



ADAM'S BYTES NEWSLETTER

is a **GULF COAST ADAM USERS** publication

6665 Timbers Drive Mobile, AL. 36695 (205) 639-1368

Building ADAM'S Future BYTE by BYTE (with you!)

MAY-JUNE 1998

ISSUE # 41

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Designed and Printed on the ADAM Computer,
(Using PowerPAINT, PaintAID Fonts),
by DIGITAL EXPRESS and SmartWRITER, by: COLECO.

ADAM S BYTES

Is published every two months
by Gulf Coast ADAM USERS and
is sent without charge to all
active members.

Annual membership fees are
\$15.00 which includes your
subscription and special
prices from our PD LIBRARY.

EDITOR'S
TIDBITS

This issue brings several interesting articles concerning things that have happened or are happening in the ADAM community.

Go-DOS is finally released. This is not the finished version but is one that will allow you to use the Go-BASIC feature only. The completed version is promised later. Dr. Solomon Swift has opened a new business and one of the first things he did was to release Go-DOS. I have heard that he will again publish a newsletter which will be issued twice each month and will be sent to all subscribers of Nibbles and Bits as the replacement for N&B. Please note that I said I have heard this I have not received a newsletter yet and I do have eleven months left on my subscription to N&B. I have received Go-DOS so can state that it has been released. I have also heard that all sales of his products will be thru M.W.Ruth. I would suggest however that if you have ordered Go-DOS and did not receive your copy that you write directly to:

Dr. Solomon Swift
Phoenix 2000
P.O.Box 1292
Kings Mtn., NC. 28086

If you subscribed to Nibbles and Bits and do not receive the new newsletter you may also wish to write. Please enclose a SASE when you write and mention ADAM'S BYTES.

Many of you have asked how we write the graphics text programs. To answer these questions we are beginning a series of articles which will consist of five different routines that can be used in graphic-text programs. I believe that most if not all of these programs were donated to the public domain by Digital Express. If I am wrong on this it will be noted at the beginning of that program's list. One program will be included in each of the next 5 issues if however you do not wish to wait that long I am preparing a public domain volume that will include all five of these routines with SmartWRITER documentation and instructions. If there is enough interest in these articles we will consider listing a drawing program that will allow you to draw your own hi-resolution pictures to use with these routines.

I have heard that Jim Walters software will be releasing more cartridges in the near future. I have not heard this directly from Mr. Walters but have read reports in other newsletters. If my information is correct one of these cartridges will contain SmartBASIC. The advantages of having SmartBASIC on a cartridge will be the speed of loading (even faster than from a disk). I have his first cartridge SMARTDSK CARTRIDGE and am constantly amazed at how well it performs. Programs that require 30-45 seconds to load from a disk can be called up almost instantly from the SMARTDSK.

Before I change the subject let me remind all of you of the excellent instruction manual Walters has released for MACADAM. This manual was prepared with Jim Casey and is well written. If you want to learn to program using the assembler this is a must. The Manual is priced at \$19.95 and after reviewing my copy I can tell you that these two people will be very underpaid for all the work they put into it even if it become a best seller. The manual is now available and can be ordered from:

Walters Software
RT# 4Box 289-A
Titusville, PA. 16354

Alan Neely of ADAM-LINK of UTAH has informed me that he has now released a new product. The package involves a hardware device and 2 basic software application programs called the Auto-Answer device. One program is for use with the Colec internal modem. It is a simple telecommunications program that gives this modem an auto-answer feature and a Xmodem send feature. The second is a phone monitoring program that keeps track of the time that calls are coming in on a standard phone line. The data can be viewed on the screen, saved to a storage device, or a hardcopy printed. The price is only \$17.50. Order from:

ADAM-LINK of UTAH
2337 South 600 East
Salt Lake City, Utah 84106.

LOOKING BACK
The Best of AIM
by Terry Fowler

When revising a SmartWRITER File and storing it, the first version of the file becomes a BACKUP FILE on the datapack. If you use the CLEAR SCREEN COMMAND to eliminate unwanted text, the file name information will ALSO be deleted so that attempting to store the file will result in the message, "FILENAME ALREADY EXISTS".

SEARCH (in SmartWRITER use) will not search beyond any END PAGE MARKER used in your document. If you wish to quickly reach the end of a long document, use the search command while searching for "###."

PRINT HEAD- If your printer head goes to the right, or if it beats against the side of the case on the left, the problem is in the REED SWITCH located on the printer head or on the left side of the case. It can be cleaned or adjusted with small bends (contacts should be closed in the normal position).

When saving text to a datapack, save your material often. Break the document into small "chapters" or sections. When you are ready to print, append all files into one file.

In SmartWRITER the controller keypad can be used to input numbers into memory and the joystick can be used to move the cursor.

With multiple block DIRECTORIES, SmartWRITER will display the first part of the directory. To see the rest of the directory do the following: Move the ARROW across to the top left name, press the up ARROW KEY (which moves the ARROW to the Bottom left name), move the ARROW across to the bottom right name, press the DOWN ARROW KEY. The data drive will run to load the second part of the directory.

To create your own 2 BLOCK DIRECTORY, Poke a 2 into location 25308 (POKE 25308,2 followed by the RETURN KEY). Then INIT your fresh datapack.

SmartBASIC on datapacks may be transferred to DISK using many copy utility programs (block numbers 0-29 are all that is necessary for the transfer). However, SmartBASIC is CODED for use only with the tape drive. To change the code for DISK #1 use, EDIT BLOCK #18 on the disk, the second byte (08) should be changed to 04. Disk drive #2 is coded 05, Data drive # 2 is 24.

SmartFILER 27d has a bug which improperly prints the spacing for labels. It also prints an extra line between records, wasting space. The problems have been corrected, available by sending your datapack and \$5 for recopying. If you wish to edit your copy, load block 18 and change byte FB on page 3 from 01 to 02 (using Edit-Block).

One problem using SmartFILER to print multiple copies of letters with the ADAM Printer is that it will not pause long enough to change the paper. The trick to give you that extra time is to press the VI STOP PRINT SmartKEY JUST BEFORE it pauses normally. It will stay paused until you press PRINT.

Another problem in Smartfiler arises when trying to print columns and row of information uniformly in line. When typing in your field information, insert Control "q" characters (press the CONTROL KEY and "q" key together) according to how you wish to align the data. These characters will not print (even though you see them onscreen), but will maintain spacing when typing data.

Although SmartFILER has four searchable fields, you may find occasions when more searchable fields would be desirable. Use the searchable fields to code letters separated by commas and you can then search in MANY ways. For example, M could stand for member, N for nonmember, X for exmember, and groupings could be sorted by simply searching for these coded letters in one field. If you want alphabetized listings, try using INDEX first before searching a field.

BINARY files are created using the program "cruncher." These binary files use the "H" type designation in place of the normal "A" type as displayed when you CATALOG your directory. The advantage of binary files is that they load ten times faster. Use the terminology: "BRUN filename" instead of "RUN filename." One bug found when SAVING a new version of a binary file is that the first version type is changed from "H" to "h", but the command RECOVER cannot bring back the "h" type file. To correct this type (in the immediate mode): POKE 20619,72 followed by the RETURN KEY. Now you may recover those backup "h" files.

We hope you are enjoying this set of articles from AIM. We will conclude this set in the next issue.

HI-RES PICTURES

High resolution pictures are usually stored in one of two different formats. The SmartPAINT format that stores the picture as 4 different 3K programs, or the binary format that stores the picture as one 10K program. You will need to be know how to tell the difference between these two formats to use this months program properly. Pict-mng will load a hi-res picture from either of these formats and will allow you to save a picture in either format. To tell the difference just look for the .HRP following the file name if you see this you can be assured that the program is a SmartPAINT picture. Pict-mng will also allow you to change the background color, a foreground color and remove the SmartPAINT title bar from the picture. To use Pict-mng you will need to have a hi-resolution picture that has been saved in either of the above formats. If you do not have any hi-res pictures there are over 200 in our PD Library.

This program was selected as the first in this series because it does allow you to load the hi-res pictures and allows you to save them to another medium for use in your own programs. It is a rather long listing requiring 2 and 1/2 pages of this issue but I feel that you will be proud of yourself after you enter the program and run it. As with all listings be careful to list the program exactly as entered, Save the program before attempting to run it, and if you have any problems with the program just list your program and compare it with the list in this issue. Designing your own pictures can be one of the most interesting aspects of using your ADAM. ADAM is an excellent computer for graphics and is simple to use for drawing your own pictures. Admittedly it is much easier to use one of the great drawing programs available from the commercial producers than it is to draw pictures using the PD drawing programs. Among the better programs for use with the ADAM are Graphix Painter from NIAD, ShowOFF I from Digital Express (now Pheonix 2000), and of course PowerPAINT from the same company. All of these programs feature printing to a dot matrix printer as an added freebee.

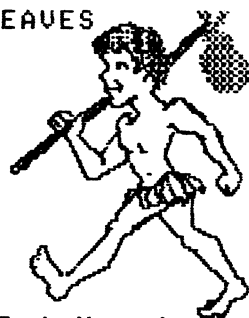
The purpose of this series of programs is not to encourage the printing of graphics but rather to allow you to use your hi-resolution pictures in programs that you program. This month's program is just the beginning of the series. Next month we will include a program that you can use in conjunction with Pict-mng and include a boot-pic on your medium that will be displayed while SmartBASIC is loaded.

then change the picture as the need arises. Then comes the program to allow you to place Clips (64X64 pixels) at different places on your screen. Finally a program to enable the use of sprites in your program. Move these sprits at will on your screen while your program operates. So after the listing of this series of programs you should be ready to design your own game programs.

Please let me hear from you concerning this series if I am wasting my time and your space in the newsletter let me know, or if on the other hand you are interested in this series let me hear from you. If you do not wish to wait for the listing of all of these programs I have prepared a PD volume with all five programs on it. You may order this volume for \$ 5.00 including postage. Just specify the Graphic Design package. Order from:

Gulf Coast ADAM Users
6665 Timbers Dr.
Mobile, AL. 36695

ADAM LEAVES



BY: Pat Herrington
MOAUG

Pat Herrington
MOAUG



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120 LOMEM :45000: POKE 16149, 255: POKE 16150, 255
130 DATA 1,0,0,17,0,0,33,0,116,205,0,253,201
140 FOR x = 65520 TO 65532: READ mc: POKE x, mc: NEXT
150 DATA disk options,clear screen,change colors,exit program
160 FOR x = 1 TO 4: READ m1$(x): NEXT
170 FOR x = 0 TO 15: POKE 18765+x, x: NEXT
180 hm = 255: vm = 158: hh = 0: vv = 0: dd$ = CHR$(4)
200 DATA load file,save screen,catalog,main menu
210 FOR x = 1 TO 4: READ m2$(x): NEXT
220 DATA load RLE,load SmartPAINT picture,load HGR picture,done
230 FOR x = 1 TO 4: READ m3$(x): NEXT
240 DATA save as SmartPAINT file,save as HGR picture,done
250 FOR x = 1 TO 3: READ m4$(x): NEXT
260 DATA tape one,disk one
270 FOR x = 1 TO 2: READ dr$(x): NEXT
280 DATA change ALL of ONE color,change TOTAL background,done
290 FOR x = 1 TO 3: READ m5$(x): NEXT
300 DATA 62,0,230,240,50,255,255,201
310 FOR x = 27600 TO 27607: READ mc: POKE x, mc: NEXT
320 DATA 62,17,17,16,0,33,0,0,205,38,253,201
330 FOR x = 27608 TO 27619: READ mc: POKE x, mc: NEXT
500 IF PEEK(17008) <> 0 GOTO 600
510 HOME: INPUT " enter HPLLOT color: "; hp%
520 IF hp% < 1 OR hp% > 15 GOTO 510
530 PRINT: INPUT " window background color: "; bk%
540 IF bk% < 1 OR bk% > 15 OR bk% = hp% GOTO 530
550 POKE 25431, 7: POKE 25568, 23: POKE 25471, bk%*16+bk%: HGR
600 HOME: FOR x = 1 TO 3: PRINT " "; x; " = "; m1$(x): NEXT
610 PRINT " 4 = "; m1$(4);
620 GET yy$: yy% = VAL(yy$): IF yy% < 1 OR yy% > 4 GOTO 620
630 ON yy% GOTO 1000, 510, 5000, 10100
1000 HOME: FOR x = 1 TO 3: PRINT " "; x; " = "; m2$(x): NEXT
1010 PRINT " 4 = "; m2$(4);
1020 GET yz$: yz% = VAL(yz$): IF yz% < 1 OR yz% > 4 GOTO 1020
1030 IF yz% = 4 GOTO 600
1040 GOSUB 10200: ON yz% GOTO 2000, 3000, 4000
2000 HOME: FOR x = 1 TO 3: PRINT " "; x; " = "; m3$(x): NEXT
2010 PRINT " 4 = "; m3$(4);
2020 GET ya$: ya% = VAL(ya$): IF ya% < 1 OR ya% > 4 GOTO 2020
2030 ON ya% GOTO 2100, 2800, 2500, 1000
2100 HOME: PRINT " Enter RLE picture filename:"
2110 INPUT " "; pn$: IF LEN(pn$) > 10 GOTO 2100
2120 GOSUB 10400: VTAB 22: HTAB 1: HCOLOR = hp%
2200 PRINT dd$; "open "; pn$: PRINT dd$; "read "; pn$
2210 GET ii$: IF ii$ <> "G" GOTO 2210
2220 GET ii$: IF ii$ <> "H" GOTO 2210
2230 GET ij$: ij = ASC(ij$)-32
2240 IF ij < 1 GOTO 2260
2250 GOSUB 2300: HPLLOT hh, vv: GOTO 2240
2260 GET ij$: ij = ASC(ij$)-32
2270 ON ij < 1 GOTO 2230: GOSUB 2300: GOTO 2270
2300 ij = ij-1: hh = hh+1: IF hh > hm THEN hh = 0: vv = vv+1
2310 IF vv > vm THEN POP: GOTO 10000
2320 RETURN

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2530 PRINT dd$; "bload "; pn$: GOSUB 10600: GOTO 1000
2800 HOME: PRINT " Enter SmartPAINT filename:"
2810 INPUT " "; pn$: IF RIGHT$(pn$, 4) <> ".HRP" GOTO 2830
2820 lp = LEN(pn$): pn$ = LEFT$(pn$, lp-4)
2830 IF LEN(pn$) > 6 GOTO 2800
2900 GOSUB 10400: VTAB 22: HTAB 1: POKE 65522, 10: POKE 65530, 26
2910 PRINT dd$; "bload "; pn$+".HRP": POKE 65525, 32: CALL 65520
2920 PRINT dd$; "bload "; pn$+".HR2": POKE 65525, 42: CALL 65520
2930 PRINT dd$; "bload "; pn$+".HR3": POKE 65525, 0: CALL 65520
2940 PRINT dd$; "bload "; pn$+".HR4": POKE 65525, 10: CALL 65520
2950 GOTO 1000
3000 HOME: FOR x = 1 TO 3: PRINT " "; x; " = "; m4$(x): NEXT
3010 GET yb$: yb% = VAL(yb$): IF yb% < 1 OR yb% > 3 GOTO 3010
3020 ON yb% GOTO 3800, 3500, 1000
3500 HOME: PRINT " Enter HGR filename for "
3510 INPUT " SAVEing the screen: "; pn$
3520 IF LEN(pn$) > 10 GOTO 3500
3530 GOSUB 10400: VTAB 22: HTAB 1: GOSUB 10500
3540 PRINT dd$; "bsave #,A29696,L10240"
3550 PRINT dd$; "rename #, "; pn$: GOTO 1000
3800 GOSUB 11000: HOME: PRINT " Enter SmartPAINT filename "
3810 INPUT " for SAVEing the screen: "; pn$
3820 IF RIGHT$(pn$, 4) <> ".HRP" GOTO 3840
3830 lp = LEN(pn$): pn$ = LEFT$(pn$, lp-4)
3840 IF LEN(pn$) > 6 GOTO 3800
3900 GOSUB 10400: VTAB 22: HTAB 1: POKE 65522, 10: POKE 65530, 29
3910 POKE 65525, 32: CALL 65520: PRINT dd$; "bsave #1,A29696,L2560"
3920 POKE 65525, 42: CALL 65520: PRINT dd$; "bsave #2,A29696,L2560"
3930 POKE 65525, 0: CALL 65520: PRINT dd$; "bsave #3,A29696,L2560"
3940 POKE 65525, 10: CALL 65520: PRINT dd$; "bsave #4,A29696,L2560"
3950 PRINT dd$; "rename #1, "; pn$+".HRP"
3960 PRINT dd$; "rename #2, "; pn$+".HR2"
3970 PRINT dd$; "rename #3, "; pn$+".HR3"
3980 PRINT dd$; "rename #4, "; pn$+".HR4": GOTO 1000
4000 GOSUB 10500: TEXT
4010 PRINT dd$; "catalog"
4020 PRINT: PRINT: GOSUB 10300: HGR: GOSUB 10600: GOTO 1000
5000 HOME: FOR x = 1 TO 3: PRINT " "; x; " = "; m5$(x): NEXT
5010 GET yc$: yc% = VAL(yc$): IF yc% < 1 OR yc% > 3 GOTO 5010
5020 ON yc% GOTO 5100, 5400, 1000
5100 HOME: INPUT " enter original HPLOT color: "; og%
5110 IF og% < 1 OR og% > 15 GOTO 5100
5120 PRINT: INPUT " enter new HPLOT color: "; nw%
5130 IF nw% < 1 OR nw% > 15 GOTO 5120
5200 GOSUB 10400: GOSUB 10500
5210 FOR x = 29696 TO 34815
5220 POKE 27601, PEEK(x): CALL 27600
5221 PRINT PEEK(27601), PEEK(65535)
5230 IF PEEK(65535) <> og%*16 GOTO 5300
5240 bb = PEEK(x)-PEEK(65535)
5250 POKE x, nw%*16+bb: GOSUB 10600
5300 NEXT x: GOTO 1000

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5400 HOME: INPUT " enter new background color: "; nc%
5410 IF nc% < 1 OR nc% > 15 GOTO 5400
5500 GOSUB 10400: GOSUB 10500
5510 FOR x = 29696 TO 34815
5520 POKE 27601, PEEK(x): CALL 27600
5530 POKE x, PEEK(65535)+nc%
5540 IF x/256 = INT(x/256) THEN GOSUB 10600
5550 NEXT x: GOSUB 10600: GOTO 1000
10000 CLRERR: VTAB 22: HTAB 1
10010 PRINT dd$; "close "; pn$: RUN
10100 HOME: POKE 16953, 223: IF PEEK(17008) = 0 THEN POKE 16953, 95
10110 PRINT "program terminated!": END
10200 HOME: PRINT " Which drive?"
10210 FOR x = 1 TO 2: PRINT " "; x; " = "; dr$(x): NEXT
10220 GET dr$: dr% = VAL(dr$): IF dr% < 1 OR dr% > 2 GOTO 10220
10230 POKE 16821, 8/dr%: HOME
10240 HOME: PRINT " insert "; LEFT$(dr$(dr%), 4); " in the drive,"
10300 PRINT " press any key to continue ..."
10310 GET go$: RETURN
10400 HOME: PRINT " one moment please ...": RETURN
10500 POKE 65522, 20: POKE 65530, 29: POKE 65525, 0: CALL 65520
10510 POKE 65525, 32: POKE 65528, 136: CALL 65520
10520 POKE 65528, 116: RETURN
10600 POKE 65522, 20: POKE 65530, 26: POKE 65525, 0: CALL 65520
10610 POKE 65525, 32: POKE 65528, 136: CALL 65520
10620 POKE 65528, 116: RETURN
11000 HOME: PRINT " Do you want to clear the first"
11010 PRINT " 16 pixels ('y' or 'n')? ";
11020 GET yn$: IF yn$ <> "y" AND yn$ <> "Y" THEN RETURN
11030 FOR x = 0 TO 19
11040 POKE 27609, 23: POKE 27615, x: CALL 27608
11050 POKE 27609, 0: POKE 27615, x+32: CALL 27608
11060 NEXT: RETURN

```


use of SmartLOGO. It would probably be a good idea for me to start this series over as I do not feel that I selected the proper place to begin. First since LOGO is a different language let's begin by learning the words used to describe the language. The following will be short and will help you when you enter programs from some of the many books of LOGO programs that are available:

PRIMITIVE: Think of PRIMITIVE the same way you think of COMMAND in SmartBASIC. It just tells the computer what to do.

PROCEDURE: a PROCEDURE is just a routine, a subroutine, or a program.

REPEAT: Is used in the same manner as the FOR NEXT commands in SmartBASIC it just tells the computer to do something a particular number of times. This is often referred to by writers as recursive. After looking at these few words that may not be familiar let's now look at a few PRIMITIVES. Remember many PRIMITIVES will have shortcut names that you can use i.e. FORWARD can be entered as FD, RIGHT TURN as RT, BACKWARD as BK, and LEFT TURN as LT. Other PRIMITIVES will also have shortcut names but I will not attempt to list all of these as the space would be too much and it may also tend to confuse you with too many PRIMITIVES at once. When you begin entering PROCEDURES you will quickly learn the PRIMITIVES and their shortcut names. I have saved a very important PRIMITIVE to discuss last because I have found that the method of its use differs with ADAM from other computers. This is usually not the case with PRIMITIVES as what works with one computer usually works with the other. This PRIMITIVE is TO. TO tells ADAM that you are going to write a PROCEDURE and not to execute each line when you enter it. The difference in the method of use is that with the ADAM you use SmartKEY IV to tell ADAM that you have completed the PROCEDURE, with the other computers you may use the Control Key + some other key. You will quickly understand TO after we enter a few PROCEDURES and its use will become second nature with you.

You may be asking "Why should I bother to learn LOGO?". If you would like to design graphic screens and animate these graphics I can think of no easier method of doing this than with SmartLOGO. This issue will contain a program that will illustrate this point much better than I could if I wrote many pages on the subject. You will quickly see how easy this Language is to learn and I feel will wish to devote the necessary time to learning how to develop your own programs.

YES there are some drawbacks to SmartLOGO the biggest is the amount of memory required to load the language. There is only approximately 5K of memory left after LOGO is loaded yet you may be surprised at what can be done with this small amount of memory. Having an expansion card does not help as no one has as yet written a patch to enable LOGO to use the expansion card. Also the fact that there is no method to print your screens in LOGO may be a drawback if you should wish to print the screen. Enough of this writing and boring you let's start to program.

To list LOGO programs from SmartWRITER does not always end the line at the proper place, however if you will pay attention as you enter and press return at the end of each line that precedes a line beginning with a word I believe that you will have no trouble in entering this program. REMEMBER enter each line as it is typed be sure to include all spaces. After entering each PROCEDURE press SmartKEY VI and LOGO will tell you that the procedure is defined. You may recognize a procedure as it begins with TO and ends with END. After you have entered all PROCEDURES type SAVE "JULY4 and LOGO will save your program to tape. To execute this program just LOAD "JULY4 and then type STARTUP.

If you have any problems with this program give me a call. (639-1368).

TO GREETING
 HT CS SETBG 12
 SETCURSOR [3 8]
 PR [4TH OF JULY GREETING]
 SETCURSOR [13 14] PR [BY]
 SETCURSOR [7 18] PR [KIP H. HAMMOND]
 WAIT 180
 END

TO MORE
 IF LBUTTONP 0 [JULY4TH]
 IF RBUTTONP 0 [CS SETBG 5 SETSH 36 SETC 15 SETPC 15 HOME ST
 S TOP]
 MORE
 END

TO AGAIN
 WAIT 200
 SETBG 13
 SETCURSOR [4 5]
 PR [WANT TO SEE IT AGAIN?]
 SETCURSOR [2 10]
 WAIT 100
 PR [IF SO, PRESS LEFT 'FIRE'] PR [BUTTON]
 PR []
 WAIT 100
 PR [IF NOT, PRESS RIGHT 'FIRE']
 PR [BUTTON]
 MORE
 END

TO BANG
 SETBG 1
 NOISE 6 15 1 15 15
 REPEAT 48 [SETBG BG + 1]
 HT CS
 AGAIN
 END

TO JULY4TH
 GREETING
 PUTSH 33 :SPARK
 PUTSH 34 :SPARK2
 CS HT SETBG 4
 CRACKER TNT FUZE
 SETCURSOR [4 22]
 PR [HAPPY 4TH OF JULY !!!]
 LIGHT
 BANG
 END

TO LIGHT
 RECYCLE
 PE BK 1 SETSH 33 SETC 8 ST REPEAT 60 [FD 4 SETC 10 SETSH 34
 BK 4 SETC 8 SETSH 33 LT 90 FD 1 RT 90 NOISE 7 15 0 2 2]
 END

TO FUZE
PU SETPOS [15 40]
SETH 65 SETPC 2
PD REPEAT 3 [FD 60 BK 60 RT 90 FD 1 LT 90]
PU FD 60 LT 90
END

TO TNT
PU SETPOS [-50 -35] SETH 315 SETPC 15
PD FD 20 RT 90 FD 10 BK 20 FD 10 LT 90 BK 20
PU RT 90 FD 30 LT 90 PD
FD 20 RT 140 FD 27 LT 140 FD 20 BK 20 PU
RT 90 FD 30 LT 90 PD
FD 20 RT 90 FD 10 BK 20 PU HOME
END

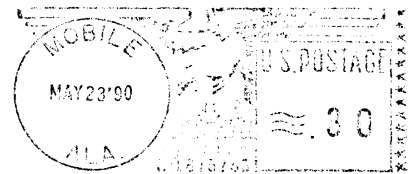
TO CURV
REPEAT 40 [FD 1 LT 1]
END

TO CRACKER
PU SETPC 6 SETPOS [-60 -60]
SETH 45
PD FD 120
LT 70 CURV SETH 225 FD 120
LT 70 CURV LT 180 RT 40 CURV
PU SETH 315 SETPC 9 BK 20 PD FILL
PU RT 90 SETPC 6 FD 50 PD FILL PU HOME
END

MAKE "STARTUP [JULY4TH]
MAKE "SPARK2 [16 24 12 6 3 63 34 .35 32 33 227 130 130 2 6 4
24 12 4 4 4 132 196 196 252 192 64 64 96 48 24 12]
MAKE "SPARK [1 1 193 97 49 25 13 7 3 7 13 25 48 96 0 0 0 0 0
1 31 48 96 64 248 14 3 129 128 128 128 128]



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AIR MAIL