

The HP Microcomputer Journal

IS THE SERIES 80 DEAD? by Dale Flanagan

The death of the series 80 has been proclaimed by Richard Nelson in the PPC Computer Journal newsletter. Hewlett-Packard's advertising support for the Series 80 has dwindled to next to nothing. HP has printed what will probably be the last Series 80 software catalog, and most HPers will give you studied phrases punctuated by careful pauses when you ask them about the remaining life of the Series 80.

What's happening?

Despite many unique features, the truth is that the series 80 is near the end of its life cycle and it doesn't look like HP will be doing much to continue its line. The Series 80 has a unique proprietary chip and a unique HP operating system; the last 2 HP computers (the HP 150 and the new HP Portable) use industry standard chips and the MS-DOS operating system. The Series 80 is conceived as an HP basic machine; the last two computers introduced don't even come with a standard language, and the Only Basic available is plain vanilla Microsoft basic. The Series 80 is expandable through plug-in ROMs and interfaces; the last two HP computers had no user installed ROMs and the new Portable has no expansion slots. The Series 80 is aimed at scientist and engineers; the last two HP computers are all squarely at the business market. Plainly, the Series 80 is out of step with current HP thinking (and industry thinking, for that matter).

As any Series 80 owner knows, the Series 80 has not set the world on fire in the sales department. Yearly sales for the series 80 have been less than monthly sales figures for computers like the Apple II or the IBM PC. The software available for the Series 80, with a few notable exceptions, has tended to be very specialized and focussed. In fact, because of the power of the HP Basic language, most Series 80 owners have tended to write their own applications.

Series 80 owners have been intensely loyal. They love the legendary reliability, the mathematical precision of the Series 80, and the fact that,

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[80 DEAD? Continuation...]

with the proper ROMs, a Series 80 can do things in a few lines of Basic which would take other machines enormous amounts of assembly language code. Despite this, we believe that Richard Nelson is right, and that the Series 80 will be phased out of the HP product line, probably in less than 12 months. We believe that HP will introduce another desktop computer, perhaps with an 8086 or 68000 chip and an industry standard operating system, which will replace the Series 80 in the HP model line up.

How does this affect you? Possible it won't. Most Series 80 owners write their own software anyway, and judging by the number of HP 35 and HP 65 calculators still out there, there seems to be little problem with keeping old HP equipment running. It does mean that finding new software and hardware will become increasingly difficult, because most personal computer ventures are closely tied to new sales. If a computer is no longer selling, there is a dramatic drop-off in the number of companies supporting that computer, even though there may still be a substantial user base out there. This effect occurred with Osborne, TI 99/4 and Timex computers. There's no reason to think that the Series 80 will be immune.

If there's a piece of software or ROM that you feel you MUST have, my advice is to buy it now, because there's no guarantee that it will be available later. If there's something that you merely want to have, then it may be better to wait because you may be able to pick up some bargains later.

There are some things HP should consider, too. One is simply "opening up" the machine, and making more information about the Series 80 available through the User's Library or through user's groups. Compared to Apple, IBM or other computer companies that I've dealt with, Hewlett-Packard has been excessively sensitive about keeping information about their computers proprietary. This has changed with the HP 150 and the HP Portable, but unless you stumble upon the right people, getting Series 80 information is still difficult. I'd suggest making photocopies of the source code for all binary programs in the User's library available on a "no support" basis. Photocopies of documentation on the disk operating system would also be a big help. This documentation can be the raw notes and material that HPers use; it's obviously not economic to try and write new material or typeset things at this stage. Once again, buyers of this material will have to know that this is a "no manufacturer's support" package.

Apple successfully did this with the "Woz Pack," a collection of Steve Wozniak's notes on the Apple II and on Apple Integer Basic, which it gave to user's groups for distribution. IBM has its \$40 IBM PC Technical Reference Manual, complete with an annotated listing of the R011 BIOS of the IBM PC, which is sold on an "what you see is what you get" basis, with no manufacturer's support.

Why not the same for the Series 80?

PSEUDO "IF THEN" FOR SERIES 80 VISICALC by Dale Flanagan

Unlike newer versions of the Visicalc program, such as the one found on the HP 150, Series 80 Visicalc lacks an "if then" function. On complicated spreadsheet this lack of "if then" logic can be most annoying. For instance, suppose you had a spreadsheet designed to calculate commissions for salespeople. Up to a \$1000 in sales, you will pay 10 percent. However, if the salesperson is able to sell over a \$1000 you will pay 15 percent on the total amount.

Although there are probably several ways to handle this on a Visicalc spreadsheet, the most straightforward way would be to use some type of "if then" logic which says something like "if the sales amount is a \$1000 or less, then the sales commission is 10 percent times the sales amount; if the sales amount is over \$1000, then the sales commission is 15 percent of the sales amount." Although you can't use a straightforward "if then" command in Series 80 Visicalc, you can create a pseudo "if then" statement.

The pseudo "if then" depends on Series 80 Visicalc's ability to do Boolean logic. With Series 80 Visicalc, a boolean statement can be translated to a true or false condition. A true condition is evaluated as a "1" and a false condition is evaluated as "0" (zero). The trick then is to evaluate the "if" condition as a boolean expression and to translate this 0 or 1 result into the desired quantity in the "then" result. In the sales commission example above, assume that the sales amount is entered in Visicalc's cell A2. In cell B2 we could place the boolean expression (A2 <= 1000). In cell C2 we would place the boolean expression (A2 > 1000). Finally in box D2, we would place the formula (B2 * .1 * A2) + (C2 * .15 * A2).

[A2]	[B2]	[C2]	[D2] Commission Amount
1000	(A2<=1000)	(A2>1000)	(A2*.1*B2)+(A2*.15*C2)

The boolean expressions in B2 and C2 would evaluate to a 0 or a 1. Because the conditions in C2 and B2 are mutually exclusive, we would have a 1 in one cell and a 0 in the other. We would not have a 1 in both cells or a 0 in both cells in this particular example; although obviously for other types of examples this may be a valid condition.

The example formula in D2 then evaluates to either 10 percent times the sales amount (in cell A2) or a 15 percent times the sales amount. This is because in one or the other of the formulas enclosed in parenthesis, the quantity 0 would be multiplied times the commission and sales amount. This means that on one side of the plus sign or the other we would have the quantity 0 added to the sales commission amount. To simplify this example, we've shown the boolean expressions in separate columns. Obviously, they could also be incorporated directly in the formula in cell D2.

Introducing

Q.Ed. QUICK EDITOR

Q.Ed. QUICK EDITOR is a program development tool which increases the productivity of any active programmer who uses either the BASIC or the Assembler languages of the HP-86/87 computer system. It is a binary program which implements a fast method for editing program statements, and it offers commands to search for, and optionally change, all program lines containing a specified character sequence.

As a further time-saver, the Q.Ed. System will protect itself, and all other binary programs loaded before it, from becoming scratched by most commands which would normally erase binary programs in memory, such as LOAD, SCRATCH, and ASSEMBLER.

The Q.Ed. System's features include:

- Quick editing of program lines, using single-key commands to go to the end, the beginning, or points in between to make changes, deletions or insertions
- No more finger-fumbling to use the insert, delete, cursor-movement, and screen-clearing keys of the keyboard, they are all provided as control-key commands on the alphabetic keyboard.
- A special editing sequence to combine different lines, or parts of them, into a single program statement
- A global function, with easy-to-learn syntax, to search for occurrences of a specified character sequence. As an example, Find GOTO 2000 will display all program lines having that directive.
- Another global function to replace one string with another. In the example: Replace GOTO LABEL GOTO 2000,300,900 a label reference will be replaced by its line number in GOTO's from program line number 300 to line number 900
- A fast, improved CAtalog command, which displays up to 40 files on the CRT, "paging" through longer catalogs.

and Five more UTILITIES for the HP-86/87

FILE MOVE'R is a complete disc-management utility program. Its powerful file-handling functions, its improved, two-column catalog display, and its disc "statistics" function make it a handy tool for any user. The "un-purge" function alone can prove its worth when a program or data file is lost through an accidental purge.

- Features a wild-card file-naming method that allows selection of files one at a time, or in user-defined sets, for any of its six file-related functions.
- Copies files in half the time as the standard copy command.
- Performs a single-drive-copy.
- Presents statistics on free-space and recoverable wasted space in programs.
- Resurrects NULL files to their former status as active files. >

FILE MOVE'R requires a 64K memory space, and with greater memory it performs even faster for large-file copies. Single-drive system users will find FILE MOVE'R to be a necessity (Not suitable for use with other than the normal HP disc system.)

MASTER COPY does one thing, efficiently. It copies the content of one diskette to another at nearly three times the speed of the standard COPY command. It also works in single-drive systems, with prompts for manual swapping of diskettes. When copying to blank, unformatted diskettes, its 30-second initialization is a snap compared to the normal two minutes.

Designed for efficiency, MASTER COPY can also satisfy the legitimate back-up needs of users. It copies sector-by-sector, and it copies directories, active files, NULL files, and un-used sectors. By its nature, it defeats many copy-security provisions.

FRUN UTIL is a binary program offering over 40 statements and functions that simplify BASIC programming of string manipulation, screen displays, keyboard control, and input functions. Among its new capabilities are:

- A new CAtalog command, which works faster, "pages" through long catalogs and allows a BASIC program to access and analyze a disc directory.
- LEFT\$, RIGHT\$, MID\$, LSET, RSET, and more string functions to provide for efficient and flexible programming.
- New input functions to GET a single key-stroke (with optional flashing cursor).
- Screen-display and screen-clearing commands to enable any programmer to create a screen-form for data entry.

SCREEN DUMP'R is a binary utility program particularly useful for documenting a software system, by showing on paper what is displayed on the screen, menu-by-menu and function-by-function. It copies the current CRT text screen (not graphics) to the system printer, using a single-key command that is available even while a program is running. And it works "under the influence" of most programs that "take the keyboard".

SUPER SNOOP'R is an educational program with practical applications. It reads and writes any sector of a standard HP-86-87 diskette, displaying its contents both as ASCII characters and in their decimal, or octal, representations. As an educational tool, SUPER SNOOP'R provides the means to learn more about programs, data files, and diskette catalogs. On the practical side, SUPER SNOOP'R also performs as a disc-zap utility, allowing the user to change any byte on a diskette.

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DR. SLEUTH by David Efron

Once in a while a little-known-fact about the Series 80 computer is discovered. in this particular case, the little-known-facts concern the HP86/87, for that is the computer Dr. Sleuth uses.

SECURITY LEVEL 0.5:

The BASIC language manual supplied with the 8 states that file security level zero prohibits listing and editing programs, and that file security level one establishes the prohibitions of level zero PLUS the Inability to duplicate the program by means of a STORE or STOREBIN from memory to a storage device, or by COPYIng from one device to another.

It also states that file security levels 0 and 1 are mutually exclusive, i.e. If level 0 is set, level 1 can not be set, and vice versa. It is true that level 1 adds copy-protection to list-protection, but the manual does not point out that it is possible to have copy protection without list-protection.

Why would you want to? Dr. Sleuth agrees with the designers of the system. If duplication were to be prohibited, why allow the listing of the source program, such that it could be duplicated by typing it in through the keyboard, or by saving it to a file through the GETSAVE utility!?

Nevertheless, in the interest of knowledge, this can be achieved by:

(1) SECUREing the file with level 1 security, then

(2) UNSECUREing the file with a level 0 parameter. The result is a listable and editable file that cannot be COPY'd or STORE'd.

ON BACKUP AND COPY:

BACKUP is the single-drive copy utility provided by HP on the Demo Disc. COPY is a ROM command for transferring a file (or the entire contents of a diskette) from one disc drive to another.

However, there is a "bug" in the BACKUP program, and those who use it as their only means of copying diskettes should be aware of it.

For the curious... The COPY command goes about its business without pause of hesitation, reading from one disk and copying to another. The BACKUP program reads a block of data, waits for a change of diskette, and then copies the block, again waiting for a change back to the "original" diskette. COPY is indeed faster than BACKUP, even when BACKUP is patched to copy from one drive to another without the pauses for diskette changes.

When COPY encounters a program protected against copying (level 1 .security), it skips it and goes on to the next file. BACKUP will copy the file then PURGE it, leaving a NULL file on the diskette which gets removed the next time the diskette is packed or when another file is saved into its place.

With BACKUP, at least you know that a file was dropped during the copy. With COPY, you might think you got it all, unless you count the number of entries in the catalog.

COPY crunches files when it can, whereas BACKUP does not. For example, a Basic program of 35 sectors might get STORE'd into a purged (NULL) file's space of 50 sectors. COPY frees up the un-utilized 15 sectors. In the same vein, COPY removes NULL files, but BACKUP backs them up.

For the cautious, the BACKUP program has a bug in it. PROGRAM and BPGM type files can be secured with a non-duplication security code (level 1), but this information is stored differently for these two different file types. However, BACKUP treats them the same, having a strange effect. Secured binary programs are not really secured, unless by some coincidence the BACKUP program interprets as security codes the values in the storage locations it is programmed to look at. Equally unlikely, but more disconcerting to the user of BACKUP, is that an unsecured binary program just might have what looks like a security code in the places where BACKUP is looking for security prohibitions. It won't happen often, but Dr. Sleuth discovered lightning can strike. an unsecured binary program. R.I.P. poor unsecured binary, with a tombstone marked NULL.

ON PRINTER CONTROL:

Lies... lies... lies... The reference manual says you cannot print more than 220 columns on a print line. True enough when you try PRINTER IS 230. Printer is 220 is what you get.

But a number of printers can perform character compression of 16.7 or 17.1 or even more characters per inch. Letter quality printers can squeeze 20 characters per inch; a bit tight, but with a 15-pitch print font perhaps legible. Or imagine a print line with underlining, created by imbedding backspaces as letter-quality printers require. That could mean a triple-length line.

Fond of pushing equipment to the limits, and wanting 233 print positions on an Epson MX 100 printer, this trick was the solution:

```
PRINTER IS 701 !The parallel port
```

```
PRINT "..."; @ PRINT "...";
```

```
! Print your line without termination, i.e. use semi-colons at the ends
```

```
PRINT CHR$(13);
```

```
! As far as the system is concerned, the line never ended. But send this for the printer's health.
```

```
PRINT CHR$(10);
```

```
! Add a line feed if the printer doesn't do this automatically.
```

```
! Keep on printing
```

The line termination can be done as a GOSUB, for typing convenience. What we've done is

bypass the printer driver's normal check for line length. It will pass on the carriage-return-character (13) without interpreting it as end-of-print-line.

If you like tricks like that... how about indenting all print lines? If your printer can set a horizontal tab position, you can program the computer's interface control registers to send a TAB command after each carriage-return and line-feed sequence.

Printer tab-setting-commands vary greatly. For example: for a Diablo printer, position the print head to the desired position by printing spaces, then PRINT CHR\$(27); CILR\$(49) to set the tab. The Epson takes CHR\$(27); CHR\$(68); CHR\$(nn); CHR£(0), where nn is the column number to be TAB'd to.

Now to program the interface.

```
SET I/O N,16,3 or N,16,2 (if you don't want the system's line-feed)
SET I/O N,19,9 or N,18,9
```

N is the interface number, for example 7 is the built-in parallel printer port on an HP-86, and 10 is usually the Serial interface. The above two commands place a TAB instruction at the end of the end-print sequence. Now the system will send the printer a carriage return, line-feed and tab-to-column sequence at the end of lines.

Finally, be sure to PRINT a blank line before starting your print to position the printhead for the first line.

When done with indented printing, SET I/O N,16,2 or N,16,1 to remove the tab command, and print another blank line to make sure any unwanted TAB commands are not floating around the printer's buffer.

WRITE/IDEA FOR THE HP 86/87 COMPUTERS by D. Stone

In the process of earning my daily living, I have to frequently produce 1 to 5 page memoranda and reports. My transition from pencil/paper/typewriter to word-processor is not yet complete, but still being pursued. My chances to 'test-drive' another program in the course of everyday use are frequent enough to give me a fair idea of how a program handles. I've been doing just that with WRITE/IDEA by Threshold Software for 4 weeks now. Here is a rundown on the program followed by comments.

This product is a decently fast program if the generation of short reports is your main requirement. I spent some time setting up replacement/chained files, and was well impressed with its speed in producing multiple custom copies of letters and reports. It is a very good performer in terms of speed of access to floppy disk files. Its ability to read 'alien' files in a "GET" mode can be very useful, although a little slow. In every respect, this program can produce the claimed results if the directions are followed EXACTLY. An especially nice aspect of the offering is its price, recently reduced to \$ 69.95.

One delightful discovery was that it works with buffered EPSON printers, unlike WORD/80. The supplied binary program, "BNWRD87," implements many functions of HP's IPBIN & STRNGB binaries, in addition to some new ones. Unfortunately, included in this binary are the keywords LIST, PLIST, HGL\$ and MEM. These are masked out when the program is resident, as part of the program security. But when finished, be sure to get this binary program out of memory. I don't know if the backup copy has this "feature" or not. I hope it doesn't. I personally object to security methods that are disruptive of system operations after the application has ended. Nobody needs that kind of surprise.

There are several features that I did not care for. On the minor front, there is no topical or command index included with the 60+ page manual. The organization however is good, and if you really read it once, you'll likely be able to find the topic you desire. For a program in this price range, the manual is considerably better than I would have guessed. There are reproductions of screens and the example text files are a very good learning aid.

A little more annoying was the fact that the rollkey functions produce the opposite effect from that encountered when the system editor is in operation. On the plus side, a very nice keyboard function guide is provided. A 'gas gauge' indicator for file size would be preferable to the "words remaining" information supplied by the program (the words remaining is based on 4 letter words with one space between).

There are some relatively more serious problems, too. After typing out an original copy of this review, I attempted to store it to a disk which I had previously write protected. All seemed normal till the next day when I tried to reload it. It was never saved, even though disk operation seemed to indicate it had. A quick test showed that there is no error recovery for write protected disks, and no indication to the operator that anything is amiss. This is a first order fault in a data storage system, especially dangerous where non-technical users are concerned. I would hope that this will be corrected.

Two secretaries, who presently use dedicated word processors, were induced to use the program at work, remarked that they were surprised to see copy disappear during the insert function. They were eventually able to overcome their apparent prejudice over seeing paragraph marker and delete symbols on the screen.

A crawly bug exists in the replace file function. I did the following: I attempted to call a replacement file that was not on the disk. The program displayed a catalog. The desired file was not present, so I entered a null string, to exit. Whoops, you can't leave this routine unless you select a file to load, you just get the CAT again. . . And so on . . . I tried the same operation on my 87A, the 87XM at work and on 86A backup system. The results were the same on all three machines.

I have significant complaints in the use of the maddening decimal tab function. In the course of an editing session, after trying to change tabs, I found that they could not be changed. Some values in the tab field bring unexpected results and flight of the cursor. After homing the cursor, paragraph symbols were demanded in the wrong place. The suggested correction, strikeover, consumes 10 seconds per line just to clear 80 cols. There is no cursor feedback, so if you backspace from a tab position, the program blindly moves you to the position beyond the selected one, losing the place of the one you backed out of. My best advice is, don't make a mistake. I was unhappy not to see the columns formatted unless preview printed to screen. This wastes time, and let's face it your time is what this is all about.

With the exception of the STORE function, my complaints are with the less frequently used portions of the program. The essential functionality, however, is unquestioned. WRITE/IDEA86, although not the most flexible program for the HP 86/87, is a good adaptation and a good buy for the money.

PAPERITER by D. Stone

Wow ! Is that a way to start a review? It is for this one. What I mean to say is, "Boy is this program fun!" After two weeks with Paperiter by Threshold Software, I have only a few complaints of the minor variety. To start off, this is a program of quite exceptional sophistication for its price tag, \$99. If you start off without any reading of the manual, it is possible to store finished text on the first try. That's easy to use!

This program has a great selection of commands to work with, and best of all they work in the "what you see is what you get" mode, a favorite with this writer. They include, line centering, footnoting, special graphics character insertion and underlining. A "BUILDCHARS" utility supplied allows you to define custom dot-matrix characters for imbedding in your main text. It is great fun to drive, as a lot of work was obviously expended on this graphics mode support program.

The program has many file control features accessible from within the main EDIT program structure. These include text packing; file renaming; sub-file get and save; and the ability to store various dot matrix custom typefaces (not for the 82905), formatter and edit parameters. These all speed the edit/format process. Additional commands are for a file PURGE, ERASURE and even a sort utility that can sort, on a column by column basis, any portion of the entered text.

All the other standard features one would expect on a full function word processor are included. The search/replace function and file operations all proceed quite smoothly.

Paperiter has optional keyclicks, margin bells and an absolute margin whistle, All parameters are saveable. This will help with the list of -log-on or pre-formatting questions and required responses. A real plus is the fact that the command keys on the computer maintain the same functions as the system defined ones for many functions within the program.

A minor problem: the insert/replace function is limited to the line you are on. That is even with word wrap enabled. If an insert meets the absolute margin, you are all done. I was not able to find out how to get around this problem by reading the manual. And while we're on the subject, the manual is VERY GOOD. It has a quite complete index and is presented with nearly absolute clarity. An unusual feature is an emergency routine that you can use to save a file even after a "soft crash," by pressing RESET and then following instructions for saving the file in calculator mode. This is very nice. The two HELP files that can be accessed from the editor are a very welcome step in the right direction in this program.

This program contains a very nice "footnote pointer" function. It could be of special utility to anyone in a student frame of mind, particularly if report generation is a prime consideration. The files created by this program are reasonably easy to read, as they are mostly 80 character strings. File transfer should be no big deal.

The means used to insure protection and complete error recovery were very solid. I was not able to lose text, in spite of several serious attempts.

The choice of three tab settings is a bit too few for my taste. Although this is a great improvement over the tab function in WRITE/IDEA, it is still no match for the "80 pos" tab feature found in WORD/80. A mitigating circumstance is the forward and back tab feature provided by the PAUSE/STEP KEY. The fact that these increments are limited to + or - 5 characters is still somewhat a hindrance. I would prefer the ability to set any tabs I choose at any time and to then use the STEP/PAUSE key to act just like the tab key on my typewriter.

On first viewing, the printer format menu is rather hard to read, but after a few more uses, it was not bad.

The only feature that was less than outstanding is the "block-move." Block moves are accomplished on a full line basis, and as such its utility for me is somewhat diminished. When I write with a word processor, I do not expect to have to segregate by line for future editing, because I don't know what piece of text I may want to move. There is no provision for block storage in the event that an indeterminate move is desired. After using this capability very extensively in WORD/80, I was a little disappointed that this feature was so hard to use, particularly in light of how very nice its other features are.

To summarize, this program is an outstanding piece of work from an independent software producer. All things considered, I would not hesitate to suggest it for any word processing use.

BENCHMARKS & CONCLUSION by D. Stone

Benchmarks; you know what they are. They're a form of graffiti you see in the bus terminal

right? Not really. The term generally refers to a set of tests that an instrument or a program is put through for purposes of comparison, usually with speed of operation in mind. I felt that for the word-processors a benchmark test might be in order.

One of the first things I wanted to check was how long one had to wait before getting to work with each of three products; WRITE/IDEA, WORD/80 & PAPERITER. Two of the three put the "store" part of the operation at the end. WORD/80 puts the creation/get at the start, and "auto/saves" as the work is in progress. The store times for each program were judged comparable. For this reason, I timed what is the equivalent of initializing and set-up. This is the time from chaining the program on a cold system, to actually having the work screen presented. In the case of PAPERITER, on a cold start, I accepted all defaults presented.

The setup times are as follows: WRITE/IDEA 23 secs.; WORD/80 1:04 min.; PAPERITER 1:50 min.

Another test of basic throughput that is of interest is just how fast text may be entered. It is especially important for the less than perfect typist. I tested the total "screen/put" cycle. I timed how long it took to put "160 X's" on the screen and divided by 2 for a seconds per line figure.

The time per line is: PAPERITER 7.4 SEC; WRITE/IDEA 10.0 SEC; WORD/80 10.3 SEC

In use, I noticed that PAPERITER was a little more responsive, although certain commands seemed to execute much slower than others. I started out to benchmark the formatters, but after consideration I decided that the figures might be less than meaningful.

It would be fair to say that only WRITE/IDEA can output formatted text at a pretty consistent 1200 baud. PAPERITER and WORD/80 could not fill the buffer on a 160 cps printer, even with the longest document I tried. However, when used with a 15 cps daisy printer, there was no noticeable difference in print time. The formatting was always faster than the printer. I never plan to be hanging around waiting for the printed text anyway. Usually, I ready a formatter print run, and then work on something else while the printing goes on. What I do care about is how smoothly the product handles in the edit mode.

Another relative performance test is the speed with which disk files can be retrieved and stored. The more important test, I feel, is retrieval time for existing files. Of the three programs, PAPERITER is a clear winner, IF you have an Advanced Programming ROM. The test was based on loading a full 66 lines of text. The results: WRITE/IDEA 15.4 sec; WORD/80 18.2; PAPERITER 22.2 sec (10.2 sec. with AP ROM).

In a test like this, there is always some amount of "apples to oranges" comparison. This sort of thing is inevitable when comparing significantly differing approaches to a problem. The three programs reviewed all out to do similar things. The degree of sophistication is the primary difference.

PAPERITER has optional features that are unique to the group. It detects the presence of the AP ROM, and implements some speed enhancements based on this information. It also supports a non-HP printer as part of its ordinary operation. The methods used for storing the file and any associated setup vary as well. Although the approaches may differ, I have tried to compare the areas of operation that I feel naturally invite comparison.

None of the three is a perfect program. But it is just as true that none of them is a bad program either. After really using each in a real work environment, I am forced to admit that WORD/80 has the greatest number of features of the three. An amazingly close second in the race is PAPERITER, all the more so because PAPERITER is, I believe, the creation of one person, not a team. At this time, to ask me which I might use personally from day to day, an honest answer might be "all three!"

WRITE 86 by Dale Flanagan

Normally we don't review programs prior to completion. However, the innovative Tom Ligon of Applied Research and Consulting (2938 N. Madison Avenue, Loveland, Colorado 80537), was kind enough to send us an early version of his new program, Write/86.

Since Tom's work is always innovative and interesting, we feel it's worth writing some quick impressions of the program, as well as the listing of its many features.

Regular NEWS80's readers are familiar with Tom's program WRITE/85. This is a unique, well-written program. Since completing this program, Tom has gone on to create a database manager called ACCESS/85, which is designed to work with WRITE/85. Now he is updating these programs and converting them to the HP 86/87. The first result of this effort is WRITE/86.

WRITE/86 has the powerful features and innovative operation found in Tom's WRITE/85 program (an early version of WRITE/85 known as Text8S was reviewed in NEWS80). Tom's approach to word processing is different from those found in programs like Wordstar and other similar offerings because he deals with the text of a document in logical groupings, as defined by your paragraphs and similar blocks of input. As expected, WRITE/86 is superior to WRITE/85 simply because the HP 86 screen is bigger and carries more characters on it than the HP 85. We found WRITE/86 to be an enjoyable program to work with and as you can tell from the list of features, it certainly offers a wide variety of commands.

WRITING

Save up to ten 160 character Macros/Typing aids. Set up to 20 tabs. Define input/skip-to fields for forms; typewriter mode available for pre forms. Emphasize with underlines and boldface on most printers. Equations with super/subscripts on most printers. Page head/Foot annotation; automatic numbering. Alternate characters and user defined characters. Auto indentation.

Special correspondence features including auto envelope print and daisy wheel boldface highlighting

SCREEN EDITING

Literal Cut & Paste or relative text charges; you see what you get. Single character or large block inserts and deletes. Boldface and/or Underlining shown in inverse video. Last/Undo key restores previous text. Home and End-of-Text key.

DOCUMENT EDITING

Quick SCAN allows contents overview of large document. Text shown on screen as it will print, including page breaks and numbering. Display or print randomly accessed sections together. Manage pages/large sections with MOVE, DUPLICATE, MERGE, INSERT and DELETE. Extended filing system allows documents limited only by disk space

FORMATTING

Set and change margins, type style, spacing and centering. Up to six type styles selectable (printer dependent). User specified format menus and defaults or super quick formatting. Global or local format changes at any time. On-line screen format guide for quick assistance

PRINTING

Built in printer support for all printers commonly used with series 80. Mail merge for customizing common letters, etc. TOP command for quick and accurate paper alignment. Cut sheet and continuous paper supported. Unprinted annotation and interpreted remarks can be included in text. Smart paging/pagination looks for "best" page breaks; user can easy override.

PRINTING ENHANCEMENTS INCLUDE:

Multiple copies, print any range/page portion of document, global double strike, right margin justification, double spacing (local or global), line numbering for editing.

FILING

Compact filing for over 100 pages per disk. Automatic file creation and sizing Indicator for "safely" filed status. Optional auto backup or text as it is written.

GENERAL

Self allocating program to effectively utilize any memory configuration. 4 pages internal capacity with 64k memory. Approximately 10 pages/32k additional (document limited by disk space, not internal memory). 'Electronic disk supported for fast program and text access .CRT graphics formatted and printed along with text. Find and replace function; global or specified portion.

System/User configuration quickly changed and saved. Complementary with ACCESS database file process for Integrated Information Processing.

BERING DISK DRIVES FOR THE SERIES 80

Bering Industries has announced a full line of winchester type disks for HP computers. The Bering "Series 3000" consists of 12 models offering hard disk capacities of 5, 10 or 15 megabytes and optional built-in floppy drives with 3.5", 5.25" and 8" units. Bering claims that there hard disks offer a price savings of 20-50 and a three times improvement on the average transfer rate, when compared to HP drives.

In addition, Bering has a multi-port feature that allows the sharing of disk drives between 2-3 different HP computers, and an intelligent controller for local back-up and restore of winchester data.

Bering claims the Series 3000 is completely hardware, software and media compatible with all HP technical and personal computers, including HP Series 80, Series 100, Series 200, 98XX, 250, 1000, 9000 and 64000. Connection is via the HPIB, and no hardware or software modification is required. The winchester disks may be freely partitioned into formatted blocks of 1.2, 4.8 or 9.7 MB.

With an average transfer rate of 174,000 bytes/sec., the Series 3000 disks are the highest performance 5.25" winchester drives available for HP personal computers. The controller of the Series 3000 features dual microprocessors: an 8085 and a 2900 bit-slice.

For approximately \$700 extra, each Series 3000 disk can also support a multi-port connection that allows 2-3 different HP computers to share the drive. Each computer has exclusive access to its preset winchester storage area, while use of the (optional) floppy drives is shared. Users may reconfigure or repartition the storage setup to meet new applications. Connection is via HPIB cables, and optimal operation is maintained for distances up to 20 meters between the computer and the disk.

For an additional \$300, Bering can supply a local back-up and restore facility using the built-in floppy. Bering can be contacted at 747 E. Brokaw Road, San Jose, CA 95112 (408) 298-8552.

Classified Ads

FOR SALE: HP85A, 16K t MODULE, ROM DRAWER, MATRIX ROM, WRITE/IDEA WORD PROCESSOR, VISICALC PLUS, GNOME, OTHER PROGRAMS, DOCUMENTATION, TAPES, DUST COVER, ROLL OF PAPER. PACKAGE PRICE \$1,500. GREGORY WOLTERS, 13812 WINDING WAY, NEVADA CITY, CA 95959 (916) 265-9445 DAYS; (916) 273-1728 EVES.

news80s

**The Microcomputer Journal
For HP Series 80**

**News80s ran for 12 issues between 1982 and 1984
(#1, #2, Special Issue and #3 thru #11).**

**It was an independent newsletter edited by Dale Flanagan for:
HP-83, HP-85, HP86 and HP87 Personal Computer users.**

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Dr. M. COPPEL, MAN. DIR.

REPLACING NEWS80S ISSUES
PROFESSIONAL COMPUTING ISSUES

The HP Microcomputer Journal

* IMPORTANT NOTICE ** IMPORTANT NOTICE ** IMPORTANT NOTICE *

This letter is not easy to write. It's to inform you that we've decided to stop publication of NEWS80S.

My wife and I decided to personally absorb the losses from our ill-fated magazine, instead of passing them on to investors. This means that we lack the resources to properly staff and promote the newsletter. In addition, Hewlett Packard's Marketing Communications Department has told us they are exclusively promoting Professional Computing Magazine, placing them in the best position to support the HP personal computer community. Finally, Professional Computing has shown a real interest in providing you with continuing Series 80 coverage.

Some of you may not be familiar with Professional Computing. It's a slick, well put together magazine published by the John Wiley company that's devoted to HP personal computers. They're interested in expanding their Series 80 coverage into areas that will interest NEWS80S readers, and to accomplish this they've contacted several NEWS80S authors and I'll be doing articles for them, too.

The label at the top of this letter indicates the status of your subscription to NEWS80S. There is a possibility that your subscription expired with or before issue 11. In this case, this letter is for informational purposes only.

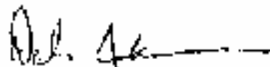
If your subscription has issues remaining on it, the label will show you the number of issues left, and the corresponding number of Professional Computing issues this equals. Because of the higher subscription price of Professional Computing, NEWS80S subscriptions were pro-rated at the rate of approximately two-for-one.

If you already have a subscription to Professional Computing, your existing subscription will be extended IF you contact Professional Computing at 605 3rd Ave.; NY, NY 10158; Attn: Pam MacSweeney. Include a copy of this letter and (if possible) a copy of the mailing label off your current issue of Professional Computing. Please do this prior to September 30, 1984.

If you have any problems with this arrangement, please contact us at the address below. We plan on dissolving the NEWS80S publishing company on September 15, 1984, so all adjustments MUST be requested prior to that date, because we will be handling any adjustments and refunds, not Professional Computing.

Finally, I would like to sincerely thank you for your constant support, encouragement and patience. We've tried to take the best course of action under the circumstances, and we believe that Professional Computing is in the position to give you the best future Series 80 coverage.

Yours sincerely,



Dale Flanagan



** News80s, P.O. Box 1329, Redondo Beach, CA 90278 **