Atari Logo PrinterPac

1) THE TURTLE AND THE 1020 PRINTER / PLOTTER
2) EPSON MX-80 GRAPHICS DUMP

DEMOPAC #10
REV.1 JG/11/83

The Turtle and the Plotter:

A Tale of Fantasy and Triumph staring Atari Logo
and the Atari 1020 Printer/Plotter.

The enclosed procedures will enable the 1020 Plotter to be
used to print out turtle drawings as well as Logo text.
Using the 1020 with the procedures enclosed requires that a
few points be observed:

1) All commands to the 1020 should be in a procedure; optimum
results will not be obtained in immediate mode.

2) Certain steps must be taken when writing the procedures.
They are as follows:

A) The first command of the procedure should be
PLON; this opens the 1020 with a SETWRITE "P:.

B) The second procedure needs to be PGRM if you
want to print "turtle drawings". PGRM puts the
plotter in the graphics mode.

C) After any command that changes the turtle's
position such as FD, BK, SETX, HOME, etc, PLOT
should be used. PLOT is not necessary when the
turtle's heading is changed.

D) The last command before END should be PLOFF.
This turns the printer off and directs any
additional Logo instructions back to the screen.

E) When using the plotter in the text mode, PLON
and PLOFF are used as in the graphics mode. The
procedures PL20, PL40, and PL80 are used to select
print sizes. The 1020 always starts in text mode
with 40 columns when the PLON command is given.

The following example procedure prints all the
procedures in the workspace to the 1020 in 80
column format:


```
TO PRINT.PROCEDURES
PLON
PL80
POPS
PLOFF
END
```

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NOTE: When typing in the procedure PGRM the
following line should be typed as follows:

    (PR "M240,0*I*M INT 1.5 * XCOR", INT 1.5 *
YCOR)

The backslash "\" will be visible when typing in
the program using the Logo editor but will not be
visible when exiting the editor and printing the
procedure to the screen or printer using the
SETWRITE command. However, if the procedure is
PO'd to the screen or SAVED "P: to the printer, the
backslash will be visible.

3) Additional points to keep in mind:

    A) Only one printer should be turned on at a time.
    When using the plotter, turn off any other printer
    you may have connected.

    B) Do not make drawings in the WRAP mode, use
    WINDOW instead.

    C) The PHOME command homes the plotter. After a
    CS, use PHOME to avoid a "turtle trail".
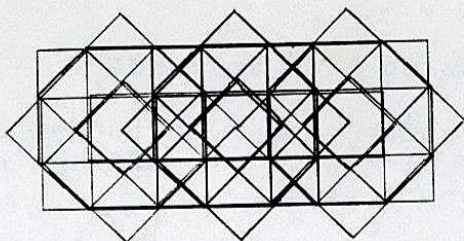
    D) Forward the paper two or three inches before
    drawing. This will prevent the paper from being
    sucked up too far and not having enough paper
    available for drawing.

    E) PLABLE prints text in one of four directions and
    one of 64 sizes. PLNTYP selects between various
    sizes of solid and dotted lines. BARF is a
    non-existent procedure. It causes Logo to print an
    error message if improper inputs are given.

DRAWING WITH COLORED PENS

The enclosed procedure COLORED.SQUARES is a sample ~~sample~~ for
using the 1020 in the graphics mode. The subprocedures
PENBLACK, PENRED, PENGREEN and PENBLUE enable the plotter to
draw in the appropriate color. For example, PENRED tells the
plotter to select the red pen a prepare to draw. The
subprocedures SETPENS.BLUE, SETPENS.RED, and SETPENS.GREEN
set the screen turtles pens to the same colors as the
plotter's pens. As a result, the patterns and colors that

appear on the screen are duplicated on the plotter. The
subprocedure PRLIST selects the black pen on the plotter and
then prints the listing for COLORED.SQUARES underneath the
COLORED.SQUARES drawing.


```
TO COLORED.SQUARES
PLON
PGRM
SETPENS.GREEN
PLOT
SQ
PU LT 90 FD 50 PLOT
SETPENS.RED
PLOT
PD RT 90 SQ
PU LT 90 FD 50 PLOT
SETPENS.BLUE
PLOT
PD RT 90 SQ
PRLIST
PLOFF
END
```

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<div align="center">
COLORED.SQUARES
FOR THE ATARI 1020 PLOTTER/PRINTER
JG/10/83
</div>

```
TO COLORED.SQUARES
PLON
PGRM
SETPENS.GREEN
PLOT
SQ
PU LT 90 FD 50 PLOT
SETPENS.RED
PLOT
PD RT 90 SQ
PU LT 90 FD 50 PLOT
SETPENS.BLUE
PLOT
PD RT 90 SQ
PRLIST
PLOFF
END

TO PENBLACK
( TYPE CHAR 67 CHAR 48 )
END

TO PENBLUE
( TYPE CHAR 67 CHAR 49 )
END

TO PENRED
( TYPE CHAR 67 CHAR 51 )
END

TO PENGREEN
( TYPE CHAR 67 CHAR 50 )
END

TO SETPENS.GREEN
SETPN 2
SETPC 2 99
PENGREEN
END

TO SETPENS.BLUE
SETPN 1
SETPC 1 56
PENBLUE
END
```

```
TO SETPENS.RED
SETPN 0
SETPC 0 34
PENRED
END

TO PRLIST
PLON
PGRM
PENBLACK
PLON REPEAT 4 [PR []]
PO [COLORED.SQUARES]
PLOFF
END

TO PGRM
( TYPE CHAR 27 CHAR 27 CHAR 7 )
( PR "M240,0\*I\*M INT 1.5 * XCOR ", INT 1.5 * YCOR )
END

TO PLON
SETWRITE "P:
END

TO PLOFF
SETWRITE []
END

TO PLOT
( PR IF PEN = "PD ["D] ["M] INT 1.5 * XCOR ", INT 1.5 * YCOR )
END

TO SQUARE
REPEAT 4 [FD 50 PLOT RT 90]
END

TO SQ
REPEAT 8 [SQUARE FD 30 PLOT RT 360 / 8]
END
```

```
TO PL80
( TYPE CHAR 27 CHAR 27 CHAR 19 )
END

TO PL40
( TYPE CHAR 27 CHAR 27 CHAR 14 )
END

TO PL20
( TYPE CHAR 27 CHAR 27 CHAR 16 )
END

TO PLABEL :ANGL :SIZE :LIST
IF NOT MEMBERP :ANGL [0 1 2 3] [BARF]
( PR "Q :ANGL "* "S INT :SIZE "* "P :LIST )
( PR "M INT 1.5 * XCOR ", INT 1.5 * YCOR )
END

TO PLNTYP :TYP
IF OR ( :TYP < 0 ) ( :TYP > 15 ) [BARF]
( PR "L INT :TYP )
END

TO PHOME
PR "M0,0
END

TO PLOT
( PR IF PEN = "PD ["D] ["M] INT 1.5 * XCOR ", INT 1.5 * YCOR )
END

TO PGRM
( TYPE CHAR 27 CHAR 27 CHAR 7 )
( PR "M240,0 * I * M INT 1.5 * XCOR ", INT 1.5 * YCOR )
END

TO PLOFF
SETWRITE []
END

TO PLON
SETWRITE "P:
END
```

Screen Dump to Epson Graphics Printer(MX-80)

Copywrite 1983 by Brian Harvey

Create your turtle drawings in the usual way, then type EPSON to copy the graphics
screen to the printer. The full graphics screen is printed to the printer, even if your
display screen is in the split screen or text screen mode.

```
TO EPSON
SETWRITE "P:
TYPE CHAR 27
TYPE "A
TYPE CHAR 6
EPLINES 16384 48
TYPE CHAR 27
PR "@
SETWRITE []
END


TO EPLINES :LOC NUM
IF :NUM=0 [STOP]
EPLINE :LOC 40 0
PR []
EPLINES :LOC +80 :NUM-1
END


TO EPLINE :LOC :BYTES :SPACE
IF :BYTES<3 [EPBYTE 65536*.EXAMINE :LOC 65536*EXAMINE :LOC+40 STOP]
EPBYTE EXAM3 :LOC EXAM3 :LOC+40
EPLINE :LOC+3 :BYTES-3 :SPACE
END


TO EPBYTE :BYTE1 :BYTE2
IF AND :BYTE1=0 :BYTE2=0 [MAKE "SPACE :SPACE+1 STOP]
REPEAT :SPACE [TYPE "\\\\]
MAKE "SPACE 0
TYPE CHAR 27
TYPE "K
TYPE CHAR 24
TYPE CHAR 0
EPBYTE1 :BYTE1 :BYTE2 4194304
END


TO EPBYTE1 :BYTE1 :BYTE2 :POS
TYPE2 CHAR (IF :BYTE1>(:POS-1) [56] [0])+(IF :BYTE 2>(:POS-1) [7] [0])
IF :POS=1 [STOP]
EPBYTE1 REMAINDER :BYTE1 :POS REMAINDER :BYTE2 :POS :POS/4
END


TO EXAM3 :LOC
OP 65536*(.EXAMINE :LOC)+256*(.EXAMINE :LOC+1)+.EXAMINE :LOC+2
END


TO TYPE2 :CHAR
TYPE :CHAR
TYPE :CHAR
END
```