

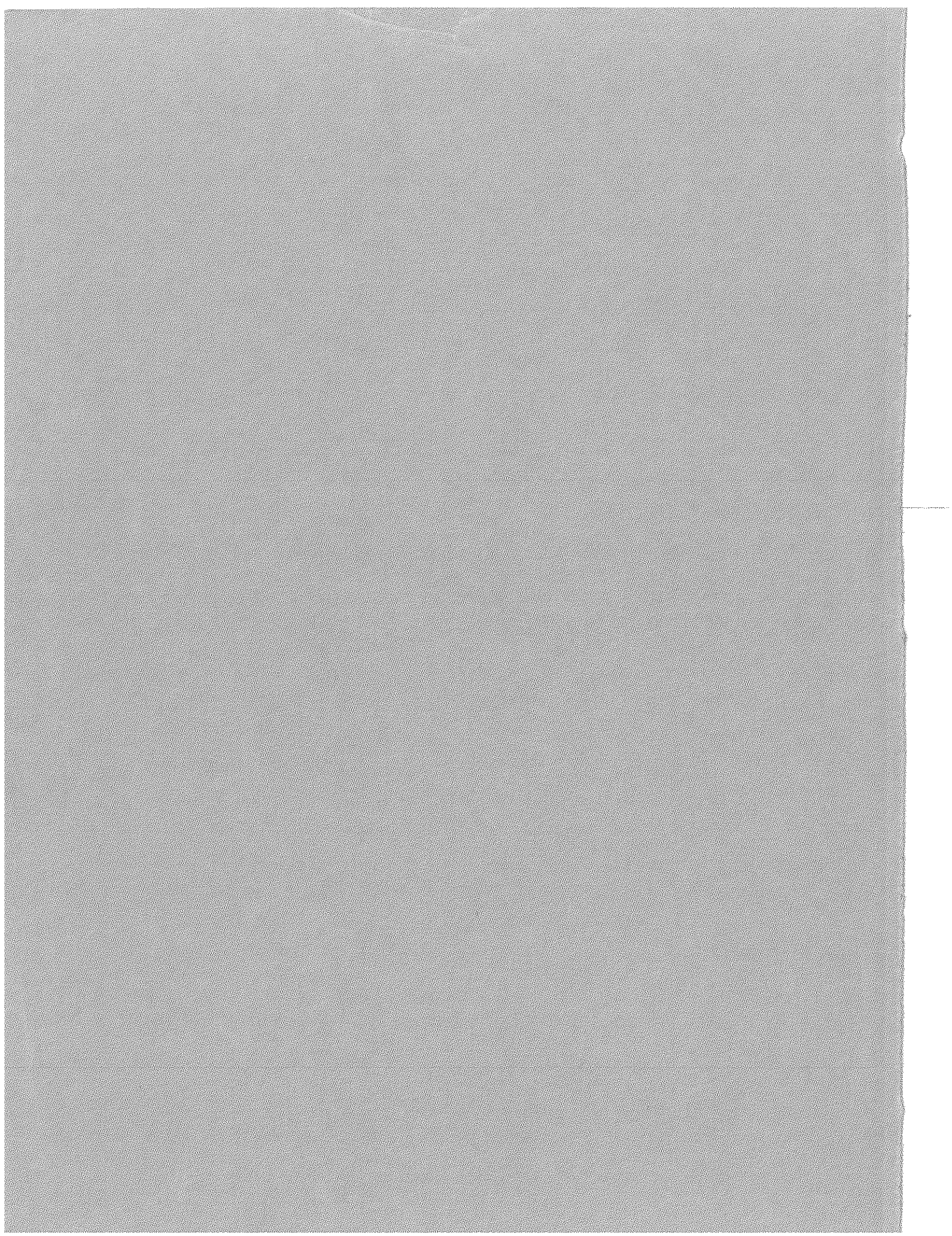


# TI LOGO SAMPLER

Nine entertaining procedures and seven educational activities demonstrate Turtle graphics and the sprite capabilities in TI LOGO.

Designed for use with TI Home Computer, the TI Memory Expansion unit, the TI LOGO *Solid State Software*<sup>™</sup> Command Module, and the TI Disk Memory System (TI Disk Drive Controller and TI Disk Memory Drive) or a cassette tape recorder—sold separately.

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To demonstrate the wide range of programming capabilities available with the TI LOGO language, nine entertaining procedures and seven educational activities for children are included on the TI LOGO SAMPLER diskette and cassette tape.

The nine entertaining procedures are designed to provide the entire family with exciting Turtle graphics and colorful sprite procedures. Simply load them into the computer and enjoy the animated and colorful display.

The educational activity, COLORS, lets children experience the fun and excitement of mixing colors. The LINE, PAINT, TARGET, PEOPLE, GRID\_\_, and LISTEN activities are designed for children between the ages of 3 and 8. They were written by Coleta L. Lewis, a preschool teacher at Lamplighter School in Dallas, Texas, and are currently being used in the classroom.

### Entertaining Procedures

### Educational Activities

#### Turtle Mode

BEAR  
SQUARES  
PICTURE  
PATTERNS

LINE  
PAINT  
TARGET

#### Sprite Mode

ELEPHANT  
FISH  
FROG  
HORSE  
SPRING

COLORS  
PEOPLE  
GRID\_\_  
LISTEN

STEP 1: Be sure that the Memory Expansion unit is connected to the computer and that the TI LOGO Command Module is inserted into the console. Also, be sure that the Disk Memory System or a cassette recorder is attached to the computer and turned on. (See the owner's manuals or the User's Reference Guide for product details.)

STEP 2: Press any key to pass the master title screen. Then press the number corresponding to TI LOGO. When the question mark and cursor (a flashing black underline) appear, load the program by typing

RECALL

and pressing ENTER.

When the Recall selection list is displayed, press 1 for PROCEDURES to load FUNSAMP (entertaining procedures) or EDSAMP (educational activities). To load ELEPHANT, FISH, FROG, HORSE, and SPRING (entertaining procedures) or COLORS, PEOPLE, and DESIGN (educational activities), press 3 for BOTH 1 AND 2 when the Recall selection list is displayed.

Next, the Device selection list appears on the display. To load the program from a cassette tape, insert the tape into the recorder. Next, refer to the "Loading Cassettes" section in this manual for instructions on determining the program's position on the cassette tape. When you have properly positioned the tape counter on your recorder, press 1. The computer then displays directions for loading the program.

To load the program from diskette, insert the diskette into Disk Drive 1 and press 2. Then press the SPACE BAR to review the file names of the programs.

When you reach the procedure or activity you want, press ENTER. (See the TI LOGO User's Manual for additional information.)

STEP 3: When the question mark and cursor reappear, the computer is ready for you to type the name of the procedure or activity and press ENTER.

STEP 4: After an entertaining procedure or educational activity has been loaded into the computer, type HELP and press ENTER to display instructions for starting the procedure or activity.

Four of the nine entertaining procedures illustrate Turtle graphics, while the remaining five procedures demonstrate some of the colorful and dynamic capabilities of the sprites.

In the Turtle mode, SQUARES and PATTERNS are recursive procedures. In the sprite mode, ELEPHANT, FISH, FROG, and HORSE are recursive procedures. To stop one of these procedures, press BACK (SHIFT Z on the TI-99/4 console or FCTN 4 on the TI-99/4A console). For more information about recursive procedures, see the TI LOGO User's Manual.

Since many of the entertaining procedures in the sprite mode use the same shape numbers, it is suggested that you only load one procedure at a time. Then, turn the system off and follow the instructions for loading another procedure.

The following entertaining procedures are available in the Turtle mode if you selected PROCEDURES from the Recall selection list.

```
FUNSAMP  -- BEAR
          -- SQUARES
          -- PICTURE
          -- PATTERNS
```

The following entertaining procedures are available in the sprite mode if you selected BOTH 1 AND 2 from the Recall selection list.

```
ELEPHANT
FISH
FROG
HORSE
SPRING
```

To run a procedure that has been loaded into the computer, type the name and press ENTER.

### Turtle Procedures

In the BEAR procedure, the Turtle draws a bear using different sized circles. In the SQUARES procedure, the Turtle demonstrates the four states of the pen (PENUP, PENDOWN, PENREVERSE, and PENERASE) while drawing a repeating square pattern. PICTURE tells the Turtle to draw a picture of a house and then draw a frame around it. The Turtle draws patterns by combining random lengths and random angles in the PATTERNS procedure. Two numbers appear in the lower left-hand corner of the display. The top number is the number of lines in one segment of the pattern, and the bottom number indicates the number of times the line segment is repeated to form the pattern.

### Sprite Procedures

In the ELEPHANT procedure, the Turtle draws an elephant on tiles. The elephant then spouts water on its back. A fish blows bubbles as it swims in the ocean in the FISH procedure. The FROG procedure displays a frog sitting on a pond and snatching a passing fly. A horse goes around on a carousel in the HORSE procedure. The sprites demonstrate how "April showers bring four May flowers" in the SPRING procedure.

Three of the seven educational activities illustrate Turtle graphics, while the remaining four activities let your child experience some of the capabilities of the sprites.

The following educational activities are available in the Turtle mode if you selected PROCEDURES from the Recall selection list.

EDSAMP -- LINE  
-- PAINT  
-- TARGET

The following educational activities are available in the sprite mode if you selected BOTH 1 AND 2 from the Recall selection list.

COLORS  
PEOPLE  
DESIGN -- GRID  
-- LISTEN

## Turtle Activities

The activities available in the Turtle mode are LINE, PAINT, and TARGET. The activity LINE is an introduction to the Turtle Mode. The activities PAINT and TARGET are designed for the child who has had successful experiences with the LINE activity.

The LINE activity is designed for children ages 3 through 7. By pressing single keys your child moves the Turtle ( $\triangle$ ) around the display, creating designs. The activity provides your child with an environment for discovering directionality (up, down, right, and left), letter recognition, and creative decision-making.

The PAINT activity reinforces earlier experiences with the Turtle and provides new experiences by letting your child change the color of the painting bar, as well as the color of the display. He or she may also move the Turtle without drawing a bar of color. This combination of options encourages elaborate "paintings" by your child.

The TARGET activity emphasizes the concept of estimating the number of steps it takes to reach a particular spot. It requires more skills since your child must give the Turtle a variable: the degree of turn.

Sprite Activities

The activities available in the Sprite Mode are COLORS, PEOPLE, GRID \_\_, and LISTEN.

The activity COLORS gives your child an opportunity to mix two primary colors and see the resulting color. The primary colors are red, blue, and yellow. The blended, or secondary, colors are orange, purple, and green.

PEOPLE lets your child build up to four "people" on the display. Each "body" has five individual parts which your child moves and colors. PEOPLE encourages focusing on a task, making judgments about how far to move a sprite, and recognizing letters and colors.

GRID \_\_ lets your child use a 16-by-16 square grid to design a shape for a sprite to carry. As a design is drawn on the grid using the arrow keys, a sprite shows your child the actual size of the design. There are 11 grids (numbered 15 through 25) available on which your child can make designs.

The LISTEN activity lets your child move his or her design created in GRID \_\_ by pressing the arrow keys.




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LINE

Activity Instructions

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- STEP 1: Be sure EDSAMP has been loaded following the "User Instructions."
- STEP 2: When the question mark and cursor appear, your child types LINE and presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the cursor one place to left. After your child presses ENTER, the triangular-shaped Turtle () appears in the center of the display, a place called HOME.
- STEP 3: Press the following keys to move or turn the Turtle:
- F -- moves the Turtle forward 10 steps.
  - R -- turns the Turtle right 45 degrees.
  - L -- turns the Turtle left 45 degrees.
- STEP 4: Your child can continue giving the Turtle F (forward), R (right), and L (left) commands until OUT OF INK appears on the display. To stop the activity at any time, your child can press Q.
- STEP 5: To play the activity again, type LINE and press ENTER.

STEP 1: Be sure EDSAMP has been loaded following the "User Instructions."

STEP 2: When the question mark and cursor appear, your child types PAINT and presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the question mark and cursor one place to the left. After ENTER is pressed, the Turtle () appears at HOME.

STEP 3: The following keys move or turn the Turtle:

- F -- moves the Turtle forward 10 steps.
- B -- moves the Turtle back 10 steps.
- R -- turns the Turtle right 45 degrees.
- L -- turns the Turtle left 45 degrees.

To move the Turtle without painting a bar of color, your child presses N for "nopaint." To paint with the Turtle again, he or she presses P for "paint."

STEP 4: Press the following keys to change the color of the wide line or the background:

- S -- changes the color of the wide line.
- C -- changes the color of the background.

There are 16 color changes available for both the bar and the background. (Note: The same sequence of color changes repeats when the SETCOLOR command is used in TI LOGO.)

STEP 5: Your child can continue to PAINT with the Turtle until OUT OF INK appears on the display. To stop the activity at any time, your child can press Q for QUIT.


STEP 6: To play the activity again, type PAINT and press ENTER.

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## TARGET

## Activity Instructions

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- STEP 1: Be sure EDSAMP has been loaded following the "User Instructions."
- STEP 2: When the question mark and cursor appear, your child types TARGET and presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the question mark and cursor one place to the left. After ENTER is pressed, the Turtle () draws a circle and then positions itself randomly on the display.
- STEP 3: Your child needs to tell the Turtle how many steps and how large a turn to take to reach the target. F (forward) and B (back) commands can use a variable from 0 to 100. R (right) and L (left) commands require a variable from 0 to 360 degrees. A space must be typed between the single letter command and the number (for example, R 256).
- STEP 4: After the command and number are typed, your child presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the cursor one place to the left. After your child presses ENTER, the Turtle moves or turns according to the command. If a number larger than 100 for Forward and Back or 360 for Right and Left is used, the Turtle does not move.
- STEP 5: When your child moves the Turtle into the target, the background flashes different colors. Your child can stop playing TARGET at any time by pressing Q for QUIT.
- STEP 6: To replay this activity, type TARGET and press ENTER.

- STEP 1: Be sure COLORS has been loaded following the "User Instructions."
- STEP 2: When the question mark and cursor appear, your child types COLORS and presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the question mark and cursor one place to the left. After your child presses ENTER, the display turns black, three small boxes appear in the upper left-hand corner, and two large white boxes appear in the center. The small boxes indicate the color choices available for coloring the two large white boxes: R (red), B (blue), and Y (yellow).
- STEP 3: To select a color, your child presses R, B, or Y. The top white box turns the indicated color. Next, your child selects a second color by pressing the appropriate key. The other white box turns that color.
- STEP 4: After the second color selection, the two boxes move together, combining the colors of the two boxes into one box. Then, the blended color flashes.
- STEP 5: Your child can continue COLORS by pressing the appropriate key to select another color. To stop the activity when a white box is on the display, press Q for QUIT.
- STEP 6: To replay this activity, type COLORS and press ENTER.

- STEP 1: Be sure PEOPLE has been loaded following the "User Instructions."
- STEP 2: When the question mark and cursor appear, your child types PEOPLE and presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the question mark and cursor one place to the left. After your child presses ENTER, a black face appears at HOME.
- STEP 3: To change the color of the face (or any other part of the body), your child presses one of the following keys:

R -- red  
B -- blue  
Y -- yellow  
W -- white  
O -- orange  
G -- green  
P -- purple

Your child can change the color of the shape as many times as he or she wishes. However, once the color of the shape is changed, it cannot be colored black again. (Note: All seven colors are available, but depending on the developmental level of your child, you may want to introduce only the first four color options. When he or she has mastered the symbolism and color change concepts, introduce the last three color options.)

- STEP 4: The following keys are used to move the face (or any part of the body):

↑ -- moves the sprite up 16 steps.  
← -- moves the sprite left 16 steps.  
→ -- moves the sprite right 16 steps.  
↓ -- moves the sprite down 16 steps.

Your child moves and changes the color of the shape until it is placed and colored to his or her liking. Since each part of the body appears at HOME initially, encourage your child to move the previous part away from that spot.

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## PEOPLE

## Activity Instructions

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- STEP 5: To see another part of the body, your child presses A for "another." A black torso appears at HOME. Your child continues moving and changing the color of the torso. To get the next part of the body, an arm, repeat the above procedure. The five parts of the body appear in the following sequence: head, torso, arm, arm, and pair of legs. After four people are built, OUT appears in the upper left-hand corner of the display.
- STEP 6: Your child can stop the activity at any time by pressing Q for QUIT.
- STEP 7: To play the activity again, type PEOPLE and press ENTER.

- STEP 1: Be sure DESIGN has been loaded following the "User Instructions."
- STEP 2: When the question mark and cursor appear, your child types GRID, a space, and a number from 15 to 25 (for example, GRID 19). Then he or she presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the cursor one place to the left. After your child presses ENTER, the screen turns green and a 16-by-16 square grid appears on the display with a flashing black cursor in the upper left-hand corner.
- STEP 3: Your child moves the cursor with the arrow keys. To blacken a square, hold down the SHIFT key on the TI-99/4 console and press an arrow key, or on the TI-99/4A console, hold down the FCTN key and press an arrow key. The square the cursor leaves remains black. To move the cursor without coloring a square, press an arrow key without holding down SHIFT or FCTN. As your child draws, the design appears to the right of the grid.

To erase the grid, press CLEAR.

- STEP 4: After your child finishes drawing, press BACK to return to the blue screen. Your child can now use the new design with the activity LISTEN.
- STEP 5: When the question mark and cursor reappear, your child types LISTEN and presses ENTER. To correct a typing error, press ERASE before pressing ENTER to move the cursor one place to the left. After your child presses ENTER, the last sprite made with the GRID \_\_ activity is ready to listen to forward, back, right, and left commands.
- STEP 6: The arrow keys are used to move a sprite.
- ↑-- moves the sprite up 8 steps.
  - ←-- moves the sprite left 8 steps.
  - moves the sprite right 8 steps.
  - ↓-- moves the sprite down 8 steps.
- STEP 7: Your child continues moving the sprite with the arrow keys. To stop the activity at any time, press Q for QUIT.

Copies of all programs listed on the cassette tape label are located on both sides of the tape. If for any reason you experience trouble loading or accidentally erase a program, another copy is available on the other side of the tape.

To attach and operate your cassette recorder, refer to the User's Reference Guide. Follow these instructions carefully, and the programs should load easily.

However, if your recorder does not respond when you press ENTER while loading the package, your cassette recorder's drive motor may not be compatible with the computer's circuitry. Although the computer may not be able to operate the recorder automatically, you may be able to operate your recorder manually. Connect the red and white plugs to the recorder unit as described in the User's Reference Guide, but do not connect the black plug. Follow the procedure for loading data as described. When the message "PRESS CASSETTE PLAY" is displayed, press the ENTER key immediately after pressing the recorder's PLAY key. If the data loads successfully, you may continue to operate the cassette manually.

Follow these steps to determine the exact location of all programs:

- STEP 1: Rewind your tape and reset the counter to zero.
- STEP 2: Disconnect the computer-to-cassette cable from the cassette player. You now can hear what is on the tape as it plays.
- STEP 3: Press PLAY.
- STEP 4: The programs in the TI LOGO Sampler package are listed on the cassette tape in the following order:

- FUNSAMP
- EDSAMP
- COLORS
- PEOPLE
- DESIGN
- ELEPHANT
- FISH
- FROG
- HORSE
- SPRING



A blank section of tape precedes each program. When you hear program data, write the tape counter position beside the program name above. You may wish to subtract 1 or 2 from the counter reading to ensure that, when you load the program, the beginning of your program loads properly.

STEP 5: Use these counter settings in the future to quickly load cassette tape programs.

NOTE: This process can be speeded by alternating between PLAY and FAST FORWARD as you listen.

1. Be sure that the diskette or cassette you are using is the correct one. For a diskette, use the Catalog command on your Disk Manager Command Module to check for the correct program; for a cassette tape, check the label.
2. Be sure that you have inserted the TI LOGO Command Module into the slot on the console.
3. If your computer does not respond to the RECALL command, be sure you have selected TI LOGO. If so, follow the instructions that appear on the display and press "BACK" to return to TI LOGO. Then retype RECALL and press ENTER.
4. Ensure that your cassette recorder or disk system is properly connected and turned on. Be certain that you have turned on all peripheral devices before you turn on the computer.
5. If your program does not appear to be working correctly, press BACK and remove the diskette from the disk drive or press CLEAR and remove the cassette from the recorder. Reinsert the diskette or the cassette, and follow the "User Instructions" carefully. If the program still does not appear to be working properly, remove the cassette from the recorder or the diskette from the disk drive, turn the computer off, wait several seconds, and turn it on again. Then load the program again.
6. If you are having difficulty in operating your Home Computer or are receiving error messages, refer to the "Maintenance and Service Information" and "Error Messages" appendices in your User's Reference Guide for additional help.
7. If you continue to have difficulty with your Texas Instruments computer or the TI LOGO SAMPLER package, please contact the dealer from whom you purchased the unit or package for service directions.

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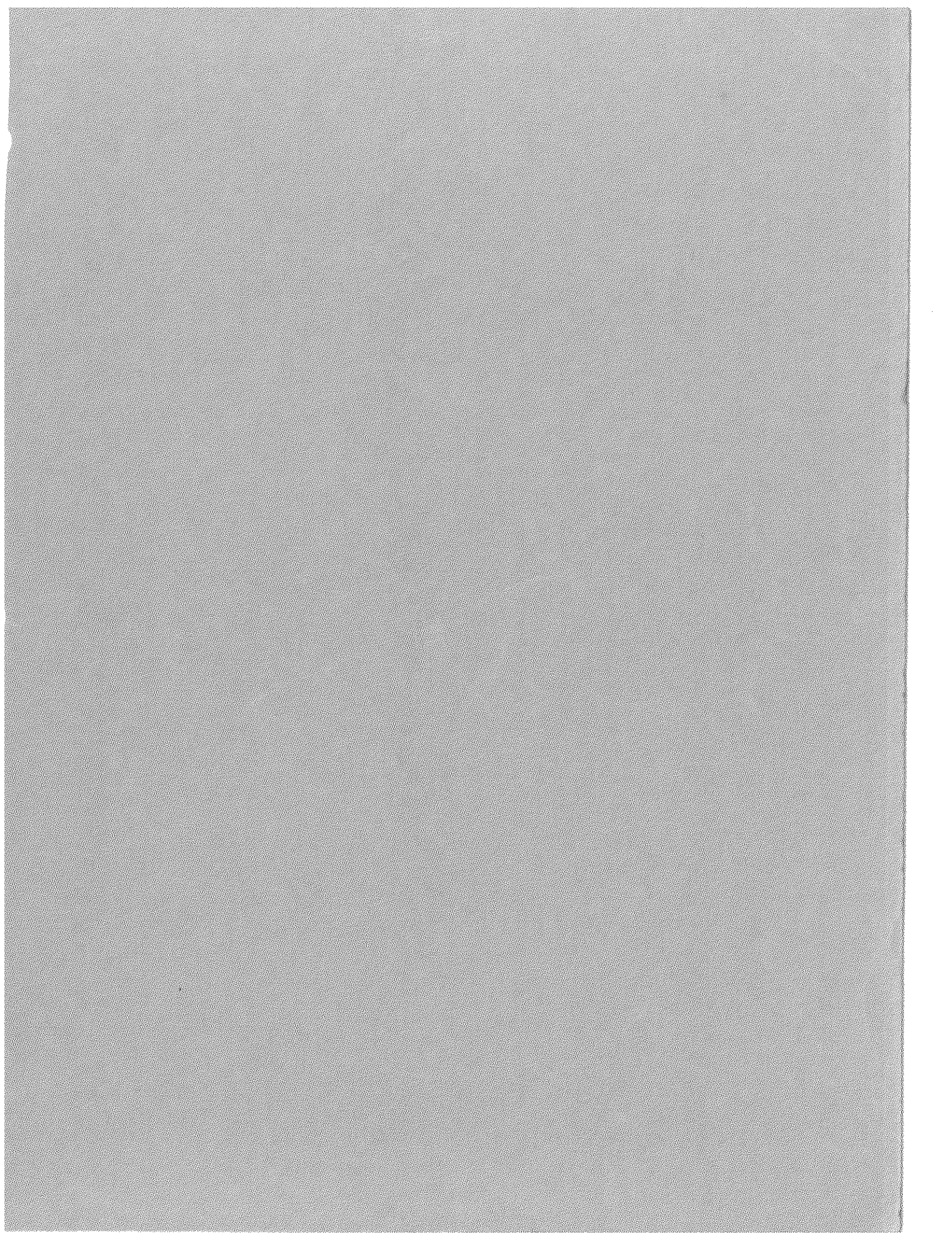
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