

# NIBBLES & BITS

The Comprehensive Monthly Newsletter for ADAM Users

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Thought for the month: "Good things come to those who wait (hee hee)."

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This issue includes 7 SmartBASIC program LISTs and 4 disassembled Z80 routines.

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DESIGNED and PRINTED with the amazing ADAM™ computer (using an Orphanware 64K expander, an Eve Electronics Centronics parallel interface, a Panasonic KX-P1080 impact dot matrix printer, ShowOFF I, and ShowOFF II).



**EDITOR'S NOTE****N&B NEWS**

We are about to enter our second year of serving the ADAM community. At the risk of sounding trite, I must say "the time certainly has gone by quickly".

In the past eleven months we've published a little over 300 pages (over a quarter of a million words) in the newsletter. This has included over 160K of programs -- many of them unique. And, we've now released eight commercial software packages. Plus, we're continually adding the excellent commercial products of other ADAM support organizations to our product list. We have NOT been idle.

All these accomplishments notwithstanding, we (myself in particular) have made some errors along the way. These mistakes have ranged from misspellings in the newsletter to minor bugs (quickly fixed) in program LISTs. The one shortcoming that annoys me most (probably you too) is the belated release of "NIBBLES & BITS" each month.

We are slowly moving back toward the first day of the issue month; but, it is taking a while. It is usually my "last minute" editing (clipping articles, replacing columns, changing programs, etc.) that causes the delay. We probably have enough reserve articles now to fill two issues.

You may wonder why we don't list a phone number here in West Virginia as we did in North Carolina. A few months ago, the editor of another ADAM newsletter even implied that we were perpetrating a mail fraud scam because we don't list a phone number (and because we REFUSE to allow his company to carry our products). In fact, we have considered publishing a business phone number. The problem, though, is having someone available to take calls. I, for one, loath reaching an answering machine. Until we can have someone to answer calls during the day, I'd prefer not to list a number. If you feel that a phone number is critical, please write to let me know.

We've really come a long way in the past year. We have grown from about 400 subscribers with our premier issue to over 2000 readers today. A rather significant portion of our subscribers today have joined us through "word of mouth".

In short, DIGITAL EXPRESS has grown into a comparably large ADAM support company. We have many plans for future growth and expansion. I'd like to extend a special thanks to all of you for making our efforts successful. **THANK YOU!!**

  
Solomon Swift  
EDITOR-IN-CHIEF

000 Our fourth collection of SmartPAINT files is completed. This now gives you a total of 52 high resolution graphics pictures to choose from. You can view them with the "HGR Picture Manager" program LISTed in the February 1987 issue of "NIBBLES & BITS" (page 16). And, of course, you can view, edit, and print them (using a dot matrix printer) with ShowOFF I by DIGITAL EXPRESS.

000 DIGITAL EXPRESS has reached a new summit in the development of third party ADAM software with FontPOWER. The graphics and sound are so stunning that we've dubbed the release of this package as the beginning of our second generation of ADAM software. In fact, you may be tempted to think that this is a Coleco program.

Several months ago, this package started as "Intel-FONTS". Then, we worked at merging it with two other graphics utilities, a sprite program and a clip art program. As our knowledge of the system has grown, we finally enlarged it into an independent package. The different font sets will add an IMPRESSIVE new dimension to your programs. And, you'll be amazed by the professional design of this innovative program. See this month's ADAM ACCESS department for more details.

000 Over the past two or three months, the following subscribers (in alphabetical sequence) have made very helpful contributions to DIGITAL EXPRESS and / or "NIBBLES & BITS". **THANK YOU VERY MUCH!!**

Leonard Adolph  
David Carmichael  
Guy Cousineau  
Terry Fowler  
Jim Guenzel  
Walt Wright

000 The four winners in the ShowOFF I picture design contest are listed on the next two pages (four and five) along with their excellent graphics created with SmartPAINT. The prizes were discussed in previous issues.

000 For the next several months, we plan to release one new commercial program every four to six weeks. PowerPAINT and PowerBASIC should be finished toward the end of the year. We have also made noteworthy progress in the development of a desktop publishing package for ADAM.

000 In the latter part of January we received an original program from one of our subscribers. The file drew "ADAM" in giant letters on an HGR screen. A few weeks later, we converted it into a SmartPAINT picture file. Over the months, we've used this public domain contribution quite frequently. We even use it on the outside cover of the newsletter. **THANK YOU** Bryan Payton for this very useful picture!!

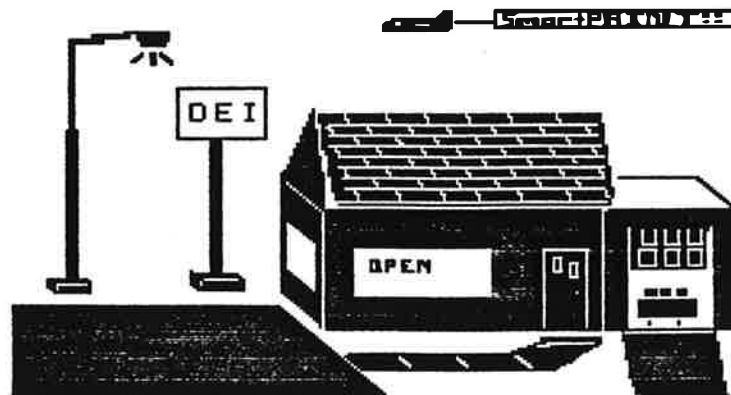
<b>FIRST PLACE</b>	
Alan Neeley Salt Lake City, Utah	
file name:	ENFORC.HRP
featured on:	'N&Bpix002'

WANTED  
DEAD  
OR  
ALIVE!



THE  
MIZLOKOUR

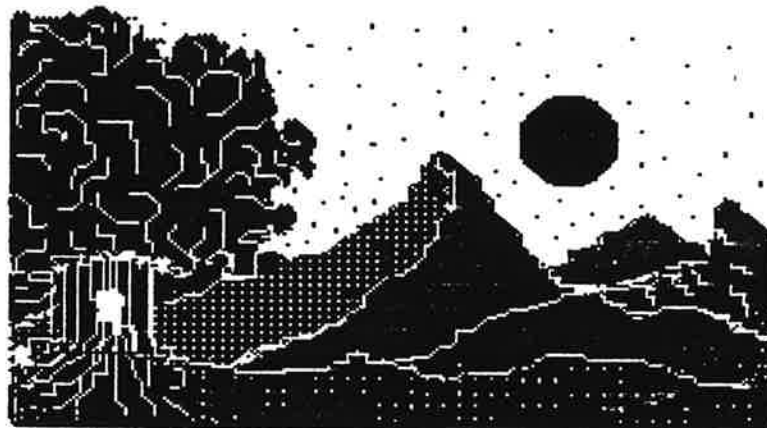
<b>SECOND PLACE</b>	
Kevin C. Lindquist Jamestown, New York	
file name:	DE1.HRP
featured on:	'N&Bpix003'



## THIRD PLACE

Doug Glenn  
Ketchum, Idaho

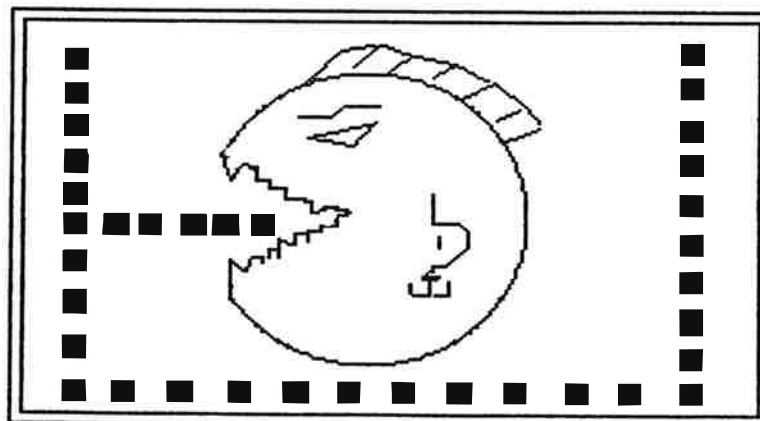
file name: dream.HRP  
featured on: 'N&Bpix003'



## FOURTH PLACE

Lee Smith  
Terre Hill, Pennsylvania

file name: punk.HRP  
featured on: 'N&Bpix003'



## ADAM NEWS

## TIDBITS

000 VideoSongs has developed two unique packages for use with the VideoTunes software by FutureVision. A collection of 16 Beatles' songs and a collection of 18 'all time favorites' are available for \$9.50 each on disk or \$11.50 each on data pack. You can get both sets for \$15.50 on disk or \$18.50 on data pack. The Beatles' set includes "Yellow Submarine", "A Hard Days Night", and "Yesterday". The Potpourri set includes "Dixie", "Star Spangle Banner", and "Baby Elephant Walk". See this month's BULLETIN BOARD for the address of VideoSongs.

000 Orphanware now offers 64K memory expanders and Centronics interfaces in build-it-yourself kit form. You can get the memory expansion card kit for \$34.95. And, the parallel interface kit is just \$29.95. The software to drive your dot matrix printer is only \$3.00. And, the cable for the parallel interface is \$12.00. If you're handy with a soldering gun, this is a very economical way to expand your system.

000 Walters Software has recently upgraded their MEDIA-AID utility package to support their "RAMDSK" program which accesses the 64K RAM expansion card from SmartBASIC V1.0.

000 EVE ELECTRONICS has their electronic bulletin board system running 24 hours daily. The number is: (617) 376-5161.

000 Are you looking for a good price on a dot matrix printer? The Panasonic KX-P1080i is one of the best buys on the market. Mail order firms typically sell this particular model at prices ranging from \$220 to \$300. BTE Computers is currently offering this excellent parallel interfaced printer for only \$188, plus five dollars for shipping. You may want to send for their catalog first. See this month's BULLETIN BOARD for their address.

000 Most ADAM users are aware of the support that "Family Computing" magazine gives our computer. Have you heard about "Computer Shopper"? Each issue contains more than 400 pages, mostly advertisements for good discounts on computer accessories. And, several ADAM user's groups are included in their list of computer clubs. If you like bargains, you'll most likely want to get this publication. If you can't find it at your local newsstand, you can call their toll free number for subscription info: 1-800-327-9925.

000 There are 16 treasures to be found in the Coleco public domain adventure. The ultimate objective of the adventure is to discover the word play on the title.

000 The ADAM disk drive was manufactured by Micro Peripherals, Inc.

000 You can check the version of your SmartWriter software. While in the 'electronic typewriter mode', press [CONTROL]+R. The label for SmartKEY IV should change to 'R80'. Alpha - 1 offers 'revision 80' memory consoles (without data drives) for \$55; they also have memory consoles with a data drive for \$70.

000 If your store a BASIC file named "HELLD" on your SmartBASIC medium, it will RUN as soon as SmartBASIC is booted. If you're booting SmartBASIC from any drive other than the first tape drive, you may want to use our new bootstrap program from the November 1986 issue of "NIBBLES & BITS" (on page 15). Among other features, this program corrects SmartBASIC so that the default (original) drive is the drive that BASIC is booted from.

000 The keyboard will work plugged into either the keyboard port on the front of the memory console or the ADAMnet port on the left side.

000 The memory console is not ADAM's CPU. Rather, it houses the CPU (central processing unit). In fact, the console actually contains six of these computer brains, all controlled by a Z80A microchip.

000 You can indent paragraphs using auto justification with ShowOFF II by DIGITAL EXPRESS with a simple trick. Start the line to be indented with the backslash and follow it with a blank space. Then add as many extra spaces as you want printed in your hardcopy document.

000 With any word processor, ALWAYS store your document on tape or disk BEFORE printing. In the long run, you'll find that this simple precaution will save you from needless retyping.



**MODEM TIPS**

by  
Patricia J. Herrington

What do I need to use my modem?

Everything you need to use your modem came in the box. You don't need anything else until you want to transfer files (upload / download). Since that's half the fun of owning a modem, you will want to upgrade your software with ADAMlink II; but, in the meantime, you can still use your modem to place calls, chat, and read messages ... even to print a screen on the SmartWriter printer.

Can I use the phone at the same time as the modem?

No. Warn family members not to pick up the phone while you're on -line.

What if I have call - waiting?

You'll have to disable call - waiting to use your modem. Otherwise, you'll be knocked off line every time you have an incoming call -- very frustrating when you're transferring data!

Do I have to use the phone to dial out when using the modem?

That depends. If you're calling a friend, you have to let him / her know to expect the call and to have his computer ready. Let him know you want to play "modem", and hang up. Then you'll both load your software; you dial with your ADAM, and he answers with his. Don't forget to change your parameters to half duplex and set auto line - feed on when you communicate with another ADAM in this manner.

If you are calling a BBS (Bulletin Board System) or information service, you do not need to make a voice call. ADAM will handle the dialing. The BBS will instruct you how to set your options, if necessary.

**ADAM USERS FORUM**

The following questions and comments have been culled from recently received mail. The reader's input is a reasonable facsimile of the actual correspondence. For the benefit of all readers my response, where applicable, is generally more detailed than my written reply (if any). Unless the reader requests differently, street addresses are omitted.

TYPING IN PROGRAMS

I have found two guidelines that are extremely helpful when trying to type a program from a LIST. The first is to use a copy holder. Priced from \$20 to \$45, they are a godsend for entering long programs. The other is more of a debugging tool. Print out a copy of the program on paper. Then, by folding the paper you can compare the original to what you have typed line by line. Errors are so much easier to detect using this method.

Michael Bogrees  
Englewood, OH

PRINTING MULTIPLE LABELS

I would like to see a program that will print multiple copies of an address label or message without having to repeatedly RUN a BASIC program or to continually hit PRINT from SmartWriter.

Robert Thurwanger  
Kewanee, IL

**IN RESPONSE:** Indeed, it can be rather frustrating to try printing multiple copies of a short message. See the BYTE - SIZED BASIC department of this issue for a simple BASIC program that will make this task a snap.

CHANGING THE "T" COMMAND

I noted a recent improvement to your "T" command from the December issue of "NIBBLES & BITS". I changed it to "TX" by adding "POKE 815, 2: POKE 817, 88" to line number 7510. (NOTE: Our "T" command allows you to change between 32 column and 40 column TEXT in much the same manner as using GR and HGR to switch graphics modes.)

Harold Shaw  
Indianapolis, IN

TYPING TIPS

If you've been having difficulty with LOMEM and HIMEM not working correctly, the problem may be a simple typo. I had some programs in which I'd used LOMEN (with an 'N') and HIMEN (with an 'N'). The SmartBASIC manual even LISTS some programs with these misspellings.

Lori J. Freeby  
Belvidere, NJ

RIGHT DIRECTORY TAPES

I have several tapes of Buck Rogers. I use them as blank tapes for my own library. When I first load from them, I get an I/O error response. If I remove the tape, turn the spool, and re-insert the tape in the data drive, it will work fine. I would appreciate any suggestions that you might have as to what I can do to correct these tapes.

- name withheld -

**IN RESPONSE:** The problem is that these game tapes are in right directory format. Most tapes are in center directory format. The Operating System doesn't expect you to change tape formats. If you do, you get an error message when you first make the change. Just ejecting the tape and trying again will circumvent the problem.

TAB BUG

BASIC has a problem when printing and using "PRINT TAB(x)" when the TAB value is greater than 35. Is there a fix for this?

Ed Prosienski  
Waterville, ME

**IN RESPONSE:** This bug could probably be corrected with a simple POKE. But, it's generally easier to just use the "SPC" command vice "TAB".

BIT BY BITLOW RESOLUTION GRAPHICS

(part 4)

Using the 'GR' mode, the program on the next page (page 9) creates a simple 'breakout' - type game. It comes complete with sound effects. It embodies many of the concepts we've discussed in this column for the last three months.

To play the game, just enter it and type RUN. You will see that the play area has a border. At the upper part of the graphics screen are two sections of different colored bricks. Each section contains 5 rows of bricks, 37 bricks across. The ball is suspended just beneath the lower section of bricks. At the bottom center of the graphics screen is your paddle. To begin play, just press any keyboard key. Then, use the joystick to maneuver the paddle. If you let the ball drop below your paddle, you'll lose one ball -- you have seven.

If the ball hits your paddle, a wall, or a brick it will ricochet and you'll hear a different tone for each type of impact. You get points for hitting the bricks -- the higher the brick, the higher the point value. The object is to rack up as many points as you can before you run out of balls or hit the top wall. The game is moderately difficult. You can consider yourself very skilled at this one, if you get a score above 3000.

At first glance, the program LIST may seem a little complex. But, if you break it down into the various routines, it's rather simple to understand. Next month we'll discuss how the program works in full detail.

On pages 10 and 11, are four tables of ASCII values. We'll go into more detail on these next month too.



```
10 REM simple 'BREAKOUT' game
50 ONERR GOTO 2600: POKE 16953, 32
60 POKE 18607, 7: POKE 18633, 17: POKE 18711, 23
100 GR: COLOR = 3: HLIN 1, 39 AT 0
110 VLIN 0, 39 AT 1: VLIN 0, 39 AT 39
120 FOR x = 2 TO 6: COLOR = x+2: HLIN 2, 38 AT x+8
130 HLIN 2, 38 AT x+1: NEXT
140 sc = 0: ba = 6: vt = 15: ht = 19: p1 = 19
150 GOSUB 2000: GOSUB 2100: GOSUB 2400
200 GOSUB 2000: GOSUB 2100: GOSUB 2200: GOSUB 2210
210 GOSUB 2300: GOSUB 3000
900 IF sc < 20000 GOTO 200
910 VTAB 23: HTAB 1
920 PRINT " too bad -- you lose."
930 GET go$: GOTO 2600
2000 COLOR = 15: PLOT p1, 39: PLOT p1+1, 39: RETURN
2100 COLOR = 3: PLOT ht, vt: RETURN
2200 VTAB 21: HTAB 10: PRINT sc: RETURN
2210 VTAB 22: HTAB 10: PRINT ba: RETURN
2300 pd = PDL(5): IF pd = 0 THEN RETURN
2310 COLOR = 0: PLOT p1, 39: PLOT p1+1, 39
2320 IF pd = 8 THEN p1 = p1-1
2330 IF pd = 2 THEN p1 = p1+1
2340 IF p1 < 2 THEN p1 = 2
2350 IF p1 > 37 THEN p1 = 37
2360 RETURN
2400 HOME: PRINT " to release the ball,"
2410 PRINT " press any key ..."
2420 GET go$: HOME: GOSUB 2500
2430 PRINT " score: ": PRINT " balls:"
2440 vt = 15: ht = 19: vf = 1: hf = 0: RETURN
2500 COLOR = 0: PLOT ht, vt: RETURN
2600 POKE 16953, 223: POKE 17954, 17: END
2700 POKE 17954, 8: PRINT CHR$(7); : RETURN
2800 POKE 17954, 2: PRINT CHR$(7); : RETURN
2900 FOR x = 62 TO 2 STEP -2: POKE 17954, x
2910 PRINT CHR$(7); : NEXT: RETURN
2950 POKE 17954, 62: PRINT CHR$(7); : RETURN
3000 GOSUB 2500: ht = ht+hf: vt = vt+vf
3010 IF ht < 2 THEN ht = 2: GOTO 3300
3020 IF ht > 38 THEN ht = 38: GOTO 3400
3030 IF vt >= 39 THEN vt = 39: GOTO 3100
3040 IF vt <> 0 GOTO 3100
3050 VTAB 21: HTAB 16: PRINT " game over!!!": GOSUB 2900
3060 VTAB 23: HTAB 1: GOTO 2600
3100 GOSUB 2000: sn = SCRN(ht, vt)
3110 IF sn >= 4 AND sn <= 8 THEN vf = 1: GOTO 3600
3120 IF sn = 0 AND vt = 39 GOTO 3500
3130 IF sn = 0 GOTO 2100
3140 rn = RND(-1)
3150 IF ht = p1 THEN hf = -1: GOTO 3200
3160 hf = 1
3200 vf = -1: GOSUB 2700: GOTO 3000
3300 hf = 1: GOSUB 2950: GOTO 3000
3400 hf = -1: GOSUB 2950: GOTO 3000
3500 ba = ba-1: IF ba < 0 GOTO 910
3510 GOSUB 2100: GOSUB 2000: GOTO 2400
3600 vf = 1: GOSUB 2800: sc = sc+(15-vt)*5: GOTO 2000
```



Control H	=	BACKSPACE
Control I	=	TAB
Control M	=	RETURN
Control C	=	ESCAPE/WP

Control C	=	break
Control J	=	line feed
Control K	=	home screen
Control L	=	form feed
Control N	=	insert spc
Control O	=	delete spc
Control P	=	dump screen
Control S	=	pause print
Control X	=	delete line

ASCII Value	special keystroke
130	SmartKEY I
131	SmartKEY II
132	SmartKEY III
133	SmartKEY IV
134	SmartKEY VI
137	SmartKEY I (shift)
138	SmartKEY II
139	SmartKEY III
140	SmartKEY IV
141	SmartKEY V
142	SmartKEY VI
144	wildcard
145	undo
146	move/copy
147	store/get
148	insert
149	print
150	clear
151	delete
152	wildcard (shift)
153	undo
154	move/copy
155	store/get
156	insert
157	print
158	clear
159	delete
160	up arrow
161	right arrow
162	down arrow
163	left arrow

## BYTE-SIZED BASIC

### POKES TO PLAY WITH

(part 11)

HGR2 to HGR:

Have you ever found yourself in a programming situation that you'd have liked to have had the ability to switch between HGR2 and HGR mode? The program on the next page (page 13) demonstrates how to do this.

When you RUN the program, it will draw two lines on an HGR screen and then wait for you to press any key. When you do, it will then change to HGR mode (with a TEXT window at the bottom of the screen) without clearing the graphics window. Then it will LIST the program and wait for you to press a key. When you do, it will then switch back to HGR2 mode, again without clearing the graphics window. Then just press any key again; the program will execute a TEXT command, LIST the program, and END.

Six simple POKES make this flexibility possible. If you work with graphics much, you might want to incorporate this technique into a sub-routine.

The ROT command:

The ROT command has been one of the most difficult ones to figure out. Leonard Adolph of Flint, Michigan sends the following enlightening details. Next month we'll LIST his demonstration programs that use this info to create some interesting graphics.

When the ROT command is used, BASIC sets certain values into memory locations 16768 thru 16775. These values are in the range of -8 (248) to -1 (255), 0, and +1 to +8. The values determine the direction and distance of plots from the 'shape table' when the DRAW command is used. The locations are organized as follows:

```
16768 = up moves,   x-axis distance
16769 = up moves,   y-axis distance
16770 = right moves, x-axis distance
16771 = right moves, y-axis distance
16772 = down moves, x-axis distance
16773 = down moves, y-axis distance
16774 = left moves, x-axis distance
16775 = left moves, y-axis distance
```

Moves are the directions from the 'shape table'. The x-axis is left to right with the left being negative and the right positive. The y-axis is up and down with up being negative and down positive. More next month ...

Creating an XPLOT function:

As we discussed in our premier issue, address 16777 contains the current HCOLOR using ADAM's master color code. By setting the seventh bit (2<sup>7</sup>) of this HCOLOR byte, you can use HPLLOT to XPLOT points.

Guy Cousineau sent the program LISTed on the top of page 14 to demonstrate this powerful feature. The program also includes another trick. Line number 110 bypasses the HCOLOR translation between BASIC's HCOLOR table and the master color codes. This accomplishes the same function as our trick LISTed in the left-hand column of page 12 of the July, 1986 issue. But his trick is even better, it actually increases the speed of HPLLOT (or XPLOTTing) slightly.

### THE LABEL MAKER PROGRAM:

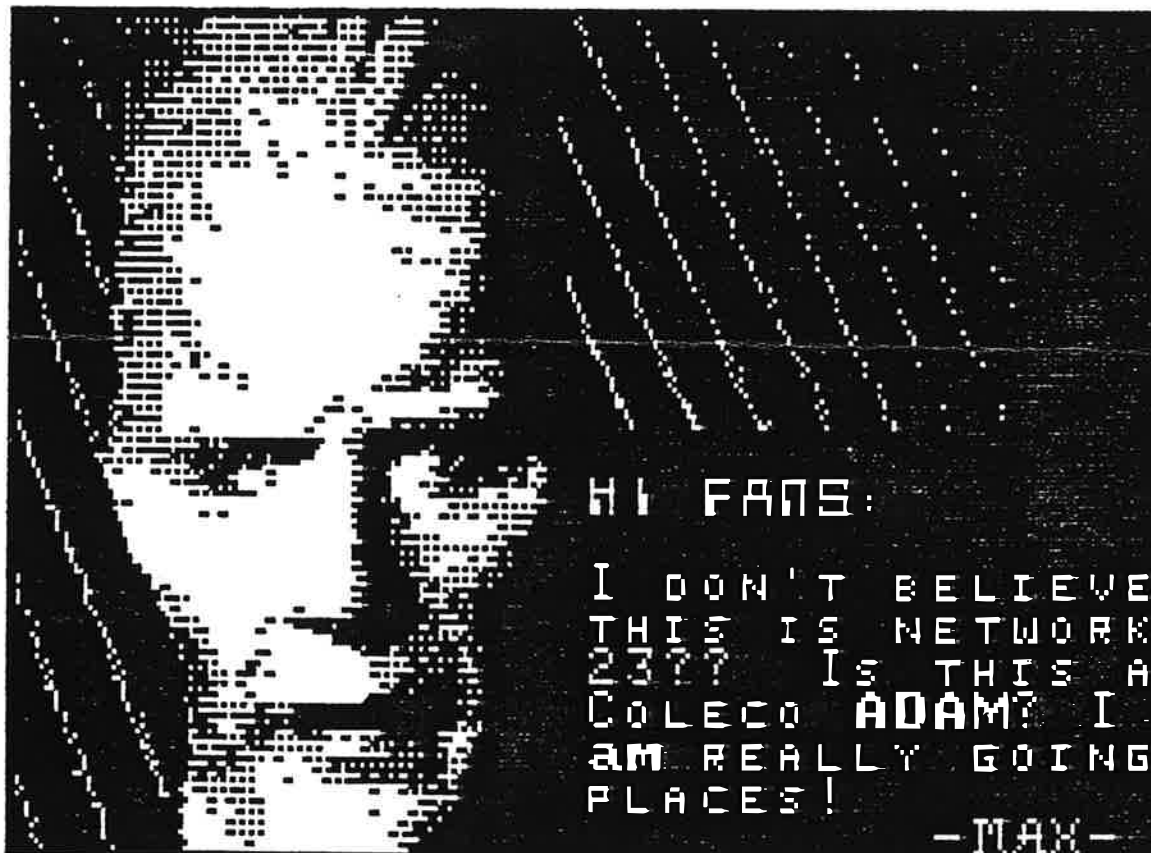
Have you ever been annoyed by continually going through the PRINT sequence with SmartWriter to print multiple copies of a short message? The program at the bottom of page 14 shows you how to print as many copies as you require of such a short message.

When you RUN the program, you're prompted to enter the number of labels you want printed. It is designed for use with standard form-feed labels, but you can print the labels on normal typing paper. If you're not using fan-fold paper, limit each set to 10 labels so that you don't run past the end of a page.

The program even has a bonus feature. You can use it to print to the ADAM printer or a parallel interfaced dot matrix printer. You are asked to select the output device. Don't select the alternate printer option, if you don't have one connected -- BASIC could crash!

The five lines to be printed are stored in DATA statements beginning at line number 5000. Just replace the sample messages with your own data. If you want to omit a line, just insert a blank space between the quotes, as in line number 5040.

```
10 REM this program demonstrates how to switch between
20 REM HGR2 and HGR without clearing the graphics window
100 HGR2: HCOLOR = 5: HPLLOT 16, 128 TO 240, 128
110 HPLLOT 16, 188 TO 240, 188: GET go$
120 POKE 25521, 24: POKE 25522, 4: HGR: POKE 25521, 205: POKE 25522, 89
130 LIST: GET go$
140 POKE 25455, 52: POKE 25458, 4: POKE 25466, 20: POKE 25469, 4
150 HGR2: HCOLOR = 5: HPLLOT 16, 188 TO 240, 188: GET go$
160 POKE 25455, 32: POKE 25458, 24: POKE 25466, 0: POKE 25469, 24
170 TEXT: LIST: END
```



```

10 REM this program demonstrates how to XPLOD hi-res dots
20 REM by Guy Cousineau
30 REM Ottawa, Canada
100 REM bypass BASIC HCOLOR translation
110 POKE 18728, 121: POKE 18729, 0: POKE 18730, 0
120 trans = 0: white = 15: blue = 4: POKE 25471, 17: POKE 25431, 1
130 HGR: HCOLOR = blue: PRINT " Here is a box."
140 FOR y = 50 TO 100: FOR x = 100 TO 150: HPLLOT x, y: NEXT: NEXT
150 PRINT " Now erase the center.": HCOLOR = trans
160 FOR y = 60 TO 90: FOR x = 110 TO 140: HPLLOT x, y: NEXT: NEXT
170 PRINT " Now draw an 'x' in the center.": HCOLOR = white
180 FOR x = 0 TO 30: HPLLOT 110+x, 60+x: HPLLOT 110+x, 90-x: NEXT
190 PRINT " OOOOPS": GET q$
300 HGR: HCOLOR = blue: PRINT " Here is the same box."
310 FOR y = 50 TO 100: FOR x = 100 TO 150: HPLLOT x, y: NEXT: NEXT
320 PRINT " Now erase center another way."
330 POKE 16777, PEEK(16777)+128
340 FOR y = 60 TO 90: FOR x = 110 TO 140: HPLLOT x, y: NEXT: NEXT
350 PRINT " Now try the cross.": HCOLOR = white
360 FOR x = 0 TO 30: HPLLOT 110+x, 60+x: HPLLOT 110+x, 90-x: NEXT
370 PRINT " Isn't that better?": END

```

```

10 REM simple 'label maker' program
20 ONERR GOTO 3000
100 DATA 245,219,64,203,71,40,250,241,211,64,201
110 DATA 205,11,47,205,78,4,254,13,192,62,10,24,2
120 DATA 62,0,195,78,4
130 FOR x = 0 TO 28: READ mc: POKE x+1102, mc: NEXT
140 POKE 16217, 89: POKE 16218, 4: REM make PR#2
150 POKE 16219, 92: POKE 16220, 4: REM make pr#3
200 TEXT: PRINT " Which option for label?": PRINT: PRINT
210 PRINT " 1. view label DATA": cr$ = CHR$(13)
220 PRINT " 2. print label": PRINT " 3. exit program"
230 GET menu$: m% = VAL(menu$): IF m% < 1 OR m% > 3 GOTO 230
240 IF m% < 1 OR m% > 3 GOTO 230
250 ON m% GOTO 1000, 2000, 3000
1000 HOME: PRINT: LIST 5000-5999
1010 VTAB 20: PRINT " press any key to continue ..."
1020 GET go$: RUN
2000 HOME: INPUT " Print how many labels? "; nm$
2010 nm% = VAL(nm$): IF nm% < 1 GOTO 3000
2100 HOME: PRINT " Which printer?": PRINT: PRINT
2110 PRINT " 1. SmartWRITER printer"
2120 PRINT " 2. dot matrix printer"
2130 GET menu$: m% = VAL(menu$): IF m% < 1 OR m% > 2 GOTO 2130
2200 HOME: PRINT " to begin printing,"
2210 PRINT " press [return] ..."
2220 GET go$: IF go$ <> CHR$(13) THEN RUN
2300 FOR x = 1 TO 5: READ lab$(x): NEXT
2310 HOME: PRINT " printing labels ..."
2320 VTAB 4: PRINT " press [escape] to abort ..."
2330 IF m% = 1 THEN POKE 12043, 201: PR #1
2340 IF m% = 2 THEN PR #3
2400 FOR x = 1 TO nm%
2410 FOR y = 1 TO 5: PRINT lab$(y)
2420 IF PEEK(64885) = 27 THEN GOTO 2440
2430 NEXT y: PRINT cr$: : NEXT x
2440 POKE 12043, 245: PR #0: RUN
3000 TEXT: PRINT " end of program.": POKE 12043, 245: END
5000 DATA "your name here"
5010 DATA "your street here"
5020 DATA "city, state zip"
5030 DATA "optional extra"
5040 DATA " "

```

## HACKER'S DELIGHT

### TRANSFERRING DATA

(part 6)

This month's data transfer routine is a little more complex than the ones we've revealed in previous issues. This one will repeat transfer a particular byte value. This type of byte copying is commonly called 'address filling'. The routine has two basic components, the setup and the execution. You can use this one to fill up to 255 consecutive addresses with a certain value. Put the fill value into the accumulator. Load the HL pair with the start address. And, load the 'B' register with the number of bytes to fill. The remainder of the routine executes the setup values. Here's an example:

In BASIC:

```
FOR X = 0 TO 255
POKE 54272 + x, 66
NEXT
```

In decimal Z80 code:

```
62, 66,
33, 0, 212,
6, 255,
119,
35,
16, 252,
201
```

In mnemonics and hex code:

```
LD A, #42
LD HL, $D400
LD B, $FF
LD (HL), A
INC HL
DJNZ $FC
RET
```

### EOS INIT MEDIUM

This month we've disassembled the 48<sup>th</sup> routine in the EOS table of 101 jump vectors. It can be executed by CALLing address 64701 (189, 252). The actual routine begins at address 62243 (35, 243). This primary routine is 140 bytes in length.

Asmb#42 through Asmb#45, on pages 21 and 22, detail the routine. This EOS routine is not as easily understood as the ones that we've examined thus far. It requires that certain registers be setup before it can be CALLED. The table below explains this:

```
A = device code
C = directory block size
DE = volume block size
HL = pointer to ASCII of new volume name
```

As with most of the routines that read from or write to a medium, the routine exits with a new AF pair. If the volume was INITed, the accumulator will have a value of zero. If an error occurred, then its value will be "22". If you set the HL pair to 55296 (0, 216) before CALLing this routine, you can erase all the file names and leave the same volume name.

This primary routine uses two subordinate routines and a data table. These are as follows:

62243 - 62382 (140 bytes)  
primary EOS INIT medium routine

62383 - 62404 (22 bytes)  
clear first file buffer  
(addresses 54272 thru 55295)

62405 - 62425 (21 bytes)  
write an INIT block to the medium

62426 - 62529 (104 bytes)  
INIT data table of four default file names

### EZcalendar PROGRAM

Pages 17 through 20 LIST a program based on the perpetual calendar program LISTed on page 9 of last month's issue. This one draws the actual calendar for the specified month on an HGR2 screen. You can even exit the program leaving the calendar on the screen. This allows you to use the "Pix.MGR" program from "ShowOFF I" to save the graphic calendar as a SmartPAINT file. Then you can print a hardcopy on your dot matrix printer.

Once again, we have too little space to go into detail on this SmartKEY program. Next month, WE WILL explain the routines used by this program, EZcopy, and EZmenu. Thank you for your patience in waiting for these details.

### THE DIRECTORY COMMAND PATCHES

Page 16 LISTs two more modules for the PatchWORK series. Before we proceed with these, there were two minor errors with last month's BSAVE patch. First, to merge the module with the others, change the line numbers from the 9000's to the 3000's. Second, change the 19450 on line number 9110 to 19460.

The program at the top of page 16 corrects the INIT command so that disks are INITed to 160 blocks, data packs are INITed to 256 blocks, and a ramdisk (d7) is INITed to 63 blocks. This is the same patch that we used with TurbODISK 1.0. More details on this patch next month.

The other program on page 16 modifies the CATALOG command so that it shows the block size of the directory. As you know, address 25308 allows you to INIT a medium to more than the standard one block directory. This patch simply reveals the size in a nicely formatted fashion.



```
10000 REM INIT blocks fix
10010 REM can be used with PatchWORK 1.0 or 3.3, ie,
10020 REM it works with SmartBASIC 1.0 or Intel-BEST 3.3
10030 POKE 16149, 255: POKE 16150, 255
10100 DATA 195,92,228
10110 FOR x = 62245 TO 62247: READ mc: POKE x, mc: NEXT
10120 DATA 254,7,48,4,30,159,24,10,254,25,48,4,30,255,24,2
10130 DATA 30,63,197,213,229,195,40,243
10140 FOR x = 58460 TO 58483: READ mc: POKE x, mc: NEXT
```

```
11000 REM directory size patch
11010 REM can be used with PatchWORK 1.0 or 3.3, ie,
11020 REM it works with SmartBASIC 1.0 or Intel-BEST 3.3
11030 POKE 16149, 255: POKE 16150, 255
11100 k$ = "TITLE": FOR x = 1 TO LEN(k$)
11110 POKE 21455+x, ASC(MID$(k$, x, 1)): NEXT
11120 POKE 21455, 13
11200 DATA 58,1,66,230,127,195,116,228
11210 FOR x = 21343 TO 21350: READ mc: POKE x, mc: NEXT
11220 DATA 246,48,205,218,46,62,32,205,218,46
11230 DATA 33,16,66,205,140,83,195,96,47
11240 FOR x = 58484 TO 58502: READ mc: POKE x, mc: NEXT
```



```
10 REM EZcalendar
20 REM by DIGITAL EXPRESS
30 IF PEEK(259) <> 195 GOTO 60000
100 LOMEM :32768: ONERR GOTO 61000: TEXT
110 POKE 16149, 255: POKE 16150, 255: cc% = 30
120 DIM nu(12), da(12), mo$(12)
130 DATA 17,0,0,33,0,108,1,0,4,205,29,253,201
140 FOR x = 28672 TO 28684: READ mc: POKE x, mc: NEXT: CALL 28672
150 DATA 33,0,108,17,0,212,1,0,4,126,18,19,18,19
160 DATA 35,11,120,177,32,245,201
170 FOR x = 28685 TO 28705: READ mc: POKE x, mc: NEXT
180 DATA 0,16,16,16,16,16,16,0,0,68,68,68,68,68,0
190 DATA 0,146,146,146,146,146,146,0,0,145,145,138,138,132,132,0
200 DATA 0,34,34,20,20,8,8,0,0,137,137,81,81,33,33,0
210 FOR x = 27656 TO 27703: READ mc: POKE x, mc: NEXT
220 DATA 237,91,242,255,26,254,0,200,254,13,200
230 DATA 245,58,239,255,71,241,33,0,0,95,22,0,25,16,253
235 DATA 237,75,248,255,9,58,246,255
240 DATA 71,58,244,255,79,175,129,16,253
245 DATA 95,58,245,255,61,198,32,87,237,75,246,255
250 DATA 213,205,26,253,209,107,122,214,32,103,58,241,255
260 DATA 237,91,246,255,205,38,253,58,244,255,60,50,244,255
270 DATA 42,242,255,35,34,242,255,24,165
280 FOR x = 28706 TO 28796: READ mc: POKE x, mc: NEXT
290 FOR x = 65517 TO 65535: POKE x, 0: NEXT: POKE 65526, 0
300 POKE 25431, cc%: POKE 25471, cc%: HGR2: pt = 28706
310 DATA 62,238,17,0,20,33,0,0,213,205,38,253,209
320 DATA 175,33,0,32,205,38,253,201
330 FOR x = 28797 TO 28817: READ mc: POKE x, mc: NEXT: c1 = 28797
340 DATA 62,153,17,248,0,33,8,20,213,205,38,253,209
350 DATA 175,33,8,52,205,38,253,201
360 FOR x = 28818 TO 28838: READ mc: POKE x, mc: NEXT: c2 = 28818
370 DATA 62,119,17,248,0,33,8,21,245,213,229,205,38,253
380 DATA 225,209,241,36,245,213,229,205,38,253,225,209,241
390 DATA 36,213,205,38,253,209,33,6,53,175,213,229,205,38,253
400 DATA 225,209,36,175,213,229,205,38,253,225,209,36,175,195,38,253
410 FOR x = 28839 TO 28896: READ mc: POKE x, mc: NEXT: c3 = 28839
420 DATA 62,4,17,40,0,33,0,21,229,213,245,205,38,253
430 DATA 241,209,225,36,229,213,245,205,38,253
440 DATA 241,209,225,36,195,38,253
450 FOR x = 28897 TO 28927: READ mc: POKE x, mc: NEXT
460 d1 = 28897: d2 = d1+1: d3 = d1+6
470 DATA 6,20,62,128,211,224,120,211,224,62,146,211,224
480 DATA 17,0,10,27,122,179,32,251,5,16,234,62,159,211,224,201
485 FOR x = 28928 TO 28956: READ mc: POKE x, mc: NEXT
490 s1 = 28928: s2 = s1+1: s3 = s1+15
495 DATA 62,226,211,224,62,240,211,224,17,0,175,27,122,179
500 DATA 32,251,62,255,211,224,201
510 FOR x = 28957 TO 28977: READ mc: POKE x, mc: NEXT
520 e1 = 28957: e2 = e1+1: e3 = e1+10
540 FOR x = 0 TO 15: POKE x+18765, x: NEXT
```

EZcalendar LIST continued ...

```
550 dr% = PEEK(16821): IF PEEK(259) <> 195 THEN dr% = PEEK(16781)
560 DATA 1,0,7,205,32,253,201
570 FOR x = 29123 TO 29129: READ mc: POKE x, mc: NEXT: c4 = 29123
600 FOR x = 3 TO 6: READ m1$(x): NEXT
610 DATA year,month,view,exit
620 yr% = 1987: mh% = 1: wk$ = "SUN MON TUE WED THR FRI SAT"
630 DATA 0,31,59,90,120,151,181,212,243,273,304,334
640 FOR x = 1 TO 12: READ nu(x): NEXT
650 DATA 31,28,31,30,31,30,31,31,30,31,30,31
660 FOR x = 1 TO 12: READ da(x): NEXT
670 DATA January,February,March,April,May,June,July,August
680 DATA September,October,November,December
690 FOR x = 1 TO 12: READ mo$(x): NEXT
700 FOR x = 3 TO 6: READ m2$(x): NEXT: DATA frwd,bkwd,done,exit
1000 GOSUB 30100: ww$ = "welcome to": b1% = 0: b2% = 212: di% = 16
1010 vt% = 2: ht% = 11: co% = cc%: CALL 28685: GOSUB 30000
1020 vt% = 3: b1% = 8: GOSUB 30000
1030 ww$ = "EZcalendar": b1% = 0: ht% = 11: vt% = 5: GOSUB 30000
1040 vt% = 6: b1% = 8: GOSUB 30000
1100 HCOLOR = 6: HPLLOT 104, 88 TO 150, 88: HPLLOT 150, 88 TO 150, 112
1110 HPLLOT 150, 112 TO 104, 112: HPLLOT 104, 112 TO 104, 88
1120 HPLLOT 104, 112 TO 150, 112: HPLLOT 150, 112 TO 150, 136
1130 HPLLOT 150, 136 TO 104, 136: HPLLOT 104, 136 TO 104, 112
1140 b1% = 0: b2% = 108: di% = 8: GOSUB 33000: GOSUB 33100
1200 ww$ = "primary options . . .": GOSUB 40000: be% = 3
1210 FOR z = be% TO 6: wd$ = m1$(z): GOSUB 40100: NEXT
1220 GOSUB 31000: ON sd% GOTO 2000, 3000, 4000, 60000
2000 ww$ = "to change the YEAR:": GOSUB 40000
2010 vt% = 22: ht% = 5: co% = 23: ww$ = "up arrow = year forward"
2020 GOSUB 30000: vt% = 23: ht% = 3: ww$ = "down arrow = year backward"
2030 GOSUB 30000: vt% = 24: ht% = 7: ww$ = "escape = done"
2035 GOSUB 30000
2040 GET key$: key% = ASC(key$): IF key% = 27 THEN GOSUB 30300: GOTO 1200
2050 IF key% = 160 THEN yr% = yr%+1: GOTO 2100
2060 IF key% = 162 THEN yr% = yr%-1: GOTO 2100
2070 IF key% = 164 THEN yr% = yr%+10: GOTO 2100
2080 IF key% = 166 THEN yr% = yr%-10: GOTO 2100
2090 GOSUB 30600: GOTO 2040
2100 IF yr% > 4999 THEN yr% = 1752
2110 IF yr% < 1752 THEN yr% = 4999
2120 GOSUB 33000: GOTO 2040
3000 ww$ = "to change the MONTH:": GOSUB 40000
3010 vt% = 22: ht% = 5: co% = 23: ww$ = "up arrow = month forward"
3020 GOSUB 30000: vt% = 23: ht% = 3: ww$ = "down arrow = month backward"
3030 GOSUB 30000: vt% = 24: ht% = 7: ww$ = "escape = done"
3035 GOSUB 30000
3040 GET key$: key% = ASC(key$): IF key% = 27 THEN GOSUB 30300: GOTO 1200
3050 IF key% = 160 THEN mh% = mh%+1: GOTO 3100
3060 IF key% = 162 THEN mh% = mh%-1: GOTO 3100
3070 GOSUB 30600: GOTO 3040
```

EZcalendar LIST continued ...

```
3100 IF mh% > 12 THEN mh% = 1
3110 IF mh% < 1 THEN mh% = 12
3120 GOSUB 33100: GOTO 3040
4000 GOSUB 34000: CALL 28685: ww$ = mo$(mh%): ww% = LEN(ww$)
4010 ww$ = ww$+" ": IF INT(ww%/2) <> ww%/2 THEN ww$ = ww$+" "
4020 ww$ = " "+ww$+STR$(yr%)+": vt% = 2: ht% = 13-ww%/2
4030 co% = 246: b1% = 0: b2% = 212: di% = 16: GOSUB 30000: vt% = 3
4040 b1% = 8: GOSUB 30000: GOSUB 33200
4050 ON mh% = 2 GOSUB 42100: GOSUB 42000: vt% = 7
4060 IF wd <= 3 THEN ht% = 15+wd*4: GOTO 4080
4070 th = wd-4: ht% = th+4+3
4080 co% = cc%: IF ht% = 3 THEN co% = 110
4090 ww$ = "1": GOSUB 30000
4100 FOR ud = 2 TO da(mh%): ww$ = STR$(ud)
4110 ht% = ht%+4: IF ht% > 27 THEN ht% = 3: vt% = vt%+2
4120 co% = cc%: IF ht% = 3 THEN co% = 110
4130 GOSUB 30000: NEXT
4200 ww$ = "calendar controls ...": GOSUB 40000
4210 be% = 3: FOR z = be% TO 6: wd$ = m2$(z): GOSUB 40100: NEXT
4220 GOSUB 31000: ON sd% GOTO 4300, 4310, 1000, 60000
4300 mh% = mh%+1: GOTO 4320
4310 mh% = mh%-1
4320 IF mh% < 1 THEN mh% = 12
4330 IF mh% > 12 THEN mh% = 1
4340 GOTO 4000
30000 FOR x = 1 TO LEN(ww$): POKE x+27599, ASC(MID$(ww$, x, 1))
30010 NEXT: POKE 27599+x, 0
30020 POKE 65524, ht%: POKE 65519, di%: POKE 65521, co%
30030 POKE 65528, b1%: POKE 65529, b2%: POKE 65525, vt%
30040 IF PEEK(pt+6) = 0 GOTO 30060
30050 GOSUB 36000: CALL pt: RETURN
30060 POKE 65522, 200: POKE 65523, 107: CALL pt: RETURN
30100 CALL c1: CALL c2: CALL c3return
30300 POKE s2, 20: POKE s3, 10: CALL s1: RETURN
30400 POKE s2, 8: POKE s3, 25: CALL s1: RETURN
30500 POKE s2, 2: POKE s3, 30: CALL s1: RETURN
30600 POKE e2, 226: POKE e3, 150: CALL e1: RETURN
30700 POKE e2, 228: POKE e3, 20: CALL e1: RETURN
30800 POP: GOSUB 30300: CALL c2: CALL c3: GOTO 1000
31000 GET sk$: sk% = ASC(sk$)
31010 GOSUB 31100
31020 IF sk% > 134 THEN GOSUB 30600: GOTO 31000
31030 IF sk% = 27 GOTO 30800
31040 IF sk% < be%+128 THEN GOSUB 30600: GOTO 31000
31050 sk% = sk%-128: sd% = sk%-be%+1: GOTO 30300
31100 IF sk% <= 134 THEN RETURN
31110 sk% = sk%-8: RETURN
```

EZcalendar LIST continued ...

```

32100 ww$ = STR$(bk%): IF bk% > 9 THEN RETURN
32110 ww$ = "0"+ww$: RETURN
32310 ht% = 2: vt% = 23: co% = 23: GOTO 30000
33000 vt% = 13: ht% = 14: co% = cc%: ww$ = STR$(yr%): GOTO 30000
33100 bk% = mh%: GOSUB 32100: vt% = 16: ht% = 15: co% = cc%: GOTO 30000
33200 ww$ = "formatting calendar ...": GOTO 40000
34000 GOSUB 30100: GOSUB 33200: ww$ = wk$: vt% = 5: ht% = 3
34010 co% = cc%: GOSUB 30000: HCOLOR = 4: FOR x = 10 TO 242 STEP 32
34020 H PLOT x, 20 TO x, 141: NEXT: FOR x = 20 TO 142 STEP 16
34030 H PLOT 10, x TO 242, x: NEXT
34040 HCOLOR = 12: H PLOT 22, 4 TO 230, 4
34050 H PLOT 10, 0 TO 10, 20: H PLOT 242, 0 TO 242, 20
34060 H PLOT 10, 0 TO 22, 4: H PLOT 242, 0 TO 230, 4: RETURN
40000 CALL c2: CALL c3: ht% = 2: vt% = 21: co% = 25
40010 b1% = 0: b2% = 100: d1% = 8: GOTO 30000
40100 z$ = CHR$(z): POKE d2, 5: IF INT(z/2) = z/2 THEN POKE d2, 4
40110 POKE d3, ((z-1)*5+2)*8: CALL d1: ww$ = " "+z$+" "
40120 ht% = (z-1)*5+3: vt% = 22: co% = 31: GOSUB 30000
40130 co% = 21: IF PEEK(d2) = 4 THEN co% = 244
40140 ww$ = wd$: vt% = 24: GOSUB 30000
40150 ON z = 6 GOTO 30400: RETURN
42000 ya% = yr%-1000: z1% = ya%/4: z2% = z1%/25: z3% = (ya%+200)/400
42010 ofs = 0: ON z1%*4 <> ya% GOTO 42040: ON z2%*100 <> ya% GOTO 42030
42020 IF z3%*400-200 <> ya% GOTO 42040
42030 ofs = 1
42040 tt = 365*ya%+z1%-z2%+z3%-ofs+nu(mh%)
42050 IF mh% > 2 AND ofs = 1 THEN tt = tt+1
42060 wd = tt-7*INT(tt/7): RETURN
42100 IF yr%/4 = INT(yr%/4) AND yr%/25 <> INT(yr%/25) THEN da(2) = 29: RETURN
42110 IF yr%/400 = INT(yr%/400) THEN da(2) = 29: RETURN
42120 da(2) = 28: RETURN
60000 POKE 25521, 24: POKE 25522, 4: HGR
60010 POKE 25521, 205: POKE 25522, 09: HOME
60020 PRINT " program terminated.": END

```

June 1987						
SUN	MON	TUE	WED	THR	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

## TITLE (asmb#42) :

EOS INIT  
(set up)

<u>addr:</u>	<u>Label:</u>	<u>Value(s):</u>	<u>Op Code:</u>	<u>Comment:</u>
62243	store	253,229	PUSH IY	;store IY pair
62245		197	PUSH BC	;store BC pair
62246		213	PUSH DE	;store DE pair
62247		229	PUSH HL	;store HL pair
62248		50,114,253	LD (64882),A	;store drive
62251		121	LD A, C	;put 'C' in 'A'
62252		50,134,253	LD (64902),A	;store directroy size
62255		229	PUSH HL	;store HL pair
62256	setup	205,175,243	CALL 62383	;clear 1st file buffer
62259		33,218,243	LD HL, 62426	;set start address
62262		237, 91,255,253	LD DE,(65023)	;get address of 1st buffer
62266		1,104, 0	LD BC, 104	;set byte count
62269		237,176	LDIR	;xfer INIT file data
62271		225	POP HL	;retrieve HL pair

## TITLE (asmb#43) :

EOS INIT  
(change data)

<u>addr:</u>	<u>Label:</u>	<u>Value(s):</u>	<u>Op Code:</u>	<u>Comment:</u>
62272	name	237, 91,255,253	LD DE,(65023)	;get address of 1st buffer
62276		6, 12	LD B, 12	;set max name length
62278	NHloop	126	LD A, (HL)	;get ASCII value
62279		254, 3	CP 3	;check for ASCII ETX
62281		40, 8	JR Z, 8	;if ETX then done01
62283		18	LD (DE), A	;put ASCII in INIT data
62284		35	INC HL	;increment start address
62285		19	INC DE	;inc destination address
62286		16, 246	DJNZ -10	;repeat loop
62288		62, 3	LD A, 3	;set accum with ETX
62290		27	DEC DE	;decrement dest address
62291	done01	18	LD (DE), A	;set ETX in INIT data
62292	status	253, 42,255,253	LD IY, (65023)	;set IY to adr 1st buffer
62296		58,134,253	LD A, (64902)	;set accum with dir size
62299		246,128	OR 128	;set seventh bit of size
62301		253,119, 12	LD (54284), A	;put status in INIT data
62304		225	POP HL	;retrieve HL pair
62305		209	POP DE	;retrieve DE pair
62306		193	POP BC	;retrieve BC pair
62307		197	PUSH BC	;store BC pair
62308		213	PUSH DE	;store DE pair
62309		229	PUSH HL	;store HL pair

## TITLE (asmb#44) :

EOS INIT  
(continue change)

addr:	Label:	Value(s):	Op Code:	Comment:
62310	size01	253,115, 17	LD (54289), E	;store vol size in data
62313		253,114, 18	LD (54290), D	;continue size in INIT data
62316	size02	213	PUSH DE	;store DE pair
62317		17, 78, 0	LD DE, 78	;set addend
62320		253, 25	ADD IY, DE	;set new index value
62322		209	POP DE	;retrieve DE pair
62323		253,113,247	LD (54341), C	;set dir size in data
62326		253,113,249	LD (54339), C	;continue dir size
62329		12	INC C	;increment dir size
62330		253,113, 13	LD (54363), C	;continue dir size
62333	BKleft	6, 0	LD B, 0	;reset register
62335		235	EX DE, HL	;exchange pairs
62336		183	DR A	;reset carry flag
62337		237, 66	SUB HL, BC	;calc BLOCKS LEFT
62339		253,117, 17	LD (54367), L	;set count in INIT data
62342		253,116, 18	LD (54368), H	;continue count set

## TITLE (asmb#45) :

EOS INIT  
(write to medium)

addr:	Label:	Value(s):	Op Code:	Comment:
62345	setup2	62, 1	LD A, 1	;set block counter start
62347		50,135,253	LD (64903), A	;store counter value
62350	writel	205,197,243	CALL 62405	;CALL 'write INIT block'
62353		32, 22	JR NZ, 22	;if error then done03
62355	check	58,134,253	LD A, (64902)	;get dir size
62358		71	LD B, A	;transfer byte
62359		5	DEC B	;correct size value
62360		40, 14	JR Z, 14	;if zero then done02
62362	write2	205,175,243	CALL 62383	;CALL 'clear 1st buffer'
62365	WRloop	33,135,253	LD HL, 64903	;retrieve counter value
62368		52	INC (HL)	;update counter value
62369		205,197,243	CALL 62405	;CALL 'write INIT block'
62372		32, 3	JR NZ, 3	;if error then done03
62374		16,245	DJNZ -11	;goto WRloop
62376	done02	175	XOR A	;reset accumulator
62377	done03	225	POP HL	;get incoming HL pair
62378		209	POP DE	;get incoming DE pair
62379		193	POP BC	;get incoming BC pair
62380		253,225	POP IY	;get incoming IY pair
62382		201	RET	;exit EOS INIT



PRODUCT:	Wordbook
MANUFACTURER:	Coleco
MEDIA TYPE:	data pack
GRAPHICS/SOUND/DESIGN:	7 100
INSTRUCTIONS:	100
USEFULNESS vs. PRICE:	100
RECOMMENDATION:	highly recommended
PRICE:	19.00 (ALPHA-1)
RATED BY:	David G. Carlson

Richard Scarry's Best Electronic WORD BOOK EVER is a great educational game for children. It is made by Coleco and is available from ALPHA-1 for \$19.00. In the game you guide a little worm in an apple through one of six different scenes; a farm, a park, a railroad yard, a construction site, a harbor, or a town. Each scene has 4 different screens for a total of 24 screens. Each screen contains 4 or 5 words so there are over 100 words in total.

There are four skill levels to the game. In the first level you simply drive through the scene using a joystick. When you get to a red dot you push a side button and an object on the screen comes to life to demonstrate what the word means. This is very simple for a child to do and although the recommended age is 5 to 8, my daughter learned to play the game at this level when she was two. In the second level you search for an object pictured in the upper lefthand corner of the screen. If you make a correct match, the word appears on the screen and the object comes to life. My daughter could do this at three. The third level is similar to the second except you are given the word, not the picture, to find. The fourth level is a scavenger hunt. You are given 12 words at once and they can be found in any of the 24 screens, so it's a lot of work.

This is a great first game for kids because all they need to learn is to move a joystick and push a side button, and they can have a lot of fun. There is no timer so they can go at their own pace with no pressure. Your child will develop favorite words. My daughter loves "nap" where a little cat yawns and then goes to sleep under an umbrella to the tune of Brahm's Lullaby. One of my favorites is a kite blowing in the breeze with good sound effects for the breeze! It is a great game. I highly recommend it!

PRODUCT:	MegaUtil
MANUFACTURER:	Marathon Computer Press
MEDIA TYPE:	data pack/disk
GRAPHICS/SOUND/DESIGN:	93
INSTRUCTIONS:	92
USEFULNESS vs. PRICE:	95
RECOMMENDATION:	highly recommended
PRICE:	32.95
RATED BY:	staff

This package is a large collection of programming utilities ranging from public domain routine modules to commercial quality media editing programs. Most of the documentation is stored in SmartWriter files that you can view on screen or print for future reference. This includes both instructions for using the various programs and a large collection of programming tips, tricks and general information. This package tackles so many different aspects of programming that it may even take you a few days just to experiment with everything -- there's certainly a lot here for your money.

The assorted programs and information are geared toward both the novice and more advanced ADAM users. The CopyWriter program allows you to make backups of your media. Among the many other programs is "ByteWriter", a sophisticated utility for editing tapes and disks. It also includes a number of public domain programs. One of these is a very nice sprite utility.

One of the nicest aspects of this programmer's helper is the way that it encourages and demonstrates the use of modular programming. Modular programming (using common routines in different programs by merging them into a desired group) is one of the critical factors in becoming a productive, successful programmer. MegaUtil is packed with information and programs. It is well worth the money.

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# Font POWER

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for use with

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FontPOWER is the latest release from DIGITAL EXPRESS. Its use of graphics and sound is so sophisticated that we've dubbed its release as the beginning of our second generation of ADAM software. You'll see SmartKEYS at the bottom of the screen just like Coleco packages. You'll hear Coleco-like sound routines. You'll see the directory of files displayed on a graphic file folder just like Coleco software. Almost instantly after pulling the reset switch, you'll see a detailed graphic title screen just like the Coleco packages. And so much more. The package is so professional that you may be tempted to think that it is a Coleco program.

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 \* Ben Hinkle's detailed guide to SmartBASIC V1.0; 110 pages; HELLO program includes several BASIC enhancements  
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Public domain software is offered as a quick, inexpensive means for you to expand your ADAM software library. Note, however, that public domain software is not necessarily of commercial quality. Although we do attempt to winnow out flawed programs, there is no guarantee of quality regarding these packages.

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You must boot your own SmartBASIC first in order to use the volumes in this library. All programs will speed load. Each volume (except the utility volumes) is controlled by a user friendly ramdisk (does NOT require the 64K expander) central menu.

"N&Bgames01": An assortment of text adventures, board games, and animation games -- 130K of files.

"N&Bgames02": An assortment of text adventures, board games, and animation games -- 154K of files.

"N&Bgraph01": A variety of graphics displays and music programs -- 88K of files.

"N&Bmath01": Several scientific and financial math programs -- 114K of files.

"N&Butil01": Intended for more advanced programmers this volume includes programming utilities -- 108K of files.

SmartPAINT Files LIBRARY

In order to view/use the volumes in this library you should have SmartPAINT (from ShowOFF I) or the HGR Picture Manager program in the February 1987 issue of "NIBBLES & BITS" (page 16).

"N&Bpix001": 13 different HGR picture files.

"N&Bpix002": 13 different HGR picture files.

"N&Bpix003": 13 different HGR picture files.

"N&Bpix004": 13 different HGR picture files.

Coleco Unreleased Titles LIBRARY

"SmartBASIC 2.0": Improved interpreter; 49K program; works with or without the 64K expander; includes new commands STDMEM, EXTMEM, MERGE; plus more ...

"Pinball Construction/Hardhat Mac": Best of Electronic Arts; latest version with two demo pinball games; 1 to 4 players with Pinball Construction; one or two players with Hardhat Mac.

"ADAMLink II": Supports uploading and downloading of SmartWriter compatible files; includes U/D instructions; requires the ADAMLink modem.

"Jeopardy": The extremely popular ADAM game; just like the game show; great graphics; hall of fame; one to three players.

"Super SubRoc": 90K arcade-type game; super graphics; hall of fame; one or two players.

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"CP/Mgames01": 30 games.

"CP/Mgames02": 25 games.

"Test/Music": System tester (requires the 64K expander) and a hodgepodge of music samples -- from an unreleased Coleco cartridge program.

Pinball Games LIBRARY

Each volume in this library is self-booting or may be used with the Pinball Construction Set.

"N&B-PBgames01": 10 pinball games.

"N&B-PBgames02": 10 pinball games.

"N&B-PBgames03": 10 pinball games.

Miscellaneous Collections LIBRARY

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