

# DOODLE!

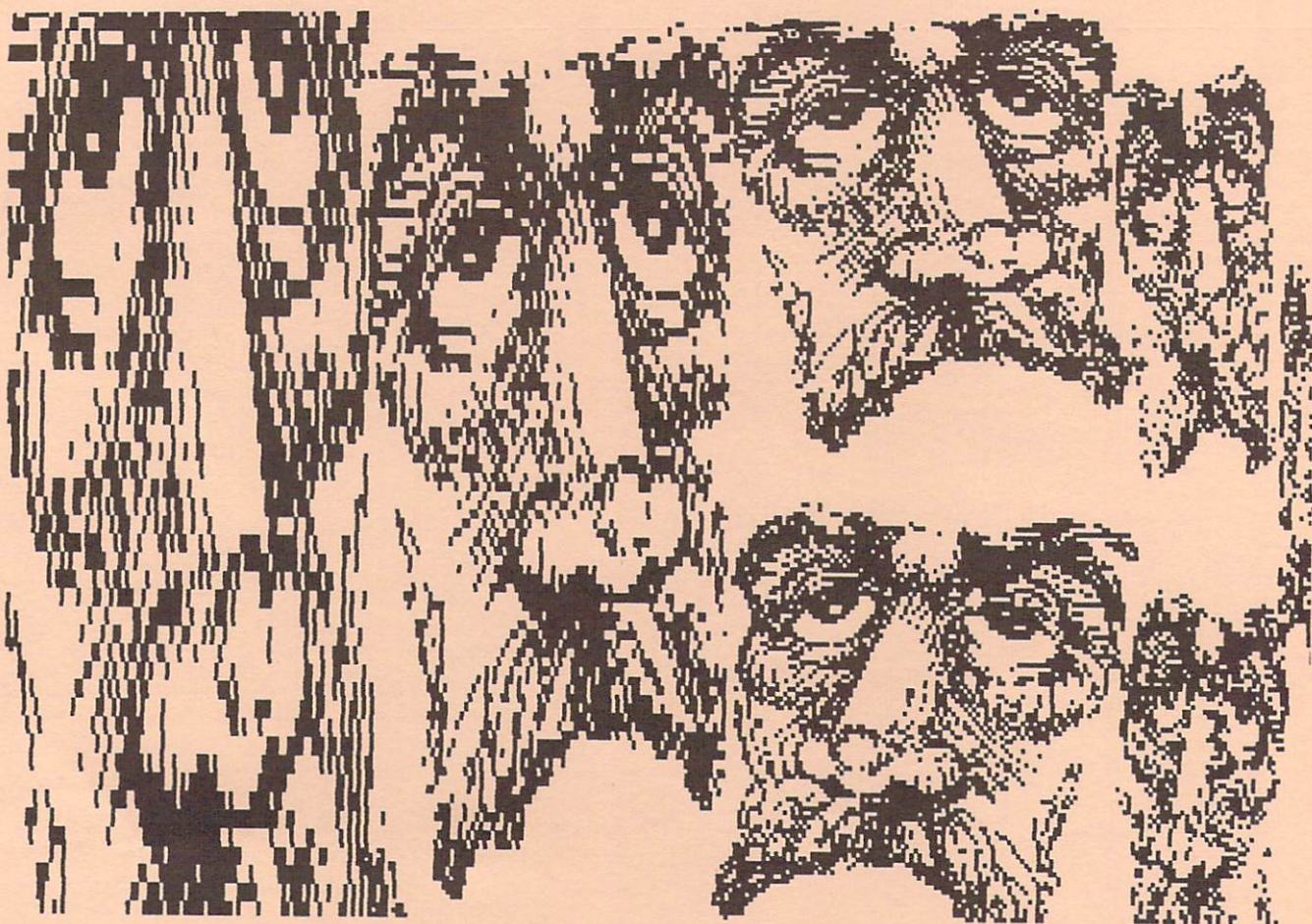
TM

COMMODORE 64  
COLOR SKETCH PAD



By Mark R. Rubin

**City Software**



Inside cover art by Wayne Schmidt

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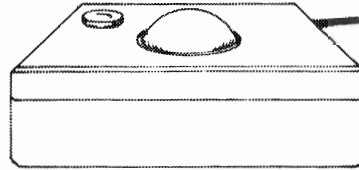
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## GETTING STARTED

### JOYSTICK OR TRACKBALL?

DOODLE! works very well with a joystick. DOODLE! works even better with a trackball. The trackball allows finer control while drawing.



### ABOUT PRINTERS

DOODLE! will automatically format printer output for a Commodore 1525 printer. If you are using another type of printer, a special program on the DOODLE! disk will help you set DOODLE! up to work with your printer. This will be described later. For now, just have fun and experiment.

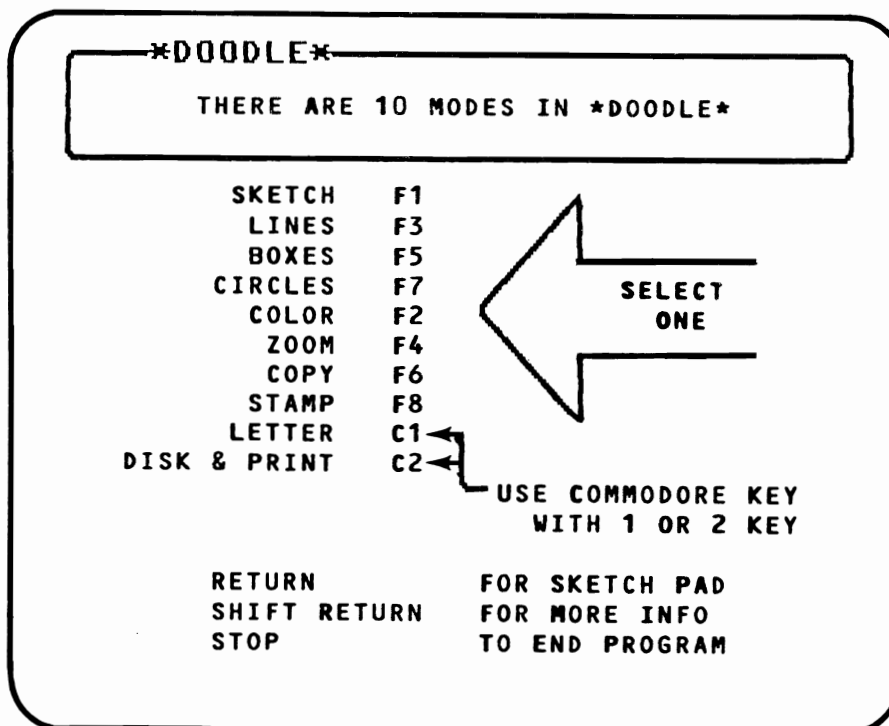
### LOADING THE PROGRAM

1. Plug the joystick or trackball into **joystick port #2** (the one nearest the ON/OFF switch).
2. Turn on the disk drive, and printer if you are using one.
3. Turn on the monitor or TV, and the computer.
4. Put the DOODLE! disk into the disk drive and close the door.
5. Type **LOAD"DOODLE",8** and press **RETURN**.
6. Once **READY** appears on the screen, type **RUN** and press **RETURN**.

The program begins by displaying the title design. Three modules will be loaded automatically, which takes about 40 seconds.

The first screen presents some simple instructions on how to proceed. Pressing the RETURN key selects MENUS. Pressing the SPACE BAR selects the sketch pad.

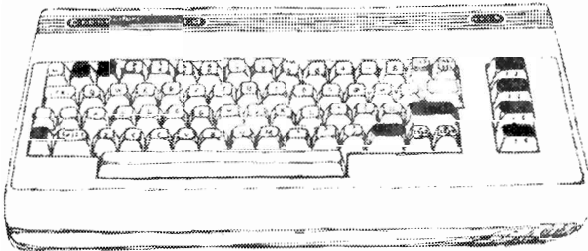
Press the RETURN key to select MENUS. The **MAIN MENU** will be displayed:



The MENU is a list of choices. The program is asking, "What do you want to do?". You will make your choice by pressing the appropriate key.

SKETCH MODE is selected when DOODLE! is first started. This mode will be highlighted in RED. If you use a function key to select another mode, that mode will be highlighted in RED. DOODLE! is always set to work in the mode which is highlighted.

**USING THE KEYBOARD**



**FUNCTION KEYS:** The four function keys are used to select different DOODLE! modes. To use f1, f3, f5, or f7, press the appropriate key. To use f2, f4, f6, or f8, hold down the SHIFT key while pressing the appropriate function key.

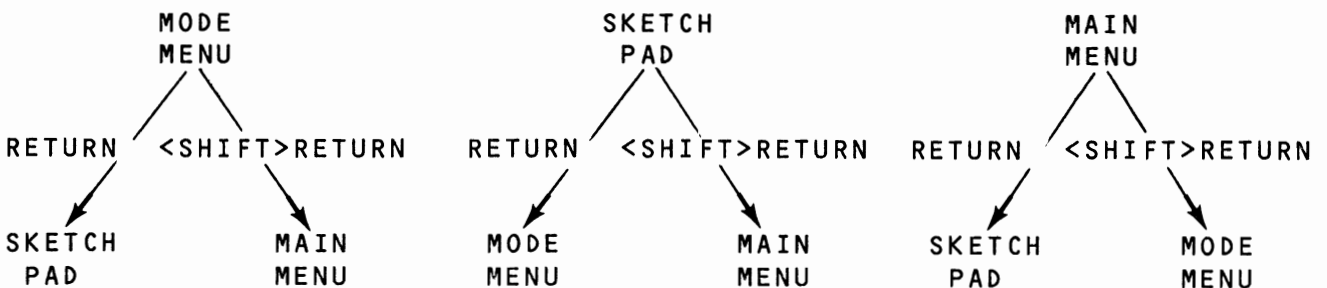
**THE COMMODORE KEY:** To select c1 or c2, use the Commodore key and the appropriate number key. The Commodore Key is located at the bottom left of the keyboard. The

Commodore key will be shown as as <C> in this manual. To select functions which use this key, hold it down while pressing another key.

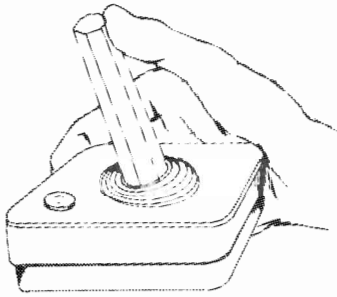
**RETURN KEY:** The RETURN key is used to toggle between a menu and the DOODLE! sketch pad. When the sketch pad is on the screen, pressing RETURN will bring up a menu. When a menu is on the screen, RETURN will bring up the sketch pad.

**<SHIFT>RETURN:** Pressing the RETURN key while holding down the SHIFT key will toggle between the MODE MENU, and the MAIN MENU. The main menu displays all the modes available in DOODLE! <SHIFT>RETURN will also toggle between the main menu and the sketch pad.

This is illustrated below:



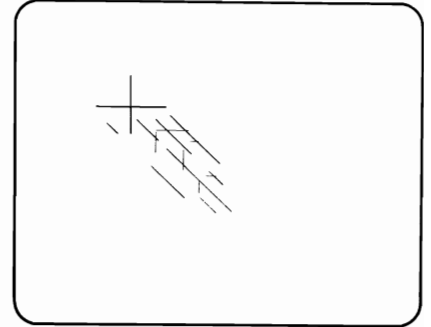
**Remember:** You can always press RETURN or <SHIFT>RETURN for help.



### CREATING YOUR FIRST DOODLE!

Press the **RETURN** key to bring up the sketch pad. You have a clean screen to sketch on. In the center is a cross. The cross is where the tip of the 'pen' is, and shows you where you are about to draw on the screen.

Use the joystick or trackball to move the cross anywhere on the sketch pad. Press the **firebutton** once. A very small dot will appear on the sketch pad. The dot is made by the point of the pen. Pen and paintbrush are used interchangeably in this manual. Use the joystick to move the pen on the screen. Draw a line or design on the sketch pad. Let the pen come to a stop. Now press the **firebutton**. This raises the pen from the sketch pad; once again you can move the cross anywhere on the sketch pad. Experiment! Finally, press **RETURN** to bring up the **SKETCH MODE** menu.



Now try the function keys. Press **f3** to bring up the **LINE MODE** menu, **f5** to bring up the **BOX MODE** menu, etc. Try switching back and forth between menus and the sketch pad by pressing **RETURN**. Although another mode has been selected and the menu has changed, the original **DOODLE** is still on the sketch pad!

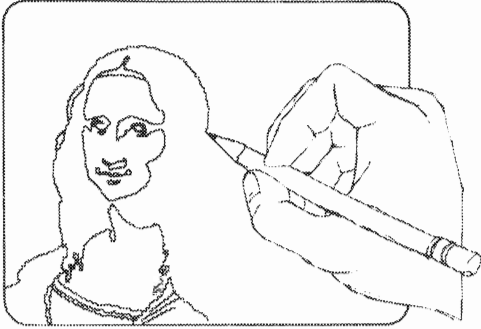
Try one of the other modes. Use the joystick or trackball to move the cross near a line or part of the **DOODLE** which you have drawn. Press **f4** to select **ZOOM MODE**. The portion of your **DOODLE** which was near the cross will be enlarged, as if you had 'zoomed in' on it. To return to the original drawing, press **f1** to select **SKETCH MODE**. **ZOOM MODE** will be described in more detail later.

When a mode is chosen, the sketch pad will exhibit the characteristics (described below) of that mode. Notice that it is not necessary to watch the menu when selecting another mode. Modes can be selected while the sketch pad remains on the screen. Remember, for help with mode selection, press **<SHIFT>RETURN** to view a list of all the modes of **DOODLE!**

**DOODLE!** has many features, as you will learn in the following pages. As you become familiar with the program you will be able to change modes and select features while viewing your sketch. Every time you use a function key to change modes, the menu 'behind' the sketch pad changes. You can always switch to the menu for a look at the available options.

The best way to learn about **DOODLE!** is to sit down with your computer and try all of the different features. Start at the beginning of the next section, 'Using SKETCH MODE'. Experiment with each feature before trying the next.

### Using SKETCH MODE



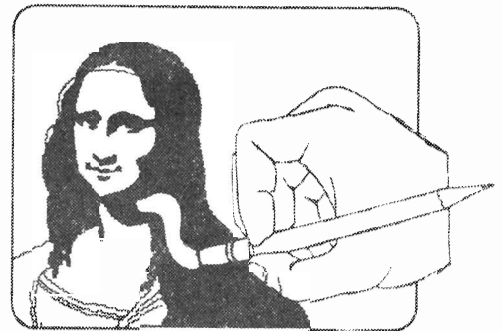
Return to the SKETCH MODE menu by pressing **f1**. Press **RETURN** to switch from the menu to the sketch pad. Then try these options:

**SPEED:** **<CTRL> 1** through **<CTRL> 9** controls the speed of movement of the paintbrush on the sketch pad. (Press a number key while holding down the **<CTRL>** key.) **<CTRL> 1** is the slowest speed; **<CTRL> 9** is fast.

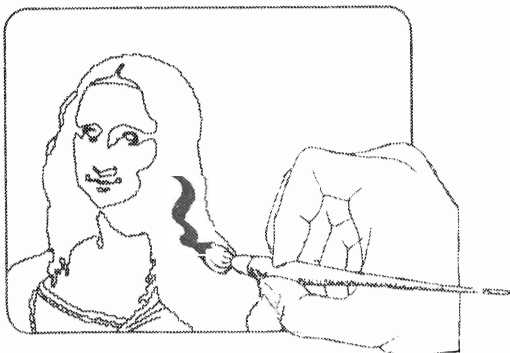
**DOT SIZE:** The size of the line can be changed with keys **1** through **9**, where **1** is the smallest line and **9** is the largest. Press the firebutton to place the paintbrush on the sketch pad. Press **3** and the size of the line increases. Press **6** and draw a little. Now try **9**, the largest dot size.

The number keys also control the size of the eraser. Press the **DEL** key to activate the eraser, and use the joystick or trackball to control the eraser tip. When you are ready to **DRAW** again, press the **←** key.

The eraser cross and spot are always **red**, and the paintbrush cross and spot are always the **working paint color**.



**DRAWING IN COLOR:** To draw in color, press the **f2** key to select **COLOR MODE**. You will see a green box with a circle above it. The inside of the circle will be the working paint color, which at first is black. Use the **<CRSR>UP/DOWN** key to select a different paint color. Then press **f1** to go back to **SKETCH MODE**. When you begin drawing, you will be drawing in the working paint color. **COLOR MODE** will be described in more detail later.



**FILL:** Draw a line on the sketch pad which encloses a boxlike space.

Press the firebutton to bring up the cross. Position the cross inside the enclosed space. Press **F** to fill in the area.

**FILL** covers all the enclosed white space with the working paint color. It stops when it hits a colored line. Fill color will 'leak out' through any gap, no matter how small, so make sure the area is completely enclosed before filling. >>> Pressing any key will stop the filling before the entire sketch pad is covered. <<<

**GRID:** Press **G**. A grid will appear on the sketch pad. Pressing **G** again switches the grid off. This grid is used as a reference for spacing and planning the position of parts of the DOODLE. If anything is drawn or erased while the grid is on the sketch pad, the overlapping part of the grid will remain. Try it! Because of this, it's best to use the grid as a reference and switch it off before drawing. GRID could be used to create dotted lines.

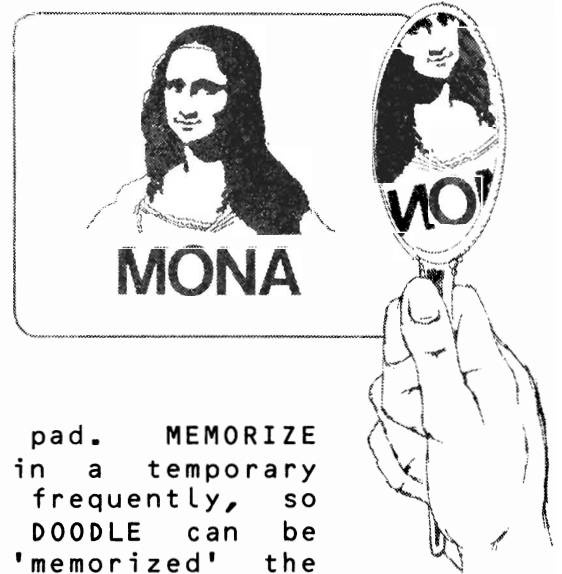
**MIRROR:** Press the **+** key to select MIRROR image. Left is changed to right, and vice versa. If the DOODLE has been colored, the color mirrors as well.

**CLEAR:** Pressing the **CLR** key (hold down the **SHIFT** key and press CLR/HOME) will wipe everything from the sketch pad. Before clearing from the sketch pad, however, DOODLE! will ask **DO IT?**, in case CLEAR was pressed accidentally. >>> Memorizing frequently will avoid accidents. <<<

**MEMORIZE:** Press **M** to memorize the sketch pad. MEMORIZE stores whatever is on the sketch pad in a temporary storage space. MEMORIZE should be used frequently, so that if the sketch pad gets messy, the DOODLE can be brought back the way it was when you last 'memorized' the sketch pad. >>> Any use of MEMORIZE will destroy what may have been previously memorized. <<<

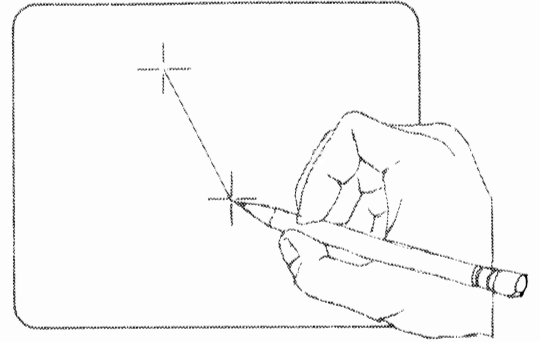
**RECALL:** To illustrate RECALL, set a large dot size and draw some fat lines on your screen. Now press **R** for recall. RECALL brings back the last sketch that was memorized, totally wiping out whatever is currently on the sketch pad. Before it wipes out the current screen, DOODLE! will ask **DO IT?**. Press **Y** to answer 'yes', and your original masterpiece will reappear.

**NEGATIVE:** Press the **-** key to produce a NEGATIVE image of the sketch pad. Everything that was white turns black, and everything that was black turns white. Color will also reverse if it was used.



### SPECIAL MODES

**LINE MODE:** LINE MODE draws straight lines automatically. Press **f3** to select LINE MODE. Press **RETURN**. You will see two crosses on the sketch pad. Use the joystick or trackball to move the crosses. Only one will move. Press the **firebutton** to move the other cross. Lines are drawn between the two crosses several ways:



**CHANGE line** - Press the **SPACE** bar. Instantly a line forms between the two crosses. The line will appear in color on white areas of your sketch. If the line crosses colored areas of the sketch the line will appear in white. Pressing the **SPACE** bar a second time before you move the cross again will cause the line to disappear. Thus, the line is not permanent.

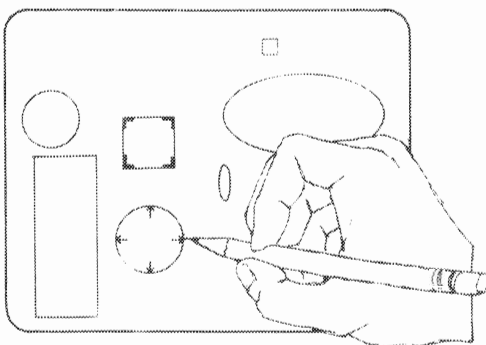
Note: If you are drawing in color, the **CHANGED** line will appear in the **previous** working paint color. (The color you were working with before your most recent selection of color.)

**DRAW line** - When the line is properly positioned, press the **←** key to draw the line. This is a permanent line which will be color on a white background. It will be invisible in colored areas. If you are drawing in color, the line will be the current working paint color.

**ERASE line** - To produce a white line on a colored background, press the **DEL** key. This line will be invisible in white areas.

**\*\* Keep your drawing simple for the following examples. \*\***

**CIRCLE MODE:** Press **f7** to select the CIRCLE MODE menu. Press **RETURN**. The blue arrows you see point to the top, bottom, and sides where a circle will be drawn. When the arrows are **BLUE**, they may be moved around on the sketch pad. Pressing the **firebutton** switches between **BLUE** arrows which move, and **GREEN** arrows which change the size and shape of the circle. Press the **firebutton**, and use the joystick or trackball to change the size and shape of the circle. The arrows can be moved in pairs, top/bottom or left/right to change the circle to an oval.



Press the **←** key to draw a permanent circle outline. Press the **SPACE** bar to **CHANGE** the circle outline. Press it again if you don't want the circle here. The **DEL** key will erase a circle outline. Use **F** to **FILL IN** the circle, and the **CLR** key to clear it. Press **G** to place a grid on the screen.



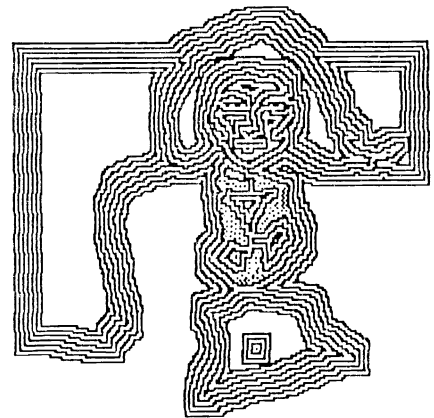
HINT: To keep your drawing simple for the next example, you should now return to SKETCH MODE and CLEAR the sketch pad.

**BOX MODE:** Press **f5** to select BOX MODE. Press **RETURN**. On the sketch pad you see blue box corners with a cross in the center. Use the joystick or trackball to move the box on the sketch pad. The firebutton switches between a blue box that moves, and a green box that changes size and shape. Press the **firebutton** to change the box to green. Use the joystick or trackball to change the size and shape of the box.

Press **RETURN** again to see the menu. Notice that the menu is divided into three sections - **Box Outline**, **Box Insides**, and **Other**. Here's how they work:

1. **OUTLINE** - Pressing the **SPACE** bar, the **←** key, or the **DEL** key will cause the outline of the box to **CHANGE**, **DRAW**, or **ERASE**. These commands work the same as in **LINE AND CIRCLE MODE**.
2. **INSIDES** - The contents of the box can be changed using familiar commands. Press the **CLR** key to erase the contents of the box. **NEGATIVE** and **MIRROR** produce photo negative and mirror images, but affect only the contents of the box. Pressing **F** for **FILL-IN** fills the box with color. Pressing **E** for **ERASE** will cause everything within the box to be erased except for edges. For example, if something was first drawn and then painted, only the painted part would be erased. The outline would remain.

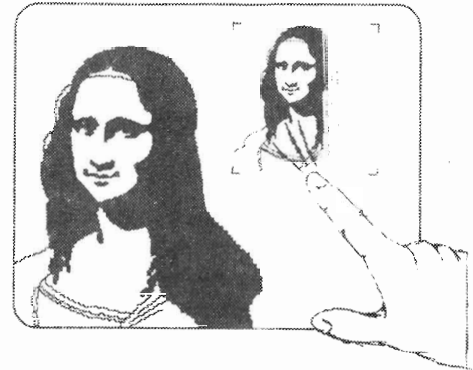
**SPECIAL OP-ART FEATURE** - Pressing **O** for **OP-ART** will do an edge-detect, a negative, and a border flip, in that order. This process is repeated over and over until the entire box is filled in. It takes a few moments to begin, and can be stopped at any time with the press of **any key**. Expect a delay before **OP-ART** stops 'working'. Practice **OP-ART** using a small box, and be sure to memorize your sketch in case you don't like the results!



3. **OTHER** - Some commands which are available in **SKETCH MODE** (**GRID**, **MEMORIZE**, and **SPEED**) perform the same function in **BOX MODE**. It is important to note that when you **MEMORIZE** the contents of a box, you are using the same computer memory space used to **MEMORIZE** the entire screen in other modes. If you have a sketch memorized anywhere else in the program, that sketch will be lost when you memorize the contents of a box.

**COPY MODE:** To use COPY MODE, the contents of a box must first be memorized in BOX MODE. In COPY MODE, the size, shape, and orientation of the box can be changed.

Return to BOX MODE by pressing **f5**. Place a box around part of the DOODLE, and memorize it by pressing **M**. Press **f6** to enter COPY MODE. Remember, although your DOODLE may remain on the sketch pad, the mode will change.

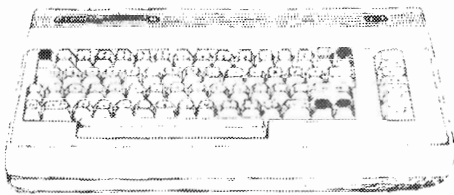


Move the COPY box to a white area on the sketch pad. Press the **SPACE** bar to move the box contents onto the screen. You now have a copy of whatever was in the memorized box. Press the space bar a second time before moving the box. The copy will CHANGE back out.

Before making another copy of the box, you may alter the size of the COPY box by pressing the cursor keys:

<CRSR> ↑ = vertical increase  
 <CRSR> ↓ = vertical decrease  
 <CRSR> → = horizontal increase  
 <CRSR> ← = horizontal decrease

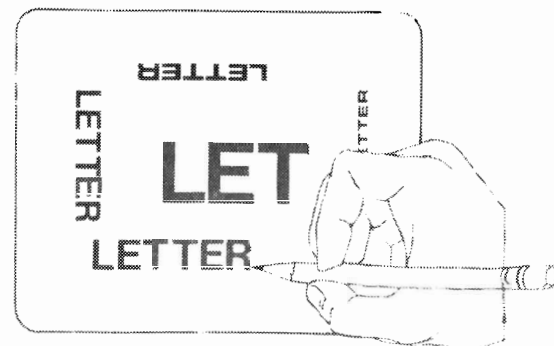
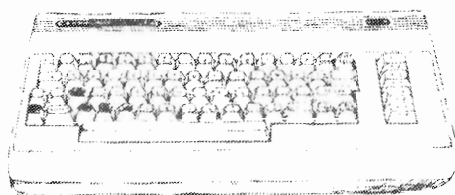
The **Q** key may be used to rotate the copy box. Watch the arrow as the copy rotates.



If you use ← instead of the SPACE bar, the copied box will be DRAWn permanently. DEL will delete anything within the box.

An interesting effect of COPY is seen when a copy box is rotated 90 degrees before making the copy. The pixels on a Commodore 64 are not square, but rectangular. Therefore the copy will have different proportions. Try it yourself!

**LETTER MODE:** Press <C> 1) (hold down the Commodore key while pressing '1') to select LETTER MODE. This mode is used to type letters on the sketch pad. Use the joystick or trackball to position the beginning of the lettering. If the <C> SPACE bar is pressed before beginning lettering, the letters will be CHANGED. To DRAW letters in permanently, use the ← key. To ERASE a letter, position the cursor over them with the cursor keys, press DEL, then type the same letter. This procedure is similar to using a white 'correction' ribbon in a typewriter.



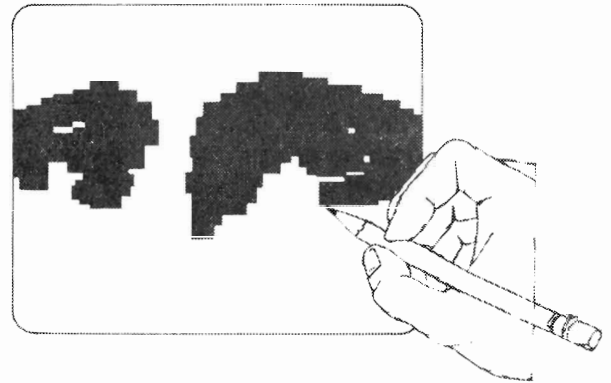
Letters can be typed in any direction or orientation: Right to left, left to right, upside down, etc. Press the **<G> a** key to rotate the letter box and begin typing. The letters form down the right side. Press the **<G> a** key again: The letters will print upside down.

Use **<G> L** to switch to lower case letters, or upper case if the SHIFT key is used. **<G> U** switches back to upper case and graphics characters. For letters typed in reverse, such as white letters on a black background, press the **<G> R** key. To return to normal lettering press **<G> N**. **<G> G** will put a grid on the screen.

To change the size of the letters, use the following keys:

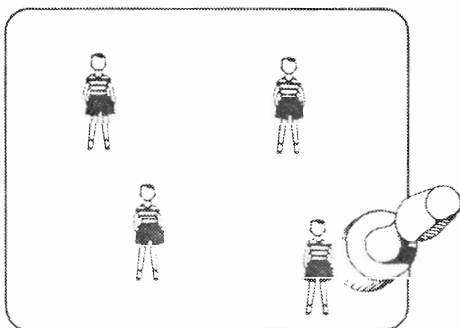
**<G> A** = vertical increase      **<G> C** = horizontal increase  
**<G> Z** = vertical decrease      **<G> X** = horizontal decrease

**ZOOM MODE:** To zoom in on any part of your DOODLE, press **f4**. Use the joystick or trackball to move the box to the area where detailed work is needed. Moving the box off the edge of the screen causes the screen to scroll. This allows you to look at any part of your DOODLE, which is now many times the size of the screen. Use the **<CRSR>** keys to move around the ZOOM screen in large steps.



Pressing the **SPACE** bar produces a GREEN box, and allows the squares to be CHANGED. Press the firebutton to CHANGE a square on or off. The square will CHANGE to the previously used working paint color.

The **←** key produces a BLUE box and sets DOODLE! to DRAW. Detailed areas may be drawn in easily in the current working paint color. Press the **DEL** key to produce a RED box. Now you may ERASE existing portions of the DOODLE. To zoom out, press **f1**. This will put you in SKETCH MODE.



**STAMP MODE:** Press **f8** to select STAMP MODE. This mode is useful for making multiple copies of a part of your DOODLE, but is less work than BOX and COPY.

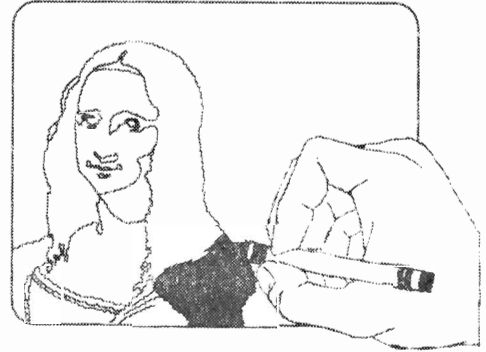
Use the joystick or trackball to move the STAMP box over a part of your DOODLE. Press **M** to make the stamp. When you move the joystick or trackball, the stamp will 'lift' off the sketch pad, and the box will disappear. Move the stamp anywhere on the sketch pad.

Press the **SPACE** bar to **CHANGE** the stamp onto the screen, in the previous working paint color. Use the **←** key to **DRAW** the stamp on the screen in the current working paint color. Finally, the **DEL** key will lift paint from the sketch pad.

There are nine different possible stamps with **DOODLE!** Use the number keys to choose which stamp you want to work with. **DOODLE** will remember what each stamp looks like.

Use the **⌂** key to rotate the stamp. **U** will turn the stamp **UPSIDE DOWN**. Use the **+** or **-** key for **PHOTO NEGATIVE** or **MIRROR**. To clear the stamp box, press the **CLR** key. Change the size of the stamp, using the **<CRSR>** keys.

**COLOR MODE:** Use the **f2** key to enter **COLOR MODE**. Bring up the sketch pad. The small green box on the sketch pad is the **COLOR BOX**. Directly above the **COLOR BOX** is a circle within a circle. The inner circle will show the working **paint** color. The color in the outer ring shows the working **paper** color. Experiment with changing the colors of the paint and paper:



press **<CRSR> UP/DOWN** to change the working paint color.  
 press **<CRSR> RT/LEFT** to change the working paper color.

The **firebutton** toggles the **COLOR BOX** from green to red.

**To color:** Move the **COLOR BOX** when it's **red**.

**To move without coloring:** Move the **COLOR BOX** when it's **green**.

The **COLOR BOX** paints both the **paint** and the **paper** at the same time. Once you have set a paint color and a paper color, move the red **COLOR BOX** to color the paint and paper simultaneously.

**DOODLE!** uses color in all modes. When the working paint and paper colors are changed using **COLOR MODE**, the colors remain set for all modes until changed again.

You have already been introduced to drawing in color. Until you are a **DOODLE** expert, it is perhaps best to change only the **paint** color. Advanced users will be more comfortable with the way **DOODLE** handles **paper** color.

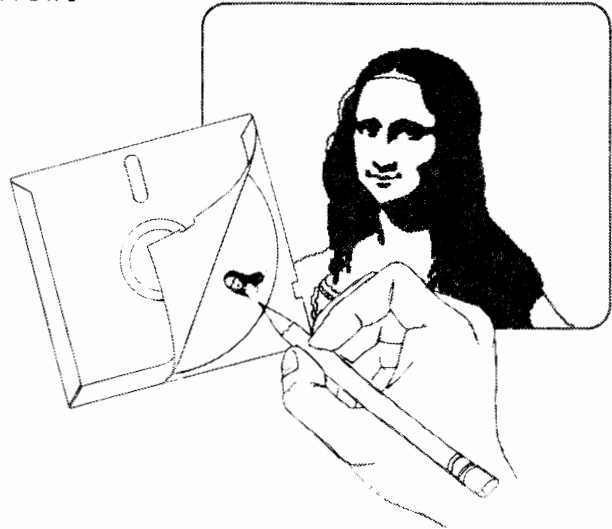
**ADVANCED COLOR TOPICS:** Color squares are a fundamental concept in **DOODLE!** **DOODLE!** does not change color pixel by pixel: Color, when it is used, is set for an area called a color square. This feature can cause some interesting and possibly unwanted side effects when drawing or coloring a **DOODLE**. To demonstrate this, memorize a sketch. Use the cursor keys to select a paper color, which will show in the outer ring of the circle. Press the **firebutton** to change the **COLOR BOX** to red, and move the joystick or trackball

back and forth to color in an area. The COLOR BOX moves in steps from one color square to the next.

Now go to SKETCH MODE (f1). Draw a line over the colored paper. The thin line is the current working paint color. The thick and probably ragged line is the current working paper color. When a line is drawn in the paint color, it crosses color squares of the paper color and changes them to the working paper color.

**DISK & PRINT MODE:** Press < > 2 to view the DISK & PRINT MODE menu. DOODLEs may be saved on a disk or recalled from a disk. DOODLEs can also be erased from a disk.

Press S to save a DOODLE. You should not save DOODLEs on your DOODLE! program disk. If you need help initializing a disk to store your DOODLEs, refer to the instructions on page 15. DOODLE! will display a directory of the disk. Any stored DOODLEs will be listed. Type in a name for the current DOODLE, then press RETURN to save it. If a name is chosen that already exists in the directory, the current DOODLE will replace the existing one.



To recall a saved DOODLE, press L. A directory will appear, listing all of the DOODLEs saved on the disk. To load a sketch, move the joystick or trackball until the chosen name appears in black. Then press RETURN. The DOODLE will then load. To view or modify this DOODLE, select any mode.

**PRINTING:** Before printing, save your DOODLE to the disk. DOODLE! comes set up for the Commodore 1525 printer. If you are using another type of printer, exit the DOODLE! program. LOAD and RUN the 'CHANGE PRINTER' program from your program disk. Refer to the instructions in the next section. Once you have completed the process, DOODLE! will always know what type of printer you are using. Re-load DOODLE! and proceed!

To print a DOODLE on the printer, press P. Next choose SINGLE size or DOUBLE size. Double size will print the DOODLE the same size as the sketch pad. Single size reduces the image to 1/4 size. When the size is selected the printer should begin printing. If it does not, exit the program, and run the 'CHANGE PRINTER' program to change the printer set-up. Also check the DIP switches on the interface and printer. Then load and run DOODLE! again, and print the DOODLE.

When you finish using DOODLE, or if you wish to exit the program to load the CHANGE PRINTER routine, press the STOP key. DOODLE will ask you to confirm that you are ready to exit the program. When you answer YES, you will be returned to Commodore BASIC.

## CHANGE PRINTER

DOODLE! comes to you ready to use with the Commodore 1525 printer. The program can be set up for operation with other printers, such as Gemini, Prowriter, Okidata and Epson, using the CHANGE PRINTER program on the disk.

The CHANGE PRINTER program begins with a display that indicates the printer your copy of DOODLE! is set for. Next comes a series of steps that will help you set DOODLE for your printer.

Unfortunately, most printer manufacturers do not design their printers to work with Commodore products. An interface is required to connect a non-Commodore printer to your C-64.

To further complicate matters, both the printer interface manufacturers are constantly changing their products. Although the author of DOODLE! has made every effort to make DOODLE! useable by those with limited computer experience, the lack of standards among hardware makers means you may need the assistance of someone with technical knowledge if you run into trouble with your printer. DOODLE! has been tested with current models of several interfaces and printers. It remains impossible to test every combination of hardware on the market.

Using a non-Commodore printer and interface with DOODLE!:

1. Your printer must be one of the printers on the list found in the CHANGE PRINTER program. Older models from the same manufacturer may not work.
2. Some printers need extra cost options to print graphics.
3. Your interface must be "software transparent" to work with DOODLE! Generally, it must be the type that plugs into the round socket on the back of your disk drive. The interface must respond as DEVICE NUMBER 4.
4. The interface must be able to pass a full 8-bit byte, unconverted, to the printer. Some interfaces convert "Commodore ASCII" to standard ASCII; this feature must be turned off for DOODLE! to work. Some interfaces have switches to accomplish this, others respond to certain SECONDARY ADDRESSES that disable this feature. The CHANGE PRINTER program allows you the choice of secondary address 5 or 6.
5. Some interfaces (i.e. 'The Connection') are said to allow non-Commodore printers to be used as though they actually were Commodore peripherals. Usually these interfaces cannot emulate Commodore's use of bit image graphics. DOODLE's superb print graphics require bit image graphics. Selecting the interface's transparent mode may enable this type of interface to be used with DOODLE!

The CHANGE PRINTER program allows you many choices: One will probably work with your system.

To run the **CHANGE PRINTER** program, place the DOODLE! disk in the disk drive and close the door. Type **LOAD"CHANGE\*",8** and press **RETURN**. Once **READY** appears on the screen, type **RUN** and press **RETURN**.

DOODLE! will ask some technical questions. If you don't know the answers, just guess and see what happens. You can run this program as often as necessary.

Press **any key** to continue the program. Pressing **RUN/STOP** will end the program here. Make sure the disk is in the drive and there is no 'write protect' on the disk.

The program checks the disk to see which printer set-up is currently selected. Be sure the disk is in the drive, then press **any key** to continue.

The program prints a message describing the current printer. Press **any key** to continue. The program will display a list of choices:

- 1 **COMMODORE 1525**
- 2 **C.ITOH 8510 OR NEC 8023**
- 3 **MOST EPSON OR STAR/GEMINI**
- 4 **MOST OKIDATA WITH GRAPHICS**
- 0 **DON'T CHANGE PRINTER**

Choose the number or letter that corresponds to your choice. DOODLE! displays the new set-up, and asks if this is right. Answer **Yes** or press **N** to start over.

For non-Commodore printers, DOODLE! continues by asking for a secondary address number. Your answer will be determined by the type of interface you have.

Some printers require linefeeds to move the paper up one line at a time. If your printer already generates linefeeds, and DOODLE! does too, the DOODLE will be printed with extra spaces between the lines.

Answer **Y** to the question **SHOULD DOODLE SEND LINEFEEDS?**. You will be able to change this to an **N**, if necessary, by re-running **CHANGE PRINTER**.

The new printer configuration will then be written to the disk.

A message will be displayed showing that the program has ended. Press **any key** to end the program and return to Commodore BASIC.

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## HOW TO LOAD A DOODLE WITH A BASIC PROGRAM

FIRST, LOAD YOUR SKETCH FROM THE DISK.

Note: When you saved your sketch, DOODLE! will have put "DD" in front of the name you gave it.

```
type: 100 IFI=0 THEN I=1:LOAD"DDNAME",8,1 <RETURN>
      where "DDNAME" is the name of your DOODLE as it
      appears on the disk directory.
```

NEXT, TELL BASIC NOT TO USE THE DOODLE'S SPACE.

This limits the size of your program and/or variables. The normal value for PEEK(56) is 160. You will lose the use of about 17K of memory.

```
type: 150 POKE 55,0:POKE 56,92:CLR <RETURN>
```

THEN, JUMP PAST SUBROUTINES TO MAIN PROGRAM.

```
type: 170 GOTO 1000 <RETURN>
```

ENTER THE SUBROUTINE TO DISPLAY YOUR DOODLE:

```
type: 200 POKE 53265,59 <RETURN>
      210 POKE 53272,120 <RETURN>
      220 POKE 56576,PEEK(56576)AND254 <RETURN>
      230 RETURN <RETURN>
```

YOU WILL NEED A SUBROUTINE TO RETURN TO NORMAL SCREEN:

```
type: 300 POKE 53265,27 <RETURN>
      310 POKE 53272,21 <RETURN>
      320 POKE 56576,PEEK(56576)OR1 <RETURN>
      330 RETURN <RETURN>
```

MAIN: THIS IS WHERE YOUR PROGRAM WOULD START. This simple demo shows how the above routines work. When you are ready, simply insert your program source code here.

```
type: 1000 PRINT"PRESS D TO SEE DOODLE" <RETURN>
      1010 PRINT"PRESS N FOR NORMAL SCREEN" <RETURN>
      1020 PRINT"PRESS Q TO END PROGRAM" <RETURN>
      1100 GETK$ <RETURN>
      1110 IF K$="D" THEN GOSUB 200 <RETURN>
      1120 IF K$="N" THEN GOSUB 300 <RETURN>
      1130 IF K$="Q" THEN GOSUB 300:END <RETURN>
      1140 GOTO 1100 <RETURN>
```



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**HOW TO SAVE YOUR DOODLES ONTO A SEPARATE DISK:**

## 1. Initialize a blank disk:

Place a new blank disk in the disk drive.

Type the following commands:

```
CLOSE 15          <RETURN>
OPEN15,8,15      <RETURN>
PRINT#15,"NO:DOODLES,D9" <RETURN>
CLOSE15         <RETURN>
```

The disk drive will work for a few minutes. When the red light on the drive goes out, remove the initialized disk.

2. Load and Run the DOODLE! program. Remove the DOODLE! program disk from the disk drive.
3. Insert the initialized disk.
4. Use the disk to save your DOODLEs according to the instructions on page 11 of this manual.





Garfield

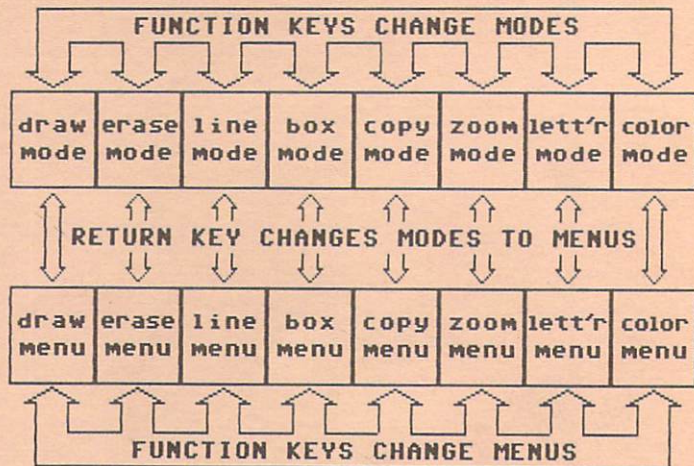
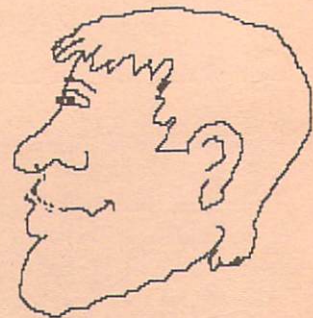


5-2183

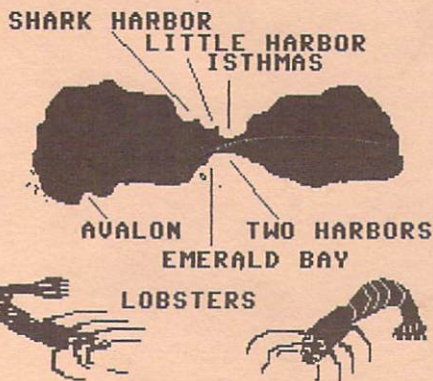
Eric Dietrich

# DOODLE!

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CATALINA ISLAND



COLOR SQUARES  
8 x 8 pixels

