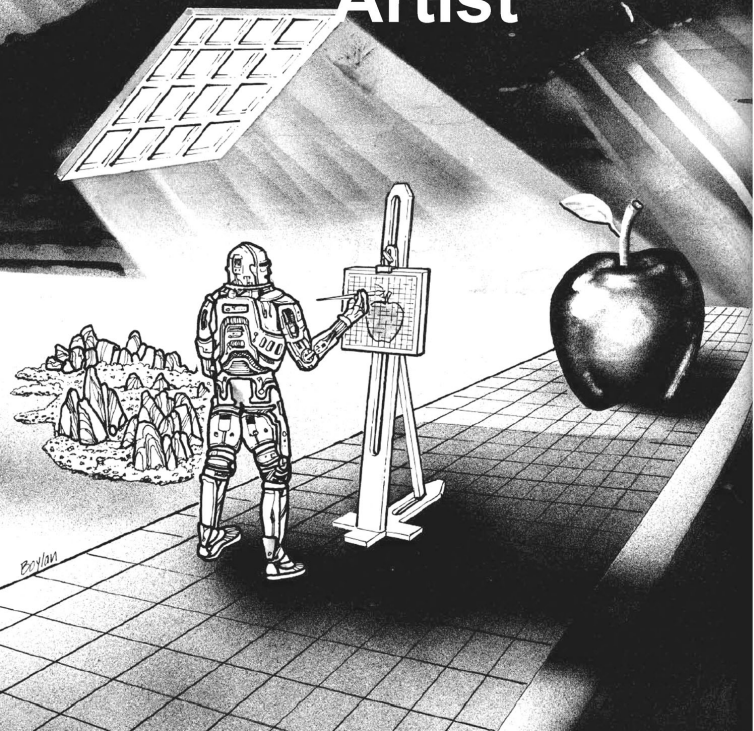Apple
Artist

APPLE ARTIST

The Hi-Res Shapemaker

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The Hi-Res Shapemaker will allow anyone to become an artist. Using the Apple II and a monitor you can draw, fill-in and frame pictures, and when finished they can be saved on disk. A color television is recommended, and your system must have Applesoft in ROM and 32K for disk operation. The program was designed with all the commands easily comprehensible. The program includes one key jumping to opposite ends of the video display. The main menu is used for only five functions, the rest are accessed directly as you draw. The program uses the **keyboard** for precision drawing control. You might in the beginning object to this but, when you consider how inaccurate the game paddles can be, the advantages of this method will quickly become apparent.

ENTERING SHAPEMAKER

The main problem we all encounter is typing the program (ugh!!). This is one of those programs that you should enter exactly as it appears. The program uses a large amount of gosubs, and repetitive code has been kept to a minimum. The reasoning behind this is to keep the program below the Hi-Res page 1. Line number 10 is extremely important; therefore be sure to type in the exact number of –'s.

DRAWING WITH SHAPEMAKER

Okay, so now you've typed in the graphics package and you want to use it. **First save it on disk, then run it! DON'T run it first because, it modifies portions of itself so that it can recover from accidental resets.** The main menu will be displayed when run and you should type option #1, do not press return, just type 1. The screen will be cleared and a flashing dot will be up in the upper left corner, position 0,0. This dot is your Hi-Res cursor and you are now in the draw mode. To move the cursor, look at your keyboard and note how the following keys are laid out.

```
        RETURN
      ←        →
           /
```
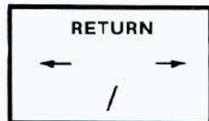
These are your cursor movement keys and they are set up in a logical format. Return moves up, / moves down, ← moves left, and → moves right. So type the / key and watch your y-coordinate increase. Notice that at this time the dot moves very slowly and only one point at a time is incremented on the counter at the bottom. Also note that no plotting is taking place. Okay let's do some **plotting**, type **CTRL-P**, at the bottom of the screen the words PLOTTER IS ON will be displayed and then removed. Now move and watch as you draw. If you want to change colors, press the space bar and a color menu will appear, just choose your color. If you press the space bar by accident then type the number of your previous color. If you wish to **erase** something you have drawn, choose the appropriate color and plot over what is not wanted anymore. By now you are probably tired of wait-

ing so long for each move of the cursor, so type **CTRL-I** and enter the **increment** of your choice (1–9). The larger the increment the bigger the jump between each move. Typing a Carriage Return instead of a number will abort the increment request, and return you to your previous mode with your old increment setting unchanged.

SCREEN CONTROL

As you have probably noticed the text portion of the Hi-Res screen has been unavailable for drawing, type **"ESC"** to change to **full screen** and **"ESC"** to **switch back** to mixed graphics and text.

To **fill-in** an object you have drawn just type **CTRL-F** and read what is displayed, press a key when finished reading, notice that if you were in full screen graphics this would be returned to you. Let's fill the whole screen with blue, note that your plotter was shut off automatically. To move to the top corner of the screen, position (0,0) press the "–" or "=" key and watch as your cursor is placed in the upper left corner. Now type 'F' and wait for the beep, now press the ";" or "+" key and your cursor is moved to the opposite corner. Don't type "F" yet because we forgot to change to blue, no problem, type the space bar and select blue. Now type "F" and watch as the screen becomes a blue ocean. When using this mode you must always remember to specify opposite endpoints. This is also true for the line draw, and frame mode which will be described later. If during the fill-in mode you had wanted to cancel, just type CTRL-A and it would have been aborted.

BOXES AND LINES

The box-in (frame) mode works the same way except use CTRL-B to get it up and use B to specify the opposite corners, again a **CTRL-A** can be used to abort. Some colors cause funny disappearances so be careful with this one.

The next feature is the line draw mode. This is accessed by a **CTRL-L** and an L is used to specify endpoints. One word of caution, it is possible to have all of these modes active at one time and, can result in mass confusion on your part. If in doubt type CTRL-A. This will clear all modes and you can try again.

When your drawing is done type **CTRL-Q** to return to the main menu. The picture can now be saved, the screen cleared, or a different picture can be loaded. The program will not overwrite the picture in memory or erase the screen unless you answer the prompt with the full word "YES"; this is a safety feature. Until you become familiar with operation of this program, do not be hasty and press 'RETURN' after prompts. It is not always necessary and might affect operation later.

Two features are present to aid those that forget commands, and for those that, like myself, hit Reset. **If you find that you need to know the commands, while in the draw mode just type a question mark ?(shift/), the commands will be displayed until you hit a key. The other feature is automatic reset recovery. If at anytime you accidentally press RESET, during the draw mode or while in the menu just type "3D0G" and when back in basic, type "&". The program will recover everything, except the name of the file you last accessed. If you exit the program by typing**

"5" at the main menu just type "&" to recover. Below is a summary of all the commands.

CONTROL-COMMANDS

CTRL-A	Abort all modes
CTRL-B	Enter box-in mode
CTRL-F	Enter fill-in mode
CTRL-I	Set increment value
CTRL-L	Enter line draw mode
CTRL-P	Toggle plotter on/off
CTRL-Q	Quit, return to main menu
"SPACE BAR"	Change color
"ESC"	Toggle mixed text/graphics and full screen graphics

MOVEMENT COMMANDS

"RETURN"	Move up
←(LEFT ARROW)	Move left
→(RIGHT ARROW)	Move right
"/"	Move down
"–" or "="	Move to the lower left of the video screen.
";" or "+"	Move to the lower right of the video screen.

The most interesting thing about this program is the flashing cursor in Hi-Res. This is accomplished in lines 90-150. The Keyboard is constantly being scanned, and if a key has been pressed then the program goes to line 160. If no key has been pressed then the cursor is XDRAWn, and a check is made again. This effect gives the cursor a flashing appearance. I used XDRAW rather than direct plotting because it won't erase what is already on the screen.

The next routine that could be employed in your own programs is the restoration feature. The first time the program runs, it modifies line 10 to contain the keyword END, any value could have been used I chose 128. The next time it is run, after an accidental RESET, a check is made to see if line 10 is normal or contains END. Since the program has been run before END is there and the restoration routine is used. The values used in this program are constantly being poked into memory so that recovery can be made easily.

MAJOR AREAS OF THE PROGRAM

0010-0040	Auto recovery check area
0050-0360	Draw routine, including keycheck
0180-0210	Either increment or decrement X or Y for the amount specified by the variable "INC"
0370-0400	Make sure X and Y are within range
0420-0440	Poke X and Y into memory so auto recovery is possible
0450-0470	Check whether to plot or just move
0480-0520	Update the X and Y counter at the bottom of the screen
0550-0610	Allow a new increment to be set
0690-0750	Allow the selection of a new Hi-Res color, it is also poked into memory for auto recovery
0760-0890	This is the disk input/output routine, location 785 contains a 1 to bload, and a 2 to bsave

0900-0960	This is the line draw mode
0970-1150	This is the fill-in routine
1160-1240	This is the box-draw (frame) mode routine
1250-1480	This is the main routine which includes poking in the flashing dot and setting the ampersand location for recovery
1490-1630	Restoration routine, a jump is made here for a warm start
1640-1720	Error trapping routine

VARIABLE TABLE

A$	—	General input request, used through-out
D$	—	Disk CONTROL-D
F1$	—	Current disk file being accessed
F2$	—	Last accessed disk file
PS$	—	Plotter status on/off
A	—	General purpose numeric variable, used throughout
BD	—	Box draw, 1-on, 0-off
E	—	Error number
FS	—	Fill-in, 1-on, 0-off
HC	—	Current Hi-Res color being used
INC	—	Current increment setting
K	—	Character read from keyboard
LD	—	Line draw, 1-on, 0-off
LP	—	Line draw counter
P	—	Fill-in counter
ST	—	Full screen or mixed graphics status
X	—	Current x-coordinate of cursor
Y	—	Current y-coordinate of cursor
ZZ	—	General use variable, used through-out

RUNNING SHAPEMAKER — AN EXAMPLE

The following is a short tutorial which, if followed, will lead you through all the functions of the program. I am assuming that the Hi-Res screen is clean, if it is not type CTRL-Q and when in the menu type option 4 to clear the screen. Okay let's draw a mountain range with a blue ocean at the bottom. First get into the draw mode, option 1, then type CTRL-I, set your increment to 5, this allows for faster movement. Move the cursor to about the middle of the screen, this will be the tip of your mountain. Now press the space bar and select a color that you want your mountain to appear. When done and you are back in the draw mode type CTRL-L now type L and you will set your cursor back in a second. This point is now the tip of the mountain. Use your cursor movement keys and move down and to the left, you are drawing the left side of the mountain, when you are where you want your base type L again and the line will be drawn. Do the same for the right side again starting at the tip.

Now let's fill the bottom of the mountain with blue, type the space bar and select blue. Now move your cursor 3/4 of the way down your mountain, where you want the ocean to begin, and type CTRL-F, after you have read the brief note type F to register this point. Now move the cursor straight across then down to the bottom of the mountain and type F again. Your mountain has been colored blue.

Now let's frame the picture, select white, type the space bar and select number 3. When back in the draw mode type CTRL-B and read the note, when finished type a key, and then type either a "=" or a "-" this will move the cursor instantly to the top of the screen, now type B. When the cursor returns type a "+" or a ";" this will place you at the bottom left of the screen. If you can't see the cursor type "ESC", now type B again and your picture is now framed in white. At this point you can type CTRL-Q to save the picture or you can plot around (no pun intended). If you want to plot, type CTRL-P. Now every time the cursor is moved a point(s) is plotted.

```
        ******************************
        **   THE HI-RES SHAPEMAKER   **
        **      BY TONY DAHBURA       **
        **    COPYRIGHT (C) 1981 BY   **
        **     MICRO-SPARC, INC.      **
        **     LINCOLN, MA 01773      **
        ******************************
10   REM -------- END -------
20   LOMEM: 16386
30   IF  PEEK (2063) = 128 THEN 1500
40   GOTO 1260: REM  COLDSTART
50   REM  DRAW ****
60   HCOLOR= HC
70   POKE  - 16297,0: POKE  - 16304,0: GOSUB 540
80   GOSUB 480
90   GOSUB 530
100  K =  PEEK ( - 16384): IF K > 127 THEN 150
110  IF C = 0 THEN C = 1: GOTO 130
120  C = 0
130  POKE 793,C: XDRAW 1 AT X,Y
140  GOTO 100
150  IF C = 1 THEN  XDRAW 1 AT X,Y
160  K = K - 128
170  IF K < > 13 AND K < > 8 AND K < > 47 AND K < >
     21 THEN 220
180  IF K = 13 THEN Y = Y - INC: GOTO 370
190  IF K = 47 THEN Y = Y + INC: GOTO 370
200  IF K = 21 THEN X = X + INC: GOTO 370
210  IF K = 8 THEN X = X - INC: GOTO 370
220  IF K = 12 AND LD = 1 THEN 910
230  IF K = 9 THEN  GOSUB 550: GOTO 360
240  IF K = 43 OR K = 59 THEN X = 279:Y = 191: GOTO 370
250  IF K = 45 OR K = 61 THEN X = 0:Y = 0: GOTO 370
260  IF K = 76 AND LD = 1 THEN  GOTO 950
270  IF K = 70 AND FS = 1 THEN P = P + 1: GOTO 970
280  IF K = 1 THEN FS = 0:LD = 0:BD = 0:P = 0:LP = 0:DP =
     0: GOTO 360
290  IF K = 16 THEN  GOSUB 620
300  IF K = 17 THEN  GOTO 1310
310  IF K = 27 THEN  GOSUB 660: GOTO 360
320  IF K = 2 AND BD < > 1 THEN 1160
330  IF K = 66 AND BD = 1 THEN 1200
335  IF K = 63 THEN  GOSUB 642
340  IF K = 32 THEN  GOSUB 690: GOTO 360
350  IF K = 6 AND FS = 0 THEN  GOTO 970
360  GOSUB 530:C = 0: POKE 793,C: GOTO 100
370  IF X > 279 THEN X = 279
380  IF X < 0 THEN X = 0
390  IF Y > 191 THEN Y = 191
400  IF Y < 0 THEN Y = 0
410  GOSUB 530
420  IF X > 255 THEN  POKE 786,255: POKE 787,X - 255: GOTO
     440
430  POKE 786,0: POKE 787,X
440  POKE 788,Y
450  IF PS$ = "OFF" THEN 470
460  HCOLOR= HC: HPLOT  TO X,Y
470  GOSUB 480:C = 0: GOTO 100
480  X$ =  STR$ (X): IF X < 10 THEN X$ = "00" + X$: GOTO
     500
490  IF X < 100 THEN X$ = "0" + X$
500  Y$ =  STR$ (Y): IF Y < 10 THEN Y$ = "00" + Y$: GOTO
     520
510  IF Y < 100 THEN Y$ = "0" + Y$
520  VTAB (22): HTAB (9): PRINT X$: VTAB 23: HTAB (9): PRINT
     Y$: RETURN
530  POKE  - 16368,0: RETURN
540  VTAB (22): PRINT "X COORD=  *";: HTAB 20: PRINT "'?
     ' - CONTROLS": PRINT "Y COORD=  *": RETURN
550  POKE  - 16301,0: HOME : GOSUB 530: VTAB (22): PRINT
     "ENTER INCREMENT VALUE >";:R$ = PS$:PS$ = ""
560  GET A$:A =  VAL (A$): IF A < 0 OR A > 9 THEN 560
570  IF A = 0 THEN 590
580  INC = A
590  POKE 789,INC
600  P$ = "INCREMENT NOW EQUALS >" +  STR$ (INC): HOME : GOSUB
     650
610  GOSUB 660: GOSUB 660: HOME : GOSUB 540: GOSUB 480:P
     S$ = R$: RETURN
620  POKE  - 16301,0: HOME : IF PS$ = "ON" THEN PS$ = "O
     FF": POKE 791,0: GOTO 640
630  PS$ = "ON": POKE 791,1
640  P$ = "PLOTTER IS ": GOSUB 650: HOME : GOSUB 660: GOSUB
     660: GOSUB 540: GOSUB 530: GOSUB 480: RETURN
642  TEXT : HOME : PRINT "  USE CTRL KEY FOR FUNCTIONS"
     : PRINT : PRINT "A)ABORT      B)BOX-IN MODE": PRINT
     "F)FILL-IN    I)SET INCREMENT": PRINT "L)LINE-DRAW P
     )PLOT TOGGLE": PRINT "Q)QUIT AND RETURN"
643  PRINT "SPACE-BAR - CHANGE COLOR": PRINT "ESC - TOGG
     LE FULL/MIXED SCREEN GRAPHICS": PRINT : PRINT
644  PRINT "MOVEMENT - ": PRINT : PRINT "'RETURN' - UP":
     PRINT "(-- LEFT  RIGHT -->)": PRINT "/ - DOWN": PRINT
     "'-' OR '=' PUT CURSOR AT LOWER LEFT": PRINT "';' O
     R '+' PUT CURSOR AT UPPER RIGHT": PRINT : PRINT "PR
     ESS ANY KEY TO RETURN";
646  GOSUB 530: GET A$: PRINT : POKE  - 16297,0: POKE  -
     16304,0:A =  PEEK (790): GOTO 740
650  INVERSE : VTAB 23: HTAB 18: PRINT P$:PS$: FOR ZZ =
     1 TO 1000: NEXT ZZ: VTAB 23: HTAB 18: CALL  - 868:
                                          NORMAL : RETURN
```

```
660   IF ST = 0 THEN ST = 1: POKE  - 16302,0: GOTO 680
670   ST = 0: POKE  - 16301,0
680   GOSUB 530: POKE 792,ST: RETURN
690   TEXT : GR : COLOR= 5: HLIN 19,28 AT 0: HLIN 19,28 AT
      39: VLIN 0,39 AT 19: VLIN 0,39 AT 28:B = 19: GOSUB
      530
700   A = 0: GOSUB 750:A = 12: GOSUB 750:A = 1: GOSUB 750:
      A = 15: GOSUB 750:A = 0: GOSUB 750:A = 9: GOSUB 750
      :A = 6: GOSUB 750
710   A = 15: GOSUB 750: HOME : VTAB 12: HTAB 21: PRINT "0
      1234567": PRINT "COLOR IS NOW )";HC: PRINT "ENTER N
      UMBER (0-7)";
720   GET A$:A = VAL (A$): IF A < 0 OR A > 7 THEN A = HC
      : GOTO 730
730   PRINT : HOME : PRINT "COLOR IS NUMBER )";A: FOR ZZ =
      1 TO 1000: NEXT ZZ: POKE  - 16297,0: POKE  - 16304,
      0
740   HC = A: HOME : GOSUB 540: GOSUB 480: GOSUB 660: GOSUB
      660: POKE 790,HC: HCOLOR= HC: RETURN
750   B = B + 1: COLOR= A: VLIN 1,38 AT B: RETURN
760   REM  DISK I/O ROUTINE
770   D$ = CHR$ (4)
780   TEXT : HOME : GOSUB 530: PRINT : HTAB 20: IF  PEEK
      (785) = 1 THEN  PRINT "LOAD": GOTO 800
790   PRINT "SAVE"
800   PRINT : PRINT : HTAB 8: PRINT "CATALOG (Y/N)?";
810   X =  PEEK ( - 16384): IF X < 128 THEN 810
820   GOSUB 530:K = X - 128: IF K = 89 THEN  PRINT : PRINT
      D$;"CATALOG,V0"
830   PRINT
840   INPUT "FILENAME )";F1$: IF  LEN (F1$) = 0 THEN 1310

850   IF  PEEK (785) = 1 THEN 870
860   PRINT D$;"BSAVE ";F1$;",A$2000,L$2000,V0" F2$ = F1$
      : GOTO 1310
870   PRINT "CURRENT PICTURE WILL BE LOST": INPUT "CONTIN
      UE (YES/N)?";A$: IF A$ = "YES" THEN 890
880   GOTO 1310
890   PRINT D$;"BLOAD ",F1$;",A$2000,V0" F2$ = F1$: GOTO
      880
900   REM  *** DRAW LINE
910   GOSUB 530: POKE  - 16301,0: HOME : VTAB 22: PRINT "
      MARK THE ENDPOINTS OF THE LINE"
920   PRINT "USE CTRL-A TO ABORT LINE DRAW": INVERSE : PRINT
      "PRESS A KEY": GET A$
930   NORMAL : PRINT A$: GOSUB 530:PS$ = "OFF": POKE 791,
      0: GOSUB 660: GOSUB 660
940   HOME : VTAB 22: GOSUB 540: GOSUB 480:LD = 1:LP = 0:
      GOTO 360
950   GOSUB 530:LP = LP + 1: IF LP = 1 THEN  VTAB 22: HTAB
      18: PRINT  CHR$ (7);"POINT 1": FOR ZZ = 1 TO 1000: NEXT
      : HTAB 18: VTAB 22: CALL  - 868:LX = X:LY = Y: GOTO
      360
960   HCOLOR= HC: HPLOT LX,LY TO X,Y:LD = 0:LP = 0: GOSUB
      530: GOTO 360
970   IF P = 0 THEN 1010
980   IF P = 1 THEN 1060
990   IF P = 2 THEN 1080
1000  IF P =  ) 3 THEN P = 0: GOSUB 540: GOSUB 660: GOSUB
      660: GOSUB 480: GOSUB 530:FS = 0: GOTO 360
1010  GOSUB 530: PRINT  CHR$ (7); CHR$ (7): POKE  - 1630
      1,0: HOME : VTAB 22
1020  PRINT "MARK THE UPPER LEFT AND LOWER RIGHT": PRINT
      "TYPE CTRL-A TO ABORT FILL-IN MODE"
1030  INVERSE : PRINT "PRESS A KEY TO CONTINUE"; : GET A$
      : NORMAL : PRINT A$
1040  GOSUB 530: HOME : VTAB 22:PS$ = "OFF": POKE 791,0
1050  GOSUB 660: GOSUB 660: GOSUB 540: GOSUB 480:FS = 1:
      P = 0: GOTO 360
1060  XL = X:YL = Y: GOSUB 530: VTAB 22: HTAB 20: PRINT "
      POINT 1"; CHR$ (7)
1070  FOR ZZ = 1 TO 1000: NEXT ZZ: VTAB 22: HTAB 19: CALL
      - 868: GOTO 360
1080  XR = X:YR = Y: VTAB 22: HTAB 20
1090  PRINT  CHR$ (7); CHR$ (7): VTAB 22: HTAB 20: CALL
      - 868: GOSUB 530
1100  FS = 0:P = 0: IF YL > YR THEN S =  - 1: GOTO 1120
1110  S = 1
1120  HCOLOR= HC
1130  FOR Z1 = YL TO YR STEP S
1140  HPLOT XL,Z1 TO XR,Z1
1150  NEXT Z1: GOSUB 530: GOTO 360
1160  DP = 0:BD = 1: POKE  - 16301,0: HOME : PRINT : GOSUB
      530: VTAB 22
1170  PRINT "MARK UPPER RIGHT AND LOWER LEFT CORNERS": PRINT
      "USE CTRL-A TO ABORT FRAME MODE"
1180  INVERSE : PRINT "PRESS A KEY TO CONTINUE"; : GET A$
      : NORMAL : PRINT A$: HOME : VTAB 22:PS$ = "OFF"
1190  GOSUB 530: POKE 791,0: GOSUB 660: GOSUB 660: GOSUB
      540: GOSUB 480: GOTO 360
1200  DP = DP + 1: IF DP = 2 THEN 1230
1210  GOSUB 530: VTAB 22: HTAB 20: PRINT "POINT 1", CHR$
      (7); CHR$ (7)
1220  FOR ZZ = 1 TO 1000: NEXT ZZ: VTAB 22: HTAB 20: CALL
      - 868:BX = X:BY = Y: GOTO 360
1230  HCOLOR= HC: HPLOT BX,BY TO X,BY TO X,Y TO BX,Y TO
      BX,BY
1240  GOSUB 530:BD = 0:DP = 0: GOTO 360
1250  REM  MAIN MENU
1260  SCALE= 1: ROT= 0:HC = 3:INC = 1:ST = 0:PS$ = "OFF"
      : HCOLOR= HC:X = 0:Y = 0:F2$ = "?": HGR : GOSUB 530
      : POKE 1063,128
1270  FOR ZZ = 786 TO 796: POKE ZZ,0: NEXT
1280  POKE 790,HC: POKE 789,1: POKE 792,ST
1290  POKE 232,27: POKE 233,3: POKE 795,1: POKE 796,0: POKE
      797,4: POKE 798,0: POKE 799,29: POKE 800,0: POKE 80
      1,0
1300  POKE 216,0: ONERR  GOTO 1650
1310  PRINT : TEXT : HOME : NORMAL : SPEED= 255: GOSUB 5
      30:FS = 0:LD = 0:BD = 0:P = 0:LP = 0:DP = 0
1320  POKE 1013,76: POKE 1014,102: POKE 1015,213
1330  PRINT "** HI-RES SHAPEMAKER **": HTAB 3: PRINT "BY
      TONY DAHBURA": HTAB 2: PRINT "COPYRIGHT (C) 1981 B
      Y": HTAB 4: PRINT "MICRO-SPARC, INC.": HTAB 3: PRINT
      "LINCOLN, MA 01773": PRINT
1340  PRINT "LAST ACCESS :";F2$: PRINT : PRINT : HTAB 16
      : INVERSE : PRINT " MENU  ": NORMAL
1350  PRINT : PRINT
1360  HTAB 4: PRINT "1 - ENTER DRAW MODE": HTAB 4: PRINT
      "2 - LOAD A PICTURE": HTAB 4: PRINT "3 - SAVE A PIC
      TURE"
1370  HTAB 4: PRINT "4 - CLEAR THE HIRES SCREEN": HTAB 4
      : PRINT "5 - EXIT PROGRAM": PRINT
1380  PRINT "ENTER CHOICE )";
1390  GET A$:A$ = A$:A = VAL (A$): IF A < 1 OR A > 5 THEN
      1390
1400  PRINT A: PRINT
1410  IF A = 5 THEN  TEXT : HOME : POKE 216,0: END
1420  IF A = 1 THEN  GOTO 50
1430  IF A = 2 THEN  POKE 785,1: GOTO 760
1440  IF A = 3 THEN  POKE 785,2: GOTO 760
1450  IF A = 4 THEN  PRINT : PRINT : INPUT "ARE YOU SURE
      (YES/N)? ";A$: IF A$ < > "YES" THEN 1310
1460  CALL 62450: GOTO 1310
1470  PRINT  CHR$ (7); CHR$ (7),"ERROR": END
1480  END
1490  REM  RESTORATION ROUTINE
1500  CLEAR :X =  PEEK (786) +  PEEK (787):Y =  PEEK (78
      8)
1510  GOSUB 530:INC =  PEEK (789):HC =  PEEK (790)
1520  IF  PEEK (791) = 0 THEN PS$ = "OFF": GOTO 1540
1530  PS$ = "ON"
1540  ST =  PEEK (792):C =  PEEK (793):F2$ = "?"
1550  IF C = 0 THEN C = 1: GOTO 1570
1560  C = 0
1570  POKE 793,C: POKE 232,27: POKE 233,3: POKE 793,1: POKE
      796,0: POKE 797,4: POKE 798,0: POKE 799,29: POKE 80
      0,0: POKE 801,0
1580  IF C = 0 THEN  HCOLOR= 0: XDRAW 1 AT X,Y
1590  TEXT : HOME : PRINT : PRINT "TOTALLY RESTORED!!, Y
      OU WILL NOW BE"
1600  PRINT : PRINT "RETURNED TO THE MAIN MENU": PRINT :
      PRINT
1610  SCALE= 1: ROT= 0: POKE 216,0
1620  ONERR  GOTO 1650
1630  PRINT "          PLEASE WAIT ....": FOR ZZ = 1 TO 20
      00: NEXT ZZ: GOTO 1310
1640  REM  ERROR ROUTINE
1650  E =  PEEK (222)
1660  IF E = 255 THEN  RESUME : REM  CTRL-C
1670  IF E = 6 THEN  PRINT "I COULD NOT FIND THE FILE!":
      GOTO 800
1680  IF E = 9 THEN  PRINT "THIS DISK IS FULL!": GOTO 80
      0
1690  IF E = 10 THEN  PRINT "THE FILE ALREADY EXISTS": PRINT
      "DO YOU WANT ME TO OVERWRITE (Y/N)? "; : GOSUB 530: GET
      A$: PRINT : IF A$ = "Y" THEN  PRINT D$;"UNLOCK ",F1
      $: GOTO 860
1700  IF E = 10 AND A$ < > "Y" THEN 1310
1710  IF E = 8 THEN  PRINT "DRIVE DOOR IS OPEN!": PRINT
      "PLEASE CLOSE! AND PRESS A KEY "; : GOSUB 530: GET A
      $: PRINT : GOTO 850
1720  PRINT "ERROR #";E;" HAPPENED": INPUT "PLEASE CORRE
      CT AND PRESS (C/R)";A$: GOSUB 530: PRINT : RESUME
```