

Introduction

Valpaint is an easy-to-use tool for creating art, with an astonishing array of capabilities. Easy access to Valpaint's electronic painting devices, patterns, palettes, and canvas provide you with tools that have no equivalent in conventional art media. As such, it's an exciting new medium for the artist and non-artist alike, with possibilities that are as limitless as your imagination.

The best way to learn how to use Valpaint is to experiment. Try several of the different painting effects, or select from among the 60 patterns and shapes. Play with a couple of the tools available: Valpaint offers a paintbrush, a pencil, and an airbrush, and lets you increase or decrease the size of the brush. Or, you can zoom in for close work on a particular area of the canvas. Erase what you don't like, and store all or part of your painting.

If you're using Valpaint with a color terminal, you'll have access to 125 possible colors. Valpaint's colors are made of light and are so vibrant that no paints or inks can reproduce them.

If you have a monochrome screen, you'll be working with five

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different shades: black and four variations of green. Valpaint's tools let you create fascinating textures and tones and a sense of depth you'd never believe possible with a monochrome screen.

So take a few minutes to orient yourself, and remember: instructions are on the screen at all times. In addition, a simple press of the **[HELP]** key will give you on-screen information whenever you've got a question. You may even find that after you've started up Valpaint and installed your mouse, you won't have to look at this booklet again. You'll be too busy turning out your own creative and imaginative paintings.

HOW TO USE THIS MANUAL

The Valpaint manual is divided into three parts. If you just want to get a running start, read the first section, "Getting Acquainted with Valpaint." It will guide you quickly and painlessly through the basic features and capabilities of the program.

When you want to know more about Valpaint's many features, read Part II, "Using Valpaint—Features Summary." It describes in greater detail the tools, menus, and keyboard keys you'll be using.

Part III, "The Appendixes," presents information concerning installation, keyboard interface, output devices, painting techniques, and error messages, and information about `PICTURE.SYS`, a picture utility.

FOR FURTHER ASSISTANCE

This manual is intended to be your primary source of operating information about Valpaint. However, if you have questions that are not answered here, or need applications assistance, call Rising Star's Customer Services hotline at 213-373-9127, Monday through Friday between 7 a.m. and 5 p.m. Pacific Coast Time, and we'll do our best to help.

Part I

Getting Acquainted With Valpaint

Installing Valpaint is a simple procedure. Once you've followed the steps outlined in Appendix A: "Valpaint Installation," your program will be up and running. The same Appendix also gives you instructions for connecting your mouse.

THE MOUSE

The mouse is a graphics interface device that allows you to move the pointer or cursor easily on the screen.

If you turn the mouse over, you'll notice a little red light. This light detects motion across the grid plate by sensing interruptions in light reflected from the grid plate. When you move the mouse, the cursor moves accordingly.

The grid plate resembles the canvas in shape: a rectangle with the long sides on the top and bottom. If the mouse is not held aligned with the grid plate, mouse movement will be erratic.

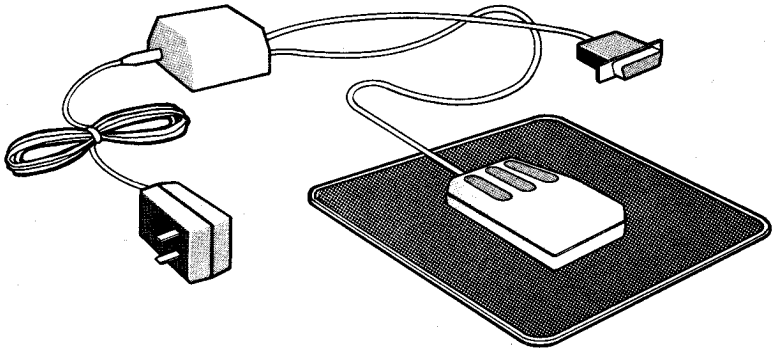


Figure 1. The mouse

Mouse Controls

The three buttons on top of the mouse allow you to apply paint, change tools, change the size of the tools, and access other Valpaint features.

Generally, the mouse button under the index finger acts like the **[RETURN]** key on your keyboard. The left button also allows you to draw with the mouse, and will be called the DRAW button when used for that purpose.

To make a selection from either the screen icons or a menu, press the RETURN (ENTER) button. The other mouse buttons have different functions depending on the part of Valpaint you are using. Which button does what will always be written on the screen. More on mouse button functions as we go along.

Note: When you first start up Valpaint, the mouse and the program are set up for right-handed users. If you set the mouse for left-handed use, the RIGHT button will be the selector. To set Valpaint and mouse instructions for left-handed use, see Part II, "Main Menu Features: <U>ser Definitions."

THE MAIN SCREEN

The main screen has four parts: the canvas area, the pattern palette, the shade palette (color palette, if you are using a color machine), and the status line. The status line contains the tool palette, mouse instructions, and the effects of paint icons.

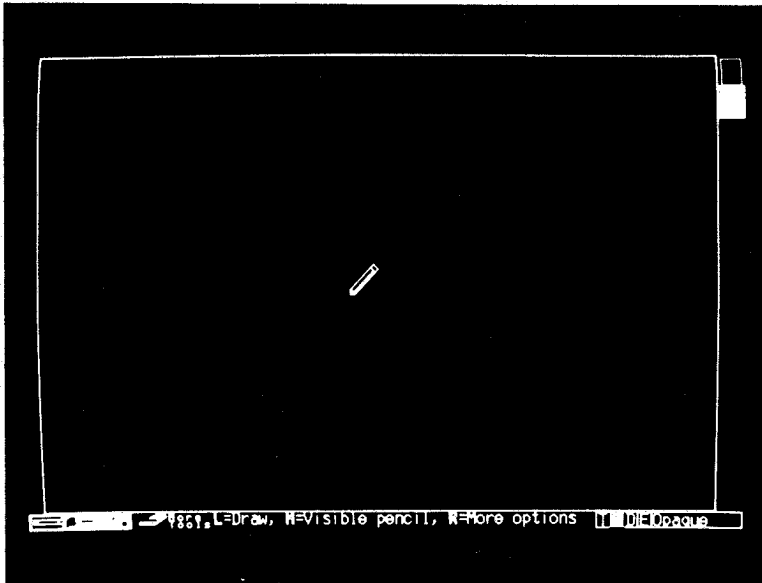


Figure 2. Valpaint's main screen (see also Color photo 1)

Note: When Valpaint is first brought up on your screen, the pencil tool is automatically ready for you to use. Even so, the pencil is not a good example for the following material. For the present, select the "brush" tool and bring the cursor to the middle of the screen. The full color or shade palette and the pattern palette will be displayed. This way you can follow along with the discussion of Valpaint's main screen, as detailed in the following pages.

The Canvas

The canvas is the area where you will paint your paintings. It is comparable to the document window in other Valdocs applications.

The Pattern Palette

The pattern palette appears to the left of the canvas. To choose a pattern, move the cursor over that pattern and select it. A white box will surround the pattern to show that it is in use. Remember, to select an item, just glide the mouse over the grid plate until the cursor is over your choice. Press the RETURN (or ENTER) mouse button, and the item will be selected.

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Twelve patterns are displayed at the left of the screen. If you want to see all 60 patterns, select "More Patterns" (in the lower left-hand corner of the screen). You will be taken to the large pattern palette.

Select any of these patterns and place it on your palette. The cursor will move to the pattern palette, on the left of the screen. Move the cursor to the desired position for this new pattern, press the RETURN (or DRAW) button, and it will be displayed on the palette.

Press UNDO or the MIDDLE mouse button to return to the main screen with your newly installed palette. Your brush (or whatever tool you've selected) will be loaded with the most recently selected pattern.

The Shade/Color Palette

The shade or color palette appears on the right of the canvas. It works just like the pattern palette. To choose a color or shade, move the cursor over your choice and select it.

Monochrome Screens: Five shades are available on a monochrome screen: black and four shades of green. To choose a shade, move the cursor to the palette area and make a selection. When you return the cursor to the canvas, the tool will be loaded with the chosen shade.

Color Screens: With a color screen, 12 colors are displayed in the color palette. To see all 125 possible colors, select "More Colors," and you will be taken to the large color palette. Load up your main screen palette (now displayed on the right of the large color palette) by selecting a color. The cursor will be brought to the palette. Choose a position for the new color and select it. The new color will now appear on your main screen palette.

Press the UNDO or MIDDLE mouse button to return to the main screen and your painting area with your newly installed palette.

The Status Line

The status line is located on the bottom of the screen and has three parts: the Tool Palette, Mouse Instructions, and T.O.D.E.

Tool Palette: The Tool Palette is on the left of the status line. It is made up of four icons (or symbolic pictures) of drawing and

painting tools, and a box titled "More Tools." To change tools, place the cursor over the new choice and select it. Choosing "More Tools" will take you to the tool screen, which displays all eight possible tools. You may put any of these tools on your tool palette by selecting it. The cursor will move to the tool palette now displayed in the upper left-hand corner of the screen. Select a location on your tool palette, and the tool icon will appear in the palette. Press the UNDO or MIDDLE mouse button to return to the main screen with your new tool palette installed.

Monochrome and Color Screens: On a monochrome screen, the selected tool will have a box around it. On a color screen, the icon for the tool currently in use will have a magenta background. Tools not in use have green backgrounds.

Mouse Instructions: The Mouse Instructions appearing on the status line apply to the mouse buttons and their functions at any given time: L=LEFT, M=MIDDLE, and R=RIGHT mouse buttons. Refer to these instructions any time you lose track of where you are in Valpaint.

The mouse instructions change, depending on where you are in the program. For instance, from the main screen, if you move the cursor off the canvas area, the instructions change from "More Options" to "Tool Menu." If you ever have a question about what button does what, read this part of the screen.

T.O.D.E. or Changing the Effects of Paint: The letters "T," "O," "D," and "E" appear in the right-hand portion of the status line. These letters stand for "Transparent," "Opaque," "Dither," and "Erase," representing the different painting effects available to you. When you select an effect, the letter is highlighted in white. The effect will then be spelled out to the right of the letters. If you ever forget what the letters stand for, just rotate through them. (More about the effects of paint in Part II.)

The Main Menu

You may have noticed that one of the mouse instructions says that if you press a button, you will be given "More Options." This takes you to Valpaint's Main Menu and options like on-screen formatting and user definitions. For more about these options, see the "Main Menu" section in Part II.

CHANGING THE SIZE OF THE CURSOR

Depending on your requirements, you can adjust the size of your brush, airbrush, eraser, text labels, and geometric shape tools. Your tools can be as large as the canvas or as small as one pixel. To change the tool size, press the MIDDLE mouse button once. Now glide the mouse on the grid plate. Notice the cursor grows or shrinks depending on the direction you move the mouse. Also, the lower left-hand corner of the cursor is "anchored" to the screen while you are in the process of changing sizes. A circle is anchored by its center point, which is not displayed. A line is anchored by one end point. To "fix" the cursor to the size you want, simply press the MIDDLE button again. The size will be "fixed" and you can once again move the cursor freely.

ZOOMING

The Zoom feature lets you work close up on a specific area. If you choose, you can even work on a painting pixel by pixel.

To zoom into an area, place the cursor over the area you want to see in detail, then press the "plus" [++] key. You can press the [++] key up to 15 times. In other words, you can view part of a painting with X15 "magnification."

You can also move around your painting in this mode. Simply move the mouse, and your screen will scan over the painting. To get back to full screen viewing and the palettes, press the "minus" [--] key as many times as needed, or press [RETURN] on the keyboard to take you back to full screen.

Note: You can use the [++] or [--] keys on the number row on your keyboard (you don't have to use the [SHIFT] key). You can also use the equivalent keys on your numeric keypad.

ERASING THE SCREEN AND STARTING OVER

If you want to erase the canvas and start a new painting, place the cursor in the canvas area of the screen and press the RIGHT

mouse button. This will take you to Valpaint's Main Menu. Select the <M>iscellaneous option, then select <E>rase Screen and Palettes, Refile Original Painting. Because this is an erasing or deleting command, an additional menu will ask if you want to <K>eep the Current Painting or <T>hrow Away Current Painting. Throwing it away will return you to Valpaint's main screen and a fresh canvas.

STORING AND RETRIEVING PAINTINGS

To store a painting, press the **[STORE]** key. The system will ask you if you want to store all or part of that painting. Make your selection, enter an index name, and press **[STORE]** again. You will be returned to Valpaint's main screen and your painting. To store just part of the painting, make the cursor the size of the block you wish to store, press the MIDDLE button to fix the size, then press the RETURN button to store.

To retrieve a painting you have previously stored, press the **[RETRIEVE]** key. The system will ask you for the index name of the painting you want to retrieve. Enter it and press **[RETRIEVE]** again. If you don't remember the name of the painting, or want to see an indexed list of the paintings on the current data disk, press the **[INDEX]** key for a direct selection.

Once you have specified a painting for retrieval, a menu will appear. To retrieve a painting exactly as you stored it, select the first option, <O>paque. If you have anything on the screen at the time you're retrieving, such as experimental scribbles, it will be erased and the painting you've requested will be retrieved to the screen. If you'd like to keep the scribbles for future experimentation **[STORE]** them first before you retrieve another painting.

The other menu options deal with the retrieval of paintings in different paint modes. It's possible, for instance, to retrieve a transparent school of fish over an underwater seascape. To read more about different paint modes, see "Main Menu Features: <C>hange the Effects of Paint" in Part II.

If you've stored a *part* of a painting and wish to retrieve it, you have the option of retrieving it once on the canvas, or as many times as you like, for a repeating pattern effect.

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For more information about storing and retrieving paintings, and the many different options, see "The Application Keys," in Part II.

Happy painting.

Part II

Using Valpaint— Feature Summary

By now you've had an opportunity to experiment with Valpaint and discover its range and versatility. Part II will help you understand the full extent of Valpaint's capabilities, or answer any specific questions you may have about tools and features.

Among the topics presented in this section, you'll find an explanation of Valpaint color; an alphabetized Dictionary of Tools so that you can easily locate the tool in question; a detailed discussion of Valpaint's Main Menu features, organized by their menu appearance; and finally, a look at the keyboard applications keys that apply to Valpaint.

SHADES AND COLORS

Monochrome Screens: There are five shades available with the monochrome screen—black and varying shades of green.

Color Screens: Valpaint has 125 colors with the color screen.

Twelve colors are displayed on the main screen palette. Selecting the "More Colors" option takes you to the large color palette and all the available colors.

Pure Colors

The colors you will see and use with Valpaint are not like pigment colors (colors obtained with media like oils, watercolors, or colored markers). Valpaint's colors are made of light. In other words, your "canvas" emits light rather than reflects it.

In Valpaint, the pixels (the smallest units of light) are "pure colors." Color mixing with light is called "additive synthesis"—all primary colors added together make white. Color mixing with pigments is called "subtractive synthesis"—the subtraction of color making white.

Valpaint's Color Wheel

Primary Colors: Red, Green, and Blue

Secondary Colors: Violet (R+B), Yellow (R+G), Cyan (B+G)

Achromatics: Black (no colors), White (R+G+B)

If you look at the color wheel in Color photo 2, you'll notice significant differences between the way colors composed of light behave when mixed and the way pigment paints mix. In conventional painting, red and green pigment paints mix. In conventional painting, red and green pigments mixed together will not result in yellow, but a brownish color. Red, green, and blue mixed together result in anything but white. Yet with colors made of light, red and green make yellow. Red, green, and blue add up to white.

Another difference between subtractive and additive synthesis is that in subtractive synthesis, green is a secondary color (the result of blue mixed with yellow) and yellow is a primary color. With additive synthesis, yellow is a secondary color while green is primary.

If you look at other colors on the Valpaint palette, you will notice that they are not solid hues, but actually combinations of pure colors.

Applying non-pure colors with a patterned tool will sometimes yield unexpected results. For instance, if you are using a pattern consisting of thin, parallel lines and a composite color like rose (made up of violet and red) you might get an unplanned-for ar-

rangement of either red or violet dots. This effect would be compounded in the transparent paint mode. (For more on transparent paint, see “Main Menu Features: <C>hange the Effects of Paint.”)

PATTERNS

There are twelve patterns displayed on the main screen. Selecting the “More Patterns” option will take you to the large pattern palette and all 60 patterns.

Monochrome Screens: With the monochrome screen, both the large and small pattern palettes are displayed in green.

Color Screens: On the color screen, the main screen pattern palette is displayed in white. The large pattern palette is displayed in green.

Pattern Alignment

The pattern alignment feature is turned on when you bring up Valpaint for the very first time. This feature allows you to apply patterns with the paintbrush evenly, without overlap, regardless

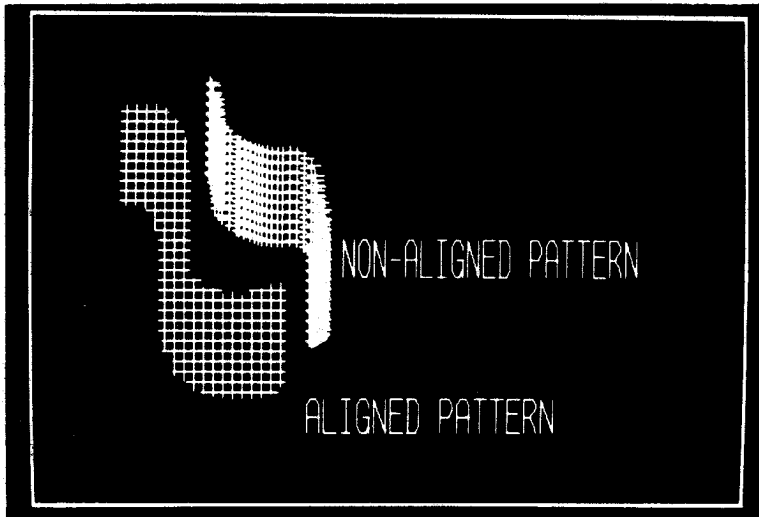


Figure 3. Aligned and non-aligned patterns

of the speed of your drawing hand or overlapping motions. You can turn the pattern alignment on and off for different pattern effects. To do this, go to Valpaint's Main Menu and choose the <U>ser Definitions option. From this menu you can turn the pattern alignment on and off (for details, see "Main Menu Features: <U>ser Definitions").

DICTIONARY OF TOOLS

The following dictionary provides you with a quick and handy reference to your Valpaint Tools.

Airbrush

The airbrush is much like the paintbrush (see below). The cursor behaves in the same way, and you have access to all the colors, patterns, and paint effects. However, there is one major difference: instead of applying all the paint at once, the paint is "sprayed" on, much as it is with a real airbrush.

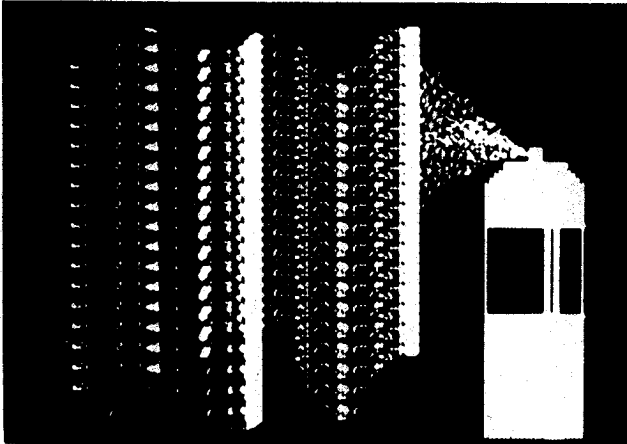


Figure 4. Airbrush

The longer you press the DRAW button, the more paint is applied to the area under the cursor. Using a pattern with the airbrush is much like spraying paint through a stencil.

Brush

The brush is a rectangular tool. It can be as large as the whole canvas or as small as one pixel.

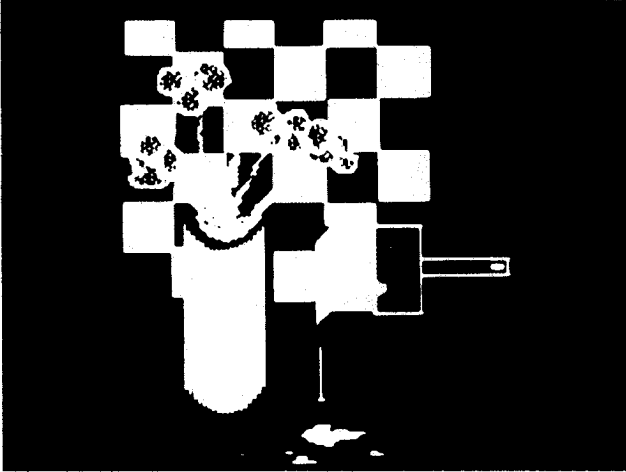


Figure 5. Brush (see also Color photo 3)

Press the MIDDLE button, adjust the brush to the size you want, and press the MIDDLE button again to fix the size. The brush uses all colors, patterns, and paint effects.

You can apply paint to the canvas in one of at least three ways. You can “stamp” it on, rectangle by rectangle. You can “glide” the paint on by holding down the DRAW button and gliding the mouse across the grid plate quickly. In combination with different shades or colors and patterns, you can simulate a three-dimensional effect (like forming your cursor into a tall, thin rectangle and gliding your mouse in quick circular motions). A third way to apply paint is to build up shapes by “smudging” on the paint. To do this, hold down the DRAW button and work your way slowly across the canvas until the paint forms the desired shape.

Eraser

The eraser works much like the paintbrush. It is rectangular and you can vary its size. Unlike the paint-

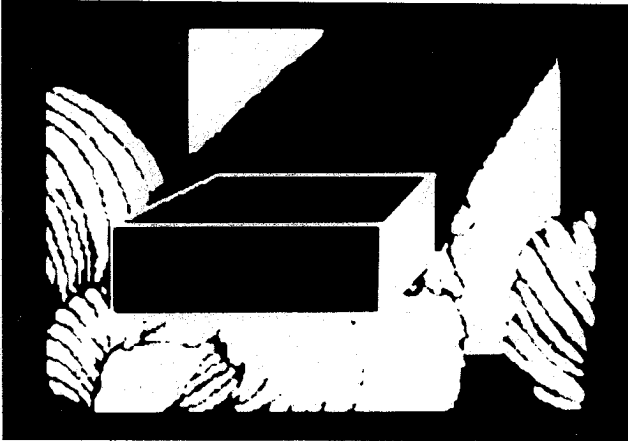


Figure 6. Eraser

brush, the eraser is always black (unless you have set your canvas to another color in <O>n-screen Formatting—see the section entitled “Main Menu”).

The eraser does not use the pattern palette and is always solid.

Fill-to-Boundary

The fill-to-boundary tool will fill in an outlined area on the canvas.



Figure 7. Fill-to-boundary (see also Color photo 4)

The fill-to-boundary tool looks like a cross-hair sight on a scope. The center of the sight is the point from which the color or shade and pattern will be applied. A circle surrounds the cross-hair.

The **[STOP]** key will halt the boundary fill procedure.

Monochrome Screens: The boundary must be composed of solid green or black. If the boundary is not a solid continuous outline, the paint will “leak” out onto the rest of the painting. This is why, when you first select the fill-to-boundary tool, Valpaint asks if you want to make a safety copy of the painting up to this point. If your shape *does* leak, you can then go back to the safety copy, fill in the holes, and try it again.

Color Screens: On the color screen, this circle is made of a pure color. This color represents the “boundary color.” In other words, fill-to-boundary will fill in a shape with any chosen color and pattern until it meets the pure color defined on the sight-like cursor.

To change boundary colors, press the MIDDLE mouse button and make a selection from the “Boundary Color” palette. When you return the cursor to the canvas area, you’ll see the new boundary color displayed on the cursor.

In addition to the pure color choices for boundary colors, there is another option called “Any Changes.” This means that the boundary fill will stop when it comes to any color change. If you’ve chosen the “Any Changes” boundary color, the circle on the cursor will be white.

The boundary colors are pure colors, but fill-to-boundary itself uses all colors and patterns.

Note: If you’ve filled the shape with a “checkered” color, and you decide you want to change the fill color, you can refill the shape with an altogether different color by changing the color of the boundary itself. If you don’t, the fill-to-boundary will fill up the “check” in the color and stop.

Geometric Shapes

The "geometric shapes" tool offers you four different "shapes" to choose from: line, circle, rectangle, and point-to-point line.

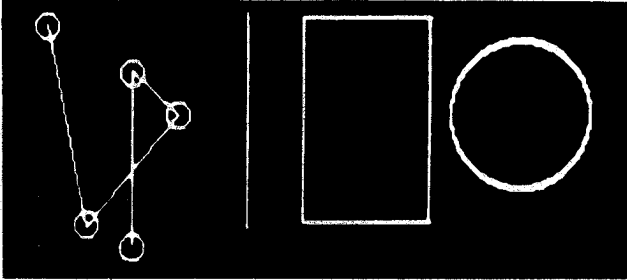


Figure 8. Geometric shapes

Icons for these shapes appear in the upper left-hand side of the screen. Pressing the DRAW button paints the shape on the canvas. Notice, when you press the DRAW button once, and do not move the mouse at all, your shape and cursor seem to disappear. The shape is actually hiding under the cursor, which seems invisible. Move the mouse slightly, and you will see both your painted shape and the cursor again. Moving the mouse and pressing the DRAW button will paint the shape continuously on the screen.

Monochrome and Color Screens: With monochrome screens, geometric shapes use only the solid, opaque paint—black and bright green. With color screens, only the pure colors are used.

Lines: Lines can be diagonal or straight. To change the length and angle of the line, press the MIDDLE mouse button and move the mouse around on the grid plate. The line stretches and retracts, changing size, but notice that one end point of the line is anchored to the screen. To fix the line to the size you want, press the MIDDLE mouse button, and the cursor will move freely around the screen again.

Rectangles: The rectangle cursor looks like the brush cursor. It changes size, like all other rectangular cur-

sors: press the MIDDLE mouse button, move the mouse until the cursor is the desired size, then press the MIDDLE button once again. The lower left-hand corner is anchored in place until you select the size.

Circles: The cursor is a circle. You can change the size of the circle by pressing the MIDDLE mouse button. The circle is then anchored to the screen by its center point (which is not displayed on the screen). The circumference expands and contracts as you move the mouse. When you've selected the size by pressing the MIDDLE mouse button again, the circle will move freely over the canvas.

Point-to-point Lines: The cursor is an arrow. Press the DRAW button to fix that point to the canvas. Move the mouse, and you will see a line that stretches and retracts, with the free endpoint resembling a cross-hair. To secure the end of the line, press the DRAW button again. You now have a line on the screen. Move the cursor and you will see another free endpoint. You can fix as many endpoints (make a five-pointed star or any complex shape) as you like. To stop drawing the line, press the MIDDLE mouse button. You will be returned to the pointer-like cursor. Start another line, or go on to another tool, if you like.

Path Recorder

The path recorder follows and records all tool movements, paint types, color and pattern changes, and pattern alignments.

It is best, when initially experimenting with the path recorder, to confine your paint application to an area no larger than 1/4 of the canvas. This will enable you to playback your recording in different parts of the screen.

To begin a recording, select the path recorder tool. When you return the cursor to the canvas area, Valpaint will bring up a menu. Select the <S> tart Recording option. You will then return to the main screen. The letter "R" will appear on the left of the

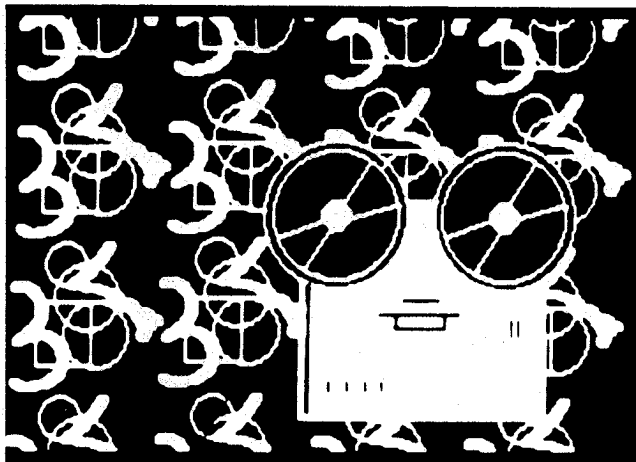


Figure 9. *Path recorder*

tool palette, indicating that the recorder is on. Apply your paint, changing colors and patterns as you desire.

To play back the recording, select the path recorder icon again and choose the <P>layback Recording option from the menu. You will be returned to the main screen with a cursor as large as the shape or pattern you have recorded. The starting point of the playback is marked with a cross-hair. Pressing the DRAW button will place the recorded paint application anywhere on the canvas, and as many times as you choose.

To stop a recording at any time, select the path recorder icon from the tool palette, and select the <S>top Recording option. <P>layback Recording also stops the recording process, as do <C>hange Floppy Disk and <L>og in a New Drive—options available from Valpaint's Miscellaneous Menu (see "Main Menu Features").

Pencil

The pencil lets you "sketch" and create free-hand outlines with a line that is one pixel wide. (For wider lines, see the "Brush" description).

When you are actually drawing with the pencil (pressing the DRAW button), the pencil is not visible.

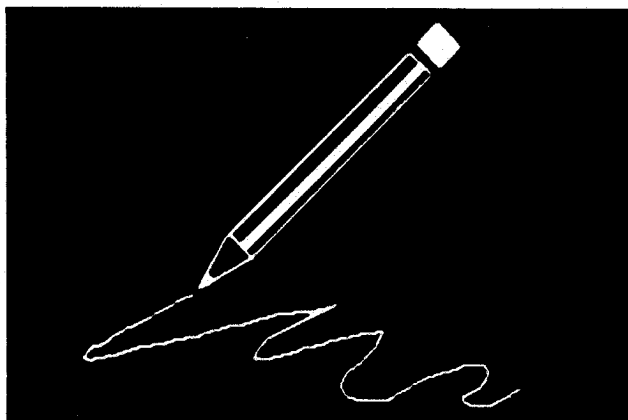


Figure 10. Pencil

When you release the DRAW button, the pencil returns to the screen, pointing to your current position. If you find this feature distracting, you can draw with the MIDDLE mouse button which stays on as you draw.

Monochrome and Color Screens: On the monochrome screen, transparent and opaque paint appear the same. Also, it uses two shades—black and bright green. On color screens, the pencil uses only pure colors.

Text Labels

A special window pops up on the screen when you select this tool.

Enter the text you wish to print on the canvas on the line provided and press RETURN or the DRAW button. You will be returned to the main screen and a rectangular cursor. The larger the cursor, the larger the text will appear on the screen (change size as you do with other rectangular tools).

Note: If your cursor is too small for the text, when you paint it on the screen it will be so compressed that it will be unreadable.

You can print a particular text entry on the canvas as many times as you want. You can also paint the text

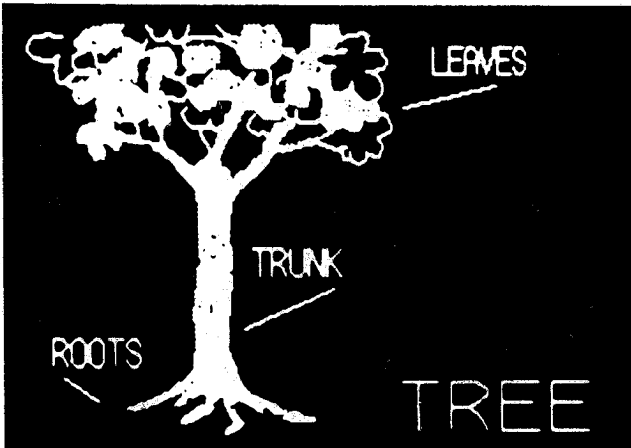


Figure 11. Text labels

across the screen by holding down the DRAW button and rubbing it across the canvas for an interesting effect.

To enter additional text, select the text label icon again, and enter the new text into the window, as before.

If, after you've reselected the text icon, you decide you want to keep that last text entry, press **[UNDO]** or the MIDDLE mouse button. If you press **[RETURN]** instead, with no new text entered, you will have to restore the text entry if you want to print it on the canvas again.

Monochrome and Color Screens: Text labels use all the different paint modes. With monochrome screens, text labels use solid paint—black and bright green. With color screens, text labels use solid, pure colors.

MAIN MENU FEATURES

Pressing the RIGHT mouse button while the cursor is in the canvas area will bring you to Valpaint's Main Menu:

Please select an item, then press the **LEFT** mouse button.
Use + and - keys to zoom in and out.

<T>ool menu	<U>ser definitions
<C>hange effect of paints	<M>iscellaneous
<U>n-screen (display formatting)	<Q>uirks

< Mouse: L=RETURN, M=UNDO, R=HELP >

<T>ool Menu

This Main Menu option brings you to a small tool menu (the same menu you get if you press the RIGHT mouse button while the cursor is off the canvas area). The tool menu contains all eight tools, but the icons are not displayed. Make your selection, and you will be returned to the main screen with that particular tool. The following tools are available from main screen tool palette:

- <P>encil
- rush
- <A>irbrush
- <E>raser
- <T>ext Labels
- <G>eometric Shapes
- <P>ath Recorder
- <F>ill to Boundary

<C>hange Effect of Paints

Valpaint uses four different types of paint. Selecting this Main Menu option will take you to the Effects of Paint menu.

Tools are listed with a column for each type of paint effect. The current effect in use for the tool will be highlighted.

To change the paint effect, put your cursor over the desired effect and press the RETURN (DRAW) button. To return to the main screen with the new paint effects installed, press the UNDO or MIDDLE mouse button.

You can also change the effects of paint from the status line on your screen. Select the beginning letter of the desired effect and it will be highlighted in white. The effect will be spelled out to the right of the Effects Letters.

Transparent: Transparent paint works like watercolor or colored glass in that you can see through the paint. The colors or shades combine as they are overlaid. To read more about color mixing with light or "pure colors," see "Colors and Patterns" at the beginning of Part II.

Opaque: The opaque selection will give you an effect that resembles oil or acrylic paints used straight from the tube and allowed to dry between applications. One shade of color "covers" the other. When using a non-solid pattern, the paint will have a stencilled look. You can layer these over a solid color, and the original color will show through, just like a stencil.

Toggle Chosen Color (Dither): This interesting paint mode creates a surprising pattern that has no equivalent in conventional media. Dither looks *under* the cursor. If it does not find the selected color or shade, it puts it there, or toggles it ON. If the color or shade is under the cursor, then Dither will toggle it OFF. Dither "reads" what is under the cursor, pixel by pixel. You can Dither in a chosen pattern, too.

Monochrome Screens: With a monochrome screen, the dithered area will become its opposite. In other words, if you have an area of solid, light green paint, and you dither that shade across the painted area with the paintbrush, light green will be toggled back and forth to black.

Color Screens: Dither looks at the selected color and then looks for that color under the cursor. Remember that Valpaint considers white to be a combination of red, blue, and green; violet is red and blue. If Valpaint finds that color (or any combination of it), that color will be turned off. If it doesn't find that color, that color will be turned on.

Erase Chosen Color: This paint effect will eliminate the chosen color or a shade of that color from under the cursor or tool. You can erase in a chosen pattern too.

Monochrome Screens: On the monochrome screen, this feature will erase the chosen shade.

Color Screens: With a color screen, this feature will erase the chosen color. If the shade or color under the cursor is a complex color comprised of the chosen color, only that part of the complex color will be erased. White (which contains all colors) will erase any color under the cursor.

<O>nscreen (Display Formatting)

This option allows you to format the screen for display. You can turn the border on and off, change the canvas color, or show the painting without palettes or instructions.

** order ON/OFF:** The border option lets you toggle the border on and off.

<C> anvas Color: To change the canvas color or shade, simply choose the **<C>** anvas Color option from the On-screen menu. Click the DRAW or RETURN mouse button until the shade or color you want is surrounded by the white box. Then press UNDO to leave that menu, with color selected. Valpaint then informs you that changing the canvas color will fill the screen with the chosen color, and asks you when you would like this to happen. You can select **<N>**ow (erase current painting, if any); **<L>**ater, when I next erase the screen or restart Valpaint; or, if you change your mind, **<D>**o not change canvas color.

By the way, when you change the canvas shade or color, the eraser for that canvas will be the same as the chosen canvas shade or color.

<S> how Painting Only (without palettes or instructions): When you choose this option, all palettes and instructions will drop away. To get back to the painting mode (with palettes, etc.), press any key or mouse button.

<U>ser Definitions

This option takes you to a User Definition menu. To set new definitions, move the pointer over the definition you want to change and press the DRAW or RETURN mouse button. To return to the main screen with your new definitions installed, press the MIDDLE mouse button. From this menu you can make certain overall definitions for Valpaint:

Mouse Sensitivity: Mouse sensitivity refers to the speed with which the cursor responds to mouse movements.

Right- or Left-handed Mouse: Change this definition to suit your preference. All mouse buttons and instructions will be set for optimum convenience. This way, whether you are right- or left-handed, your index finger will conveniently trigger the DRAW button.

Airbrush Speed: The faster you set your airbrush speed, the faster paint will be applied to a given canvas area.

Pattern Alignment: Pattern alignment works on an ON/OFF

toggle switch that causes patterns to be aligned or non-aligned while paint is being applied. With the pattern alignment ON, this feature allows you to apply patterns with the paintbrush evenly, without overlap, regardless of the speed of your drawing hand or overlapping motions. With the alignment OFF, the effect is similar to leaving brush strokes in conventional painting.

<M> *iscellaneous*

Selecting this option will bring up a menu with the following options:

<C> *hange Floppy Disk*: If you need to change data disks at any time, you must choose this option. The system will tell you when it's safe to change disks.

<E> *rase Screen and Palettes, Refile Original Painting*: If you want to start over again with a fresh canvas and refile the original painting (if it has been stored), choose this option. Because this is an erasing or deleting command, make sure you really want to throw away the painting. An additional menu will ask you if you want to keep or throw away the current painting. The original stored painting (if any) will be unaffected.

<S> *pace Available on Data Disk*: If you want to know how much space remains on your data disk, select this option. Valpaint will estimate how many paintings you have room for.

<Q> *uirks*

The Quirks Menu has the following options:

<L> *og in a Different Data Drive*: Enter the drive (and user area if applicable) of the drive you wish to use.

<T> *PM Directory (*.PIC)*: Select this option if you want to look at a list of all the TPM painting files (the .PIC files) on the current data disk.

<R> *etrieve a Non-indexed File*: To retrieve a non-indexed file, choose this option and enter the filename you wish to store the painting under. Drive and user area specifications are accepted.

<S> *tore as Non-indexed File*: To store a painting as a non-indexed file, choose this option. The next menu will ask if you want to store the entire painting, or just a part of it. After you

have made your selection, the painting will be stored. You will then be asked to type in a TPM name for the file being stored. Notice that the file will be given a .PIC filetype suffix. Remember, this painting will not be indexed.

<U> *ncompressed (store without compression)*: Ordinarily, when you store a painting, Valpaint compresses it, so that it takes up less storage space. If, for example, you want to use a painting with RSI BASIC, you will want to store an uncompressed version so that you can call up the painting within BASIC and the data will be in the correct format.

THE APPLICATION KEYS

[STORE]—Stores a painting. Press the **[STORE]** key when you're ready to save a painting. Valpaint will ask whether you want to store the entire painting or a portion. Make your selection accordingly.

If you elect to store only a part of the painting, you will be returned to the main screen and a rectangular cursor. Change the size of the cursor by pressing the MIDDLE mouse button and move the mouse until the cursor surrounds the area you want to store. Press the MIDDLE button again to fix the size, then press the DRAW or RETURN mouse button to select the area for storage.

Note: In subsequent retrievals you can retrieve this little portion either by itself or onto another painting. Or, you can retrieve it over and over onto a canvas to get repeating shapes and color.

Scanning lines will scroll down the screen, indicating that Valpaint is reading each line of your canvas, pixel by pixel, and recording it onto your data disk. Valpaint will then ask you for the name you would like to store the painting under. After you have entered the name, press **[STORE]** again. You will be returned to Valpaint's main screen and the current painting.

The **[STOP]** key will halt the storing process.

[RETRIEVE]—Retrieves an already-stored painting. To recall a painting you've previously stored on the current data disk, press **[RETRIEVE]**. Enter the name of the file you wish to see, and press **[RETRIEVE]** again. To make a direct selection from the indexed paintings on the current disk, press **[INDEX]**.

If you have any unstored work on the screen that you want to keep, **[STORE]** it before beginning the retrieval process.

Once you've specified a painting you'd like to retrieve, a retrieval menu with the following options will pop up:

<O>paque (replace painting on the screen)

This option retrieves the painting just as you stored it.

<T>ransparent

This selection will retrieve the painting with the paint in the transparent mode. To retrieve one painting on top of another, like an overlay of transparencies, you must first have a painting on the screen. Then retrieve the second painting over the one on the screen in this paint mode.

<D>ithered (toggled over screen)

The interesting but somewhat confusing effects of retrieving a painting in the Dithered mode are best understood if you consider the process pixel by pixel. Each pixel of the retrieved painting will affect its corresponding pixel on the screen. If your screen is blank, the painting will be retrieved as usual, because Dither will look at the pixel, and not finding any color or shade, will put one there.

Color Screens: If you have something on the canvas when a painting is retrieved in this mode, as each pixel is retrieved onto the screen, it checks the color of the pixel already present at that location. If its own color is not present, then the color will be added to the existing color (like the Transparent mode). Thus a red pixel retrieved over a black pixel will leave red. A red pixel retrieved over a blue pixel will result in a violet pixel ($B + R = V$).

Monochrome Screens: The situation is simplified because the different shades are made up of only green and black. A retrieved green pixel will stay green if retrieved over a black pixel, but will leave black if it's retrieved over another green pixel. Black pixels retrieved in the Dither mode have no effect on the screen.

<E> rased From Painting on Screen

As with Dither, the Erase mode of retrieval can be understood best at the pixel level. As each of the retrieved pixels arrives on the screen, it checks the pixel already at its location.

Color Screens: If the retrieved pixel finds its own color already at that location, then it will subtract its color from the existing color. Thus a red pixel retrieved over a red pixel leaves a black pixel. A red pixel retrieved over a white pixel (R + G + B) leaves a cyan pixel (B + G).

Monochrome Screens: If a retrieved green pixel finds a green pixel at its location, it will be turned off, leaving black. Black pixels retrieved in the erase mode have no effect on the screen.

For more information about the different paint modes, see "Main Menu Features: <C> hange the Effects of Paint" in Part II.

If you've previously stored a part of a painting and indicate that you want to retrieve it, you will have two options:

<R> etrieve This Painting Once

If you only want to retrieve the painting once, choose this option. When you return to the main screen, the cursor will be the size of the painting. Position the cursor and press the RETURN mouse button to put it on the screen.

<M> ore Than Once

If you want to retrieve your painting more than once, select this option. Simply position the cursor and press the RETURN mouse button. The painting part will appear under the cursor. You can retrieve the painting an unlimited number of

times. To quit this multiple retrieval routine, press the UNDO (or MIDDLE) mouse button. The **[STOP]** key will halt the retrieval process.

Note: If you have a monochrome screen and retrieve a painting that was done on a color system, the painting may appear to be all one shade of green, because all colors except black will appear on the screen as green.

[INDEX]—Indexes a painting. As mentioned previously, if you wish to retrieve a painting and want to make a direct selection from the painting index, press **[INDEX]**. Pressing **[INDEX]** independently of the **[RETRIEVE]** key will allow you to retrieve, delete, rename, cross-reference, or move the display to a specific date.

To cross-reference, type in a word ("match word") or words that are common to all of the paintings you want to examine. A list of these paintings will be displayed.

[PRINT]—Prints your painting. Pressing the **[PRINT]** key lets you print the painting currently on the screen, provided your printer is set up and ready to operate. If you have a black and white printer, you can print "zoomed" portions of the screen. Once you press the **[PRINT]** key, you will be presented with the following menu:

Black on screen should print as

< **B** > lack

< **W** > hite

Color Screens: If you are using and have set up your system for a regular black printer, such as the FX-80, and you chose the < **B** > lack option, the black on the screen will print as black *but* all colors will be white. If you choose the < **W** > hite option, the black areas on the screen will be white, and all colors will print as black. If you are using a color printer like the JX-80, you can expect the black areas on your screen to print as black, and all other colors to print out as close as the ribbons can approximate.

If you're using a Diablo Ink Jet Printer, you won't be able to print from Valpaint, but will have to print from PICTURE.SYS, the Picture Utility. For informa-

tion regarding this, see Appendix F: "PICTURE.SYS—The Picture Utility."

For more about printers, see Appendix C: "Output Devices."

[HELP]—Provides on-screen information about features and functions. Pressing the **[HELP]** key will display help messages, depending on where you are in the Valpaint program.

