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"Your H/Z 8-Bit Machine Is Just A Paperweight Unless You're A SEBHC JOURNAL Subscriber!"

Magnolia's CP/M vs H/Z's

IOBYTE and MMS's CP/M
by
Mark A. Buckingham
981 Belle Avenue, Teaneck, NJ 07666-2614

I first encountered CP/M's IOBYTE many years ago when I wanted a simple method to switch [keyboard] output being sent to the console to the printer. In this article I have summarised my experiences with IOBYTE. The material is organised as follows:

- an introduction to the IOBYTE
- a general discussion of the IOBYTE
- the IOBYTE as it works under H/Z's CP/M 2.2.03
- the IOBYTE as it works under MMS's CP/M 2.242
- closing

INTRODUCTION

I was then using MBASIC. The brute force method would have been to code every 'PRINT' statement with a corresponding 'LPRINT' statement, nesting these within an 'IF' statement that was triggered by a flag indicating the current intent. I would have coded something like this:

```
# INPUT "Type C for console output or P for printer
     output";I$
...
...
# IF I$="C" THEN  PRINT ...
    ELSE LPRINT ...
```

This can get extremely boring really fast, also it's very error prone as printing within a nested IF statement can make code unduly complicated.

Then I discovered the IOBYTE. The code now became:

```
# INPUT "Type C for console output or P for printer
     output";I$
# IF I$="P" THEN POKE 3,(PEEK(3) AND 252 OR 2)
...
..
...
# PRINT ...
```

Of course the actual implementation will be a little more complex because eventually you will want your console output to return to the console no latter than at program termination. If you are in a situation where only some of the output is to be diverted to the printer, then multiple setting and resetting of the IOBYTE will be necessary. Also, you should bullet-proof the input statement.

A GENERAL DISCUSSION OF THE IOBYTE

The IOBYTE as defined by the CP/M standard is a one byte field located in the Base Page at offset 3. This is generally 0003H. It provides a very simplified means of separating the physical view of the world from CP/M's logical view of the world. The IOBYTE is broken up into four 2-bit fields each field specifying the logical-to-physical device mapping:

- bits 0-1 are the console (CON:)
- bits 2-3 are the reader (RDR:)
- bits 4-5 are the punch (PUN:)
- bits 6-7 are the list (LST:)

The mneumonics of CON:, RDR:, PUN:, and LST: can be directly referenced by the STAT or PIP utilities.

Each 2-bit field can take on any one of four values; 00, 01, 10 or 11. The logical to physical mapping works as follows:

Logical Physical:	00	01	10	11
CON:	TTY:	CRT:	BAT:	UC1:
RDR:	TTY:	PTR:	UR1:	UR2:
PUN:	TTY:	PTP:	UP1:	UP2:
LST:	TTY:	CRT:	LPT:	UL1:

Each of the physical devices are defined by the BIOS. What becomes confusing is that each implementation is allowed to define what is meant by each of the physical devices. Yes, not only can the console output be sent to the printer, the printer output can be sent to the console. If you find this confusing, then try the following program:

```
10 PRINT "cc/cl/lc/ll? "; : A$=INPUT$(2) : PRINT A$
20 IF     A$="cc" THEN POKE 3,(PEEK(3) AND 252 OR   1)
   ELSE IF A$="cl" THEN POKE 3,(PEEK(3) AND 252 OR   2)
   ELSE IF A$="lc" THEN POKE 3,(PEEK(3) AND  63 OR  64)
   ELSE IF A$="ll" THEN POKE 3,(PEEK(3) AND  63 OR 128)
30  PRINT "This is targeted for the console."
40 LPRINT "This is targeted for the printer."
50 POKE 3,(PEEK(3) AND 60 OR 129) : GOTO 10
```

Under a 'normal' system configuration, 'cc' will send console output to the console (no big deal), 'cl' will send console output to the printer (a big deal), 'lc' will send printer output to the console (another big deal), and 'll' will send printer output to the printer (again, no big deal).

You may read "The Programmer's CP/M Handbook" by Andy Johnson-Laird, Osborne/McGraw-Hill publishers, 1983, pgs. 56-59, for more information.

:

Magnolia vs H/Z CP/M
concluded

IOBYTE AND H/Z's CP/M 2.2.03

Under H/Z's CP/M 2.2.03 the IOBYTE may be changed from the (normal) default location by running 'CONFIGUR'. The default is CON:=CRT:, RDR:=UR1:, PUN:=UP1:, and LST:=LPT:. Read "CP-/M Version 2.2 for the HEATH/ZENITH 8-Bit Computer Systems" by Zenith Data Systems, Zenith Data Systems publishers, 1981, pgs. 104-105.

Now it is easy to see that the code,

POKE 3,(PEEK(3) AND 252 OR 2),

zeroes out the CON: assignment and then puts a 10 into it, reassigning CON: to BAT:, which, under H/Z's CP/M 2.2.03 BIOS will send all console output to LST:. If LST: is still assigned to LPT: and you have a printer plugged into the correct port, you're home free. It's much easier to do than to describe.

IOBYTE AND MMS's CP/M 2.242

Under MMS's CP/M 2.242 the IOBYTE works the same but the physical devices are implemented differently. In fact, depending on the definition of the CP/M system it works differently. The following table will aid in understanding the differences. Read "CP/M 2.24 Operating System User Guide for Heathkit and Zenith Data Systems" by Magnolia Microsystems, Inc., Magnolia Microsystems, Inc. publishers, 1982, pg. 2.18.

Physical Device	H/Z	MMS
TTY:	Non-handshaking ASCII terminal	Aux serial port
CRT:	System terminal	Z89 console
BAT:	RDR: for input and LST: for output	RDR: for input and LST: for output‡
UC1:	CRT: for input and LST: for output	Modem port
PTR:	Null: Issues a ^Z	Modem port

Device	Description	Port
UR1:	Modem for input	Z89 console
UR2:	System terminal	LP port
PTP:	Null sink	Modem port
UP1:	Modem for output	Z89 console
UP2:	System terminal	LP port
LPT:	Handshaking printer	LP port
UL1:	ETX/ACK protocol printer	Modem port

As you can plainly see, there are many important differences between H/Z's and MMS's implementations. However the 'POKE 3,(PEEK(3) AND 252 OR 2)' should still do the trick.

When I converted from H/Z to MMS to support an internal hard-disk I was meet with some surprise. The output still came back to my screen. Aha, are you ready for the fine print?! In MMS, if you install ICON, the interrupt driven console module, which allows you to 'type ahead', then CON:=BAT: operates differently, and BAT: becomes ICON. This is perfectly permissible under CP/M standards but it was frustrating. A 'simple' sysgen of a CP/M system without ICON cleared up the problem and my program was just fine. But now there's no more type ahead. Ah, the trade-offs with which we all must live...

Since it takes only a few moments to switch CP/M systems, I do so wherever my whim takes me.

CLOSING

I hope this helps others in their usage of IOBYTE. Feel free to get in touch with me if if you have a situation which won't resolve itself. And by the way, I wouldn't touch USER.ASM with a ten-foot pole, nor fiddle with the operating system other than following the various installation options that MMS offer. Good luck. and happy computing!

Editor's Note: See Mark's letter on page __ in The LETTERBOX

TXTPRO Is Better!

by Your Editor

There's been a lot of ASCII devoted to word processors and text editors printed in the JOURNAL over the past several months. Some of you are sold on Magic Wand, others wouldn't trade their beloved WordStar for a kilo bar of 24-karat gold, and still others stick with Software Toolworks' PIE and TEXT combination. A few run the MIX editor--which, I am told, is very good--but have never written anything for us about it. And many of our readers are using my favorite and highly-dependable full-screen text editor, Newline Software's--now-junked--H/Z 8-bit version of TEXT PROcessor (TXTPRO).

Maybe you don't know it, and others may not care, but in my opinion, TXTPRO is about the best-written, "user-friendly" operator-oriented piece of software around! And, as far as I can tell, it's THE ONLY editor/processor which has a non-destructive HELP file you can call on-screen at a touch of the red function key! (That alone is almost worth the price of admission!)

The only "real" word processor I've ever seen (and which I had a too brief hands-on encounter with) was Heath's Magic Wand. The program disc came with several practice text files on it, and a very well written "programmed" instruction manual which--if you're reasonably intelligent--teaches you to use Magic Wand effectively over several week's time and with minimum pain. But it doesn't have a HELP file--you must memorise EVERYTHING! And please note that there are two versions of TXTPRO, one for HDOS, the other for H/Z CP/M. MW and WS are strictly CP/M-only utilities.

Let us examine what the 8-bit TXTPRO was designed to do (it now exists under a different name for use on peesee-type machines):

It is a Screen-Oriented Text Processor for use on H8/H19, H89, Z89 and Z90 computer systems. The top 24 lines are a "window" into your file--"What You See Is What You Get". The time-consuming mistakes typical of line-oriented text editors (PIE, ED, etc.,) are easily avoided because every time you hit a key, its' effect appears on the screen.

TXTPRO will run on any H/Z 8-bit computer with a minimum of 40k memory and one disc drive. The program includes a graphic HELP file which can be displayed whenever necessary to assist new users--and sometimes experienced users too!

TXTPRO was designed to provide a wide variety of powerful functions without requiring the user to memorise dozens of commands. The 25th line constantly displays a "menu" of available choices. For example, the word MODE is displayed above the f3 key. This means that the f3 key can be used to set or inhibit any of the automatic functions. When you hit the f3 key, a selection of mode "switches" is displayed.

Among these options are Auto-Indent, which automatically indents to the same line depth as the previous line (useful for structured programing in C or Pascal--or if entering data in tabular form), and Wrap-Mode, which automatically moves a word to the next line when you reach the right margin (useful if you are more accustomed to word processors).

CURSOR CONTROL FUNCTIONS:
Up or down one line or page, left or right one character, left or right side of screen, left or right margin, first or last non-blank character, top of screen, top of file, bottom of file, any character on next line, tab, back tab, and the ability to move to another part of the file and return.

INSERT/DELETE FUNCTIONS:
Insert or delete lines, insert a character, delete previous or next character, delete to end of line, split one line into two, merge two lines into one, insert special "invisible" characters (such as control, form feeds, or graphics characters), copy lines from anywhere in the file to any other location, and a mode switch to make all entered text replace the existing text or be inserted between the existing characters.

STRING SEARCH/REPLACE FACILITY:
Text string searching forward or backward, find and replace search string, find and delete search string, find next occurance of same string, etc.

INPUT/OUTPUT FUNCTIONS:
Merge two or more files, include a file at a specified position in another file, delete files, reset drives, display special HELP file, and the ability to process files which are larger than the available RAM.

AUTOMATIC FILE BACKUP:
Keeps original text file on disc when saving current work version, thereby preventing accidental loss of material. File names are not changed, but old filename extension is changed to (filename).BAK and just-saved file now has the old file's original extension.

ERROR RECOVERY:
A special OOPS key is provided which will undo the effects of most commands. If you accidentally hit the wrong key, you can change your mind after you see what happened. You can even "undelete" text if you deleted too many lines. Just hit the OOPS key and they will be instantly restored.

OTHER PROCESSING FEATURES:
Shift entire line left or right, readjust a paragraph by moving down to the next line when a line is too long and moving them up when a line is too short. Insert blanks in a line so that right margin is smooth, replace repeated blanks with tabs and delete trailing blanks, an auto-repeat key to

More TXTPRO Is Better!

repeat last command, macro command buffer, and global repeat. Note: A macro command may be repeated from two, up to 30,000 times.

TXTPRO can be put into use almost at once by anyone if they run DEMO (included on the distribution disc) before plunging into TXTPRO. DEMO has a companion SAMPLE.TXT file which it loads and displays on screen. The new user can read the displayed text and then make any changes suggested by the text. After anywhere from a half-hour on up to no more than a day, the neophyte should have enough knowledge to run the "real" TXTPRO, especially if the very concisely written instructions are referred to while running the program.

With the HDOS version of TXTPRO and using an appropriate line printer driver--such as Lindly Systems' MXV44.DVD, it is quite practical and reasonably easy to compose text files which will print two columns onto a single page. With a 9 or 24-pin, dot-matrix type printer, the two columns may be printed out in condensed type, thus allowing nearly twice as much text on a page compared with a ball or daisy-wheel printer. In fact, it is possible to print two columns with the old H14 set to 132 columns, if anybody really wanted to.

Further, it's quite easy to embed italics, expanded, or sub/super-sript character commands in a text file. This gives the final product a very "professional" appearance, especially when a 24-pin rather than 9-pin printer is used. (Many critical observers tell me that the 24-pin printer's characters have much better definition than most laser jet printers, and are as sharply defined as the best daisy-wheel printer fitted with a fresh carbon ribbon.)

Lindley Systems also includes a graphics printing driver (GR.DVD) and a special font editor utility on the MXV44.DVD distribution discs. It is possible to print acceptable graphics with a 9 or 24-pin dot-matrix printer and their GR.DVD driver. Instructions are provided as printable text files on the distribution discs. (For information, contact Bob Lindley at 617-275-6821.)

There are several excellent Graphics Text Format utilities available which can be used with TXTPRO's CP/M version. (One of these Grapics Text Formatters is CALLIGRAPHY-II, available from Skycastle Computer Products--see advertisement elsewhere in this issue.) With such a utility it is possible to produce dramatic and strikingly-elaborate printer output--something which is virtually impossible with standard "typewriter-style" printers. The SEBHC JOURNAL is produced with TXTPRO, COLUMNS, and CALLIGRAPHY-II on an Epson LQ-800 24-pin dot-matrix printer.

You may have great difficulty in "legally" buying a copy of TXTPRO. Newline urged purchasers to give free DEMO file copies to other computer users, so if you like I'll give you a free DEMO copy. Include system (HDOS or CP/M) and disc format information and a $2.50 cheque to cover costs and I'll gladly get one to you right away. Use the order form on the JOURNAL back page. (Hint: Study the DEMO disc READ.ME file if you order the DEMO copy!)

Small Systems World

The LETTER BOX

Dear Mr. Geisler,

Thanks so much for printing my letter. Charley Bejin responded with solutions which I haven't had time to check out fully but will, Real Soon Now.

One more LITTLE problem--somehow I missed out on Vol I, numbers 1 & 2 of the SEBHC JOURNAL. Is there any way I could get them without buying the whole book?

I appreciate your labour in producing the JOURNAL. Thanks again!

G R STRADLEY, 1304 Witthollow Rd. Sevierville, TN 37862

[Right on, G R! Yes, you CAN order single copies of back issues for $2.50 each (no charge for postage). Use the order blank at the back end of this issue to order whatever issue(s) you want. And thanks, Charley Bejin. -- ed]

Dear Lenny,

Howcum you printed in BIG, BOLD LETTERS on my (our) address label(s) the message "LAST ISSUE, RENEW NOW!" when the expriation date following the subscriber's number says "89"?!

RICHARD J KIESSEL, R A HUNT, & RICK SWENTON

[HOHBGY!! That's not a computer error, it's an operator malfunction. That "helpful" computer-illiterate family member I told you folks about previously did it to me again! Your records are all corrected now, and you will receive the latest issue shortly. It was mailed on 29-Jun-88. We'll try Real Hard to avoid this kind of error in future. -- ed]

Dear Mr Geisler,

Enclosed is my renewal [cheque] for another year. I enjoy this type of publication because it generally fits my needs. Thank you very much.

I have two questions concerning JOURNAL [policy]. One is that I personally hate renewals and would like to see two or 3-year renewal options. The second is the steadily climbing price. Having run my own small business, I know your costs keep climbing and hope you are able to attain the volume to maintain good rates.

Recently I aquired an H-14 printer which works well (for such an antique). Have there been [released] any upgrade ROMs for it? Mine didn't come with a manual and I would appreciate any hints your subscribers may have.

I also just purchased Super Calc 2 and would like to see an article or review on use of the Superdata Interchange. [Readers, how about answering this challenge? -- ed]

I'm one of those people who have been described in other H/Z publications as "cheap". I don't necessarily like that label and tend to resent it. I use my H89 because it does what I need done and at a cost which I can easily keep within my budget. If I had the finances, I might try to keep up with the big boys, but I'm enjoying life now, and am probably better off by not rocking my boat!

WILLIAM A JACOB III, 10220 66th Ave SE, Olympia, WA 98503 -- 206-459-1006

[Bill, your renewal has been posted and logged, and II:11 was mailed out to you on 5-Jul-88. In connexion with the H14, if you want it, I'll send you some H14 documentation left over from my having assembled one "way back when". You can have it for mailing costs, Let me know if/when you want it. The H14 is a very solid printer (weighs slightly less than the "New Jersey") and is best used for printing mailing labels where all capital letters are acceptable. It has one other less-endearing quality: Ribbons dry out quite rapidly! Since it uses standard inexpensive typewriter ribbons, it doesn't cost much to run, but changing ribbons is tedious. Now about your earlier worry; our increased subscription rate: I don't anticipate another change until the next postage-rate raise. The Postal Service beating up and "losing" JOURNALs made it necessary to seal them in plastic. That was one reason we had to kick up the price. The other was because the Postal Service increased our basic bulk-rate postage rate from 12.5 cents/copy to 16.7 cents/copy. (First class for the average JOURNAL edition is now 45 cents!) We also have found a good, reliable second source for copier toner at 35% below Canon's list price of $78/carton of 4 refills. And we now are in the process of training a completely computer-illiterate lady to handle many of our routine jobs around JOURNAL headquarters--the way WE want them done--so you can expect to see a more uniform product coming out Real Soon Now. And don't worry about what those peesee-loving Technoyd Yuppies say in "other H/Z publications"--their computers have neatly-engraved little sterling-silver plates mounted on them which say: "This Computer Reflects Its' Owner's Ability To Squander Absurdly Large Quantities Of Money On Things Virtually Unnecessary For Survival." To me, YOU are just Sensibly Thrifty! -- ed]

Dear Lenny,

Thanks for printing my letter. I even got responses BEFORE I received my copy of that issue.! And they're still coming in! Note: My cheque for the bound Volume I and my subscription renewal is enclosed.

SPRING S SMITH, 6055 Gary Place, San Luis Obispo, CA 93401

[Putting your money down on a subscription to the SEBHC JOURNAL Really Paid Off For You, now didn't it?! We're temporarily back-ordered on bound copies of Vol I, but hope to begin shipments around the end of this month--or earlier, if that's at all possible. Hope you can wait! -- ed]

Dear Mr Geisler,

My cheque for renewal of my subscription is enclosed. The magazine is not only enjoyable reading but it contains many valuable tips.

Speaking of tips--I find myself in need of one. My neigh-

More LETTER BOX

bor retired and moved to Florida. He gave me two single-sided eight-inch disc drives. These are very solidly built on a cast aluminium frame and are in "almost new" shape. Unfortunately, no papers, instructions or pinouts came with them. The frame has "ORBIS Systems Inc" cast in, and one of them carries a tag, "WANGCO Mod. 76, P/N 620179-001 Rev. H, Ser. 05-6917". I couldn't find the address or phone number of either of these firms in the 1986 Thomas's Register.

Could you--or one of my fellow readers--help by providing any or all [available] information about these drives? I would gladly pay any costs incurred.

LASZLO M VESEI, PE, 420 Philip Rd, Niles, MI 49120 * 616-684-5339

[Laszlo, I also have a pair of those 8" drives--plus a copy of their manual which I shall be delighted to reproduce for you, family vacation permitting. Hope you can wait! The JOURNAL subscriber who gave me the pair also threw in a home-made case, an unidentified single-board computer, power-supplies, and a neat Xerox keyboard but no other data (sigh); weighs around 80lbs! Be in touch, Real Soon Now! -- ed]

Dear Len,

I have written my own ASM version (listing enclosed) of Dale Cidester's MBASIC program (May, 88). Sending six characters to the printer is a simple job. But I've written my program with sufficient detail to make it easier to understand. I've taken the style [of writing] from several [ASM] articles published in REMark over past years.

[In my listing] the first set of equates puts program variables into English. The ORG command places the program into CP/M's normal memory location, 100H. Then the program loads the first bit string address into register DE. The printline subroutine is next called. This sequence is repeated for the second and 3rd string. The third string is [really] unnecessary, but since my pronter doesn't respond to the first two, I wanted it to do something! Finally, the return statement performs a warm boot.

The PRINTLINE subroutine sends a string of characters to the printer. It checks for a stop byte on each character. It may be necessary to change the stop byte value if the current value is neaded for printer control. It is also possible to go through a more complicated logic [exercise] so that all bytes could be made available for the printer. PRINTLINE calls subroutine PRINT to control the call to BDOS. This makes it easier to control the BDOS interface as [your] programs get more complicated. PRINT stores DE and moves the byte in A to E, as required for BDOS. The C register contains the call number to tell BDOS where to go. The DE register is restored before the subroutine ends. If [your own] program uses other registers, it's easy to PUSH and POP these registers also.

The only requirement for printer messages is that they end with a STOP byte.

To compile the listing, use these commands:

```
A>ASM MT<cr>
A>LOAD MT<cr>
```

You now have an MT.COM file on disc.

Enclosed is my $15 cheque to beat the subscription price increase. Keep up the good work!

PETE ROBERSON, 46853 Bartlett Drive, Canton, MI 48187

[Thanks for writing us Pete. We put your listing elsewhere in this issue only because there isn't enough room in the Letter Box for it. Here's more about Dale Cidester's problem... -- ed]

Dear Mr Geisler,

Reader Dale Chidester wrote in the May JOURNAL about his using an MBASIC file to set his printer. You suggested he could reduce the number of steps by invoking his program from the MBASIC command line and add a return to CP/M with MBASIC's SYSTEM command.

But why bother with MBASIC every time you use the printer? Why not use MBASIC once to create a file, and then copy that file to the printer whenever you need it? Here is how that's done: Write this HDOS MBASIC routine,

```
10 OPEN "O",#1,"PRINTER.SET"
20 PRINT #1, CHR$(27);CHR$(30);CHR$(7)
30 PRINT #1, CHR$(27);CHR$(31);CHR$(10)
40 CLOSE #1
50 END
```

Save it to your boot disc thus:

```
SAVE "PRINTER.SET"
```

Exit MBASIC and check the disc directory for a file named PRINTER.SET. Now whenever you want to set the printer, just send it to the printer via this command:

```
COPY LP:=PRINTER.SET
```

(Note to big bleu users: This approach also works on the peesee and its' contemptibles, but the command must be "COPY printer.set prn:".)

I've enclosed my $15 cheque to extend my subscription for another year. Hope you will have fixed that "SUBSCRIPTION EXPIRED" notation I found on my May issue's address label by the time I read this!

RICHARD J KIESSEL, 19100 St Johnsbury, Germantown, MD 20874

[Your label problem has been cleared up! Thanks for taking time to write that little MBASIC 4.82 routine. Haven't had a chance to try it out yet, but it looks as if it will be much quicker to run than the rather clumsy fix I had suggested! I

LETTER BOX continued

shall try the same idea with CP/M MBASIC--making appropriate substitution of "LPRINT" for "PRINT #1", etc. And I'll let you know in our August issue how it works. -- ed]

Dear Len,

This is in response to a couple items I read in the May issue: First, Dale Chidester asked about a COM routine which would send characters to the printer. Here's a very simple assembly-language routine which should do that:

```
        LXI   SP,0200H   ; establish program stack
        LXI   H,MESSAGE  ; point to message to be sent
LOOP:   MOV   A,M        ; read next character to be sent
        ORA   A          ; check for 00H as terminating byte
        JZ    0000H      ;  & return to CP/M
        PUSH  H          ; save message pointer
        MOV   E,A        ; set up the call to CP/M
        MVI   C,05       ;  E=char and C=5 for list output
        CALL  0005       ; call BDOS
        POP   H          ; reset message pointer
        INX   H          ; point to next character
        JMP   LOOP       ; loop until done
MESSAGE:DB 27,30,7,27,31,10,0   ; message with 00H terminator
```

If ASM isn't your favorite utility, use DDT and enter this code with the command 'a100'. LOOP is at 106H and MESSAGE is at 117H. Enter the message in HEX with the 's117' command. Use a '.' (period) to terminate both 'a100' and 's117' commands. Terminate DDT with CTRL-C (^C) and at the CP/M prompt enter 'SAVE 1 program.COM'.

Secondly, in response to Tom Bohon's question about what to do after his floppy [drive] died. In my experience, any standard 180k or 360k [40trk, single or double-sided] floppy drive which works on a peesee will function as a 'hard-sectored' drive. I've done this with both types of drives. And what's more, under Magnolia Microsystem's CP/M you can configure a double-sided, single-density drive for hard-sector operation.

There's quite a market for second-hand drives. If you wish, you may have my single-sided drive for $30 plus mailing costs. It is missing the multiple-resistor pack. Contact me at my address below.

MARK A BUCKINGHAM, 981 Belle Ave., Teaneck, NJ 07666-2614

[That should make Dale happy! And thanks for the writeup on Magnolia's CP/M! We put your story up front on pp2 - 3. We also got more material which Brad Gjerding of Magnolia sent us about Dale's problem. Read on. -- ed]

Dear Lenny,

I've just received Lee Hart's SUPERSET, SUPERFONT, and SU-PERCLOCK (H/Z19/89 alternate and extended character sets) ROM upgrade, and I must say that I am very impressed.

I've created a few alternate character sets for Lee to in-clude in SUPERSET/SUPERFONT: Esperanto, Spanish, and Russian as well as a different English font. In addition I'm trying to complete a set for Arabic, and a subset of the Inter-national Phonetic Alphabet (broad transcriptions of Esperan-to, Spanish, Russian, and Arabic [characters]). In a couple months you should be able to get these from Lee, but I don't know what he will charge.

Perhaps you [and your] readers can help me. I'd like everyone to send me a list of your most favorite software, that is, how do you use your extra & extended SUPER' capabil-ities? Which HDOS and CP/M (I use HDOS) text editors/proces-sors do you use? What about device drivers and printers, and, have any of you created your own new downloadable printer fonts?

Please send me your answers on disc, single-, or double-sided hard-sector 40trk.

I'll publish a compilation of all your answers in a few months, and please, don't expect me to reply to your letters too quickly as I am moving to Alaska. Send everything to me at my new address below (affective as of 18-Jul-88). Thanks!

MARK HUNT, PHS Alaskan Native Hospital, Barrow, AK 99723

[Mark, I hope you will have gotten properly settled in by the time you read this. And I hope you also will have renewed your subscription by then--it expired as of May-88 (I really do check my records, you know)! Maybe Lee Hart will send us some kind of press release or new-product announcement if he's successful in loading your new character sets into his H/Z-19/89 SuperSet character ROM upgrade; it sounds most interesting and imaginative. Please note: I have TWO print-ers capable of accepting downloadable fonts, but still haven't been able to create even one letter of such a font, not to mention figuring out how downloading works! (Either I'm an awfully s-l-o-w learner, or I'm downright lazy!) - ed]

Hi Len,

Just received the latest copy of the JOURNAL (May) and was quite pleased to find out that HDOS is now in the public do-main. We have to give all you people who were a part of this effort a great big thanks. I am a big HDOS/JGL fan and I would hate to see this beautifully-designed system die.

I've copied the HDOS.SYS assembler code from the [origin-al] hard copy to a disc file and have sent you a copy on the enclosed disc. This version CAN be assembled using HDOS's standard ASSembler utility. The only problem I came across when trying to get it going was [that] a couple of bytes needed to be zero when the system was starting up and weren't because HDOS ASM doesn't clear DS areas. [To fix this] I ad-ded three lines of code [to the original listing] and haven't had any problems so I believe I've weeded out all the typos.

I hope you will pass this code along at minimum cost to those people who don't want to spend money for another assembler. Feel free to write or phone me with any questions which I may have left unanswered. Oh, I almost forgot to

Down In The LETTER BOX

mention that there is one normal error reported by ASM [when compiling this file]. The error is an ERRMI opcode and can also be found in the hardcopy listing.

You'll also find a program called PEEP on the enclosed disc. I've found it quite useful because it allows scanning of a text file and saving selected parts. This program is very new, so it might have some bugs, but I thought I'd include it anyway.

BOB OLSON, 24550 Kirby Street #146, Hemet, CA 92343

[Many thanks for the HDOS listing! Haven't had an opportunity to check out the disc yet--I'm writing this with TXTPRO on CP/M--but I'll get 'round tuit, Real Soon Now! Look for a review in our August issue. I'm sure we can come up with a fair price for reproductions if anyone wants them. Long Live HDOS! -- ed]

Here's a condensed version of Brad Gjerding's letter to Dale Chidester:

"Re: Your letter to the SE8HC JOURNAL, Vol II, #10 (May '88)

"I'm disturbed by letters like yours--yes, somehow we weren't communicating, but our distribution software does indeed have the I/O byte implemented. So how, pray tell, would sending a copy of your system disc to us help? We must charge for time spent solving end-user problems, and unfortunately the cost of providing support hasn't gone down with the cost of hardware. If anything, it's gone UP because the average (new) user has less experience and doesn't appreciate that it takes just as much effort to bring up a $200 - $500 '89 system as it did [back] when the '89 system cost $4000 or more!

"What you need is some help in getting your MBASIC program correct, or in properly interfacing your 2nd printer to the '89 and CP/M. A BASIC program written for H/Z CP/M won't work with MMS's CP/M because the I/O byte implementation is C8IOS dependent.

"I'm enclosing a printout of the standard [MMS CP/M] USER.ASM with the I/O byte implementation highlighted, as well as a 5.25" disc with the submit file I used to test it, together with resulting printouts from two different printers connected to my '89.

"If you still need help, call and make the necessary financial arrangements and we'll do our best to solve your problem.

"MAGNOLIA MICROSYSTEMS, INC.

"B. K. Gjerding, Vice President"

[Right on, Brad! Hate to tell you this, but I tried to read the files on that disc you sent with my H/Z standard CP/M-80 and got "BDOS ERROR - Bad Sector on C:"! Even tried to look at it with SZAP and DDEU, but got the same error. So you are quite correct; H/Z CP/M is absolutely incompatable with MMS's CP/M! What do you want me to do with this stuff? -- ed]

Dear Lenny,

I've used Magic Wand exclusively since it came out and I can't agree with your assessment--it's hardly a "poor man's WordStar"! It does some things better, some worse, mostly it's just "differnt" than WordStar. For instance, WordStar can't cope with a proportional daisy-wheel like the one I'm using for this note, nor does it include the flexible form-letter capabilities Magic Wand does (even after you've added MailMerge to WordStar). And Magic Wand's standard [H/Z] implementation uses the '89's function keys and cursor pad-- NO PATCHING!

BRAD GJERDING, MAGNOLIA MICROSYSTEMS, INC., 2820 Thorndyke Avenue West, Seattle, WA 98199; phone 206-285-7266

[Thanks for setting me straight on WordStar and Magic Wand! When I said "poor man's WordStar" I was referring how much less Magic Wand costs than WordStar for our Heath machines, that is, WS for about $149 from ANAPRO, and about a third of that for Magic Wand (if you can find it for sale anywhere). I've never been lucky(?) enough to observe WordStar at work, and only had a glimpse of Magic Wand over someone's shoulder. Read my review of TXTPRO on pages 4 & 5, just for fun. -- ed]

Dear Mr Geisler:

Here are some good words about Lee Hart and his new venture, "TMSI". In November of last year I ordered a softsector controller from the now-bankrupt Technical Micro Systems, Incorporated. My order eventually found its' way to Lee Hart and, even though there was a delay of several months, he delivered the equipment. Also his technical expertise helped me to get my whole H89 hard and soft sector controller system working beautifully.

I wish Mr Hart well with his new venture and hope that those of us with old computers such as the H89 will be able to enjoy his support well into the future. His address and phone number are: Lee Hart, 28612 Middle Crossing Road, Dowagiac, MI 49047; 616-782-3980.

RICHARD A SCHMIDTKE, PhD, 372 Fairway North, Tquesta, FL 33469

[Thank you Dr Schmidtke for letting us know that Lee Hart is still hanging in there. And I agree with you that he is quite technically competent with our most favorite computers and the care and feeding of them. I haven't been in touch with Lee recently but, from your and other subscriber's letters it appears Lee hasn't completely abandoned the H/Z 8-bit aftermarket. Get in touch, Lee! -- ed]

SEBHC JOURNAL

Cumulative Index/Table of Contents

--=:[[8]]:=--

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* The SEBHC JOURNAL is composed, edited and published by L.E. Geisler at 895 Starwick Drive, Ann Arbor, MI 48105. Phone 313-662-0750, 9am - 6pm Eastern Time, Monday thru Friday. Off hours, try 313-769-6052 (home).

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