

9-1988

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## Recommended Citation

Harris, J. (1988). Secular conversions. *Logo Exchange*, 7(1), 15-17.

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## Logo LinX

### Secular Conversions

by Judi Harris

How many times has some computer science-type tried to convince you that Logo is "an inferior graphics language?" More times than you have fingers and toes? Perhaps you find it as difficult as I do to explain that, although Logo is often used in the graphics mode, its purposes are far from being the next MacPaint competitor.

Your students, no doubt, have long since realized that Logo is not the first-string choice for effecting graphic realism. But, now and again, identifiable pictures ("Ah, yes! A maple tree!") are needed for use in Logo programs. Somehow, stick figures can bely the sophistication of the code by which they appear, not to mention that a turtled drawing of even moderate detail can take eons to manifest in full geometric splendor.

To these ends, I offer this month's "Logo LinX."

#### Means or Ends?

In education, we are fond of saying that it makes no sense to reinvent the wheel if what we intend to do is roll. Turtle drawings can be by-products of rich geometric exploration, but when pictures are needed as tools for Logo text investigation, they should be imported, not invented.

Perhaps you have already assembled a Logo picture library for this purpose from procedures and screens that your students have generated. It is also possible to use graphics originally designed for use with Print Shop, a popular signmaking program, in your Logo procedures. In a similar manner, Logo-generated pictures can be used as Print Shop graphics.

Consider, for example, the excited fifth-grader that wants to make a Logo alphabet program for a kindergarten class. She would like the computer to display a picture of an object beginning with whatever letter the user presses. She is not satisfied with the size and limited selection of memory-resident turtle shapes. This programming challenge is appropriate for someone investigating list processing structures, but the time required to create 26 different graphics is probably more than she can schedule in her school's computer lab. She may abandon the idea for practical reasons.

Or, consider the fifth-grade Transformer aficionado who has spent the last two months carefully coding a detailed diagram of his favorite robot. He would now like to use this picture to make invitations to his birthday party. The party is in two weeks, and he needs more time than that to learn

enough list processing to generate the invitations with Logo. It seems logical to him that Print Shop should be able to use his picture, since he used a computer to create the image.

You could speak to these two students about operating system differences, picture packing routines, and economic advantages for software corporations that design incompatible software, but chances are that they will only remember the disappointment. Or, you could help them to roll by providing a wheel that has already been invented.

#### To Pack or Not to Pack?

Logo graphics saved to disk with the SAVEPIC command exist as full screen, high-resolution binary picture files. Print Shop graphics are also stored as binary files, but are much smaller in size because they have been packed, or coded in such a way as to save disk space. User-created graphics to be used with Print Shop must be packed according to the same system. This is the first reason why Logo pictures, which are completely UNpacked in their full-screen forms, cannot be used as Print Shop graphics.

(There is one notable exception to this rule. The newer versions of Print Shop, such as Color Print Shop, accept "screens" as input under the "Screen Magic" option. This is an easy way to obtain color printouts of Logo pictures with color printers such as the Imagewriter II.)

Most recent versions of Logo for the Apple II computer family are written in ProDOS, or Professional Disk Operating System. (The exception is LogoWriter Version 1.0 and 1.1 which does not use either DOS or ProDos.) Most versions of Print Shop are written in DOS 3.0-3.3, older Apple disk operating systems which are unfortunately directly incompatible with ProDOS programs and data files. Fortunately, Apple provided a ProDOS User's Disk when it released ProDOS several years ago, which contains a utility that will convert ProDOS files to DOS format, and visa-versa.

Yet a ProDOS Logo picture that has been converted to DOS 3.3 format with the ProDOS User's Disk still cannot be used as a Print Shop graphic, and Print Shop graphics converted to ProDOS cannot be used in Logo procedures for reasons that you probably have already guessed. Logo requires unpacked high-resolution graphics; Print Shop requires specially packed graphic code.

Enter the Beagle Brothers, an exceptional software firm noted for its dry wit, on-your-honor software copyright policy, and powerful utility programs. Beagle Brothers manufactures three inexpensive (\$19.95) collections of Print Shop graphics that they call Minipix. More appropriate for

## Logo LinX -- continued

our purposes, though, are the editing tools that they include with each disk. The Minipix editor allows the user to convert hi-res screens to Print Shop format, and packed Print Shop pictures to hi-res images that can be used with Logo. The Beagle tools also offer options for picture proportion changes, text addition, horizontal and vertical inversions, and negative image generation.

### Ready to Cavort (Convert)?

Instructions for these "secular conversions" follow. A minimum of six disks are needed to proceed: Print Shop (DOS), Minipix #1, #2, or #3 (DOS), Logo (ProDOS or DOS), a ProDOS User's Disk, a DOS files diskette, and a ProDOS files diskette.

#### To Use Print Shop Pictures with Logo

1. Load a Beagle Bros. Minipix Disk, side 1.
2. Press "E" to choose the "Editor" option.
3. Put the disk with Print Shop pictures in drive 2 (if available,) or remove the Beagle Bros. disk from drive 1, and replace it with the Print Shop pictures disk.
4. Press <RETURN> when prompted to do so.
5. If the pictures disk is in drive 2, press "D" to change the drive number to 2.
6. Press "L" to "Load a Minipic." This means that the computer will load a packed Print Shop picture into its memory.
7. Type the number of the box where you would like to place the picture. (Use a number between 1 and 4.)
8. Type the name of the picture that you want to load and press <RETURN>.

NOTE: If you need a list of pictures on the disk, type "?". Press the space bar to proceed through the catalog, and <RETURN> at the end of the catalog.

Load up to four Print Shop pictures into the computer's memory in this way.

9. Now set the size proportions of the Print Shop pictures as you want them to appear in your Logo program. To do this, type "B" and the number of the box where the picture to "blowup" is displayed, i.e., B1 or B2.
10. Keep pressing "C" until the picture is displayed in satisfactory size and proportions.
11. Press "S" to change to the screen mode.

12. Options "F" (to flip the image vertically), "M" (to mirror the image horizontally), and "N" (to change the image to its corresponding negative) are now available for use. Make any desired changes by typing the appropriate letters and pressing <RETURN>.
13. Replace the Print Shop pictures disk with your DOS 3.3 data disk.
14. Press "S" to save the picture in a format that can be used with Logo. You will be asked to type a picture name, and then press <RETURN>.

NOTE: If you plan to use this picture with Terrapin or Krell Logo, end the picture name with .PICT. The picture is now ready to load into Terrapin or Krell Logo with a READPICT "(name) command. DON'T type the .PICT at the end when you load the picture.

\*\* Two disk drives are needed to complete steps 15 to 25. \*\*

15. If you are going to use this picture with an LCSII ProDOS Logo (LCSII Logo II, Apple Logo II, LogoWriter Version 2.0), put the ProDOS User's disk in drive 1, and reboot the system.
16. Press "C" for DOS—>ProDOS conversion.
17. Put the DOS 3.3 data disk in drive #2, and the ProDOS data disk in drive #1.
18. Press "P" and then "S" to set the pathname.
19. Press <RETURN> twice to set pathname by slot and drive.
20. Press "T" to transfer files, then press <RETURN> for a list of files. The screen will display a catalog of file names on the disk.
21. Use the up and down arrow keys to move the highlighting to the picture(s) that you would like to use with Logo. When each selection is highlighted, press the space bar.
22. Press <RETURN> to complete the conversion process.
23. Boot the Logo language disk, and replace it with the ProDOS data disk.
24. Type LOADPIC "picture name and press <RETURN>.
25. The picture will appear in fullscreen mode. Type SPLITSCREEN or SS <RETURN> to display the command lines.

## To Use Logo Pictures with Print Shop

### Logo Pictures as Hi-Res Screens:

1. Boot the system with Color Print Shop.
2. Select "Screen Magic" from the main menu.
3. Select "Get Screen" from the Screen Magic menu.
4. Insert the data disk containing the Logo picture that you wish to use, type the full name of the picture file when prompted to do so, and press <RETURN>.

NOTE: If you are using a Logo picture file generated with Terrapin or Krell Logo, the file name ends with ".PICT". This extension must be typed, i.e., TURTLE.PICT.

5. If you wish to add text to the picture, select "Draw Text on Screen."
  - a. Select "Screen in Memory" from the submenu.
  - b. Select a font for the text letters.
  - c. Type the text, remembering where the Logo graphic is situated on the hi-res screen.
  - d. Choose "No" when prompted with the option to center the message.
6. The text will be displayed with the Logo graphic. If the placement is satisfactory, select "Save Screen" and enter a name when prompted to do so.

### Logo Pictures as Print Shop Graphics or Beagle Bros. Minipix:

1. Save the Logo graphic as a picture with the LCSi SAVEPIC "title command.

NOTE: Pictures originally created with Terrapin or Krell Logo are not readable by the Minipix editor, even after they have been converted twice (DOS—>ProDOS, then ProDOS—>DOS) with the ProDOS User's Disk.

2. Convert this ProDOS picture to DOS 3.3 format by following steps 15 through 22 under "To Use Print Shop Pictures with Logo," with one addition. Before completing step 18, press "R" to reverse the conversion path (ProDOS to DOS 3.3).
3. Load a Beagle Bros. Minipix Disk, side 1.
4. Press "E" to choose the "Editor" option.
5. Press <RETURN> when prompted to do so.
6. Put the disk with the converted DOS 3.3 picture(s) on it in drive 2.

7. Press "D" to change the drive number to 2.
8. Press "X" to change to the hi-res screen mode.
9. Press "L" to "Load a Screen." This means that the computer will load a converted Logo picture into its memory.
10. Type the full file name of the picture to be loaded, then press <RETURN>.
11. Press the space bar at any time to see the full screen image of the Logo picture. Press it again to see the available Minipix commands.
12. Now that the Logo picture is in the computer's memory, the Minipix program will help you to convert it to a packed form that is usable with Print Shop's banner, sign, letterhead, and greeting card options.

Type "C" to capture part of the screen image into a Minipix box, then type the number of the box to use. A maximum of 4 screen portions can be captured in this way.

13. Remember that the picture will be converted exactly as it appears on the screen. Most Logo pictures appear with a black background and light-colored lines. Press "N" to reverse to the negative image, which will print on paper as black lines on a white background, and therefore conserve printer ribbon.
14. Move the box outline that appears according to the directions on the screen. Press <ESC> when finished.
15. Press "S" to save the minipic(s) on the DOS 3.3 files diskette, and type a name for the file when prompted to do so, followed by <RETURN>. (Notice that this type of file occupies 4 disk units when the files diskette is CATALOGed, as opposed to a hi-res screen file, which occupies 34 disk units.)
16. This "Logo Minipic" may now be used when constructing a Print Shop banner, sign, greeting card or letterhead. Enter the DOS 3.3 file name chosen in the last step when Print Shop prompts you to "Select a Graphic."

\*\*\* The author wishes to acknowledge and thank Chris Appert of the Kluge Rehabilitation Center in Charlottesville, VA for collaborating on the first versions of these instruc-

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