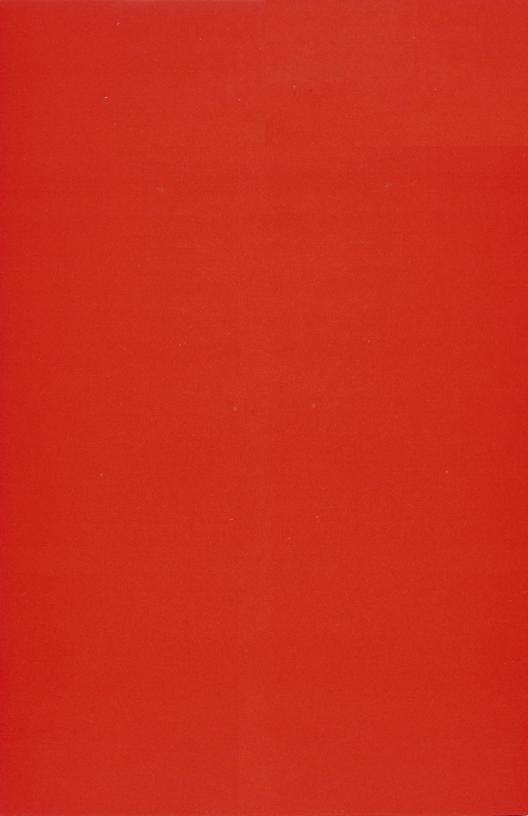# Leo's 'Lectric Paintbrush™

...with your home computer it transforms the Chalk Board™ PowerPad™ into an artist's palette and transforms your computer system into an artist's canvas—an *electric* sketch pad.

CHALK BOARD INC.

A touch of genius.

Leo's Lectric Paintbrush

User's Guide
For The Atari® 400™/800™ Computers

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Version 3.2/831025

GETTING STARTED

With Chalk Board's PowerPad™ and Leo's 'Lectric Paintbrush, drawing is exciting. You don't need paints, water or crayons. You don't need scissors or glue. All you need is your imagination. Your finger becomes an electric paint brush. Drawing right on PowerPad, you see the design on your TV screen. You can use Leo's Lectric Paintbrush to play with your design and change it. You can save the design on your diskette or cassette. Then you can look at it later or make more changes.

Do not try to begin without reading the Chalk Board PowerPad's User's Guide. This guide is part of the PowerPad package. Find the section of the directions that refers to your specific computer.

NOTE: Be sure to unplug your computer and TV before connecting PowerPad with your computer. To avoid possible damage to the software cartridge, turn off your computer every time you insert or change cartridges.

The Overlay

Leo's 'Lectric Paintbrush comes with a plastic overlay the size of PowerPad's drawing area. The overlay shows all the ways you can use PowerPad with Leo's 'Lectric Paintbrush. Gently guide the overlay's frame into the groove around PowerPad's work surface. Once in position, the frame snaps easily in place. Next, take a moment to look at this overlay. The twenty-three keys include eight colors and fifteen functions.

The Stylus

Included in the PowerPad package is a stylus. You can use this stylus to draw on PowerPad. It can help you make thinner lines than you can with your finger. If you use any other stylus, be sure that it is not sharp. A sharp point can puncture the PowerPad and cause permanent damage. A plastic or wooden stylus is best.

Like all pointed objects, the stylus must be handled carefully by small children. Please use care to avoid accidents.

The Cartridge

Insert the Leo's 'Lectric Paintbrush cartridge into your computer. Then turn on the computer and your TV. When you do, the Chalk Board display and copyright notice appear. To begin, touch any spot on PowerPad's surface. The screen clears, becoming a deep blue color. Press CLEAR to be sure the screen is completely "clean."

The Sounds of Keys

Touch any one of the color keys. Do you hear a musical note? (If not, turn up your television's volume.) Every time you touch a key on Leo's 'Lectric Paintbrush, you hear a note. This note lets you know that the computer "felt" you press a key.

Colors on Your Television

Colors on a television are not made the same way as paints or crayons. If you don't see colors the way you expect them, you may need to adjust your TV. Leo's 'Lectric Paintbrush may look different on your neighbor's screen than it does on yours. This may be caused by a difference in your screens. It is not caused by a difference between your cartridge and your neighbor's cartridge.

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Getting Your Fingers Wet
When you begin Leo's 'Lectric Paintbrush, you see a blue background. As you start to draw, your paint color is red. (If you have been experimenting with other keys, press the RED key now.) Move your finger around the overlay. Watch the screen at the same time.

NOTE: Is there a big difference between what you are drawing and what you see? If so, you may be drawing too fast for the computer. Slow down and try again. How does the speed of your finger affect the line you make?

A Word About Atari Colors
Because Leo's 'Lectric Paintbrush gives you so much flexibility and detail in drawing, most Atari computers limit you to using four colors on the screen at a time with this program. This means you can use one background color and three paint colors. When you begin to use a fourth paint color, it appears on the screen as you expect. However, the first paint color you used also becomes that fourth color.

Experiment now by drawing the numbers 1, 2, and 3–each in a different paint color. Change colors simply by pressing a new color on PowerPad's overlay. (Don't use the background color, blue, as one of the three paint colors.) Now add a fourth color, drawing the number 4. What happens? Add a 5 and a 6 in different colors until you are sure you understand the pattern.

Activity 1: THE VALENTINE

Clear

Are you ready for more? Start by pressing CLEAR to begin with a blank screen.

NOTE: If you no longer have a blue background and red paint, catch up by pressing these buttons in order;
   CLEAR   BACKGROUND   BLUE   RED

Why not draw a valentine to see how easy Leo's 'Lectric Paintbrush is to use? You can draw a heart, add an arrow and "carve" your initials into it.

Drawing a Heart

Draw the outline of a heart in the middle of the screen. Leave some room at the sides, top and bottom for adding details later. Watch the screen while you draw. As your finger or stylus moves on the PowerPad, the design appears on the screen at the same time.

How wide did you make your line? Play with the heart's outline until it looks exactly as you want.

Pen up

PEN UP

Before you make a mark with PowerPad, do you want to see where the mark will be? Do you want to touch PowerPad without making a mark? PEN UP makes this possible. It lets you see your place on the screen and move your finger without painting or leaving "tracks" behind.

Before you add an arrow to your heart, you need to position your finger exactly where you want the arrow. Begin to do this by pressing PEN UP. Look at the screen. Do you see a pen point appear? What color is the pen ink? Change the ink color now by pressing BLACK. How does the pen change?

PEN UP allows you to move your finger around PowerPad without making marks on the screen. Touch the drawing surface. Where does the pen move? What happens if two fingers touch the surface at the time? Play with PEN UP for a few moments by moving your finger across PowerPad's surface.

PEN DOWN
When you find the exact place for the top of your arrow, press PEN DOWN. The pen point disappears. In its place is a small dot. Now you can continue drawing. Try it out. Draw the top of the arrow.

ASTERISK (*)
The asterisk key controls the display of the pen point. Press this key now. What happens in the upper right corner of the screen? What happens now when you press PEN UP or PEN DOWN?

Changing the Picture
If you want to change parts of your arrow or heart, paint over them. Now, for example, touch BLUE on PowerPad. Your finger becomes "blue paint." Then "paint" over the unwanted picture part by moving your finger over PowerPad in the same place where you painted originally. **Painting over a picture part with the same color as the background erases that picture part.**

Finish drawing the valentine by adding a bottom to your arrow. Maybe you can add feathers. Watch the TV screen as you finish the arrow. Do you need to use PEN UP and PEN DOWN?

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Activity 2: NON-COLOR KEYS

NOTE: Some computer systems may require a memory expander before you can make full use of the remaining features of Leo's 'Lectric Paintbrush.

BACKGROUND

When you start Leo's 'Lectric Paintbrush, the entire screen is a blue background. Change the background color to another color in this way. Press the BACKGROUND key on the PowerPad. Then press the new color you want the background to be.

Try changing the new background color to another color. What happens to your arrow if the background is black? What happens to the heart if you change the background to red?

FILL

Use the FILL key to color an object in your picture.

Look closely at your heart. Did you draw it with a solid line? Does the outline have any holes? If so, draw over the outline now so the line is solid.

Begin to fill the heart by pressing FILL. Next, press RED and touch PowerPad in the middle of the heart. Did you find the middle of the heart, or did you fill the background?

Can you think of another way to color in the heart? You could put your finger on the heart, press RED, and then color it in. The FILL command does the same thing–only faster and easier.

FILL colors an object until it finds a "wall." If you drew your heart without one solid line, you already found that out! It works like paint poured into a bucket. If the bucket is solid, the paint stays inside it. If the bucket has a hole in

it, the paint leaks out of the hole. When you try to fill an object that you did not draw with a solid line, FILL changes every point in the picture until it finds a wall. (You can change the background color this way.) Also, if the object you are filling is a large object, FILL takes a few seconds to complete the job. You can pretend you are a magician, slowly changing first one side of the object and then the other. You will hear a "beep" when FILL is complete.

You may want to use PEN UP and PEN DOWN to find the exact spot for filling. For example, try to fill the heart again, maybe using a different color. Press PEN UP. Then move the pen point to the center of the heart. Next, press FILL, press the color you want to use, and press PEN DOWN.

FILL and CANCEL

Suppose you begin to fill a large object. In the middle of filling it, you discover it has a hole. You want to stop the filling process right away.

You can interrupt a FILL command by pressing the CANCEL key. This stops the process. Then you can continue to change your picture.

TO and END

TO and END define objects. *Defining* an object tells the computer the starting point and ending point of the object. Defining the object is like making a cardboard pattern of it. Once you define an object, you can move it, or copy it onto other parts of the screen.

Find the TO and END keys on the overlay. The TO key works with the END key. You can use these keys now to write your initials *below* the valentine. Then you can "carve" them onto the heart.

First, press TO. This tells the computer you are starting to define the object, your initials. Next, write your initials. Once you are finished, press END. This tells the computer you are finished defining the object.

MOVE

Since you have defined your initials, you now can move them to a new place in the picture. The MOVE key helps you do this. To move an object, press MOVE, touch the object, and touch the new spot for the object. Remember: You can move only objects drawn between a TO and an END.

Begin to move your initials by touching the MOVE key. Next, touch any part of PowerPad that is part of your initials. Touching your initials tells the computer what object you want to move. Finally, touch a spot in the center of the heart. Watch the TV screen while your initials move to their new position.

REPEAT

The REPEAT key lets you make a copy of a defined object. You cannot repeat an object unless you have drawn it between a TO and an END.

Maybe you want your initials all over the screen, not just on the valentine. You do not need to draw your initials over and over again. To make a copy of a defined object, like your initials, press REPEAT, touch the object and touch the new spot where you want to see a copy of the object.

Begin to make a copy of your initials by touching the REPEAT key. Next, touch any place on PowerPad that is part of your initials. Then, touch the place where you want the copy of your initials to appear. Watch the screen. You now see your initials in two places.

NOTE: Sometimes you might move or repeat an object to the edge of the screen. For example, you might move your initials to the far right of the picture. If there isn't enough room for the computer to draw your initials in that spot, part of them appears in the far left of the picture. This action is called *screen wrapping.* You can wrap an object across the sides of the screen or across the top and bottom of the screen.

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Using PEN UP and PEN DOWN with MOVE and REPEAT

You can use PEN UP and PEN DOWN to help you move and repeat. Do this now to move one set of initials or to make one more copy of them.

- Touch MOVE *or* REPEAT.
- Touch PEN UP and move the pen head into the middle of your initials.
- Press PEN DOWN. Now you have told the computer what to move or repeat.
- Press PEN UP again and move the pen head into the new position.
- Press PEN DOWN. The computer moves or repeats your initials into the new spot.

COMPUTER MEMORY

Let's take some time out to talk about your computer. When you define an object, you are giving your computer a group of directions. Your computer can "remember" only a limited number of direction groups. This number is different for each computer. The number depends upon the amount of *memory* your computer has. The more memory the computer has, the more commands it can remember.

Using TO and END quickly fills the computer's memory. If you use these keys too often, you may be unable to finish your picture exactly the way you wanted. Use TO and END to draw objects only when you are going to move or repeat them.

The Memory Gauge

Suddenly losing your memory can be frustrating! Do you want to keep track of the memory you are using *before* you run out? If so, press the hashmark key (#). A vertical memory gauge appears. It sits to the right of the screen's picture. It doesn't interfere with your drawing.

As you use memory, the gauge fills with ink. For example, suppose you create a picture with hearts. You use TO and END keys when creating the hearts. Suddenly you notice that

the memory gauge looks full. When memory is full, you can't define any new picture parts without "un-defining" older parts. You can draw more hearts, but you cannot move or repeat them.

You can remove the memory gauge from the screen by pressing the hashmark key (#) again.

CLEAR and ASTERISK (*)

You can use the CLEAR key with the asterisk key (*) to "find" more memory. Suppose you draw a picture full of defined hearts. You are sure you like those hearts just as they are. You don't want to move them or repeat them anymore. Your memory gauge is full. Press first the CLEAR key and then the asterisk (*).

Pressing CLEAR and * does two things:
- It tells the computer to "forget" all the TO's and END's you already entered. It "un-defines" all objects.
- By un-defining objects, it frees memory. This lets you define new objects.

Like drawing with a full memory, pressing the CLEAR and * keys keeps all your picture's parts on the screen. Objects do not disappear. But you will not be able to move or repeat those objects again.

Experimenting

Try playing with the TO, END, FILL, MOVE and REPEAT keys. Use PEN UP and PEN DOWN if you want. What happens if you fill an object before you END it? Are you able to move it filled? You did not make your first heart using TO and END. What happens when you try to move it? What happens when you move a defined object onto the heart and then off it again?

When you try to move or repeat an object that has not been made with a TO and an END, the computer does not respond. You will not see the object move or repeat. If this happens, go back and re-draw the picture part using TO and END.

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NOTE: The computer won't allow you to use MOVE or REPEAT while defining an object. Do not press these keys while you are drawing an object between TO and END.

CLEAR

You already know how to "erase" part of a picture by coloring over it with the background color. Leo's 'Lectric Paintbrush also gives you a way to clear the entire screen.

NOTE: If you want to keep the picture you have just created, turn to the HOW TO SAVE A PICTURE section of this manual *before* you try to clear the screen.

You may be working on a picture and decide to start over from the beginning. To clear the screen of all your work, press CLEAR. At once, the screen clears. The background color remains the same.

When you press CLEAR, PowerPad keeps holding your picture in its memory. It "remembers" the picture you had on the screen.

If you are sure that you want to erase the picture permanently after you have pressed CLEAR, press any key except CANCEL or asterisk (*). Pressing any other key clears the computer's memory and the screen. Then you see a clear background. You can start to draw a new picture right away.

CLEAR and CANCEL

Suppose after pressing CLEAR, you change your mind: you want your picture back.

After you clear the screen and before you press any other key, you can bring your picture back by pressing CANCEL. The CANCEL key tells the computer that you want to change your mind. When you press CANCEL after a CLEAR,

you bring the picture out of the computer's memory and back onto the screen.

The CANCEL key works the same with all non-color keys. It lets you change your mind after you have pressed a command key.

HOW TO SAVE A PICTURE

NOTE: If you are using an Atari with fewer than 32K bytes of memory, you can save and load pictures only on a cassette. If you have a diskette based system, the diskette on which you save pictures must contain Atari DOS.

If you are using a diskette or cassette, you can save your picture. Saving lets you bring your picture back to the screen later. Then you can show it to others. Maybe you will even want to change it.

Saving a picture on your cassette or diskette involves a few steps:

- Be sure that your storage device (cassette player or disk drive) is properly connected and ready to receive the picture.
- If you are using a diskette, determine the picture's name. (See below.)
- Complete the PowerLog card that comes with Leo's 'Lectric Paintbrush.
- Press a series of keys to tell the computer how you want the picture saved.

Naming the Picture (Diskette Only)

Before you save a picture, you must name it in a special way if you are using a diskette. You name a picture with one to three colors in any combination. For instance, you can call a picture RED or RED BLUE CYAN. It is very important that every picture on your diskette have its own name. Do not use the same name twice on a single diskette. If you do, you erase the first picture when you save the second.

PowerLog Cards

Find the PowerLog cards that come with Leo's 'Lectric Paintbrush. Use them to keep a record of all the pictures you have saved on a single diskette or cassette.

The top of each card says DISK/TAPE Name _____. In this space write the name of the diskette or cassette that you are using now. For example, you might name the present cassette or diskette "PAINT."

The second line says SOFTWARE NAME. This space is for the name of the product you are using. Write "Leo's 'Lectric Paintbrush."

Notice the PowerLog card is divided into three columns. The information for each column is important to help you remember how and where you saved your pictures.

The first column says "Date." Under that column, write today's date.

The second column is labeled "Name/Mode." In this column, if you are using a diskette, write the color name you have given your picture. For example, you can call your valentine picture BLACK RED CYAN. If you are using a cassette, write the current tape counter number in this place. If you need to rewind your cassette and reset the counter, do so.

You may want to group your pictures using a system of your own. For example, maybe you could use RED combinations to name all outdoor pictures.

The third column is labeled "Description." In this column, use a few words to describe your picture. For example, you could write VALENTINE.

SAVE

Be sure that the PowerLog card is complete. Check to see that your cassette or diskette is ready to use. You must have room on the cassette or diskette for the picture.

Press SAVE on PowerPad to continue the saving process. When you do, the screen turns grey, telling you that it is beginning the saving process.

HASHMARK (#) or ASTERISK (*)

Use the hashmark key (#) or the asterisk key (*) to tell the computer where to send the picture. If you are using a <u>diskette</u>, press#. If you are using a <u>cassette</u>, press *.

NOTE: If you are using an Atari with fewer than 32K bytes of memory, you can save pictures only to a cassette.

Each time you use Leo's 'Lectric Paintbrush, you may want to save a picture. The first time you save a picture, the computer needs you to tell it if you are using a diskette or cassette. After the first time, it remembers what you are using until you turn the machine off. As you save more pictures, you won't need to press # or * again.

Entering the Picture's Name (Diskette Only)

In Leo's 'Lectric Paintbrush, you refer to each picture by its own name. This name is the same color combination you wrote on the PowerLog card. For example, to name your valentine picture, press BLACK RED CYAN.

ENTER

Next, find the ENTER key on PowerPad. For some commands you need to press ENTER before the command can be sent to the computer. In this way, ENTER is like a green traffic light. It tells the computer that you have finished giving it an order. You are saying that you want the computer to carry out the order now.

To finish saving your valentine picture, press ENTER. Your picture leaves the screen for a moment.

Saving to Cassette
After you press ENTER, you hear two beeps from the computer. These beeps tell you that you should press PLAY and RECORD on your cassette player. Press those buttons and press RETURN (on the keyboard) to tell the computer you are ready for it to save the picture. If for some reason your cassette player is not properly connected, the screen becomes orange. It remains orange until you touch the pad. Then you must try again to save the picture. Once the picture is saved, it returns to the screen.

Saving to Diskette
After you press ENTER, the computer automatically begins to store your picture on the diskette in your drive. If a problem exists with the disk or the drive connection, the screen becomes orange. It remains orange until you touch the pad. At that time you can take whatever corrective action is necessary and try to save your picture again.

The computer makes some noises while it saves the picture. Notice that while the picture is being saved, it disappears for a few moments, then returns to the screen. After you are finished saving, erase the screen and start a new picture by pressing CLEAR.

REMEMBER: To save your picture, use this procedure:
- Check your disk drive or cassette player to be sure it is ready to receive the picture.
- Complete the PowerLog card.
- Press SAVE.
- If this is the first picture you are saving today, press either the hashmark (#) for a disk drive system, or the asterisk (*) for a cassette system.
- If you are using a diskette, press the color keys that make up the picture's name.
- Press ENTER.

Once you have saved the picture, you have a copy of it that you can bring back onto the screen at any time.

HOW TO LOAD A PICTURE

Like the saving process, the loading process has several steps. Before you begin to load, check your PowerLog card for the correct color name of the picture or for its counter number. Also check to see that you are using the correct diskette or cassette. Be sure that your disk drive or your recorder is turned on. If you need to advance your tape, do so. Advance your tape five counts higher than that of the picture's location.

LOAD

The LOAD key lets you bring back into the computer's memory a picture you already have saved. Begin the loading process by pressing LOAD. Immediately the screen turns grey to tell you the computer is in the loading process.

HASHMARK (#) or ASTERISK (*)

The first time you load a picture, the computer needs to be told if you are using a diskette or cassette system. If you are using a diskette, press #. If you are using a cassette, press *. Again check your storage device. If you are using a cassette player and need to locate the correct section of tape, do so now.

NOTE: If you are using an Atari with fewer than 32K bytes of memory, you can save and load pictures only from a cassette.

Entering the Picture's Name (Diskette Only)

Next, you need to tell the computer the picture's name. Do this by pressing the color keys that make up the picture's name. For example, suppose you saved the valentine picture, naming it BLACK RED CYAN. To load that picture now, press BLACK RED CYAN.

ENTER

Like the saving process, the loading process uses an ENTER to let the computer know you are finished giving it information. After you have entered the picture's name or advanced your tape to the correct position, press ENTER to complete the loading process.

Loading from Cassette

With a single beep, the computer prompts you to press PLAY on your recorder. Do so. Then press the RETURN key on the keyboard to tell the computer you are ready for it to load your picture.

The computer makes some sounds while it looks for the picture and loads it into its memory.

If your cassette player is not properly connected, the computer changes the screen color to orange until you touch the pad. When this happens, the screen flashes a moment. Then you need to reset your computer and fix the connection.

Loading from Diskette

After you press ENTER, the computer immediately begins to search the diskette for the picture. The computer makes some sounds while it looks for the picture and loads it into its memory. When the computer is finished loading, your picture appears on the screen.

If your disk drive is not properly connected, the computer changes the screen color to orange until you touch the pad. When this happens, you need to correct the connection and try again.

If the computer cannot find your picture, it turns the screen orange until you touch the pad again.

REMEMBER: To load your picture, use this procedure:

- Check your disk drive or cassette player to be sure it is ready to send the picture.
- Press LOAD.
- If this is the first picture you are loading

today, press either the hashmark (#) for a disk drive system, or the asterisk (*) for a cassette system.
- If you are using a diskette, press the color keys that make up the picture's name.
- Press ENTER.

NOTE: Leo's 'Lectric Paintbrush lets you hold only one picture in memory at a time. This means you cannot look at two pictures at the same time. If you are looking at a picture and try to LOAD another picture, the first picture is erased from memory. Be sure that you save the first picture before loading another one. If you don't save it first, you lose it permanently.

Unfound Pictures

Here are a few reasons why the computer may not be able to load your picture:
- You are using the wrong diskette or cassette.
- You told the computer you were using a cassette when you meant to tell it you were using a diskette.
- You are using the wrong picture name.

With a disk based system, you must enter the picture's name exactly as you saved it. For example, BLACK RED CYAN is *not* the same as BLACK CYAN RED. BLACK is not the same as BLACK BLACK. If the computer cannot find your picture on the diskette, your old picture reappears. If you are using a cassette system, you must find the location of your picture on the tape manually. If the computer cannot find a picture, the computer searches for about twenty seconds. Then you must rewind your tape and try again.

Saving a Changed Picture
After you load a picture, you might want to change it. Then you might decide that you want to keep those changes permanently. To do this, you must re-save the picture.

Decide if you want to keep both the original *and* the changed picture.

- If you want to keep both the original and the changed picture on a diskette, save the changed picture using a different name. If you want to keep both pictures on a cassette, save each picture at a different location on the tape.

You *cannot* keep two pictures with the same name on the same diskette. If you try to do this, the second picture erases the first one.

- If you want to keep only the changed picture, save the changed picture using the name of the original picture.

CANCEL
The CANCEL key is a way to interrupt all non-color key commands, including CLEAR, SAVE, or LOAD. After you have pressed CLEAR, you can press CANCEL to return the last picture to the screen. If you have started to save or load a picture *and have not pressed ENTER*, you can use the CANCEL key to stop the process completely. Your current picture returns to the screen. The CANCEL key doesn't interrupt saving or loading if you already have pressed ENTER.

You now have used each of the Leo's 'Lectric Paintbrush keys at least once. You are familiar with a variety of ways for making a picture. You can use TO and END to define special parts. You can fill, move or repeat picture sections. You can save your picture and load it into the computer to look at again.

Leo's 'Lectric Paintbrush offers you many ways of using PowerPad to replace your old sketch pads and coloring books. Use your imagination to experiment with Leo's 'Lectric Paintbrush and PowerPad. We have included in this booklet a section with several activities using Leo's 'Lectric Paintbrush for making pictures that you'll be proud of over and over again.

Activity 3: THINGS TO DO

SAVOR THE FLAVOR

There is nothing like an ice cream cone to make the day seem brighter.

Using TO and END, draw an ice cream cone by putting a circle (the ice cream) on top of an upside down triangle (the cone). Be sure you close your lines. Do *not* color the cones.

Next, use the REPEAT key to fill the screen with more cones. You might even want to overlap some of them.

Once you have a screen full of cones, go back and FILL the circles with different colors. The colors are the ice cream flavors.

How many new "flavors" can you invent? Can you add stripes or dots on top of the colors? Try making peppermint stripes or mint chips. Hmmmmm.

THE DISAPPEARING ACT

You can make a design "invisible" by using the same paint color, background color and fill color.

Draw one of your favorite objects. To begin with, make the object something simple like an apple.

What paint color did you use? Change the background color to the paint color. For example, if your original background was blue and your paint brush was red, change the background to red. What does that do to your object?

How do you make your object reappear? Does a new background color change the pen color?

Experiment by drawing a picture with more than one object or with a filled one. What happens when you create the objects using TO and END? Can you make a picture with different objects "appearing" on the screen each time you change to a different background color?

BODY LANGUAGE

If you haven't tried making a picture of your hand yet, try to make one now. Touch PowerPad with the tips of your four fingers and your thumb. Use your other hand (or a friend) to press PEN UP. What happens?

Next, press PEN DOWN and touch PowerPad lightly with your elbow or your nose. What does your "nose-print" look like?

Make a design using different body prints. Maybe you can experiment with different colors. Try making prints on top of prints. Change pen colors and background colors to make them appear and disappear.

Make a fist with your right hand. Then, with the knuckle of your thumb pointing up at you, press your fist onto PowerPad. Add some "toes." Does your design look like the footprint of a tiny animal?

What other designs can you make using prints?

THE PERSONAL PENNANT

Everyone likes making banners and pennants. Right? Let Leo's 'Lectric Paintbrush help you design one for your room.

Begin by making a short list of ideas or objects that are important to you. Since the pennant is for your room, include something that stands for *you*. You can use initials, pictures and symbols.

Once you have made your list, begin designing the pennant on PowerPad. You might want to start by sectioning the display into a number of definite areas. Each area then could hold one item on your list.

Another way to design your pennant is to place the most important item on the list in the center of the display. Then draw other items around the center.

Use colors to show your mood or your meaning. What colors do you think of when

you are happy? What does it mean to feel blue? What color makes us think of being young or of the earth at springtime?

There is no limit to the number of designs you can make using the same list. Keep experimenting until you have found the one that appeals to you most.

THE PIRATE'S LAP MAP

Here's a new twist for a treasure hunt.

Draw a picture with several objects, using a combination of Paintbrush colors. Draw each shape using only one color.

Next, pick one of the objects to be your treasure chest. "Hide" the object by changing the background color. On a piece of paper, draw the object showing both its position and its color.

Let your friends begin the game by guessing objects or asking you to change the background color. You can respond to their guesses by saying "warmer" or "colder."

How many questions does it take them to guess the correct object?

Trade places and try the game again. Can you add clues to make the game easier? Can you make it more difficult by adding more objects? Can you "hide" more than one object at a time?

Invent your own variation of this activity. Maybe you can make it necessary to find several objects in a specific order. Maybe you and your friends can write secret messages or helpful hints and hide them on the screen.

MAZE CRAZE

Are you tired of maze and puzzle books you can use once and then have to throw away? Here's a remedy:

Draw a maze on the screen using one color. Include many turns and curves to make it challenging. You even can include "dead-end streets" or tricky spirals.

Once you have drawn the maze, press PEN UP. Select a new pen color. Then decide where you should move the pen so the maze will fill

as fast as possible. Press FILL. Ready your stop watch, and press PEN DOWN, timing how long the screen takes to fill. How many times did you have to move your pen and repeat the sequence to fill the entire screen?

If there are two or more people playing, take turns using the same maze or different ones. Keep track of times and moves to see who wins.

FUNNY FACE

Remember making funny faces with potatoes and pumpkins when you were little? Try this PowerPad version to test your eye-hand coordination.

Draw a blank head on the right side of the screen. On the left side, use TO and END to draw eyes, a nose, a mouth, ears and hair. Make them funny and colorful.

One by one, move each feature onto the head and watch your computer person come to life.

Appendix A: KEY SUMMARY

COLOR
- To change pen colors, press the color you want.
- To change the background color, press BACKGROUND and the new color.
- To fill an object with color, press FILL, press a color, and touch the object.

PEN UP and PEN DOWN
- To touch PowerPad without making a mark on the screen, press PEN UP and move your finger.
- To re-activate the "paint" after you have touched PEN UP, touch PEN DOWN and continue to draw.
- To control the pen display, press the asterisk (*).

DEFINED OBJECTS
- To begin to define an object, press TO. Then draw.
- To finish defining an object, press END.
- To move a defined object, press MOVE, touch the object you want to move, and then touch the new place you want it. (You may want to use PEN UP and PEN DOWN to pick your object and its new location.)
- To repeat an object, press REPEAT, touch the object, and then touch the place where you want the copy to appear. (You may want to use PEN UP and PEN DOWN to pick your object and its new location.)
- To control the display of the memory gauge, press the hashmark (#) key.

CLEARING THE SCREEN
- To clear the screen of the present picture, press CLEAR.
- To cancel a CLEAR command, press CANCEL.

SAVE

- To save a picture on your diskette or cassette, press SAVE.
- To indicate you are using a cassette, press *.
- To indicate you are using a diskette, press #.
- To name a picture on a disk based system, press a series of one to three color keys.
- To execute the saving process, press ENTER.
- On a cassette system press PLAY and RECORD on your player. Then press RETURN on the keyboard.

Sequence: SAVE * ENTER
           SAVE # name ENTER

LOAD

- To load a picture from your diskette or cassette, press LOAD.
- To indicate you are using a cassette, press *.
- To indicate you are using a diskette, press #.
- To name a picture on a disk based system, press a series of one to three color keys.
- To execute the loading process, press ENTER.
- On a cassette system, press PLAY on your player. Then press RETURN on the keyboard.

Sequence: LOAD * ENTER
           SAVE # name ENTER

Chalk Board has built into the diskette SAVE and LOAD process a simplified alternative that very small children can use. (Remember you need at least 32K to use a diskette for storage.) You may save a single picture without naming it by pressing SAVE ENTER. This creates a file called "NONAME.CBI." You can use this command if you want to save a particular picture, continue drawing, then load the picture later to show to someone special. When loading the picture, press LOAD ENTER.

CANCEL

- To cancel a non-color command, press CANCEL.

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Appendix B: YOUR COMPUTER AND ITS OPERATING SYSTEM

If you are using a computer system that includes a disk drive, please note the following:

- When you turn on your computer and begin Leo's 'Lectric Paintbrush, your disk drive must be on. Also, the disk in the drive must include an operating system.
- Diskettes must be initialized and/or formatted before you can use them for saving and loading pictures. Each computer system has its own procedure for this purpose. If you do not know how to initialize or format a diskette, refer to the manual that came with your operating system or disk drive for directions.
- Pictures can be erased or transferred from your diskette by following the procedures for your particular operating system.
- Most diskette systems are capable of holding from fifty to seventy-five different pictures, depending upon the amount of detail in the pictures.

Appendix C: PHOTOGRAPHING YOUR PICTURES

If you create pictures with Leo's 'Lectric Paintbrush that you would like to photograph, use the following steps for best results:

1. Use a 35mm camera. An instamatic-type camera will not work. Mount the camera on a tripod. Attach a cable release.
2. Darken the room to avoid reflections in the screen. If you prefer, tape the open end of a blackened cardboard box flush to the screen. In the closed end of the box, cut a hole slightly larger than the size of your lens. Proper screen and room lighting are found best through trial-and-error. All televisions and monitors differ. Do not use a flash.

3. Use f(stop) 8 at ¼ of a second shutter speed with ASA 64 Daylight film. Never use a shutter speed shorter than ⅟₁₅ of a second.
4. Take meter readings and record them.
5. Bracket your exposures; expose one full stop brighter and darker than your original setting.
6. Keep records of your exposures for later reference.

Appendix D: REPLACEMENT OVERLAY

If you accidentally damage the overlay that came with Leo's 'Lectric Paintbrush, replacement overlays are available. Send $6.00 by check or money order, your name and address to:

Customer Support
Chalk Board, Inc.
3772 Pleasantdale Road
Atlanta, Georgia 30340

This $6.00 charge includes $3.00 for the replacement overlay itself, and $3.00 for postage and handling.

VIEWS FROM AN EDUCATOR

The search is on for ways to use computers to design effective educational environments in homes. In my judgment, Chalk Board leads this important exploration to rediscover the home setting as a powerful force for learning. Simply stated, Chalk Board is rapidly becoming synonymous with learning through home computers. This company is committed to building responsive environments that will help more people reach their full potential.

To this end, Chalk Board has created PowerPad and Leonardo's Library.™ The touch-sensitive pad offers learners a new method of communication with computers. PowerPad is complemented by a library of software that is well conceptualized and carefully written. Each package addresses its unique learning objectives but also remains interrelated with other library units. In the family setting, the software, by its very design, stimulates intelligence, motivation and achievement. As I view it, this integrated system provides significant opportunities for learning not only for those people who have previously experienced academic success, but also for those whose potential has not yet been realized.

Here are four reasons why the Chalk Board PowerPad and its software library serve as an important force for learning:

- People find initial learning experiences meaningful and the desire to repeat them furnishes continuing motivation for learning.
- Learners put forth real effort and gain satisfaction from accomplishing tasks they find challenging.
- Learners discover the pleasure that comes from having acquired and used new understandings, new interests and new skills.
- When teams of people use PowerPad, they develop an interest in working with others for a common purpose.

Further, these conditions for learning take on even more significance for individuals because the PowerPad has built-in flexibility that gives learners personal power to structure the activities of the computer.

With Leo's 'Lectric Paintbrush, you use your imagination to create multi-colored pictures and designs. Use your fingers or a stylus to "paint" the screen exactly as you want. The built-in functions of this program let you fill objects on the screen with color, quickly and neatly. You even can move objects from one part of the screen to another, or make copies of an object in many different locations. Finally, you can save your designs on a diskette or tape to view or change later.

For people unfamiliar with computers and their peripheral devices, Leo's 'Lectric Paintbrush offers a uniquely non-threatening entry into understanding the individual's interaction with high technology products. Children and adults quickly learn to teach the computer to carry out their commands. You can learn to write simple computer procedures, and to save and retrieve computer files. Encouraging experimentation in artistic design and exploration of procedures, Paintbrush satisfies your desires to create while preparing you for more advanced art concepts and future computer applications.

Chalk Board, then, has created an exciting way to expand opportunities for learning. PowerPad and Leonardo's Library will provide parents, teachers and other educators with valuable assistance as we enter a period of increased used of home computers as a constructive means for quality education.

Dr. Robert L. Sinclair
Professor of Education and
Director, Center for Curriculum Studies
University of Massachusetts at Amherst

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Vinci, Leonardo da (lē′ ə nar′ dō də viń chē)
1452-1519. Italian painter, sculptor, scientist
and inventor. Often referred to as "The
Renaissance Man."
Leo's 'Lectric Paintbrush (lē′ ōz lek′ trik pānt′
brush) 1983. The newest painting and drawing
tool for today's Renaissance person.

Do you have some ideas or suggestions for
unique ways of using Leo's 'Lectric Paintbrush?
Do you want to know what other people have
been doing with PowerPad and Chalk Board
software? Complete the warranty registration
card that came with this package. Return it to
us (postage free in the United States). We will
place your name on the list of users who
receive our company newsletter. Send us some
of your ideas, and your name also might ap-
pear in our newsletter.

Watch for coming issues, as well as for new
additions to Leonardo's Library of quality soft-
ware for the home computer.

CHALK BOARD INC.

A touch of genius.