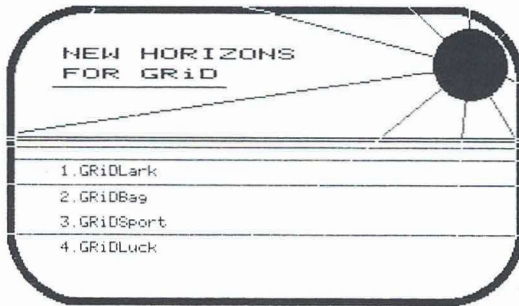
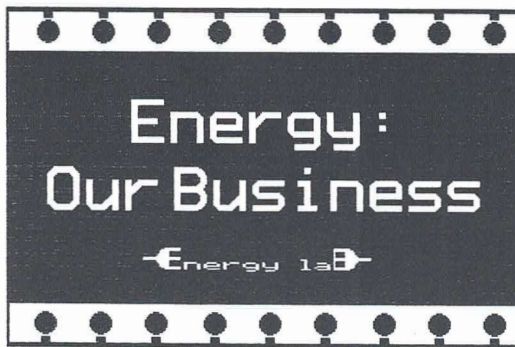
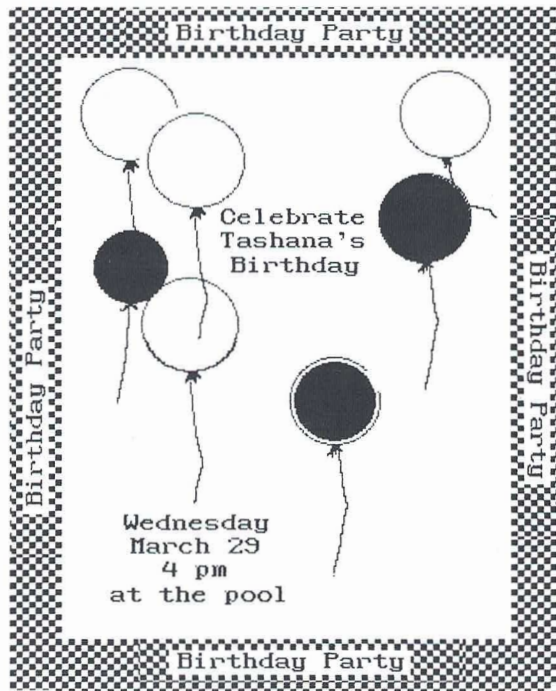


Figure 4-17. *Title Slide 2*



Posters and Invitations The regular shapes, fill patterns, and typefaces of GRiDPaint lend themselves readily to design formats that are formal and disciplined. However, these same shapes, patterns, and typefaces can also be used for designs that suggest spontaneity, informality, and excitement. See Figures 4-18 and 4-19.

Figure 4-18. *Invitation 1*Figure 4-19. *Invitation 2*

Further Exploration of GRiDPaint The examples shown in this chapter use the basic shapes, fill patterns, and commands of GRiDPaint to achieve a variety of designs that you can use or adapt for business applications. GRiDPaint capabilities can be further enhanced by the use of a mouse, a device that lets you draw “freehand,” and the Datacopy Scanner, a device that lets you capture a computerized picture of any object or image. You can also use the GRiD Screenwatch program to copy window-sized data to a canvas file for modification with GRiDPaint.

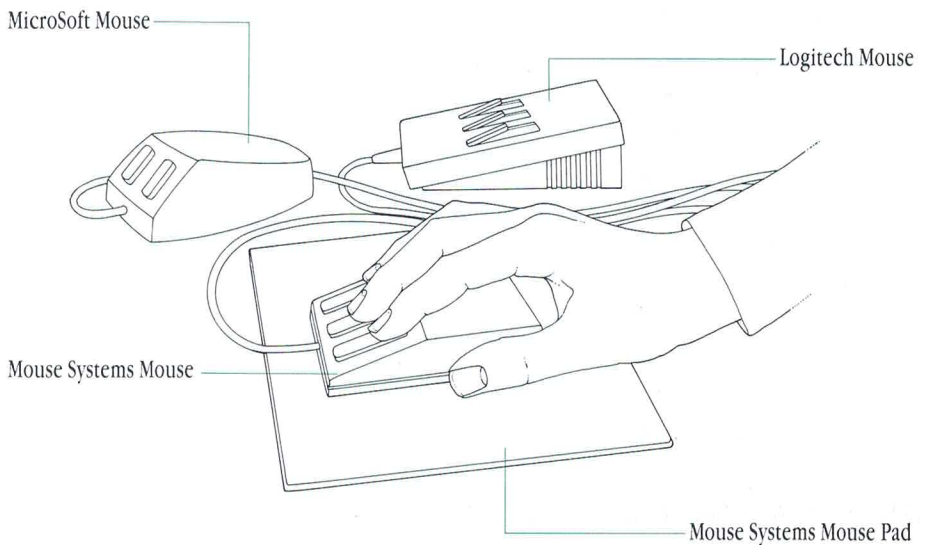
The appendices explain the use of the three GRiDPaint-supported mice, the Datacopy scanner, and the Screenwatch program.

Appendix A: Using a Mouse

The mouse is a device for drawing “freehand” on the GRiDPaint canvas. You draw on the canvas by sliding the mouse over a smooth, flat surface. The direction in which the mouse moves is the same direction that the cursor moves on the canvas.

GRiDPaint supports the MicroSoft® (two-button mouse), Mouse Systems™ (3-button), and the Logitech™ (3-button) mouse. See Figure A-1.

Figure A-1. *Mice Supported by GRiDPaint*



Connecting the Mouse to the Computer All the mice supported by GRiDPaint plug into the SERIAL connector of the GRiD Compass, as follows:

- The Mouse Systems mouse plugs directly into the SERIAL connector.
- The MicroSoft mouse plugs directly into the SERIAL connector.
- The Logitech mouse plugs into the SERIAL connector through a model 6100 cable. You need to order an AC adapter with your Logitech mouse.

NOTE: Before connecting your mouse, read the installation instructions in the mouse packing box.

Activating the Mouse You activate the mouse through the Options form of CODE-O (Options) by choosing the setting for the mouse that you have.

NOTE: To use the mouse, you need the file "Serial" with Kind "Device" in the "Programs" Subject, which is found on the GRiD Operating System diskette.

Using a Three-Button Mouse The Mouse Systems and Logitech mice have three buttons. Use the three-button mouse to

- Move the cursor around the screen. Lay the mouse on a smooth, flat surface, with the head pointing forward (the cable connection pointing away from you).

NOTE: The Mouse Systems mouse comes with a pad on which you must move the mouse. Read the Mouse Systems manual for instructions on the use of the pad.

Move the mouse forward and back, sideways, or in small circular movements on the pad. Start by moving the mouse slowly. If you move it too fast, the line you draw will not be completely filled in, or highlighted. Experiment to see how slowly you need to move the mouse to fill in the patterns you draw.

- Display the Commands menu by pressing the middle button. Move the mouse down the list until the outline is on the command you want to issue.
- Confirm a command by pressing the right button.
- Reissue the last command by pressing the left button.
- Fill in a form. Move the mouse sideways (not pressing any buttons) to choose an item on the choice band. Press the left button while moving the mouse down the list of form items.

NOTE: When a menu or form is displayed, you get back to the canvas by pressing the middle button.

Using a Two-Button Mouse You use the two-button mouse in the same way as the three-button mouse, except that, to display the Commands menu, you press both buttons simultaneously.

Appendix B: Using the Datacopy Scanner

This section starts you using the Datacopy® Model 110 system to scan a picture using an IBM® PC (with MS-DOS), for viewing as a GRiDPaint canvas. For information on installing the software and for further details on the use of the scanner, see the Datacopy Model 110 technical reference manual.

To Set Image Dimensions to Window Size

1. Start the computer and retrieve the Datacopy program.
2. Type S for "Set-Up."
3. Press F3 to set up window.
4. Set the upper left coordinates (initial setting for F1 is upper left corner).
 - If you are going to run GRiDPaint on a GRiD Compass:
 - Press F2 to set x axis, type 224, and enter.
 - Press F3 to set y axis, type 608, and enter.
 - If you are going to run GRiDPaint on an IBM PC:
 - Press F2 to set x axis, type 544, and enter.
 - Press F3 to set y axis, type 888, and enter.
4. Press F1 to reset to lower right corner, then set the coordinates for this corner.
 - If your computer is a GRiD Compass:
 - Press F2 to set x axis, type 1503, and enter.
 - Press F3 to set y axis, type 1567, and enter.
 - If your computer is an IBM PC:
 - Press F2 to set x axis, type 1184, and enter.
 - Press F3 to set y axis, type 1288, and enter.
5. Press Esc.

To Capture the Image

(This procedure continues from the preceding one.)

NOTE: *Capture* is used here to refer to the process of copying an image.

1. Press F1 to set up for capture.
2. Lay the image to be captured on the scanner stand and adjust camera to a level where it can capture the whole image. You may have to experiment with this a few times, keeping in mind that the higher the level of the camera, the larger the area it can capture.
3. Press F1 to select focus measurement. Lay the focusing grid (comes with scanner) on top of the image. Then, turn the focusing ring on the lens very slowly until a high number (in the teens or higher) registers beside the F1 item.
4. Press F2 to select light meter. When you hear the camera "squeak," wait a few seconds as the camera automatically adjusts the light meter.
5. Press F3 (press only if you need to change current setting). Set to "Picture" if the image has halftones; if it is a line drawing, text, or just black and white (2 shades), set to "Line Art".
6. Take off the focusing guide, then press F4 to set auto threshold.
7. Press C for Capture. Watch the lower right corner of the screen to see how much of the image (given in %) has been captured.
8. Press Esc after the capture is completed.

To Transfer the Image to the Hard Disk

(This procedure continues from the preceding one.)

1. Press F2 to set up for Transfer.
2. When the new menu appears, press F2, then type in a file name of your choice. Enter.
3. Press F5 and type in 4 as the x reduction ratio. Enter.
4. Press F6 and type 4 as the y reduction ration. Enter.
5. Type T for "Transfer".
6. Type Q (Quit), then Y.

To Copy the Image to a Floppy Disk

1. Issue the command `[cd]>COPY (NAME),IMG A:`
2. When the copying has been completed, you see the message `1 File(s)
copied`

To Copy the Image to a GRiDPaint File

(You need to have both MS-DOS and GRiD-OS in your computer system to proceed with this step.)

1. If you do not have the Kind item "Datacopy" in your system, create an empty file of Kind "Datacopy", following the steps below:
 - Turn on your GRiD-OS computer and select GRiDPaint with Kind "Run Canvas", under the "Programs" Subject.
 - Change the Kind item to "Run Datacopy" by erasing "Canvas" and typing in "Datacopy."
 - Confirm. This retrieves an empty GRiDPaint canvas. CODE-ESC to display the File form.
2. Insert the floppy diskette with the scanned image into the floppy disk drive.
3. Select GRiDTransfer from the "Programs" Subject.
4. Press CODE-D (Duplicate), then confirm.
5. Select and confirm "MS-DOS to GRiD-OS — no conversion".
6. Specify the source file to be duplicated in the form that appears, then confirm.
7. Specify the destination file with Kind "Datacopy," then confirm. After the duplication has been completed, the message "Number of file(s) duplicated" appears.

NOTE: To print a file of Kind "Datacopy," you need to write it to a file of Kind "Canvas," then print it with CODE-T.

You cannot save form settings or rubber stamps in a datacopy file.

Appendix C: Using ScreenWatch

The ScreenWatch program lets you print or save in a file the screen image that is currently displayed.

Saving a Screen Image in a File The following instructions show how to save a screen image in a canvas file.

To Save a Screen Image in a Canvas File

1. Select ScreenWatch from the “Programs” Subject on the File form and confirm.
NOTE: After you confirm ScreenWatch, the File form reappears. To verify that the program is running, press CODE-SHIFT-+ to display the Pathname form of ScreenWatch.
2. Display the data or graphics image that you want to save and/or print.
3. Press CODE-SHIFT-+ to display the Pathname form. Type a pathname as the file name. The pathname includes
 - Storage device: backslash [produced by CODE-' (apostrophe)] followed by w (for hard disk, or Winchester), f (for floppy disk), or b (for bubble memory)— `w, `f, or `b.
 - Subject: you designate.
 - Title: you designate.Example: `w`GRiDPaint Files `Logo
NOTE: If you are saving the screen image as a file within the current Subject, all you need to type in is a title. For example, if your current Subject is “Monthly Reports,” and you want to save the screen image under the same subject, when the Pathname form appears, just type a file name, such as “Fig. 1”.
4. When you finish using the ScreenWatch program, press CODE-SHIFT-+ and then CODE-ESC. This removes ScreenWatch from RAM, providing you with more space to work with other files.

Appendix D: Error Messages

This appendix contains explanations of the error messages that you may receive while using GRiDPaint.

11150: No rubber stamps have been defined

What happened You pressed CODE-S, but no rubber stamps exist in the file.

What to do Proceed with the next command.

11151: No style keys have been defined

What happened You pressed CODE-K, but no style keys exist in the file.

What to do Proceed with the next command.

11152: Style key name must be filled in

What happened You confirmed the Style Key form without filling in a Style Key name.

What to do Type a Style Key name.

11153: Canvas is too big to fit on a page

What happened You tried to print a canvas selection that was too large to fit on the printer page.

What to do If the image you want to print does not use up the entire canvas, try printing only the canvas area occupied by the image. Select the area to be printed by pressing Arrow keys.

If the image uses up the entire canvas, print the picture in two parts.

11154: Rubber stamp name must be filled in

What happened You confirmed a rubber stamp without filling in the name on the form.

What to do Type a name for the rubber stamp.

11155: No Serial Device found for the mouse

- | | |
|---------------|--|
| What happened | You set the Mouse item of the Options form to activate a mouse, but you do not have a SERIAL device in the storage device(s) connected to your computer. |
| What to do | Copy the file "Serial" under the "Programs" Subject of the device connected to your computer. A copy of the program is on the GRiDPaint diskette. |

11157: Rubber stamp too large

- | | |
|---------------|---|
| What happened | You tried to create a rubber stamp than was larger than 60,000 bytes. |
|---------------|---|

GRiDPaint Command Summary

Begin Selection	CODE-B Lets you mark the start of a selection after issuing commands that use selections.
Cancel	CODE-ESC Exits GRiDPaint without saving any changes made on the canvas file since the last time you saved the file.
Circle	CODE-C Changes the cursor and design shape to a circle.
Define a Rubber Stamp	CODE-? Lets you save an existing image on the canvas for later use in the same canvas or inclusion in another canvas file.
Define a Style Key	CODE-? Lets you define settings for a group of design elements that you might use together.

Style Key Form

Fill Pattern	Sets the pattern within a rectangle, circle, or within a line drawn with the pen cursor. <hr/> `Solid. <hr/> Other choices are Grey, Checks, Square, Herringbone, Horizontal stripes, Vertical stripes, Shaded pyramids, Frame only, Left Slants, and Right Slants.
Text: Typeface	Sets the typeface for text typed on the canvas. <hr/> `System-wide <hr/> Other choices correspond with files under the Programs" subject and Kind "Font" in the storage device(s) you are currently using.
Text: Alignment	Lets you align text on the canvas to the left, center, or right. <hr/> `Left Aligns text to left of the bracket-like frame that appears when you type text. <hr/> Other settings are Center and Right.
Text: Display	Determines the action that GRiDPaint takes after you confirm text that you have typed.



Show Display Menu	Shows Display menu with the five items discussed below listed.
Overwrite	Cancels whatever image or text might already be at the destination. If text is typed over an existing pattern, text appears within a rectangular pattern.
Merge	Shows the highlighted areas of both source and destination.
Text/Line Invert	Darkens lines, outlined shapes, or text when duplicated over a highlighted background; highlights these when duplicated over a dark area.
Paint New Pattern Over Solid	Superimposes any fill pattern over a shape that has a solid pattern.
Mirror	Reverses right and left orientations when it copies an image.
Pen: Width	Sets the width of the pen cursor.
'1	Initial setting is one pixel; erase current number to type another width in pixels.
Character Width	Width of the current text typeface.
Pen: Height	Sets the height of the pen cursor.
'1	Initial setting is one pixel; erase current number to type another width in pixels.
Text Line Height	Line height of the current text typeface.
Style Key Name	Lets you type in a name of your choice for the Style Key that you have just defined.

**Indicates initial setting*

Duplicate CODE-D
 Lets you copy a selection to another section of the canvas. How the duplicate copy appears on the canvas is determined by settings for the Dup/Move Display item of CODE-O.

Erase CODE-E
 Erases an area on the canvas that you select.

Fill	CODE-F Lets you draw with the current cursor.
Fill Enclosed Area	CODE-? Fills in any bounded area with the current fill pattern.
Grid	CODE-G Displays the Grid form, whose settings align your designs on the canvas.

Grid Form

Grid: Width	Sets the distance between vertical grid lines.	
	`16	Initial choice is 16 pixels; erase current number to type in a new grid width.
	Character Width	Width of the current text typeface.
Grid: Height	Sets the distance between horizontal grid lines.	
	`16	Initial choice is 16 pixels; erase current number to type in a new grid height.
	Text Line Height	Height of one line of text for the current text typeface.
Align Grid with Cursor	Sets grid position relative to the cursor.	
	`No	Grid positions are fixed.
	Yes	Grid moves with the cursor.
Show Horizontal Ruler	Shows horizontal ruler at the top of the screen.	
	`No	No horizontal ruler shown.
	Yes	Shows the horizontal ruler at the top of the screen with every 20th pixel marked and labeled for the regular canvas and every 10th pixel marked when zooming in on an area.
Show Vertical Ruler	Shows vertical ruler that is at the left edge of the screen.	
	`No	No vertical ruler shown.
	Yes	Shows the vertical ruler at the left edge of the screen with every 20th pixel marked and labeled.



Show Cursor Position	Indicates cursor position in terms of x,y coordinates.
	<hr/>
	No Cursor positions not shown.
	<hr/>
	Yes Shows the cursor position as coordinates of a point, where the top left corner is 0,0.

**Indicates initial setting*

Invert CODE-I
Inverts a selection on the canvas. This means that all highlighted areas in the selection become darkened and dark areas are highlighted.

Jump CODE-J
 Lets you set in a form the coordinates of the point to which the cursor jumps.

Jump Form

Horizontal Destination	Indicates point on the horizontal axis where cursor will move.
	<hr/>
	Point Lets you type in the point on the x (horizontal) axis where you want to move the cursor.
	<hr/>
	Last Midway Point Moves the cursor to the midpoint of the last selection.
	<hr/>
	Canvas Right Moves the cursor to the right edge of the canvas.

Vertical Des- tination	Indicates point on the vertical axis where cursor will move.
	<hr/>
	Point Lets you type in the point on the y (ver- tical) axis where you want to move the cursor.
	<hr/>
	Last Midway Point Moves the cursor to the midpoint of the last selection.
	<hr/>
	Canvas Bot- tom Moves the cursor to the lower edge of the canvas.

**Indicates initial setting*

Line CODE-L
 Changes the design shape to a line and the cursor to crossed diagonals.

Move CODE-M
Lets you move an image on the canvas, or a portion of it, to another section of the canvas. How the image appears after you move it is determined by the Dup/Move Display item of CODE-O.

Option CODE-O
Defines canvas characteristics.

Options Form

Fill Pattern	Sets the pattern within a rectangle, circle, or within a line drawn with the pen cursor.
	'Solid.
	Other choices are Grey, Checks, Square, Herringbone, Horizontal stripes, Vertical stripes, Shaded pyramids, Frame only, Left slants, and Right slants.
Text: Typeface	Sets the typeface for text that you type on the canvas.
	'System-wide
	Other choices correspond to files under the "Programs" Subject and Kind "Font" in the storage device(s) you are currently using.
Text: Alignment	Lets you align text on the canvas to the left, center, or right.
	'Left Aligns text to left of the bracket-like frame that appears when you type text.
	Other settings are Center and Right.
Text: Reposition	Lets you reposition text.
	'No Automatically displays text where you typed it.
	Yes Lets you move a rectangular frame to the location desired, then displays text there after you confirm.
Text: Display	Determines the action that GRIDPaint takes after you confirm text that you have typed.
	'Show Display Menu Shows Display menu with the five items discussed below listed.
	Overwrite Cancels whatever image or text might already be at the destination. If text is typed over an existing pattern, text appears within a rectangular pattern.



	Merge	Shows the highlighted areas of both source and destination.
	Text/Line Invert	Darkens lines, outlined shapes, or text when duplicated over a highlighted background; highlights these when duplicated over a dark area.
	Paint New Pattern Over Solid	Superimposes any fill pattern over a shape that has a solid pattern.
	Mirror	Reverses right and left orientations when it copies an image.
Pen: Width		Sets the width of the pen cursor.
	'1	Initial setting is one pixel; erase current number to type in another width in pixels.
	Character Width	Width of the current text typeface.
Pen: Height		Sets the height of the pen cursor.
	'1	Initial setting is one pixel; erase current number to type another width in pixels.
	Text Line Height	Line height of the text typeface currently in use.
Canvas: Width		Sets the canvas width.
		'Pixel value of window width; erase current number and type new width in pixels.
		Window Width
Canvas: Height		Sets the canvas width.
		'Pixel value of window height; erase current number and type new height in pixels.
		Window Height
Dup/Move Display		Determines the action that GRiDPaint takes after you move or duplicate data with CODE-M or CODE-D. Displays the same menu discussed in the Text Display section above.
Mouse		Activates the mouse device you specify.
		'None.

Other choices are MicroSoft (2-Button), Logitech (3-Button), and Mouse Systems (3-Button).

Current
Typeface

Lets you set the typeface for forms, menus, and messages.

System-wide Typeface that is set in the GRiDManager Options form.

Other choices correspond with the files of Kind "Font" that you have under the "Programs" Subject.

**Indicates initial setting*

Pen

CODE-P

Lets you use the cursor as a pen.

Quit

CODE-Q

Lets you exit GRiDPaint and saves any changes you made on the canvas since you last saved it.

Rectangle

CODE-R

Changes the cursor and the design shape to a rectangle.

Remove a
Rubber Stamp

CODE-?

Lets you remove a previously defined rubber stamp. Displays a menu from which you select and confirm the rubber stamp you want to remove.

Remove a
Style Key

CODE-?

Lets you remove a previously defined style key. Displays a menu from which you select and confirm the style key that you want to remove.

Rotate a
Selection

CODE-?

Lets you rotate a selection 90 degrees, clockwise or counterclockwise, and 180 degrees. Displays a menu that lets you choose how you want the selection rotated.

Scale a
Selection

CODE-?

Allows you to enlarge or reduce a selection on the canvas. Displays the Scale form, which lets you choose how you want the selection scaled

Scale Form

Horizontal
Scale Factor

Scales the images horizontally.

1 Same size

Other choices are Double, Quadruple, Half, and Quarter.



Vertical Scale Factor	Scales the images vertically. *1 Same size Other choices are Double, Quadruple, Half, and Quarter.
Grey Scale Factor	Highlights or darkens pixels on detail of image that is reduced. *Line Art for text or line art. Picture for images with detail or half tones.

**Indicates initial setting*

Stamp a Rubber Stamp
Transfer

CODE-S
Displays the names of all rubber stamps that you have defined.

CODE-T
Invokes the Transfer menu, which lists the following functions as items on the menu.

Transfer Menu

Save This Canvas	Saves a copy of the current canvas. The entire canvas file, including picture, grid settings, style keys, Option form settings, and rubber stamps are saved.
Exchange for Another File	Lets you exit, save (at your option), and transfer from the current canvas file to the destination file you select.
Write to a Canvas	Lets you write all or part of the current canvas to a destination (with Kind "Canvas") you specify.
Include from a Canvas	Lets you include another source canvas file to your current canvas file. Confirming Include from a Canvas displays the File form on which you specify the canvas file you want.
Erase a File	Lets you erase individual files while remaining within the current canvas.
Show Characteristics of a File	Displays a report that gives information on a file. Selecting and confirming the item displays a File form.
Print	Displays the Print menu.

Usage	CODE-U Displays a report that shows the space usage both in RAM, or Random Access Memory, and on the permanent storage devices (Bubble Memory, Hard Disk, and Floppy Disk) currently attached to your computer.
Use a Style Key	CODE-K Displays the names of all the style keys that you have defined. Selecting and confirming a style key retrieves the settings you set for this style key.
Zoom	CODE-Z Enlarges the area of the canvas where the cursor is to four times its original size. Pressing CODE-Z the first time zooms in on the enlarged section; pressing it again restores the canvas to the regular size.

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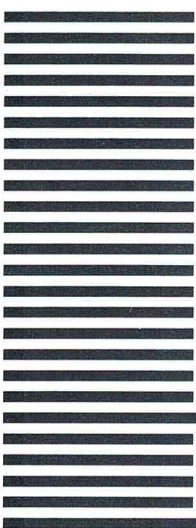
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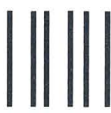
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