

Saving Our HEATH Eight-Bit Machines!

SETHO JOURNAL

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August, 1987



HAPPY BIRTHDAY TO US!

SEBHC JOURNAL

Volume II, Number 1, Page 2

LETTERS

Dear Len:

Here's a program I wrote which has some similarity to The CodeWorks' PLIST.BAS printed in Vol I No 10. I think you and other JOURNAL subscribers may be interested in it because it contains valuable ideas on how to write your own I/O utility program. I've included both a CP/M MBASIC and an Assembly-language listing.

This program sends a string to my printer and sets up NLQ printing, margins, or a series of numbers downloading graphics characters in strings headed by an "<ESC>1" sequence. I wrote it in Assembly and translated it to HEX so I could verify results by look directly at the '.COM files with SZAP, DDT, or DDEU (which all translate to HEX). Though written in CP/M-MBASIC, it's easily changed to HDOS MBASIC or BHBASIC.

My Okidata-92 proportionally spaces between letters but needs an "escape" on every line. It accepts nonprinting characters for sub- and super-script commands, which would otherwise appear in a file as extra characters. If your word processor automatically includes extra spaces to perform right hand justification, the printer will delete them before doing its own justification. It also looks at the first spaces used to indent a paragraph--or an inset--and prints them the same distance from the left hand margin.

The program Opens a WRITE file, then reads a data list and directly writes the program out to disc. The '.COM program is just a short loop that takes a character from the list at its' end and sends it to the printer. It stops reading at character FF (hex). When I first wrote the program, I placed a few test ASCII characters ahead of the carriage return (&HOD) to immediately verify the program's operation.

Modify the program by entering BASIC's EDIT mode and change DATA statements on line 220 by adding or deleting characters as desired. But be sure to adjust the FOR NEXT loop to read the correct number of data bytes so that program operation isn't affected.

My printer won't print the buffer's contents until it receives a Carriage Return (&HOD). If you don't mind waiting for the printer to carry out the orders you gave it, I assume you could omit the &HOD. But I always send a 'clear-printer-input-buffer' character just in case there are leftovers such as the 'A' prompt after a control-P (^P).

In modifying for HDOS, change the program loop to suit MBASIC 4.82 rules. Remember that SCALLs are &HFF, and that CP/M's "terminating characters" are also different.

In conclusion: I again suggest back issues be made available to subscribers below cover price when ordered in bulk--

that is, everything up to the start of a subscription. And postage would be less. Let "membership" accrue some benefits.

BRENNARD L. WALTUCK, West Palm Beach, FL 33401

LISTING 1 -- NLQ.ASM

Location	HEX	DEC		HEX	DEC
100	1,00	LXI	H,0121H	21	33
101	1,01			15	21
102	1,02			01	1
103	1,03	MVI	C,05H	0E	9
104	1,04			05	5
105	1,05	MOV	B,M	5B	94
106	1,06	PUSH	H	B5	229
107	1,07	CALL	0005H	CD	205
108	1,08			05	5
109	1,09			00	0
10A	1,10	POP	H	B1	225
10B	1,11	INX	H	23	35
10C	1,12	MOV	A,M	7B	126
10D	1,13	CPI	OFFH	FB	254
10E	1,14			FF	255
10F	1,15	JNZ	0103H	C2	194
110	1,16			03	3
111	1,17			01	1
112	1,18	JMP	000H	C3	195
113	1,19			00	0
114	1,20			00	0
115	1,21	DB	18H,1BH,31H	18	24 ;CANCEL-CLR BUFR
116	1,22			1B	27 ;ESC _print NLQ
117	1,23			31	49 ;"E" /
"	"			*	*
"	"			*	*
"	"	DB	OFFH	FF	255 ; - ANYTHING ELSE.
					; IF YOU CHANGE
					;THIS THEN CHANGE BYTE FOLLOWING 'FE' TO SUIT

LISTING 2 -- MBASIC VERSION

```
10 REM      NLQ.BAS      Ver 2.0      by Bernard L Waltuck
20 REM      11730 Lake Shore Place, West Palm Beach, FL 33408
100 OPEN"O",1,"B:NLQ.COM"
110 A$=""
120 FOR X=1 TO 6
130 READ A
140 A$=A$+CHR$(A)
150 NEXT A
160 PRINT #1,A$;
170 FOR X=1 TO (255-LEN(A$)):PRINT #1,CHR$(0);:NEXT X
180 END
200 DATA &H21,&H15,&H01,&H0E,&H05,&H5E,&HE5,&HCD,&H05,&H00
210 DATA &HE1,&H23,&H7E,&HFE,&HFF,&HC2,&H03,&H01,&HC3,&H00,
    &H00
220 DATA &H18,&H1B,&H31,&HOD,&HFF,0,0,0,0,0
230 END
```

More LETTERS

Dear Len:

After I sent you my BASIC program (NLQ.BAS) I was trying to remember how CP/M loaded a program into the TPA so that I could go directly from NLQ.COM to LIST. LIST is a very nice utility that comes on the CP/M distribution disc. It can send an ASCII file to the LST device with multiple options including page numbers, title, date, and so on. Finally I hit upon an idea I've not seen published anywhere: Rather than modify my NLQ.ASM program, why not modify LIST.COM?!

The usual drill is to disassemble, modify and then reassemble, but I decided the easiest way is to to modify LIST.COM directly on disc using DDEU or SZAP (or any public domain) disc-editing utility as follows:

First copy the destination program to another disc and give it a new name. Make a printed copy of your ASM version of your addition with a HEX translation and location table (See Listing 1). Next, run your disc editing program using the "FILB" mode to look at the FIRST THREE BYTES of the destination. In my case the first three bytes of LIST.COM V2.04 are C3 3F 01, which translates to JMP 013FH. That's very convenient, for it means at the end of our addendum we just jump to 13FH, otherwise we would copy these first three bytes into the end of the program, then jump to 0103H.

Q: Where [shall] I put my addendum? A: At the end of the destination program! Very few programs will use up every byte of the last sector, so they end up filled with zero bytes. By looking with SZAP, DDEU or DDT we find that LIST's last sector is 18. Examining sector 18 we see that all of the 3rd line is filled with zeros as are the remaining lines, so we can put our program there. But we must find the exact location in memory where this will be when LIST is loaded into the TPA. Remember, the TPA starts at 0100H? There are several ways to find the exact location. First SZAP shows you the offset (880H) and to that you must add 100H for a total of 980H for the start of the sector and to that add 20H more, since it's on the third line--the total is 09A0H. Or you can do as I did and not trust anything except direct counting:

```

Sector 1 Will start at 0100H
Sector 2 Will start at 0180H
Sector 3 Will start at 0200H
Sector 4 Will start at 0280H
Sector 5 Will start at 0300H
:   :   :   :   :
:   :   :   :   :
Sector 16                0880H
Sector 17                0900H
Sector 18                0980H

```

AMAZING!! The same answer! Add 20H to get the start of your addendum and mark that address for later. Also you now

fill in the new locations for the changes in the LXI and JNZ commands.

Now enter HEX edit mode and place the bytes in order from the right hand column, replacing the 00's. Don't forget to go back to the first sector and change the first command to JUMP to 09A0H. Since the first byte is already C3 (JMP) this doesn't change, so insert A0 at the 2nd and 09 at the 3rd byte.

The whole process took me less than an hour from conception to execution, and it worked!

BERNARD L. WALTUCK, West Palm Beach, FL 33401

LISTING 1 -- '**' DENOTES THE ONLY CHANGES

		LOCATION (HEX)		PROGRAM (HEX)	
		OLD	NEW	OLD	NEW
BEGIN		0100	09A0	LHI H,DATA	21 21
		0101	09A1		15 B5 **
		0102	09A2		01 09 **
LOOP		0103	09A3	MVI C,05H	0B 0B
		0104	09A4		05 05
		0105	09A5	MOV B,M	5B 5B
		0106	09A6	PUSH H	B5 B5
		0107	09A7	CALL BDOS	CD CD
		0108	09A8		05 05
		0109	09A9		00 00
		010A	09AA	POP H	E1 E1
		010B	09AB	INX H	23 23
		010C	09AC	MOV A,M	7B 7B
		010D	09AD	CPI FFH	FB FB
		010E	09AE		FF FF
		010F	09AF	JNZ LOOP	C2 C2
		0110	09B0		03 A3 **
		0111	09B1		01 09 **
		0112	09B2	JMP BEGIN	C3 C3
		0113	09B3		00 3F **
		0114	09B4		00 01 **
DATA		0115	09B5	DB 18H,ABH,31H	18 18
		0116	09B6		1B 1B
		0117	09B7		31 31
		0118	09B8	DB 0DH	0D 0D
		0119	09B9	DB FFH	FF FF
		END			

Note: Insert additional data if desired. For example, to set left hand margin, insert data before the last 'FF', since FFH stops the loop.

[Thank you very much, Bernard, for these fine programming examples! The JOURNAL has constant need for practical hints such as yours because many of our subscribers are new to H/Z

[GOTO Page 4]

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And yet MORE LETTERS

eight-bit machines and are not exactly experts with Assembly Language or programming in general. We all greatly appreciate the way you've illustrated how Assembly and MBASIC differently attain identical end results. Using MBASIC to create a '.COM' file is something I've never seen done before without a compiler. Quite nifty! Concerning your suggestion for discount sales of back-issues: After HUGCON VI, Volume One will be sold only as a complete set of all 12 issues for \$22.50 the set--no postage or handling charge. The few remaining unbound back-issue copies from Vol I will be sold at \$2.00 each until supplies are exhausted. Volume II back issues will then sell for \$2.50 a copy, also with no extra postage or handling charge. - ed]

Dear SSEBHC Journal:

I recently bought an Epson LQ-800 printer. In attempting to use the printer control as described in the "TEXT" and "PIE" instructions (HDOS) weird results occurred. I tried all combinations to embed ESC codes to no avail.

The other night I had insomnia and decided to get my computer magazines in order. In scanning the "JOURNAL", I re-read "Graphics as 'Easy as PIE'", by George E. Ewing (Dec. '86 Volume I, Number 5, p. 3). He described a method of embedding ESC [codes] into PIE [text files]. It WORKS like a charm for sending printer control codes to the LQ-800.

The method is to use CTRL-K, then lower-case square bracket ([). This is the ESC symbol and is shown in reverse video on the screen. Following the ESC, use the desired codes in normal typing mode. No need to use the symbols as described in "TEXT". The control keys are listed in the H89A operations manual on page 11-1.

The [MBASIC] program in the last issue [1:11] regarding printing files works on the LQ-800, in case you haven't tried it yet.

Thanks for the JOURNAL and thanks to the contributors for their articles. This one really helped.

GEORGE A. DeKELVER, Pleasanton, CA 94566

[Your letter reached us just in time to tickle our curiosity but not in time to experiment with the technique you've reported. Our processor (Newline Software's TEXT PRO) permits embedding "invisible" control characters into finished text, but we've never had enough free time to try anything like George's and your tricks with it. Although presently we're evaluating the COLUMNS.COM program (described in Vol I No 12) and would like to try out your idea, with this unfamiliar software it might blow everything away. But your letter sorely tempts us! We'll try to print an evaluation of everything in our Sept '87 edition if we recover from HUGCON-VI.

But in the meantime, keep playing around with your Epson LQ-800 and please let us know about any more tricks in using it which you may uncover. Our own LQ-800 hasn't yet reached even one percent of its' capabilities. By the way, I bought mine this Spring, complete with tractor feed for about \$600; now they're being advertised for \$177 in one of the non-H/Z computer magazines. Perhaps that price is a typo? -- ed]

Mr. Geisler:

Recently I sent you a S.A.S.E and asked for information AND a sample copy...

You sent the information but not the sample copy. A sample would have cost you absolutely nothing!!

So, because you wouldn't bother to send me a sample copy you have lost a potential subscriber... I wouldn't buy a pair of shoes without first trying them on and wouldn't send money to you (a stranger) without first seeing your wares. Not just a table of contents!! Maybe you will smarten up....

DON WOODRUFF, San Francisco, CA 94110

[Thank you, Mr. Woodruff, for taking time to let us know how displeased you are with our not honoring your request for a free sample copy of the SEBHC JOURNAL. Unfortunately, we are not as well heeled as you seem to believe. If you are serious in wanting to check out the JOURNAL, you can subscribe and receive a copy of the latest edition by return first-class mail. After having read that copy and then deciding you don't like the JOURNAL, you can send us a post card simply telling us to cancel your subscription. We'll promptly send you a refund cheque for the unused portion of your subscription. - ed]

Dear Len,

In a recent edition of the JOURNAL (Vol I, No. 9, p16) Lee Hart asks, "How can we patch BASIC to automatically save files on exiting?" Try this in your BASIC programs:

```
10 GOTO 30
20 SAVE "XYZ.BAS": SYSTEM
30 REM (continue program from here onward)
```

To exit BASIC without saving, type SYSTEM.

To save the file and then exit BASIC, type RUN 20.

R.J.L., Logic Associates, 1433 W. Thome, Chicago, IL 60660

[Thanks for the tip! It's a good one--and no patching required either. And I use this when developing/debugging an MBASIC program, especially when I'm short on disc space:

```
KILL "dn:fname.bas":SAVE "dn:fname"
```

Line number it 60000 and type GOTO 60000 to save labor. -- ed]

LETTERS, Concluded

Dear Len,

Time certainly does fly! I have been thinking about you and your JOURNAL, and even noodling over some ideas for articles, letters and whatnot, when I find that I have not received a copy since April (Vol 1 #9)! [That problem has been corrected! -- ed] I hope nothing is wrong; that you are well and that it is only some glitch with the U.S. Postal Service. Anyway, I don't want to miss a single issue, not a single word!

I wrote to Claude Abbot, who wrote some nifty programs that adapt the function keys of the H/Z19 for dBASE II and Word-Star, and suggested [that] he advertise in the JOURNAL since it was free. He wrote me back and said it no longer paid to advertise. I guess he didn't read my letter very closely. You may want to write him. I am enclosing a copy of the letter to save keystrokes.

There are a lot of things to write about. All the stuff about software and hardware mods; the merits of our machines; how vilely we are treated by the establishment; what we can do about it (I have a lot to say about this). And then there is always HDOS 3.

Are you familiar with an early Software Toolworks disc (part number 212-H5), CATALOGUE SYSTEMS AND UTILITY PROGRAMS with programs by Moss, Gillogly, Wesson & Bilofsky? There are so many articles on cataloguing discs for HDOS, but none have ever matched this one which works with eight-inch as well as SS format for 5-1/4-inch discs. Would you be interested in more on this? Curiously, the catalogue [program] will not read HUG discs 1126, 1127, and 1128, nor will HDOS 3 mount them. What goes, I wonder?

Let me know if all is okay.

BAYARD BADENHAUSEN PhD, Rye, NY 10580

["You're the Doctor!" Anything you feel like writing up for the JOURNAL is fine with us. As you probably have guessed by now, our financial shoestring is so badly frayed that we can't pay authors for their work (other than giving them a free 1-year extension of their subscription). Most of what we've published thus far has fallen under the "labor of love" category for most authors. In one case an author wrote a program (ACE of ACES) and allowed us to include it on CP/M GAME DISC #0. We are paying him half of the profit from the sale of each disc (plus the usual subscription deal). It on't amount to much, but it lets him buy the occasional pizza or hamburger and "beverage of choice", or, as my old Aussie friend was wont to say, "It's better'n a poke in da eye widda shawp stick!"

Of course, having your work published in the JOURNAL does give you a little publicity--and if you're a struggling

software programmer, a published article can help pad out your portfolio a bit and help impress some personnel manager that you are a good writer as well as a good programmer.

In connexion with the sample disc catalogue printout which you'd enclosed, I am quite impressed with the end portion. I've never before seen cataloging software which groups file names according to categories, such as '.ASM', '.DOC', and '.DVD' with volume numbers where the files are located. This is something you normally find in libraries where the publications are cross-indexed every which way.

(Now, if someone could come up with a way for putting volume numbers on our 8-bit CP/M discs a-la HDOS, wouldn't that be nice?!)

But why did Claude Abbot say it didn't pay to advertise? Is he getting ready to go belly up? Send me his phone number and I'll try to get the story from him; it may be very interesting. Maybe I can even jolly him into sending us a small (free, of course) ad for a pre-Christmas JOURNAL edition. On the other hand, maybe he's found a better source of income, and programming just isn't interesting any more. But don't let that stop YOU from sending us one of those articles! -- ed]



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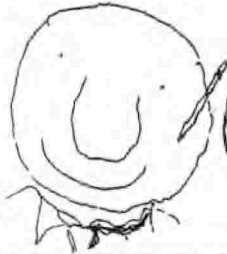
Printer	Order #:	HDOS	CP/M
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(Compatible with Echelon, Inc.'s ZCPR1, ZCPR2, and ZCPR3.)

```

*****
****  ***  ****  ****  ****  ****  ****  ****  ****  ****
****  **  ****  ****  ****  ****  ****  ****  ****  ****
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*****
  
```

Creates "virtual" drives and subdirectories.

[] DISKGUISE lets you define one of your drives to be a FULL-TIME public drive.

Whenever a file is not found on the drive expected, a copy of that file is retrieved from the public drive.

Unlike ZCPR, DISKGUISE will retrieve any and all files (not just .COM files), and acts at all times (not just on the CCP command line).

Overlay programs like Wordstar can now reside entirely in one disk/user area, yet be usable everywhere--instantly, automatically.

[] DISKGUISE lets you assign drive names to user areas. For example, you might define drive D to mean "Drive A, User 5."

Now you can log into any user area on any disk by simply logging into a "disk drive." Now even programs that don't understand user areas can switch between them with ease.

The result: User areas are transformed into handy, easy-to-use subdirectories, as simple to use as those in PC-DOS 3.0 and higher.

[] DISKGUISE opens up 255 subdirectories, vs. CP/M's usual 16. This lets you manage more tasks in smaller, simpler directories.

[] DISKGUISE lets you reassign drive names to other drives. You can define drive C as drive A, drive F as drive B, and so on.

With reassigned drive names, you can--

- Let one hard disk mimic several diskettes.
- Lock out a malfunctioning drive.
- Use drives a program otherwise prohibits.
- Make a drive totally "invisible."
- Relocate your RAM drive.
- And much more.

DISKGUISE installs and de-installs instantly. Sixteen definitions can be active at one time, and you can change any definition in seconds.

DISKGUISE operates without modifications to your disks, hardware, or software. Installed, it uses as little as .75K of main memory.

LICENSE: \$32.

CP/M 2.2

```

*****
****  ***  ****  ****  ****  ****  ****  ****  ****  ****
****  **  ****  ****  ****  ****  ****  ****  ****  ****
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****  **  ****  ****  ****  ****  ****  ****  ****  ****
****  **  ****  ****  ****  ****  ****  ****  ****  ****
*****
  
```

COLUMNS is "cut and paste" software for text.

It complements your word processor's ability to handle blocks and columns of text.

COLUMNS can automatically convert a single column of text into multicolumn pages. You need only specify the number of columns.

COLUMNS can add, move, extract, and/or delete entire columns. It can even "cut up" text and then checkerboard it back together.

Unlike some word processors, COLUMNS puts no limit on text length, and lets you recreate the original text from cut-and-pasted text.

[] COLUMNS lets you create a single column of data, reformat it as a table, then insert that table into another text file.

[] COLUMNS lets you paste up newsletters by software alone. Your computer now prints entire pages--like these--with perfectly registered columns. And no rubber cement.

[] COLUMNS gives a professional look to your reports, brochures, and proposals.

[] COLUMNS accepts proportional characters and microspacing. (This text was produced by COLUMNS with proportional characters.)

[] COLUMNS reads and writes ASCII text files, as used by WORDSTAR and most word processors.

[] COLUMNS lets you send output to a disk file, to the printer, or to the console.

[] COLUMNS does not use embedded commands, yet does allow "boilerplate" instructions.

COLUMNS runs interactively or in batch.

LICENSE: \$29.

CP/M 2.2, CP/M+

SEBHC JOURNAL

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A HANDY PRINTER UTILITY

[This is a very nice utility I downloaded from the HUGBB on CompuServ long before I had purchased an LQ-800 printer for the JOURNAL. I assembled it and used it a few times on our MX-80, but my software works ok on that printer since it was written expressly for it. But I don't have anything (except a few MBASIC examples) which make use of all 24 LQ-800 print-head pins. One day in a desperate bind, I tried SETMX and found it worked just fine on the LQ-800. Now I'm in the process of re-writing SETMX so that I can use all of the LQ-800's features. When it's done and thoroughly tested I'll make it available for you loyal SEBHCers. -- ed]

```

;          SETMX.ASM
;
;      set EPSON Printer Options
;      02/06/84 by Mike Brown [ 74216,2027 ]

BDOS    EQU    5
ESC     EQU    1BH    ; escape
NL      EQU    01H    ; newline flag

        ORG    100H
START   LXI    H,0      ; setup stack
        DAD    SP
        SHLD   OLDSTK
        LXI    SP,START
        LXI    H,INST    ; print menu
        CALL   TYPE0
        CALL   NORMSET    ; set printer to standard defaults
        LXI    H,CLEPTF    ; assure printer is ON !!
        CALL   TYPE0
GETCOMMAND
        MVI    A,'N'    ; clear reset flags
        CALL   PRINTCLR
        INR    A
        CALL   PRINTCLR
GETCOMMAND0    ; get input
        CALL   INKEY
        ANI    5FH    ; mask to upper case
        CPI    'A'
        JC     GETCOMMAND0    ; too low
GET$MID  STA    CHAR    ; store response
        SUI    '@'    ; remove ASCII bias
        CPI    'D'-'@'    ; line spacing selection ?
        JC     LINES$OFF    ; (yes - do it)
        JNZ    ITALIC$OFF    ; not Italic's ON - try OFF
        MVI    C,34H    ; Italics ON
        JMP    PSBT1
ITALIC$OFF
        SUI    'E'-'@'    ; Italic's OFF ?
        JNZ    EMPHA$ON    ; (no - try next)
        MVI    C,35H
        * JMP    PSBT1
EMPHA$ON
        DCR    A    ; emphasize ON ?

```

```

JNZ     EMPHA$OFF
MVI     C,45H    ; (yes - do it)
CALL    PSBT0
MVI     A,'M'
JMP     GET$MID    ; make sure compressed mode is OFF
BMPHA$OFF
        DCR    A    ; emphasize mode OFF ?
JNZ     DOUBL$STK$ON    ; (no)
MVI     C,46H
JMP     PSBT1
DOUBL$STK$ON
        DCR    A    ; double strike ON ?
JNZ     DOUBL$STK$OFF
MVI     C,47H    ; (yes)
JMP     PSBT1
DOUBL$STK$OFF
        DCR    A    ; double stike OFF ?
JNZ     DOUBL$WDT$ON
MVI     C,48H    ; (yes)
JMP     PSBT1
DOUBL$WDT$ON
        DCR    A    ; double width ON ?
JNZ     DOUBL$WDT$OFF    ; (no)
MVI     C,'W'    ; send leading ESC 'W'...
CALL    PSBT0
MVI     A,1    ; ...and following 1
CALL    LPRINT
JMP     GETCOMMAND
DOUBL$WDT$OFF
        DCR    A    ; double width OFF ?
JNZ     COMP$ON    ; (no)
MVI     C,'W'    ; send codes
CALL    PSBT0
XRA     A
CALL    LPRINT
JMP     GETCOMMAND
COMP$ON
        DCR    A    ; compressed mode ON ?
JNZ     COMP$OFF    ; (no)
MVI     B,0FH    ; send codes
JMP     COMP$DO
COMP$OFF
        DCR    A    ; compressed OFF ?
JNZ     DEFAULT$RESET    ; (no)
MVI     B,12H
JMP     COMP$DO
DEFAULT$RESET
        DCR    A    ; reset to defaults ?
JNZ     MASTER$RESET    ; (no)
CALL    NORMSET    ; send reset codes
CALL    PRINTREV    ; turn on indicator
JMP     GETCOMMAND0
MASTER$RESET
        DCR    A    ; master reset ?

```

[Continued...]

SETMX.ASM Continued

```

JNZ     BDOS$RETURN      ; (no)
CALL    NORMSET          ; send reset codes
MVI     A,7              ; tinkle bell
CALL    LPRINT
MVI     C,40H            ; send master reset codes
CALL    PSET0
JMP     GETCOMMAND0
BDOS$RETURN
DCR     A                ; return to CPM ?
JNZ     GETCOMMAND0      ; (no)
CALL    PRINTREV         ; (yes - return)
OLDSTK  EQU     $+1
LXI     SP,0000          ; stash old SP here
RET
;
; subroutines
;
PSET1   CALL    PSET0
JMP     GETCOMMAND
PSET0   PUSH    B
LDA     CHAR            ; get command letter
RAR
CMC
RAL
CALL    PRINTCLR        ; clear rev. video indicators
POP     B
PSET    MOV     A,C      ; get argument
STA     ARG            ; setup command string
CALL    PRINTREV        ; print rev. indicator
PLOOP   LXI     H,STRING ; send command string to printer
PLOOP1  MOV     A,M
ORA     A
RZ
CALL    LPRINT
INX     H
JMP     PLOOP1
NORMSET LXI     H,NORMAL ; reset printer to normal settings
CALL    PLOOP1
XRA     A              ; final byte in double width OFF
CALL    LPRINT
MVI     A,'A'          ; setup all indicators
CALL    PRINTCLR
INR     A
CALL    PRINTCLR
MVI     B,6
NORMLOP PUSH    B
INR     A
CALL    PRINTREV1
INR     A
CALL    PRINTCLR
POP     B
DCR     B
JNZ     NORMLOP
RET
INKEY   MVI     C,6      ; direct console I/O

MVI     E,0FFH
JMP     BDOS
OUTPUT  PUSH    H        ; output character to console
MOV     E,A
MVI     C,6
CALL    BDOS
POP     H
RET
LPRINT  PUSH    H        ; send character to printer
PUSH    PSW
MOV     E,A
MVI     C,5
CALL    BDOS
POP     PSW
POP     H
RET
TYPE0   MOV     A,M      ; type characters till 0
ORA     A
RZ
CPI     NL              ; want new line sequence ?
JNZ     NOTNEW          ; (no)
MVI     A,BSC
CALL    OUTPUT
MVI     A,'Y'
NOTNEW  CALL    OUTPUT
INX     H
JMP     TYPE0
PRINTREV LDA     CHAR    ; get character
PRINTREV1
PUSH    PSW            ; print character in A in rev video
STA     NWLN+6         ; store character
SUI     1CH            ; adjust for direct cursor addressing
STA     NWLN+2
LXI     H,NWLN
CALL    TYPE0
POP     PSW
RET
PRINTCLR
PUSH    PSW            ; print character in A in reg video
STA     CLR+4
SUI     1CH            ; adjust for positioning
STA     CLR+2
LXI     H,CLR
CALL    TYPE0
POP     PSW
RET
COMP$DO
PUSH    B
CALL    PRINTREV        ; print in rev video
RAR                     ; clear OFF indicator
CMC
RAL
CALL    PRINTCLR
POP     A              ; get code and...

```

[Continued...]

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SETMX.ASM Concluded

```
CALL    LPRINT    ; ...send it
CPI     12H       ; OFF ?
JZ      GETCOMMAND ; (yes - return)
MVI     A,'G'     ; (no - make sure emphasize mode...
JMP     GET$MID   ; ...is turned OFF.)

LINES$OFF
PUSH    PSW       ; save selection
MVI     B,3       ; clear line's indicators
MVI     A,'A'

LINES$LOOP
PUSH    B
CALL    PRINTCLR
INR     A
POP     B
DCR     B
JNZ     LINES$LOOP
POP     PSW       ; get selection
ADI     2FH       ; adjust for lines per inch
MOV     C,A
CALL    PSET
JMP     GETCOMMAND

INST    DB    ESC,'E',NL,'!"Option Codes for the MX-80.'
DB      NL,'"Version 1.0 by Mike Brown - 02/06/84'
DB      NL,'%[A] --- Line spacing to 1/8"'
DB      NL,'&[B] --- Line spacing to 7/72"'
DB      NL,39,'&[C] --- Line spacing to 1/6"    {default}'
DB      NL,'(&[D] --- Italic Char set ON'
DB      NL,')&[E] --- Italic Char set OFF    {default}'
DB      NL,'*&[F] --- Emphasized Mode ON'
DB      NL,'+&[G] --- Emphasized Mode OFF    {default}'
DB      NL,',&[H] --- Double Strike Mode ON'
DB      NL,'-&[I] --- Double Strike Mode OFF  {default}'
DB      NL,'.&[J] --- Double Width Mode ON'
DB      NL,'/&[K] --- Double Width Mode OFF   {default}'
DB      NL,'0&[L] --- Compressed Char Mode ON'
DB      NL,'1&[M] --- Compressed Char Mode OFF {default}'
DB      NL,'2&[N] --- Reset to Defaults'
DB      NL,'3&[O] --- Master RESET'
DB      NL,'4&[P] --- Return to CP/M'
DB      NL,'6/Selection: ',ESC,'j',ESC,'p Turn Printer ON !! ',ESC,'q',0

CLRPTF  DB    ESC,'k',ESC,'K',0
NWLN    DB    ESC,'Y ',39,ESC,'p ',ESC,'q',ESC,'k',0
CLR      DB    ESC,'Y+',39,' ',ESC,'k',0
STRING  DB    ESC
ARG      DB    ' ',0
NORMAL  DB    8,12H,ESC,'5',ESC,'2',ESC,'F',ESC,'H',ESC,'W',0
CHAR     DB    0
END     START
```

PLEASE NOTE: This portion is printed full size to retain all the DB statements in true proportion. Trying to squeeze it into a column would distort the text beyond usefulness. If you want the complete SETMX file, get it on our CP/M GAME DISC #0 @ \$6.95ss/\$7.95hs. Or send us your blank disc and \$1 postage and handling and we'll copy the .ASM, .HEX & .COM files onto either your hard or soft-sector disc & return it post haste by first class mail.

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