



THE Portable Paper

Special Feature: Database Software Management

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Ultimate Utilities

Read this list.

It may look long and boring, but it can save you an incredible amount of time and effort.

It's a list of the more than 50 programs on *Portable Utilities Disk, Volume 1: DOS Tools*. Each program performs a specific task to make life with your Portable more enjoyable and productive.

The programs are all in the public domain, which means that if you searched long enough you could find them for free on various electronic bulletin boards, in magazines, and in the archives of local user groups. But consider this: Even if you had the time to track this many programs down, what about evaluating them and making sense of the documentation? It would be a formidable task, but we have good news: You don't have to do it—we've already done it for you!

That's right—we've combed through hundreds of public domain utility programs that run on the Portables and HP150, and have selected only the best ones for inclusion in *Portable Utilities Disk, Volume 1: DOS Tools*. We've not only made sense of the documentation, but in many cases

we've actually rewritten it. (A printed, 65-page user manual containing program documentation and plenty of examples is included with the disk. The manual is conveniently indexed by subject, so all you have to do is look up the name of the task you want done. You don't have to

remember the names of the programs.)

And we've even changed some of the programs themselves so they work better and so their message displays are easier to under-

Contents of Portable Utilities Disk Vol. 1: DOS Tools

ADDCOL.COM Joins two files horizontally by appending corresponding lines.
ARC512.ARC Archived ARC file compression and library utility.
ARCE.COM Extracts ARChive files from ARC 5.12 and previous versions.
ASK.COM Adds interactive capability to batch files. Prompts user with message and waits for yes/no response.
BEEP.COM Makes a beep sound.
CHANGE.COM Changes or displays file attributes (read-only, archive, system, hidden).
CLEAN.COM Converts WordStar HP150 or Portable Plus MemoMaker document files to ASCII and removes control codes.
COPYNEW.COM Backs up files if no identical file on the destination disk. Also backs up whole directory structure creating matching subdirectories.
CPU.COM Displays computer's clock speed.
CVTBIN.COM Converts files from ASCII to binary when downloaded with CompuServe READ command.
CYPHER.COM Enciphers and deciphers a file to keep it confidential.
DIRALL.COM Displays attributes and pathnames for ALL files on a disk.
DIRS.COM Gives total disk space occupied by a set of files.
DUMP.COM Dumps and edits a disk or file in hexadecimal and ASCII.
FDATE.COM Changes the time-date stamp on a file.
FDUMP.COM Lists a file in hexadecimal and ASCII.
FF.COM Sends a form feed to the printer.
FGREP.COM Searches a group of files for a specified string.
HC.COM Converts binary files to/from hexadecimal ASCII files.
HP IBM.COM Does a "best fit" translation from HP ROMAN 8 character set to IBM PC Line Draw character set.
IBM HPCOM Does a "best fit" translation from IBM PC Line Draw character set to HP ROMAN 8 character set.
INSTALLP.COM Automates installing an application program on RAM disk—the HP Portable/Portable Plus Install Utility Program.
LABEL.COM Labels or changes the label name on a disk.
LC.COM Counts lines in each file; useful in determining amount of paper needed to print.
LF.COM Sends a line feed to the printer.
LJET.COM LaserJet printer configuration program for the HP Portable. Makes selection LaserJet format easier.
MMTOP.COM Causes Portable Plus MemoMaker to print without usual 5-line top margin.
MOVE.COM Moves one file to another directory without copying.
MOVEALL.COM Moves a set of files to another directory without copying.
OFF.COM Shuts off the HP Portable from DOS.
PACK.COM Packs a disk. Does not have subdirectories bug of earlier version.
PC.EXE Allows some IBM programs to be run on HP150.
PCBOSS.COM File manager for IBM PC and compatibles only.
PRINTIT.COM Print formatting program, simple but effective.
PRNCONF.COM Allows ThinkJet printer to function as Epson printer; also sends escape sequences to the PRN device.
RAMDSK.ARC Archived utility for HP150 only; creates internal RAM disk.
RENDIR.COM Renames subdirectories.
RNGNAME.COM Displays and restores range names for Lotus worksheet.
ROMAN8.WKS Provides ability to enter any Roman8 character into Lotus worksheet.
SDL.COM Produces directory listings sorted by name, size, date, or extension.
SEPARATE.COM Breaks large text files into smaller files for MemoMaker.
SM.COM SpaceMaker. Converts .EXE files to .COM files and thus saves disk storage space and disk access time.
SQPC.COM Squeezes files to make them take up less space. Unsqueeze with TY.
TEE.COM Causes a program or file to be output to both the screen and a file or printer.
TJETA.COM Configures ThinkJet printer easily from the HP Portable.
TOWS.COM Converts ASCII document files to WordStar and Portable Plus MemoMaker format for editing and reformatting.
TRANSLIT.COM Converts one or more characters of one file to different character(s) and copies result to second file.
TREEDIR.COM Displays names of all files in each directory along with date, time and file size.
TRIM.COM Extracts selected columns from a file.
TY.COM Unsqueezes files squeezed by SQPC.
VDL.COM Allows user to selectively delete files from a group of files. Program lists files one by one and asks user whether to delete.
WAIT.COM Delays execution of a batch file until specified time.
WD.COM Saves and restores the working directory.
WHEAROUT.COM Gives percent of wear on disk in HP 9114 disk drive.
WHEREIS.COM Searches disk to find the specified file.
APPENDIX A Describes the contents of subdirectories/HP110,/SOURCE,/I23DEMO found on the DOS Tools disk.
UTILS.DOC Reprints on disk *The Portable Paper* Vol 1, Issue 4, utilities. Gives practical examples of many of the files on the DOS Tools disk.

stand. (Given the state of the art in writing and testing software, there's no guarantee that every item of software works as documented without a hitch. However, most of the testing and evaluating was done by Hal Goldstein, publisher of *The Portable Paper*, and by Gary Goodman and Thomas Page. Anyone who has read Gary's and Tom's articles in past issues of *The Portable Paper* already knows of their conscientiousness and thoroughness.)

So look through the list. If even *one* program proves useful, *DOS Tools* could pay for itself immediately. With more than 50 documented and tested programs to try out and use, it's the bargain of the century. Order yours today.

Portable Utilities Disk, Volume 1:
DOS Tools . . . \$49.95
(\$39.95 for Portable Paper subscribers)

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See order form for details.

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RUNS ON:

HP Portable	●
Portable Plus	●
HP150	●
IBM PC / HP Vectra	●

PUBLISHER'S MESSAGE



Hal Goldstein

We have readers that use The Portables at sea, in the Alaska wilderness, and for anthropological studies. Many other readers take their Portable in their travels for sales presentations, to communicate with their office, and to write memos. Another group of readers use The Portable as their personal computer to write letters and keep track of their investments.

In this issue we have an expanded letters column, which gives a flavor of the varied use of The Portables. However, we want to start our Portable Profiles column. To do so we need your input. Whether you use your Portable in sales or at sea, you probably do things of interest to other readers. Send me a note,

a file on disk, an audio cassette, or give me a call, so we can profile you.

I will publish profiles of interest or practical value to our readership.

Also in this issue we take a look at a number of database systems that run on The Portable. For those unfamiliar with database concepts, read the introduction to the section and the subsequent article on Lotus as a database manager.

Next issue we will look at peripherals that run with your Portable. We will discuss printers, modems, disk drives, and plotters. Write to us with your experiences or questions on any such peripheral, particularly letter quality printers.

Letters

Unstable Power And More

While travelling in foreign countries where the power supply is very unstable, I am afraid to plug my computer into an outlet, even with the aid of a step-down transformer. One of my friends blew out the board of his HP110 in the Philippines. Fortunately, HP replaced it on warranty. I was wondering if it is possible to charge the battery without affecting the computer's innards. For example, when in less developed countries, I always take the battery pack out of my printer and disk drive before charging them. Any suggestions on safeguarding the HP computer while charging?

I am aware of surge protectors, but some electrical experts say they are not designed for the frequent power surges found in some countries. The most extreme fluctuation levels I have seen were in India where voltage meters ranged between 120 and 360 volts! One friend burned out his printer's battery pack within an 8-hour period. He was using an HP 220 adaptor.

Secondly, I have always felt that the HP keyboard was very good. It's relatively quiet and feels good to the touch. However, upon using two other keyboards I found that my speed and accuracy were noticeably improved over that of the HP Portable keyboard. A little experimenting with the HP keys' response has shown that the sensitivity is excellent when a key is pressed from the top but less so if struck from an angle—thus characters do not always register. Has anyone else noticed this problem, and if so are there any suggestions for improvement?

Thirdly, the ThinkJet printer is a great little printer. One wish is that near letter

quality printing could be generated. By near letter quality, I mean text whose letters are shaped like typewriter-generated letters. Can a software program be created to produce the desired effect?

Jim Keersemaier, Maharishi Nagar, India

[Hal—According to HP, charging The Portable's battery should have no effect on the unit itself. However, your friend's experience speaks to the contrary. HP does not approve of removing the Portable's battery but, as reported by Tom Page, the July '86 issue of The Portable Paper, page 22, it is simple to do so. Open the battery compartment and remove the plug with three wires attached by carefully sliding it upward. Unfortunately, you lose your Edisc and configuration information in the process. Does anyone have a better solution?]

I know of no way of improving the keyboard. Paul Grimmer, author of SideWinder and Link, will be coming out with new character generator/graphics software. I am not sure that you will be able to form a character set better than HP did it, but with Paul's new software you'll be able to try.]

Some Questions

I have several comments that seem not to be addressed by others, so I will go on record:

1. PACK (Jan/Feb p. 5) referred to the 792 bytes (1985) and 896 bytes (1986) versions of Pack. My machine has the new board and my Pack program is 792 bytes and dated 4/3/86. Does this mean I have the newer version?
2. Lotus 2—When will it be available, if ever? If not scheduled to be made, is there any way to work with WK1 schedules on the Portable Plus?
3. Is there any plan to put dBASE III on a

ROM chip?

4. Is it possible to reconfigure the NUM keypad (when using Lotus)? The problems are twofold:

A. The slash (/) on the zero is hard to remember, and I would prefer to leave the slash next to the shift key. Can this be done?

B. When the NUM is on, you cannot access the letters under them without turning off the NUM. The problem is most inconvenient when you try to enter @sum. You must now turn off NUM, get your total, and turn NUM back on. If we could access the letters with the shift key (like IBM with their cursor/num keyboard), it would be more convenient.

5. Has anyone ever figured out how to use the PC2622 communication chip? The manual is terrible.

Good luck, and keep up the good work. I'm looking forward to your answers to the above questions.

Jerry Warshaw, New York

[Hal—1. My best guess is that if you do not have a PACK with 896K bytes, you have an old PACK. (The old PACK is also on the initial DOS Tools disks we sent out. DOS Tools owners with 792K PACK: send us your master disk, and we'll update your disk.) Any subscriber who wishes the current PACK (896K) can send us a formatted disk and self-addressed stamped envelope, order Time Manager for the HP110 which includes PACK for \$7.50, or order DOS Tools from us for \$39.95. For an understanding of the PACK program and its bug see Vol. 1, issue 2 of The Portable Paper, page 13. 2. As reported in this issue's Plus Notes, Lotus release 2 for the Plus is still months away from release. If you have access to someone's release 2 on the IBM PC or HP150, I believe there is a translation utility to convert from the WK1 files to WKS files.]

3. There is no plan to put dBASE III or RBASEV on a chip. HP tells us both programs are just too large.

4. I think you are out of luck unless anyone else has suggestions. HP Corvallis engineers take note in your work on Release 2 of Lotus.

5. No comment except that the Reflection 1 manual (the PC2622 upgrade) was rewritten. The upgrade costs \$135, although North American users will see little difference in the product itself. I have still heard complaints about the new manual. Beginning this issue from time to time we will publish questions and answers about Reflection 1 (formally PC2622).]

Charge Your Portable Off a Car's Cigarette Lighter

Recently you sent a disk to me asking for some words about our unique applications of the Portable Plus and peripherals in the environment of our totally PV (photovoltaics) powered office. We operate (and recharge) all of the HP equipment and CRT's from our 12-volt DC power source.

Murphy's Law says that after having done the research, and after having fabricated and debugged the hardware, a commercially manufactured product will be introduced to the marketplace. Well that is exactly what has happened, and that is great news for everyone who wants to recharge Portables and peripherals in their car.

We ordered the product as soon as we saw it, we have received it and tried it, and it works fine. I highly recommend it.

From the accompanying instruction sheet: "The MNR-2 (mobile recharger) is specifically targeted for the HP75/C/D, HP41C, CV, CX, HP71B, HP9114 Disk Drive, HP2225 ThinkJet, HP82143 & HP82162 Printer/Plotters, HP82161 cassette dr., HP Portable and Portable Plus computers. . . 11.4-15.0 VDC input. Neg. ground vehicle system. Standard Automotive Cigarette lighter socket. Input and output are transient protected."

The MNR-2 mobile recharger costs \$29.95 and is available from S.O.S., 1850 E. 17th St., Suite 102, Santa Ana, CA, 92701, 714-558-1806.

A couple of comments about HP designs should be made in regard to charging from either AC or DC sources.

1. Because HP uses AC voltage for charging all of the above mentioned devices, they have a full wave bridge in the charging circuit to rectify the incoming (low voltage) AC source. A bridge automatically sorts polarity of an applied DC voltage; therefore, there is no need to observe polarity at the plug-in point of the device being charged.

2. The percent of charge indicator in the Portables is not up to par for HP design standards and is not what it appears to be. The percent of charge reading is not reliable unless the charging current has been present for about 12-16 hours.

It is very common to see a 100% indication after an hour or two of charge, but if the charge is removed at that point

a "low battery" warning will be experienced after a few minutes use. The bottom line is don't believe the % of charge indicator unless the unit has been charged for 12-16 hours.

Mike Mooney, *Heavener, OK*

Don't Give Up The Ship

We take our HP110 to sea aboard ship (not, unfortunately, yachts), where it has served us well in the many disciplines involved in the seagoing profession. Your publication has been most helpful in broadening our knowledge of our machine.

Don't abandon discussions of upgrades for the 110 and/or the Plus; after having seen the marvels both HP and third-party hardware types came out with for the 41, 75, and 71, surely anything is possible. I can live, just fine thanks, with the 16-line display with or without backlight if only I could get great gobs of additional Edisc/RAM!

Howard W. Newton, Jr., *Pasadena, TX*

Outline Processor

Anyone know of an outline processor for the Portable Plus? The new version of MSWord on ROM would be perfect—any other ideas?

Matthew B. Wallace, *Sac City, IA*

[Hal—I too really miss the presence of an outline processor on The Portables. The ideal would be a Shelp type memory resident outliner like Ready on the IBM PC. However, even a stand alone outliner would be wonderful. Any takers out there among you super programmers? Come up with a good product and we'll be happy to market it for you (and use it!)]

More Questions

I am really enjoying *The Portable Paper* and have recommended it to others. Of the products that I have from you, Shelp is a really a gem; Sidewinder is very useful, but is the ThinkJet's 21 cps mode possible? The utilities on the subscriber's disk are great.

Questions about present and potential products:

1. Your Norton Utilities ad talks about "customizing to the Portables"; does this refer to the 3 1/2" disk, or is there more?

2. The EPROM developments: how much actually is the capacity? How is it intended to be packaged? As custom back-ups of any file up to its capacity? Is it possible to have more than one file per chip? Is the H & L option available for larger files? As an application, for example, can Shelp be on a chip? (If so, can it be expanded to work also with MSWord and other graphics applications?)

3. Is there a decent Time & Appointments Manager that complements the Portable Plus environment (including the **pam.alm**)? I think it should include "time asset management", including activity priorities, a convenient entry and edit routine, a seven-day week-at-a-glance, print-out options (ThinkJet), tied to the **pam.alm**.

4. How about a buffer utility for printer

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output? MSWord's Print/Queue (which supposedly has a buffer function) will not run on the Plus (per my experience and later per HP Helpline). And considering my daisywheel LQ printer, a full page of text takes 5 to 7 minutes to print; I could (should) be able to work on a document (same or other file) during this time.
Frank Keresztes-Fischer, Brighton, MI
[Hal—I think Paul Grimmer has Sidewinder souped up as fast as it can go.

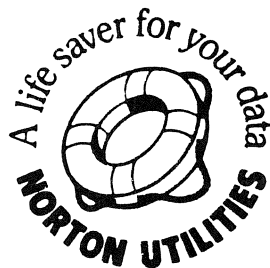
Erased your files? Get them back with The Norton Utilities!

Version 4.0 (Advanced Edition also available)

It happens to the best of us. One slip of a finger and a whole week's worth of text or data is past history. *But not if you have THE NORTON UTILITIES!*

Just type **qu** (for quick unerase), give the first letter of the name of the file you erased, and *the file gets restored*. Miraculous as it sounds, in many cases that's all there is to it!

How can a deleted file get unerasable?



Simple. The file isn't really deleted in the first place. When you delete a file, all that actually gets erased is part of the file's directory entry. (That's why it only takes an instant to delete an entire file.) Without a directory entry, DOS can't find the file, but THE NORTON UTILITIES can.

Now, what about those cases where you can't possibly recover a file because you've already partially overwritten it with other files? Surely THE NORTON UTILITIES can't help you then?

Wrong—they can! THE NORTON UTILITIES won't recover the entire file, of course, but they *can* help you restore the portions of the file that still remain on the disk.

It's done with a powerful utility called **nu** that lets you display, change, and capture to a file any information on any disk. In complex cases you may need to do some detective work, but **nu** will help you find whatever remains on the disk, thereby saving you from countless hours of retyping lost data.

In my opinion, *the ability to recover lost files alone makes THE NORTON UTILITIES well worth the price*. But there's even more to the package: THE NORTON UTILITIES

RUNS ON:	
HP Portable	●
Portable Plus	●
HP150	●
IBM PC/HP Vectra	●

are also an excellent *disk management system*. Here are some examples of what you can do:

Let's say you want to sort directories and files physically on disk—either by name, extension, size, date, time, or by any combination of these. Just use the **ds** (disk sort) command. I use this one to sort my electronic disk files by size all the time. Then when I display the directory, the larger files come at the end of the list, and I can see at a glance which ones to move elsewhere to free up any needed amount of disk space.

Or let's say you remember putting the

"Indispensible."

PC Magazine

"Don't compute without it."

The New York Times

"You'll bless this disk."

Peter McWilliams

(The Personal Computer Book)

Personalized Software is authorized to distribute THE NORTON UTILITIES on 3 1/2" disk customized for users of the HP110 Portable, Portable Plus, and HP150.

phrase "a penny saved is a penny earned" into a text file on your electronic, floppy, or hard disk but you can't remember which file it was—or even which directory. How to find it? *No problem*. Just type **ts** (for text search), specify the phrase, and the program will display every occurrence of the phrase, identifying each occurrence by directory and file.

Or let's say you can't remember which sub-directory you put a given file into. Instead of hunting for the file manually, just type **ff** (find file) and specify the name of the file and the directories to search through. The program does the rest.

Other useful features include the **fa** command, which lets you change file attributes (for example, to make erasable files unerasable or vice-versa), and the **fs** command, which tells

"THE NORTON UTILITIES are among the most helpful utilities I've run across. I use them myself every day, and in my opinion, they're a must. Here's why."

By Hal Goldstein, Publisher
The Portable Paper

you the total file size of a group of files (I often use it to find out the total disk space occupied by my Lotus worksheet "WKS" files or by all my text files from a given project).

Because of their great helpfulness and ease of use, THE NORTON UTILITIES are already a best-seller in the IBM PC market. Personalized Software is authorized to distribute them on 3 1/2" disk for users of the HP110 Portable, Portable Plus, and HP150. (All it takes is a few keystrokes to customize THE NORTON UTILITIES to your machine; just follow the simple customization instructions included on the disk.)

Also included in our package are the standard 5 1/4" disk sold by Peter Norton for IBM PCs, and—as a bonus—several public domain utilities we've tested on the Portables. There's also a utility called PC.EXE that allows THE NORTON UTILITIES to run on the HP150.

THE NORTON UTILITIES are a time-saver

for you and a life-saver for your data. Use them just once and you'll wonder how you ever did without them. Order your copy at no risk today.



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Since he must form each character graphically, the ThinkJet only delivers a row of dots each pass across the page. Considering what the program does, it still is pretty fast. Now to answer your other queries:

1. We supply the original Norton Utilities packaging along with a copy of the Utilities on an additional 3 1/2" disk. The customization refers to written instructions for running the programs on the Portable. These instructions are taken directly from the article that appeared in the March 1986 issue of The Portable Paper. Also on the disk are several public domain utilities, including a program that lets you run the Norton Utilities on the HP150.

2. Some of your questions are answered in Plus Notes in this issue. You can put as many files as will fit on a chip. And it is my understanding you can spread a file across a high low pair of chips.

Unless Randy Salo decides to rewrite Shelp (making it about three times larger), Shelp will never work with MSWord or other graphics packages. I am writing this on a Portable Plus containing Shelp in EPROM. We would like to be able to offer it to you in EPROM by next issue.

3. The only such program commercially available is Time Manager, included in the Plus MemoMaker ROM and available from us for The Portable. Jack Bowers, author of Typing Whiz and Private File, told me that he has written a better, more complete and robust Time Manager. However, the manual never got written. In discussing it with Jack we decided that given the widespread use and liking of Time Manager, there would not be much of a demand for his program. If we were wrong, drop me a note or call me. Maybe we can get Jack to finish the manual.

4. Anybody have a solution to Frank's printing problem?]

ALEXANDER J. BANACH, JR., D.D.S.
360 Walkley Hill Road
Haddam, CT 06438

12 December 1986

Editor
The Portable Paper
P.O. Box 863
Fairfield, Iowa 52556

Dear Sir:

■ Here is the method I devised to print using the "Print Screen" style. Configure the 110 for "Graphics Only".

Access the DOS screen and blank it out using [Ext Char][Line].

Type in your desired message and edit it using the arrows. Do not press [Return] as this will cause the DOS prompt to appear. The only exception is occasionally for some unknown reason the computer will buzz and you will be unable to continue. Move the cursor down a line so that none of your work will be overridden, press [Return], wipe out the offending lines and continue after moving the cursor back to the point from which you left off.

If the screen scrolls, move the cursor up to the top of the screen to reveal the hidden portion.

■ When you are satisfied with the screen, press [Shift][Print].

Sincerely,


A.J. Banach, D.D.S.

Three Holes For The Paper

I like to keep my copies of *The Portable Paper* in a notebook and I'm sure others do too. Therefore, it would be helpful if they were pre-punched or drilled for a three-hole notebook.

Robert T. Streutker, Glendora, CA

[Hal—Sorry it has taken so long to act on this request that many of you have been asking for from the start. I can't think of a good excuse of why it has taken so long...]

Portable To The Mac

First, I would like to add my name to the list of appreciative readers. Your coverage of the Portable is no less than outstanding! I have been using my Portable for about three years and have had to solve problems and answer questions, without the aid of the information you are now supplying. I have solved a couple of interface problems which may be unique to my world, but I'll pass them on anyway.

My office is equipped with a Macintosh Plus computer system (eight Mac's tied together with a Corvis network which includes three printers). While most of my work is done on the HP110, the ThinkJet is not suitable for final letters and reports. I had to develop a method to interface with the Mac's and/or the Corvis network. The network does allow MS-DOS interface, but requires a "card" on the DOS machine—I have not pursued this avenue, but it would be nice to get directly to that LaserWriter! I did discover a cable combination which allows connection between the 110 and a Mac. The cable uses two 9-pin male connectors and is then connected to a Mac Plus adapter cable (9-pin female to an 8-pin round connector). The Mac pin-out labels were taken from BYTE, June '86.

HP110 TO MAC CABLE

HP110	MAC PLUS
(9-pin male)	(9-pin male/Mac Plus adapter)
(BA) Tx D 2-----	9/3 Tx D—Transmit Data—Output
(BB) Rx D 3 <-----	5/5 Rx D—Receive Data—Input
(AB) Gnd 7 <-----	3/4 Signal Ground
	L-> 8/6 Tx D + Balanced Transmit + Output

I am not sure that I can explain why the cable works (especially when you look at the BYTE pin-out labels), but it works. The only problem I have noticed is in transferring text files with tables—the Mac word processors all use proportional spacing, so you have to realign the tables. File transfer works very well using the techniques described by Michael Rhodes in the Nov/Dec issue of *The Portable Paper*. I have used two different terminal programs (VersaTerm and MacTerm) on the Mac with no significant problems.

Another minor note: This letter was printed on one of the least expensive NLQ printers on the market, the STAR SG10. I used serial/parallel converter Model 770 by Tigertronics (Ventura, CA, 805-658-7466). As you can see, all MemoMaker enhancement features work with the SG10. The only problem with this interface appears to be Lotus PrintGraph—I get extra line feed in my graphics, resulting in blank lines and a not too pretty graph.

Jim Patton, Crofton, MD

Help With Taxes

Tax time is on us, and looking through LOTUS magazine, January 1987, I find many tax programs for Lotus under "Tax Planning and Preparation", starting on page 114. I have a basic question, being still a real novice in determining whether or not an advertised item can be run successfully on the HP110.

Many of these items indicate that the requirement for Lotus release 1A is 256K RAM, which the 110 has. However, none of the advertised items indicates that the program is available on a 3 1/2" disk and gives no hint regarding its applicability to the 110.

Another statement in the ads is that the program will print out various IRS forms in IRS-approved format. There is no indication as to the printer required to do this.

For the past two years I have been putting together, using Lotus, my own tax spreadsheet. This is time consuming. If an existing program for under \$100 is available and will work on the 110, I would prefer to buy it and save valuable time which could be spent on more rewarding activities.

Therefore, before I start calling various vendors, I thought your operation might have looked into some of these programs and could offer some comment. I have looked into *The Portable Paper* Volume 1, issue 3, page 24 reference to TaxTime and find that tax programs advertised require 320K for Lotus Release 1A. Obviously this won't work on the 110. James D. Small, Alexandria, VA
[Hal—Can anybody help?]

110%

Making more of your HP110

by Hal Goldstein

New HP Portable?

About every three months I start hearing rumors about a new HP Portable or a significant enhancement to the Portable Plus. These past weeks many readers have called to ask me what I know.

I checked with HP. The response was that, of course, HP is always working on future products. However, we should not expect anything for many months. (When I worked at HP, HP had the philosophy that the real strength of the company was not in the next product about to be introduced, but on the progress of subsequent products.)

I think many of you would be surprised all the steps a product must go through before it can be released, especially a hardware product. Even though I have experienced the release cycle many times, I am always surprised how long things take. There can be a last minute bug in the product, some problem with a supplier or with the manufacturing process, a manual not finished in time, a distribution channel not in place—so many things can cause a delay. These delays are frustrating both for the consumer and the manufacturer but seem to be inherent in the process.

My feeling is that it will be sometime yet before HP has a new product or significant enhancement for the Plus. We'll see.

Updates On Products From Personalized Software

DOS TOOLS UPDATE—PACK

Gary Goodman, who did most of the work finding, testing, and refining the programs on the DOS Tools disk, wrote me the following:

"I just got the DOS Tools package. The manual looks absolutely great—very well laid out and easy to read. Now that you have one completed, it can serve as an example for producing others. It will be a lot easier next time.

"One note on the manual, the subdirectory 123DEMO was contributed by Tom Page not myself. All I did was select it. Hope you can fix the credits in a future printing.

"I did discover A MAJOR ERROR that you should correct IMMEDIATELY. As I see it, you left the old version of **pack.com** on the disk, the one with the bug in it. The documentation says this is the new version. Also, note that there is a new version of **copynew** available that will backup files by date."

As soon as Gary pointed this out, we put the correct 896K **pack** and the new version of **copynew** on the DOS Tools disk. However, for those of you who have the 792K **pack**, we apologize. Just mail back the DOS Tools master disk in a \$.39 envelope to Personalized Software, P.O. Box 869, Fairfield, IA 52256; we'll put on the correct **pack** and the latest **copynew** and mail the disk back.

DISKPACK

Don't Use With DOS 3.2

John Buchanan of Costa Mesa, CA writes the following WARNING to Diskpack users:

"This letter is written as a warning to any user of Diskpack with MS-DOS 3.2—don't!! To date, Diskpack has worked well with DOS 2.11 on both the Portable Plus and the HP150C—9133H; however, Diskpack when run with DOS 3.2 confuses the drives, changing A to B and vice versa. The cure requires using "Wipedisk" (Norton Utilities) and reformatting the disk. Although Diskpack was written and distributed prior to the development of MS-DOS 3.2, please inform your readership and include a warning in the future distribution of the program."

Making It Work

Many of you wrote in complaining that you could not get the **diskpack** on the 1987 subscriber's disk to work. There are two tricks that should solve the difficulties.

First of all, not only the arguments but also the disk drive letter must be in LOWER case. Secondly, the disk drive letter should follow the arguments.

So, for example, the **dpack.bat** file included on the subscriber's disk should have contained the following line:
c:diskpack -w a:

-w and **a:** are both in lower case and the **a:** follows the **-w**. This command will pack the A drive when the **diskpack** program is on the C drive. We apologize for the confusion.

FORMAT110

By Ed Keefe

After extensive fine-tuning, the Format110 utility program is available in an updated version 5.0. This new version of the program has all the same features as previous versions, but now it really does get the ThinkJet printer to do underlined and boldface printing. The program will also let you run other programs from within it. The disk also contains another program which will let you convert MemoMaker document files to ASCII text files very quickly. The documentation has been revised to reflect all the changes.

To get your update, send your original Format110 disk along with a self-addressed, stamped, disk-mailer to *FastAid Co., 314 S.W. Logan, Ankeny, IA 50021*.

Alternatively, you may send proof of purchase and a check or money order for \$7.50 to the same address.

Please note that FastAid Co. is handling the updates to the program for previous owners. Personalized Software will include the updated version with new purchases of Format110 along with its own PrinterTalk program.

NORTON UTILITIES

Release 4.0 and The Advanced Edition of The Norton Utilities should be available the first week in March. We

will be selling both versions. All upgrades of current versions must be handled through the Peter Norton Company.

You can upgrade to either product. If you mailed in your registration card, you will receive the details in the mail. We will provide more information, and perhaps a review of the two products, next issue.

Once you have upgraded through Norton, send us proof of purchase, a formatted disk, and a self-addressed stamped envelope, and we'll send you the new version of Norton Utilities on 3 1/2" disk. Alternatively, send us proof and \$7.50, and we'll send you the update on 3 1/2" disk.

OTHER UPDATES

Most of you now have the current versions of PrinterTalk (1.2A) and SideWinder (2.01)—to be sure, look at the label of your master disk. If you have a previous version, you may upgrade easily and inexpensively. Just send us your master disk and a self-addressed stamped envelope. Alternatively, you can send us \$7.50 per upgrade, and we'll send you a new disk.

Also, if you have purchased either PrinterTalk or Format110, you can purchase the other for \$19.95. If you bought The Editor from us and would like The Formatter, just send \$19.95.

The current version of Turbo Tutor is 2.0. If you have an earlier version, you can send Borland International your master disk and \$10. They will send you a completely revised Tutor on three single-sided disks along with a new manual. Borland is at 4585 Scotts Valley Dr., Scotts Valley, CA 95066.

Finally, we discontinued The Portable Paper On Disk. If you would still like a rough version of the product for issues 1 through 7, you can send us \$25, and we'll send you the disk (with the 60-day money back guarantee that now covers our entire product line).

Sorry, Wiz

Date: 07-Jan-87 23:24 CST

From: Cliff Looyenga [75106,2130]

Reply to: next issue

Hal, Yes, I will get you the next Wizardry article to you by the end of January. I just got my issue of *The Portable Paper* and enjoyed it. I appreciate the paragraph about PCVIEW, thanks! Just a couple of things: the area code for my phone number is 509, NOT 505. Also, the company name is Advanced Solutions, not Advance Solutions. I hope you had a nice holiday season and that all is going well for you. Keep up the good work. Cliff

Date: 07-Jan-87 23:25 CST

From: Cliff Looyenga [75106,2130]

Subj: one more thing

Oh, one more thing. I thought it was great to see a picture of what you look like in *The Portable Paper*. Cliff

Date: 04-Feb-87 15:33 CST

From: Hal Goldstein [72257,714]

Subj: Sorry, Cliff

To: Portable Paper Readers

For those of you who haven't used electronic mail, the first two notes from our Wizard, Cliff Looyenga, were captured directly from CompuServe EMail. Most of my correspondence with Cliff, including receiving Wizardry articles, is done through CompuServe EMail. Cliff is over 2000 miles

away from the Iowa farmlands, the home of Personalized Software.

It is too bad I blew the plug for Cliff's PCVIEW. As you may recall, page 10 of last issue describes Cliff's Turbo Pascal product. PCVIEW consists of excellent routines for Pascal programmers. These routines accelerate the development of your user interface; they make it easy to display or input data. Routines for the HP110, Portable Plus, the HP150, and IBM PC are included. You can order the product from *Advanced Solutions, PO Box 567, Veradale, WA 99037, (509) 928-4147, \$24.95 plus \$2 shipping.*

Buying Disks

There is a definite difference in quality between different brands of 3 1/2" disks. Our knowledgeable supplier of disks, Joe Meidlinger of Software Production Services of Fairfield, Iowa, tells us that Sony, HP (they buy from another source), JVC, C.I.TOH, and 3M have proven to highest quality disks. Joe also says Maxell is inconsistent and that you need to be more cautious with Brown, BASE, Verbatim double-sided, and no-name brands.

If you lose an important file to a bargain-priced disk, the disk may prove not to be such a bargain. Although 3 1/2" disks have proven to be much more reliable than 5 1/4" floppy disks, to really be safe you should have several backups of your most important files, regardless of disk brand.

According to Joe, another strange fact is that sometimes a disk will format correctly for an Apple Macintosh but will fail to format for an MS-DOS system such as an HP Portable. Joe tells us that the MS-DOS format program is hypercritical on a disk; that is, sometimes the format program fails when the disk is fine, and occasionally it passes a disk when it shouldn't.

X-rays And The Portable

Hans Finzel of Austria sent us a copy of an article from the January/February '86 issue of England's *HP 100 User Magazine* by its editor Tim Cullis. According to Cullis, HP advises that you not put your Portable through airport security X-ray machines as it may destroy the contents of RAM memory.

Sometimes you may have problems getting the security personnel to accept that the Portable should not go through the machine. Cullis suggests that you put a label on your Portable saying that it should not be submitted to X-rays. Tim created his own label; when he points it out the security personnel, they assume it was put there by the manufacturer and check it through.

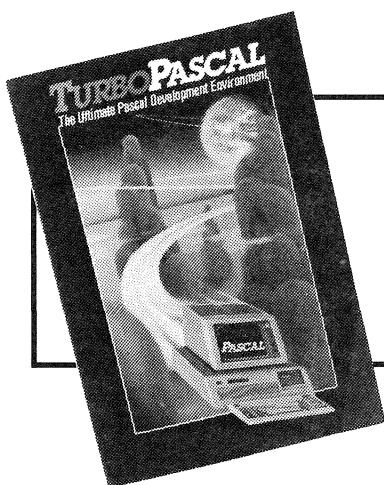
Checking The Integrity of Files

It is possible to have a bad file on your Edisc but **chkdsk** says everything is fine. **chkdsk** checks only the integrity of the directory and file allocation table; it will not find bad sectors in a file.

If you suspect a problem in your files on your A drive or external disk, you can use the DOS **copy** command. To check all the files in a given directory, type from PAM or DOS **copy ** nul**. This command will copy every file in the current directory to the nonexistent **nul** device. The **copy** command goes through the motions of copying every sec-

(continued on page 33)

Turbo Pascal Customized To Your HP Portable or Portable Plus at No Extra Charge



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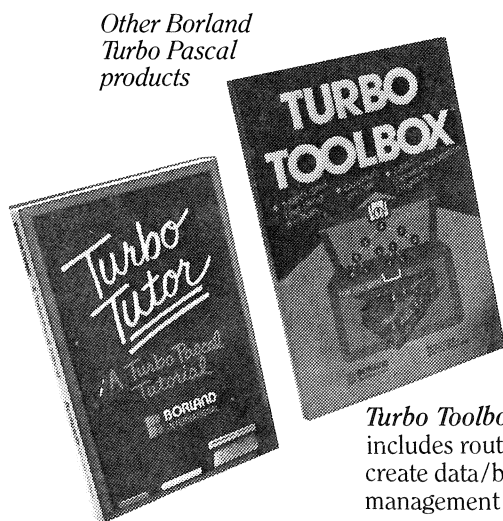
- price
- performance
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*\$39.95 for Portable Paper subscribers if you purchase any Turbo product from Personalized Software.

Order form and guarantee are on inside back cover of this issue or send check or credit card to Personalized Software, PO Box 869, Fairfield, IA 52556. 515 472-6330

Foundations

By Hal Goldstein

[The Foundations column contains material that we feel every Portable user should know. We assume the reader is a novice computer user; however, readers novice through expert should find at least some of the material covered here useful. If you would like to write articles for this column or want us cover some topic in this space, please contact us.]

Built-in Self-Test

Hidden within every HP110 and Portable Plus is a built-in self-test. If your HP110 starts acting strange, this self-test can be most useful in identifying the problem.

On the HP110 the test lets you check **RAM** (that is, the electronic A disk and internal memory), **ROM** (the built-in software on the B drive), and the **HP-IL loop** (the loop of thin black wires connecting the ThinkJet and disk drive to The Portable). If the factory-installed diagnostics program **test.com** remains on your Portable's A drive, delete it: it wastes memory. After deleting **test.com**, in MemoMaker remove the two lines in **pam.mnu** that reference **test**.

The Portable Plus built-in test is more extensive. It tests the system, the screen, the timer, the serial port, and the modem, as well as RAM, ROM, and HP-IL. HP110 owners can find a more extensive test on their utilities disk called **test.com**.

To use the built-in self-test, first turn off the Portable by pressing the **f8** key from PAM. Next, invoke the hidden self-test, which requires hand acrobatics: while holding down the **CTRL**, **Shift**, and **Extend char** keys, press **f8**. A menu for testing appears on the screen in about 15 seconds.

IMPORTANT: PORTABLE PLUS USERS READ THIS, OR YOU'LL BE SORRY!

The RAM test contains a bug and will wipe out your A disk. Therefore, be sure to backup your A disk before testing. If you have the new ROM B version of the Plus, the problem should be fixed. (Watch the upper left of your screen after you press **CTRL**, **Shift**, and **Break**, and you'll see the ROM ID letters signifying the version.)

Of the three basic tests, you are most likely to use the HP-IL test. You'll use it to see why your ThinkJet printer, disk drive, or IBM PC does not respond to the Portable. To test the HP-IL loop, first connect the Portable to itself with one HP-IL cable. Then from the HP-IL test menu, choose **f1**, no devices on the loop. If all is well, add your peripherals one by one to the loop and test using the **f2** option from the HP-IL test menu.

HP110 users: if you test RAM, heed warning not to reset your computer during the test. The test copies your data from one segment of RAM to another, so resetting

your computer likely means the loss of data on your A drive.

Also for HP110 users: the diagnostics program included in your utilities disk tests the display, keyboard, modem, and CPU, in addition to the built-in test functions. Use it if you suspect your RAM even though your RAM passed the built-in test. It's possible for bad RAM to hold charge for a few seconds, thus passing the built-in test. However, bad RAM will not pass the 30-second utilities disk RAM test. To start the utilities disk diagnostics, put the utilities disk in drive C and type **c:test** from PAM.

When you run either self-test, the Portable does not shut itself off after several minutes of non-use as it usually does. So if you forget to exit the self-test, you will run the battery down.

Six Ways to Restart Your Portable

In the unfortunate event your computer *hangs*—that is, no matter what you do, nothing happens—there are six ways to reset it. The gentlest thing you can try, if you are in the middle of an application like Lotus or MemoMaker, is to press the **Shift** key with the **Break** key. (This is the same as pressing the **CTRL** key with the letter **c**.) If you're lucky, with this method you lose no data and things go back to normal. Otherwise, either nothing happens, or PAM reappears and you have lost the work done since your last save.

If nothing happens using **Break**, you must issue a **hard reset**, which means you lose current data. For a hard reset, hold down the **CTRL**, **Shift**, and **Break** keys; PAM will reappear.

If that reset fails, hold down the half moon (contrast) key for 15 seconds and your computer resets. This key is wired directly to the Portable hardware—**hardwired**. (All other keys can be controlled by software.)

If you still can't reset your computer, the chances are that you have created or modified a file named **config.sys** incorrectly. In any case this solution is worth a try. Normally when you reset your Portable, the system first looks to the A drive for a **config.sys** file. A bad **config.sys** file can cause the computer to hang. The way out of this jam is to press, **CTRL**, **Shift**, **Extend char** with the **Break** key. The system bypasses the A drive and PAM reappears. Then you can delete or modify your **config.sys** file.

A more drastic step, especially if you have a Portable Plus, is to remove the cover that protects the battery pack and press the little button. This resets your computer and restarts the battery indicator at 99% even though the battery may not be fully charged. Use this method only as a last resort—it may wipe out your HP110 A drive, and it definitely will wipe out your Portable Plus A drive.

If all else fails, you can remove the Portable's battery (warning: HP does not approve). Open the battery compartment and remove the plug with three wires attached by carefully sliding it upward. Unfortunately, you lose your Edisc and configuration information in the process.

In general, exit naturally from any program you are using rather than doing a hard reset; otherwise it is possible to lose data or even destroy files on your disk.

I Can't Get It To Run

Q When I try to run a program from PAM that requires 100K of RAM memory, after a few seconds the PAM screen

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When you read this you'll know why.

By Hal Goldstein
President, Personalized Software

It will probably be a waste of five minutes for you to read the rest of this ad unless you're looking for a source of **high-quality custom software delivered on time at a reasonable price**. But if you are in the market for custom software, the next five minutes could save you hundreds of hours and thousands of dollars.

In my opinion, when it comes to software development you won't find a better company than Fairfield Software. They do excellent work—I'd stake my reputation on them without hesitation. Here's why.

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First of all, in the last two years alone, Fairfield Software has developed:

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- a grammar teaching package for South-Western Publishing, a major educational and business publisher;
- an upgrade of a major, award-winning product line for Peachtree Software of Atlanta (in progress);
- Plus 20 other software products for major publishers.

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Second, Fairfield Software has earned a reputation for delivering *on time, on spec, and within budget*. (Sometimes they even complete contracts *early*. How often have you heard of *that* happening?)

Fairfield Software can develop high-quality custom software for you in these areas:

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—Lincoln Norton, President
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Third (and this is what has me most excited about Fairfield Software), the people who work there are exceptional. George Reid, company president, has over 20 years of experience in data processing and DP management. His real genius is in recruiting the best people available and then motivating them to be even better.

Of the 25 analysts and software engineers at Fairfield Software, many hold PhDs in computer science, many have been designing programs for 10 years or more, and many have had distinguished and brilliant careers before joining the company—like the engineer who completed a microcomputer version of Scrabble a month after Byte magazine said it was impossible, and the UNIX expert who was a chief computer architect at Bell Labs.

I've personally visited Fairfield Software many times, and I am always impressed. It's a tribute to George Reid's management skill that he's allowed his people all the creativity of accomplished artists, yet has instilled in them a real-world concern for deadlines and specifications. *At Fairfield Software, the client's needs always come first.*

The engineers at Fairfield Software write programs in every major computer language and database management language. And they write software that will run on:

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HP 150 Apple Macintosh, Ile, Ilc, IIGS
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DEC VAX, PDP-11, Rainbow
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Burroughs B67XX, B69XX



A reputation for excellence: George Reid (front row, second from left) and his expert staff at Fairfield Software.

The synergy, creativity, and enthusiasm you feel when walk in the door at Fairfield Software are simply incredible. As one client said after sitting in on a staff brainstorming session: "I've been looking under rocks all over the country to find just a *couple* of people like this."

DISTANCE NO BARRIER

Now, at this point you may be wondering what a high-powered computer company like Fairfield Software is doing all by itself in Fairfield, Iowa. The answer is that it's not all by itself. A whole lot of other computer companies (including my own!) are alive and thriving in this small university town. Fairfield, in fact, is rapidly becoming known as a major center of high technology.

These Fairfield companies—and their customers—have found that with telephones, express delivery, and modems, distance is no barrier to doing business successfully. And being in Fairfield actually *benefits* Fairfield Software's clients because the *lower cost of living allows the company to charge lower prices*.

HIGHEST RECOMMENDATION

Please note that in recommending Fairfield Software to you, I'm putting *my* company's reputation on the line. And although I cannot take responsibility for a particular outcome (that, of course, is between you and Fairfield Software), I want you to know that making a recommendation like this is not something I do lightly.

In short, if you want great people to work with—and great software as a result—I feel you can call on Fairfield Software in complete confidence. The best way to contact them is to call me first at 515/472-6330. I'll talk to you briefly about your needs, suggest some options for further discussion, and then put you in touch with the proper person at Fairfield Software.

comes back: the program doesn't load? Why?

A: For the answer to the question go to the last paragraph below. For some background information, read on.

Any Portable user should know about the **System Config** menu and its most important option. To enter **System Config** press the **f6** key from PAM. The first choice is **Main Memory / Edisc**. This is the option that lets you determine how you want to divide your memory.

If you have an HP110, you have 272K to play with. Portable Plus user can build up their system to 896K (and more if they want to use their software drawer). Here **K** stands for 1024 bytes of memory. A **byte** is enough memory to hold one alphabetic character. Therefore, 272K holds a little more than 272,000 characters of information.

For this discussion we will assume you have 272K of memory (**RAM**) space. That 272K can be divided between **system memory** and **electronic disk**. **System memory** is the scratch pad space that holds the program you are running and the data it produces. So, for example, when you run MemoMaker, a copy of MemoMaker gets copied into this **system memory** scratch pad space. In addition, the file you create in MemoMaker occupies that same space.

This **system memory** is temporary. This means, for example, if you are in Lotus and your system freezes up or you press **CTRL, Shift, Break** to restart (**reboot**) your system, you lose changes in the Lotus file you were working on. To save your work, you must copy it to a disk. The Portable has a built-in **electronic disk** called the **A drive**.

You can choose with some restriction what portion of that 272K of memory you want as **system memory** and what portion you want as **electronic disk**. Simply go into PAM's **f6 System Config** and press the function keys for **Next Choice** or **Prev Choice** to create the **Memory / Edisc** division you require.

Why would you want to change the **Memory / Edisc** setting? If, for example, you were using Lotus and your worksheet gets too big, you might get the message **memory full**. Then you probably will want to increase **Memory**, thus decreasing **Edisc**. Or to get back to the original question, you may be running a program such as MSWord that requires more memory to run. Then you would have to increase **Memory**. In general, after taking into account all **system memory** requirements of your application, you will want to keep the **Edisc** as large as possible. That way you maximize the storage capacity of your Portable.

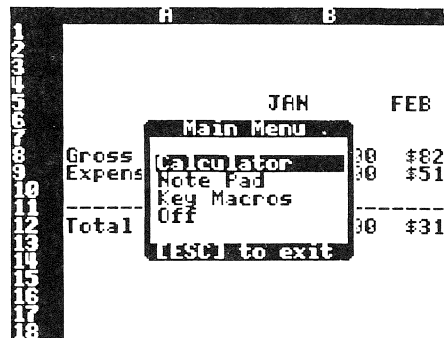
Now back to the original question. If you run a program from PAM, you need enough memory not only for your application, but also to account for the system overhead of 4K for PAM and 27K for DOS. Therefore, you need a minimum of 131K in RAM to run the 100K program. If the program is from HP or a vendor familiar with the Portables, usually they will take that extra 31K into account when they tell you how to set **system memory**. In general, if a program does not load, try increasing **system memory**—quite often, that solves the problem.

Instant Access Pop-Ups for the Portable Plus

■ CALCULATOR ■ NOTEPAD
■ MACROS AND MORE

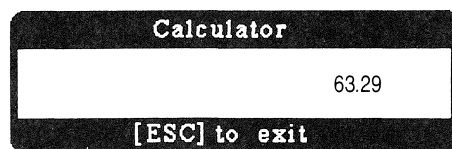
It's a program called Shelp (*shell + help*), and it runs on the Portable Plus from within any non-graphics program. Here's all you do:

Press [Ctrl] [Shift] [Extend char] and up pops the Shelp menu:



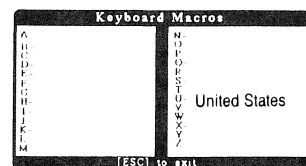
Choose **Calculator** and get a 4-function calculator that works just like a pocket calculator with memory. You can:

- save results in ten different storage registers and retrieve them again with two quick keystrokes
- "paste" results at the cursor location in whatever application you were using when you invoked Shelp.



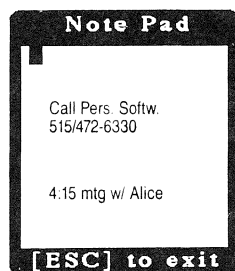
Example: If you type "United States" a lot, you could assign the entire phrase to the "U" key. Just move the cursor to "U" in the Keyboard Macros menu and type "United States."

To recall "United States," simply press [Ctrl] [Extend char], then [U]. Presto—"United States" appears at the cursor location in your application!



Choose **Notepad** and a "scratch pad" pops up on your screen. Type whatever you want into it, exit to your application, and then recall the notepad whenever you want.

No more having to scribble notes on paper to remind you of phone numbers, things to do, or bright ideas!



Choose **Key Macros** and you can assign "strips" of up to 31 typewriter characters to any of the 26 letters in the alphabet. This saves you having to type the same phrase over and over again.

Choose **Off** and your Portable Plus turns off without having to return to P.A.M., and without having to save your application file. When you turn your computer back on, you'll be in the same place in the same application, with no data lost.

All the capabilities of IBM-PC programs like Borland's SideKick and SuperKey? Certainly not, but Shelp's the only such program for the Portable Plus. It's a clean, easy-to-use, and highly useful helper you'll want at your fingertips always.

Shelp runs on the Portable Plus only. It works with Time-Manager, MemoMaker, Reflection 1, Lotus, and any other non-graphics program. (Shelp does not run with MS Word.)

Shelp was written by Randy Salo, the former HP engineer who authored MemoMaker on the original HP Portable.

Shelp \$55 (\$49.95 for Portable Paper subscribers)

60-day no-risk trial: If, after 60 days you are dissatisfied with this product for any reason, you may return it for a full refund. **To order,** use the postage-paid form at the back of this issue, or send check or credit card number to: Personalized Software, P.O. Box 869, Fairfield, IA 52556 515/472-6330

B Drive—Built-in Software in ROM

DOS B

Bypassing PAM

By Hal Goldstein

Many Portable users are used to the DOS command prompt and for speed would like to permanently bypass PAM. It is possible to disable PAM by creating or appending a file on the A drive named **config.sys**. In that file add the following line:

```
shell=b:\bin\command.com b:\bin /p
```

Save this file as **config.sys**, then press **CTRL Shift Break** to activate the file.

You will be prompted for the time and date; just press **Return** at the two prompts.

Now you will find yourself in DOS with a simple **A>** prompt. If you type **1 2 3** to get into Lotus you will get the message **Bad command or file name**. To add more information to the DOS prompt and to be able to enter directly into a ROM program such as Lotus from the A drive, you must create an additional file named **autoexec.bat**.

If you have an HP110, the **autoexec.bat** file can look as follows:

```
path a:\;b:\;b:\bin;
```

```
prompt $h$t$h$h$h$h$h$h$h$ [$p]:
```

This tells the system all possible places to look for programs before giving up. Typing **1 2 3** from the DOS prompt will now load Lotus. If you appended **c:** to the path command, DOS would also search the C drive for the program file to be executed.

If you have a Portable Plus, make sure you include all the subdirectories listed when you give the **dir b:** command. For example, my **autoexec.bat** file contains the following **path** command:

```
path a:\;b:\;b:\bin;b:\45548k;b:\hp82861;b:\memo-tm;
prompt $h$t$h$h$h$h$h$h$h$ [$p]:
```

Included in the **path** command are subdirectories for PC2622, Lotus, Memomaker and Time Manager.

The DOS **prompt** command causes a simple DOS prompt with the time and current subdirectory to be displayed on either the HP110 or Portable Plus.

Unfortunately, if you have to reconfigure the system in some way (e.g., you want to change the **Memory / Edisc** parameter), you have to get into PAM first. To enter PAM type **pam** from DOS. From PAM, **f6** will put you in **System Config**. Exiting **System Config** will put you back in DOS.

If you are ambitious and a programmer, you can study Cliff Looyenga's Wizardry column in the Jan./Feb. 1987 issue of *The Portable Paper*. There Cliff outlined the mechanism for changing configuration values from DOS. Send us your successes—we'll put them on a future utilities disk.

To turn the system off from DOS, use the **off** utility by just typing **off** from DOS. The **off** utility is available in the

HP CompuServe forum or from Personalized Software as part of the *DOS Tools* disk found on the order form at the end of this issue.

A final vital note of caution. Carefully, type in the **config.sys shell =** line. If you mistype the command, you will probably put your Portable in limbo when you initially reboot with **CTRL Shift Break**.

Here is the way out. If you have an HP110 or a Portable Plus without Shelp installed, press **CTRL Shift Extend char Break**. Press the **Break** key last. Up will come PAM. You can now re-edit your bad **config.sys** file.

If you have the Plus with Shelp, do a **CTRL Shift Break** reset. Then quickly, before Shelp can be installed, press **CTRL Shift Extend char Break** as described above. You have now retaken control of your system. So re-edit **config.sys**.

Terminal B

110

Autologon and Uploading To CompuServe Revisited

By Hal Goldstein

In the July/Aug. 1986 Data Communications issue of *The Portable Paper* we gave an automatic logon sequence for CompuServe and discussed uploading files. Since then a number of readers have complained that both stopped working for them.

For an overview I suggest rereading my article on page 5 of that issue and Gary Goodman's article on page 9. Here are some modifications to that discussion that should help frustrated readers.

First of all, increasing the wait time should solve any problems of the automatic logon string. In the original article the logon string began with **W2**. Begin it with a four-second wait as in the following logon string. This logon goes in **Logon String:** field of **Terminal Config** of the HP110 Terminal program.

```
W4"^c"{ID:}"72257,714"E{ord:}"PASS?WORD"E
```

^c stands for pressing **CTRL** and **c** together. Substitute your user ID and password in the logon string.

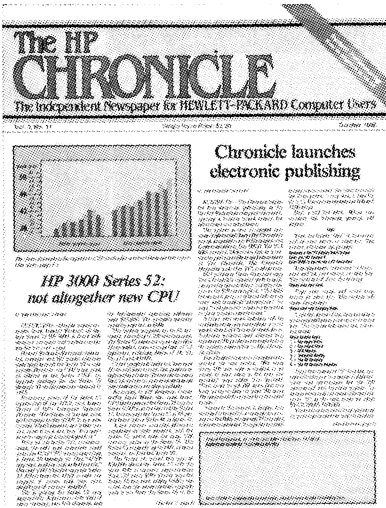
CompuServe made a slight modification of its EMAIL uploading procedure, obsoleting some of the material in the previous *The Portable Paper*. Gary Goodman has once again come to the rescue with a simple method for uploading ASCII files in EMAIL using XMODEM protocol.

From the Terminal's **Upload Config** screen create the following: In the **From Local File:** field, put the name of the file to upload. Leave the **To Remote File:** field blank. For **File Type:** put **8-bit Text**. In the **Remote Invocation:** field type in the following: **upl/type:a/pro:x. Protocols:** should be **On**.

Let's say you save the **Terminal Config** file as **cs.ter** and

PCI delivers the news!

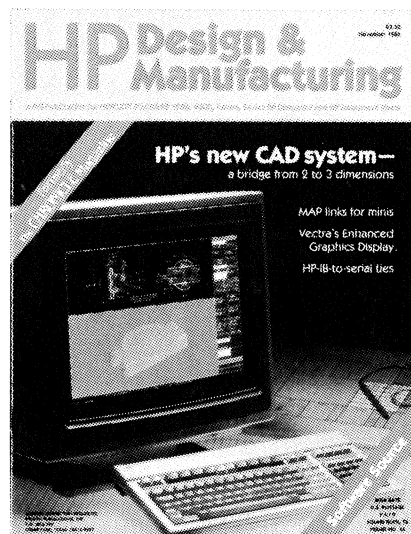
News



The HP Chronicle

The only newspaper devoted exclusively to HP 3000 computer users. Each monthly issue includes the latest news, productivity tips, new products, help columns, and classifieds.

Scientific Data



HP Design & Manufacturing

The journal for scientists, engineers, and others who use HP technical computers. Each monthly issue includes programming tutorials, new product updates, applications features and technical troubleshooting.

and Training

SVP Software Video Productions

Training courses for the HP computer user. Software Video Productions offers USING EXECUTIVE MEMOMAKER for the HP 150 and USING WALKER RICHER & QUINN'S REFLECTION SERIES for the HP 2622 and 2392 Communications. Up-to-date training techniques and individualized instruction at affordable prices.

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the **Upload Config** file as **up.ter**. From DOS or PAM type the following command:

terminal /t cs.ter /u cs.upl

Once you are logged onto CompuServe, type **go email**. Then press the **user system** key followed by the **To Host** key and everything is handled automatically. Be patient. Nothing seems to happen while the first block loads; the message on the screen indicates 0 retries and 0 blocks loaded. However, your file is transferring. This XMODEM transfer may take a bit more time, but if you edit text on your Portable (with MemoMaker) and name the file in the **Upload Config**, the whole process should be speedier and cleaner than doing a **compose** in EMAIL.

Sending Data Straight To The Printer

You can echo everything that appears on your HP110 screen to the printer during a Terminal session with a host computer. To do so set **To Local File** in the **Download Config** menu to **prn**. Here is how you might do so while logged on to the host computer.

Once you are in the Terminal program and have set up communication with the remote host system, do the following:

1. Go into the **Download Config** menu **f4**.
2. Set the **To Local File**: to **prn**.
3. Set **Protocols**: to **off**.
4. Leave all other fields at their default value and hit **Exit Config**.
5. From the main Terminal menu, hit the **User System** key, which will display the Terminal softkey labels.

When you want to have the screen contents go to the printer, hit the **From Host** key—you will then get a printed copy of anything that subsequently appears on your screen. You can use only printers that can be connected to the two wire HP-IL interface, because the hardware that controls the modem also controls the serial port. Both the modem and the serial port cannot be active at the same time.

The Portable's Terminal buffer is 2K. That means that nothing will be sent to the printer until you exit Download mode or more than 2K of data has been sent to the printer.

Reflection 1 B PLUS

Reflection Questions Solved

Dear Mr. Hughes:

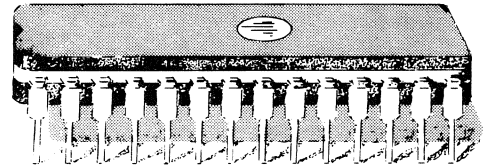
As an Portable Plus user, I came across your name in *The Portable Paper* Vol.1, No. 4, in which you authored the article on the HP Reflection 1 communications program.

I have had considerable difficulty using this program for automatic file transfers. The major reasons for this seems to be that I am practically computer illiterate and the HP documentation is practically useless.

Therefore, I am writing to you as the only person I have ever heard of who has apparently mastered the use of Reflection 1. I hope that you can find a few minutes in your schedule to briefly answer a few questions.

1. I need to transmit to the host through the command

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language the same effect as hitting the **Return** key. This works manually, but I cannot get it to work with the command language. I suspect some control statements may be needed. How do I do this?

2. Also, I want to exit Reflection 1 with the exit command, but have to shut off the power to the modem port, as warned by HP, with the escape statement **^[&bR**. I have tried to type this into at least half a dozen command statements in various ways, but when I check the Communication Configuration in PAM, the power to the port is still on. Sure, I can turn it off manually, but that's not the point! Do you know how to transmit this escape sequence so the port is turned off?

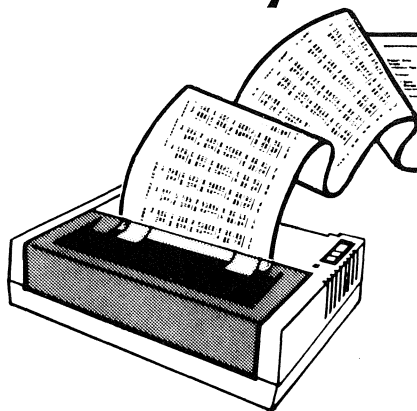
3. I see in your article on calling the HP150 frequent use of **^M**. I use similar command statements, as for instance dialing with the **transmit** command, but with no control statements, and it works. So now you've got me thoroughly confused. Is there a list of control codes, and what do they do? (Practically none of the things you do in your article seem to be explained in the manual—but perhaps this is again a reflection of my illiteracy!)

I would very much appreciate a response from you.
Svein Vigander; Norris, TN

Dear Svein,

Reflection 1 isn't the easiest software program to master, even for an experienced user. I can appreciate your frustration! The HP documentation for Reflection 1 does not give sufficient guidance about implementing the program's powerful command language. Although I'm certainly not a master at using the command language, I have been successful in automatic log-on and file transfer with my

No more cutting and pasting- Now you can print it sideways!



SIDEWINDER

At last! Sideways printing for the HP Portable, Portable PLUS, and ThinkJet!

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MS-DOS computers, and most HP graphics printers.)

It's called SideWinder, and it's perfect for Lotus 1-2-3 print files, MemoMaker files, or any other text (ASCII) file that's too wide for a normal page.

Just type in the file name, and SideWinder does the rest, printing up to 53* rows *sideways* - for as long as your paper supply lasts. You'll never need to cut and paste again!

SideWinder's high-quality graphics characters are indistinguishable from ordinary characters, and SideWinder prints just as fast as your ThinkJet can.

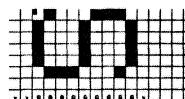
In addition, a built-in mini text editor lets you get inside your print files and easily create **double-width** characters and underlines.

SideWinder \$69.95
\$59.95 for Portable Paper subscribers

SideWinder 1.01 owners may upgrade to current version 2.01, which supports 8 chars/inch, by sending Personalized Software \$7.50 or by mailing a self-addressed \$.39 stamped envelope and the SideWinder master disk.

OPTIONAL EXTRAS: Southern Software of New Orleans, creators of SideWinder, have also created two companion utilities that work only on The HP Portables:

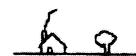
SideChar lets you create your own sideways characters.



SideChar
NAME
Q to Quit P to Print
L to Load S to Save
Select to toggle block
Cursor keys to move

Simply fill in a grid on your Portable to modify SideWinder's built-in characters. . . create italics. . . Hebrew letters. . . integral signs. . . whatever sideways characters you wish.

Sketch & Print lets you make line drawings on your screen using the cursor and function keys.



It's a lot like those Etch/Sketch toys you played with as a child. (Actually, it's even better because you can draw not just horizontal and vertical lines, but also *diagonals* with a single key.) Sketch & Print also lets you print - and save - anything you draw on the screen.

\$10 for both utilities when purchased with SideWinder

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*105 rows for QuietJet Printer

HP150 (which uses Crosstalk XVI). If you are having problems communicating with an HP3000 or a DEC minicomputer, you should consider contacting Hewlett Packard directly.

I will attempt to answer your questions by reference to the paragraph numbers in your letter. (My comments pertain to the **vt mode** menus; **hp mode** may follow an alternate menu tree [p. A-3]). All instructions for the computer assume a **Return** at the end of the instruction:

1. If I understand your first question correctly, you have been able to transfer files to and from a host computer manually, but not automatically. Assuming you have matched all the necessary communication parameters (baud, parity, stop bits, pacing, word length) and have successfully used the **xs** and **xr** commands manually, then all you need to know is how to automate the process.

The command language file must be able to exactly reproduce the keystrokes needed for the transfer. In order to determine what keystrokes are needed, proceed as follows:

- Type **open <filename>**. This command opens a disk file with the name you have specified.
- Type **log**. The Portable Plus will now log the session to disk file of your choice.
- Select **mode keys** and then **display functns**. Now the Plus will not only log the text of the session to a disc file, but all the control characters as well. You'll need to know these in order to build an accurate command file.
- Manually log into your host computer.
- Conduct a file transfer session with the host, logging the entire session to a disk file. Don't worry about the carriage returns and line feeds that show up on your screen. They are perfectly normal.

f. Once the session is complete, type **close disk**. Then select **modes keys** and turn **display functns** off. This action terminates session logging, closes the disk file, and returns the display to normal.

g. Using Reflection 1's display memory or a text editor like MemoMaker, load the disk file you've just created. Study it well, because the command language file you will create must properly respond to the host with all of the keystrokes you just entered manually.

Although this seems a bit generic for an answer, it is the only guidance that I can presently give you, not knowing what kind of host you are communicating with. Sometimes you'll need to experiment with the control characters or host responses in order to be successful at creating a command file that works. More than often the **wait** statements need to be changed to adjust for timing errors between the command file and the host's response.

Another important concept is that the host needn't run Reflection 1 software in order for you to control it. My example illustrated controlling an HP150 running Cross-talk XVI. It is possible to invoke the other system and control it, by transmitting the commands recognizable to the host. If your host runs Reflection 1, pay special attention to the note on pages 7-10.

2. Reflection 1 doesn't use the Datacom Configuration or its menu variables, available from PAM (f2). Therefore, **Power to Interface** should be set to be "off", conserving battery power. The power to the modem interface is automatically turned on upon entry, and to off upon exit. If you log off from a host that doesn't hangup after a session, depress **CTRL Shift f2**. This will hangup the modem without exiting from the program. Appendix D lists some additional useful control functions.

Disconnecting the modem may also be programmed to one of the user defined softkeys by following the instructions in chapter 8 of the User's manual. Remember to use **display functns** to enter the escape character and carriage return. **^J** and **^M** won't work. Specify either **L** (local only) or **N** (normal keyboard input). The example command file listed in my article is another method for loading the softkeys:

DISPLAY "**^[&fla4k13d2LHangup Modem^f**"

Appendix H summarizes HP escape sequences. Appendix I summarizes VT escape sequences.

3. Appendix J of the PC2622 User's Manual would answer your questions. It contains a list of control codes and their function. Unfortunately, no such table exists in the Reflection 1 manual. However, most any printer manual will contain such a table.

I hope I have been of assistance in answering your questions.

If you should need some additional help, please write again. Reflection 1 can be both very exciting and very confusing. Once mastered, it opens some exciting possibilities. I wish you the best of luck in your endeavors with the Portable Plus!

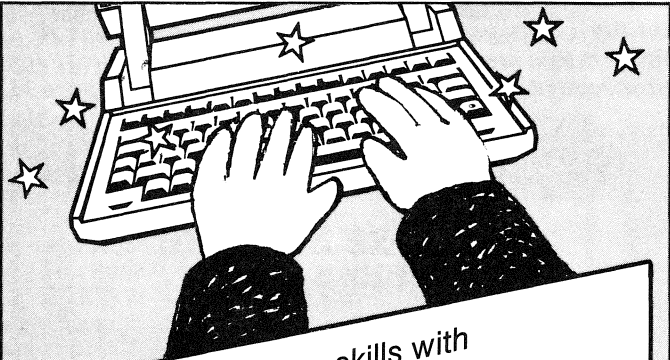
Sincerely,
David J. Hughes

Dear David,
Thank you so very much for you long and informative letter of December 8! I really appreciate your taking time off to answer questions from a stranger. Your suggestions were very helpful and quite revealing. Especially the trick of

saving a logged, manual command file with display functions on, and of course Appendix J with a list of control codes. That changed the color of my life!

With your help, I now have four automated communication links established with Reflection 1:

1. Call the internally linked TVA Wang word processor system to upload drafts of memos, letters, and reports for official finish.
2. Call an internal TVA electronic news service to download reports on the corporate state of affairs.



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—Dave Mark, L.A. Scrug Notes, newsletter.

3. Call the US Corps of Engineers in Cincinnati to download daily reports on the navigation conditions at all the locks of the upper Mississippi inland waterway, including all the navigable tributaries.
4. Call our own HP1000 A900 mini-computer to run programs.

So I wish to thank you again so very much...

Svein Vigander

[Ed—If you have Reflection 1 questions, you may write David Hughes c/o Personalized Software, PO Box 869, Fairfield, IA 52556, and we'll forward your query to him. Because David will be answering questions from his own time, we cannot promise to answer your question personally or in print. We will print the questions and answers that we think will have the greatest value to the most readers.] (B Drive continued on page 34)

SPECIAL FEATURE:

Database Software Management

Introduction

By Hal Goldstein

In this special database issue we look at various database products that run on the HP110 and Portable Plus. This introduction defines basic terminology and discusses common elements found in database programs. The conclusion compares the relative advantage of each product.

A database is a collection of information stored in some orderly fashion. A most common example is an address book. We will use the example of an address book to explain database concepts.

An address book consists of a collection of names and associated addresses. Using computer terminology, each such address book entry is called a **record**. A record consists of **fields**. For example, one record of an address book might contain the following information:

Hal Goldstein, Personalized Software, PO Box 869, Fairfield, IA 52556, (515) 472-6330, 39.

In this example we might name the fields: **first name, last name, company, address, city, state, zip, phone, age.**

Each field is of a certain **data type**. Most database managers want you to define the **type** of information each field contains. In this example, all but the **age** field are **text** fields. The age is the only field with numerical significance, so it becomes a **numeric** field. Other possible field types include **date, currency, boolean**, and so forth. Products vary as to what they consider distinct **data types**.

The collection of all the records in the address book makes up a **file**. All the records in a **file** have the same fields. That is, every entry in the address book has space for **first name, last name, company, address, city, state, zip, phone, age**. These records in the address book are said to have the same **structure** or **format**. A **file** then consists of records with the same **structure**.

A **flat file database** (as opposed to a **relational database**) consists of files all with the same **record structure**. Most of the products reviewed in this article with the exception of dBASE II are simple flat file database systems.

Database Management Software Product Summary

Below is a summary of database management products discussed in this special issue of *The Portable Paper*.

Hewlett Packard

These products can be obtained through your HP dealer or through the HP Direct Marketing Division, 800-538-8787 (California, Alaska, Hawaii, 408-738-4133).

dBASE II: HP110, PLUS
45468D, \$500.

EXECUTIVE CARD MANAGER: PLUS
45555K Option 400, \$295, Plug-in ROM software (requires software drawer 8292A, \$150).

EXECUTIVE CARD MANAGER TEMPLATES:
PLUS
45441D, \$125.

1-2-3 FROM LOTUS: HP110
Built-in.

1-2-3 FROM LOTUS: PLUS
45548K, \$495, Plug-in ROM software (requires software drawer 8292A, \$150).

Personalized Software

TURBO TOOLBOX: HP110, PLUS
PO Box 869, Fairfield, IA 52556, (515) 472-6330, \$69.95, *The Portable Paper* subscribers pay \$62.95.

ButtonWare Inc.

PC-FILE III, VERSION 4.0: HP110, PLUS
P.O. Box 5786, Bellevue, WA 98006, 800-528-8866, 206-454-0479 (technical information), \$59.95. They will point you to a local users group for a demo copy.

Condor Computer Systems

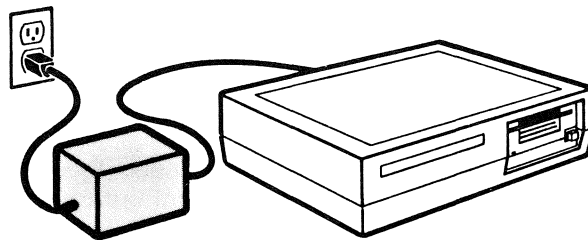
CONDOR JUNIOR: HP110
1490 Eisenhower Pl, Ann Arbor, MI 48108, (313) 971-8880, \$195. *The Portable Paper* subscribers can purchase from *Personalized Software*, PO Box 869, Fairfield, IA 52556, (515) 472-6330, for \$169.95.

T/Maker Company

T/MASTER: PLUS
1973 Landings Dr., Mountain View, CA 94043, (415) 962-0195, \$295.

A more complex **relational database** consists of the collection of one or more files. Although each record in an individual file must contain the same structure, each file in a relational database may contain a different record structure.

THE HP9114 EMPOWERER



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THE PROBLEM:

The charge on your HP9114 battery doesn't last long enough for you to do all you'd like to. For that matter, in some cases it doesn't last long enough to do *half* of what you'd like to.

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Plugging in the HP9114 doesn't help, either. That only recharges the battery—it doesn't let you keep working.

WE HAVE THE SOLUTION:

The official HP suggestion is to buy another battery pack and keep both plugged in. When one loses power, replace it with the other. This seems clumsy to us. What if you want to do several hours of disk intensive work? **At *Personalized Software* we have a better solution—2, in fact. Either will solve the problem.**

SOLUTION 1: This is a special power supply. It will allow your HP9114 disk drive to run forever. Just remove the battery pack, plug Solution 1 into the open slot and into your wall outlet. It's that easy! And lets you run your HP9114 to your heart's content. It costs \$129 if you're a *Portable Paper* subscriber, \$145 if you're not. **SOLUTION 2:** A power supply *and* battery pack. Solution 2 includes Solution 1 and a modified HP battery pack you can substitute for yours.

Our special battery pack lets your Portable run directly off your wall outlet. You can plug in the regular HP charger at the same time, so your battery pack always stays completely charged. Solution 2 sells for \$199 to *Portable Paper* subscribers; otherwise it's \$225. Both solutions are custom-made. Both solve the HP9114 battery problem. And both will let you finish your work.

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So, for example, in a relational database, one file might consist of records with our address book fields. Another file might be just for business acquaintances. The acquaintance file contains records with fields for first and last name, birthday, name of wife, names of children, and comments, but does NOT include address.

A relational database lets you relate the two files. So, for example, assuming all business acquaintances are in your address book, you could print the names and addresses of all business acquaintances with birthdays in March by combining the two files.

With flat file systems such as most of the database systems that run on the Portables you could easily create an address book file and a business acquaintance file. However, it would be difficult or impossible to relate the two files.

Accounting systems are generally relational database systems. We will review several such systems in a future issue.

There are common features that are found in all database systems. First of all, you must be able to define the record structure. That is, you must be able to name the fields included in each record. If we were to define an address book record structure, we might use the fields mentioned above (first name, last name, company, and so forth). The ability to create and later modify the record structure of the database is the most fundamental capability of a data base system.

Secondly, it should be easy to enter information. A form which you or the software designs should appear on the screen for you to enter data. It should also be easy to delete or modify data in the database.

Once you have entered data, you will want to be able

access the information easily. For example, you will want to be able to locate quickly the address you are looking for. Or you might wish to find the oldest person in your address book, or all the individuals under 40. Different database programs have different capabilities in the area of searching and creating subsets of your database.

For example, you can get almost any kind of information you want out of a dBASE II, one of the products reviewed in this article. However, you pay the price in that you may have to do a great deal of the work to get certain kinds of information. Other products might not let you get at that same information. However, they (or dBASE II) will be able to answer many of your queries with very little effort on your part.

Another major feature of a database system is its ability to sort. You may want a listing of your address book sorted alphabetically by name. Or maybe you need to print address labels sorted by zip to meet some mailing specification. Perhaps, you want a listing by company, then last name. The fields that you want to sort on such as "name", "zip" or "company" are known as **keys** or **indices**. Any data base system will have some sorting capability.

Finally, you may want reports. These reports might contain a subset of your database, such as a list of all those in the address book over 40. The reports may require numerical manipulations of fields in your database file. Maybe you want a count of all Californians in your address book, or want a total of all accounts receivable. Generally, databases have some such ability to calculate.

We will begin by briefly discussing the use of Lotus as a database manager. Since most Portable users are familiar with Lotus, Lotus will be a good starting point for readers not familiar with database concepts.

If you know of other database programs you like not found in this article, give us a call or drop us a note. In particular we understand Notebook II is a good program for the Plus, but we couldn't track down its whereabouts. For ordering information about the various products discussed in this article we have included a box containing the names of the different vendors and the costs.

Lotus B

Lotus As A Database Manager

By Hal Goldstein

The biggest advantage of using Lotus for your database needs is that all HP110 owners and most Portable Plus owners already have it as part of their machine. For many circumstances Lotus is a quite acceptable database manager. Its strengths are familiarity, ease of use, visual simplicity of record structure, computational ability, sorting ability, and the macro feature. Its weaknesses are found in the areas of searching, report writing, and data entry. Furthermore, as a 1-2-3 database grows, 1-2-3 gets more cumbersome to sort and search, and is memory inefficient.

When I started Personalized Software, Lotus seemed the obvious choice where to keep my customer information. I could easily transfer Lotus information back and forth between my HP110 and my IBM compatible Compaq DeskPro.

To create the customer database using Lotus I simply put the label **FIRST** in cell **A1**, **LAST** in **B1**, **COMPANY** in **C1** and so on. The first customer record got entered in row 2, the next in row 3, and so on. In Lotus a **record** takes up one row. Each field takes up a column. So the field containing last names are found in column B; each customer record takes up one row.

After each mailing of a *Portable Paper* issue, I print out three customer listings, one is ordered by last name, another is ordered by zip, and the third is listed by company. These listings have proven invaluable to our staff in tracking customers and orders.

Sorting in Lotus and creating the different lists are simple using the **/Data /S** command. One thing I learned quickly was to put everything in upper case. The Lotus sort commands considers a capital **B** to come way before **b** in the alphabet. (This is due to the ASCII representation of upper case letters coming before lower case letters). Therefore, "Joe Smith" and "FRED SMITH" might find themselves far apart.

Data entry using Lotus is awkward. With Lotus you are forced to press **right arrow** rather than **Return** when moving to the next field. Entering labels beginning with numbers (such as street addresses) requires the most patience. Such a label must be preceded by an apostrophe ' or Lotus beeps and puts you into **edit** mode. For example, if you enter the address "1240 Cherry St" without the apostrophe in front of the "1", Lotus gets confused. It thinks you meant to enter a number and doesn't understand "Cherry St". A more sophisticated database product would let you predefine the address field as text. Lotus just assumes if you enter a number first, the **type** of that field is **numeric**.

I solved both these data entry problems by writing a

simple macro. With the macro, **Return** moves the cursor right one cell, and labels automatically begin with an apostrophe. However, it's easy to confuse the macro if a data entry error must be corrected.

I also wrote a complicated macro to print mailing labels with my HP LaserJet printer. This was necessary since there is no simple way, as there is with most data management programs, to print mailing labels from within Lotus. The macro was painstakingly slow—five minutes a page. I eventually solved the problem by purchasing Lotus Report Writer for my Compaq. (The program is copy protected so I haven't been able to test it on The Portables.)

I dislike 1-2-3's primitive and arduous searching capability. I avoid defining criteria, input, and output ranges necessary to form searches and queries in Lotus. Normally I store my database sorted by customer last name. In order to be able to search quickly, I spend about five minutes modifying my database. What I do is find the cell containing the first customer with a last name starting with "B". I assign that cell the range name of **B** using the **/Range Name Create** command. I traverse my list assigning the range name **C** to the first last name beginning with **C**, do the same for **D**, and so on.

Now I can find a customer quickly. If I want to find "George Thompson", I simply press the **f5 GoTo** key followed by **t**, and I am quickly at the start of the **T's**. Mr. Thompson cannot be far away. The only trouble with this method is that I have to start over renaming cells every time a lot of customers are added to my database since the placement of the range name cell gets shifted with new entries.

As our customer list has grown, Lotus has become more cumbersome to use. Sorts take forever, and even retrieving and saving a file takes a significant portion of a lifetime. Furthermore, we want to keep track of such things as who has bought what product, and who owes us money. To do this requires a more sophisticated relational database. We will be moving shortly to a program written in DBASE III Plus on our IBM compatible Leading Edge.

If your HP Portable database takes less than about 1200 total cells (say 200 records and 6 fields), 1-2-3's limitations may not affect you significantly. Lotus 1-2-3 may be all you require to meet your database needs.

Executive Card Manager B

(PLUS)

Executive Card Manager

By David Hughes

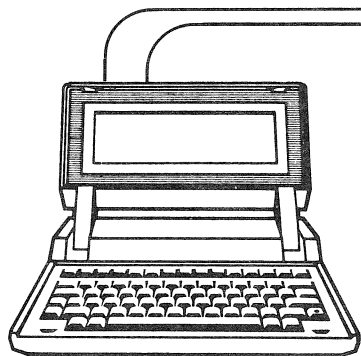
The Electronic Rolodex

Just as the word processor has replaced the typewriter as the "new guard" of office communication, HP's Executive Card Manager (ECM) has replaced the traditional rolodex card file as a means for maintaining a personal database of useful information. Installed in the Portable Plus, the ROM-based Executive Card Manager gives you powerful, easy to use tools to quickly develop a truly portable, relational database.

Who Needs a Database Manager

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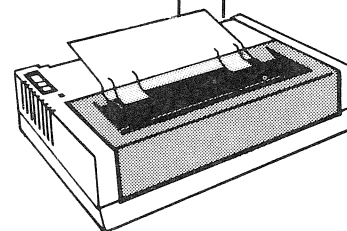
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- Avoid paper waste by preventing annoying form feeds
- Use your HP110 as an electronic typewriter
-PrinterTalk connects your keyboard directly to your printer
-Great for labels, envelopes, short notes, any small typing task
- Perform advanced features supported by your printer, such as superscripting and subscripting.

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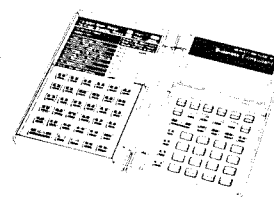
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offered by a database manager. Traveling executives and salesmen will reap an extra benefit from ECM, since the program resides in ROM. Since many executives maintain rolodex files containing information on clients, products, or services, ECM's rolodex-style interface should be a very natural, flexible, and familiar approach to handling database information.

ECM Concepts

Most executives don't have the time to learn the complex details of a comprehensive, full-featured database management program. Some database managers require you to think of your information in terms of fields within datastructures, and sometimes require you write the database application. This way of thinking may seem foreign and too much trouble to people who want a personal solution with minimal investment in time and resources.

ECM approaches data management in a manner very similar to the way you would traditionally manage data without a computer: it creates a computerized version of the rolodex cardfile. However, ECM does most of the work for you!

Whereas a rolodex card is limited to a physical size, the rolodex card offered by ECM can vary in size from one to ten screens of information. In addition, while a rolodex file is limited by the number of cards contained in the file box or rotary, an individual ECM card file has a limit of 65,536 cards. In other words, system memory is the only limitation on the size of your database.

Using The Executive Card Manager

Creating a cardfile with ECM is an easy and uncomplicated task. In order to design the format for the contents of a cardfile, you must first determine what information will appear on the individual card. After the field labels are placed, the data fields are easily created by "making" them via the function keys and "adjusting" their position and size on the card with the cursor and function keys. "Key" fields can be designated for sorting and automatic dialing. Although ECM doesn't possess a dedicated help facility, the program is straightforward and self-explanatory.

Accessing information with ECM is as easy as working with a rotary card file. The cardfile can be sorted with up to three keys or special fields at any one time. To extract information from a cardfile, you enter the information ECM will search for into the desired fields on a blank "index" card with your cardfile's "template". A "workset" of cards will be created for further manipulation, or for report preparation. It is possible to narrow or widen your search, and to perform numeric or "wildcard" searches.

ECM provides you with the necessary tools to divide a large cardfile into smaller cardfiles, and the ability to make a larger cardfile out of smaller ones.

Report Writing With ECM

Designing clean-looking, comprehensive printed reports with ECM is as easy as designing the cardfile format. You begin designing a print format by selecting the desired fields from the cardfile format. Once selected, the fields may be moved with the cursor to their desired position on the screen.

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For any given field, the length may differ between the cardfile and print format. Data that exceeds the length of the print format is conveniently truncated; data that is less than the length of the print format may be padded with spaces.

After placing the data fields, you may enhance the report by adding headings, page numbers, the date, or accumulating statistics. Although ECM was not designed to support extensive numerical analysis of a database or cardfile, you may calculate and print the sum or average of all the values in a given field or fields.

The report writing capability of ECM is so flexible that it is possible to produce elaborate columnar reports, mailing labels, and even form letters!

Interfacing With Other Programs

Perhaps the most exciting feature of the Executive Card Manager is that its data is easily shared with other programs. It is possible to share ECM data with Condor, dBase II, Basic, WordStar/MailMerge, Visicalc, Lotus 1-2-3, MS-Word, and MultiMate. The BASIC format is readily used by most word processing and database programs; the DIF format is used by Visicalc and Lotus 1-2-3. Instead of maintaining mailing lists with the word processor, they can be maintained by ECM. What's nice about ECM is the transfer utilities are an integral part of the main program, not a disk-based utility.

ECM Templates

In addition to the Executive Card Manager, HP has developed a set of "templates" as a companion product.

The templates provide a series of ready-made cardfile and report formats as ECM solutions for a variety of business disciplines. The templates can be used "as-is", or modified for your special application.

Solutions include: employee record, task scheduler, stock portfolio, sales prospects, travel expense report, inventory, patient/client information, payroll, and more. Twenty-one solutions are provided on disk in this supplemental package.

Recommendations

The Executive Card Manager is a flexible and powerful database manager for the Portable Plus. It is currently the only database product offered in ROM format, making it ideal for field use. If your personal solution database requires the frequent manipulation of customer records, products, or work order information, etc., while in the field, then ECM should be ideal for you. If you need more sophisticated mathematical capabilities, you should consider using ECM in conjunction with a desktop-based database product.

The main strength of the Executive Card Manager lies in its friendly, familiar, rolodex-style interface, and its ability to share information with a variety of other programs. Although it may not surpass the capabilities of other traditional disk-based database managers, it may be the best and most productive data management program for the travelling executive.

[Ed—Gerald Fuller of Williston, ND also sent us a review of ECM that almost identically echoes David Hughes' sentiments about the product. Gerald adds: "You will be

running the program in less than an hour with HP's Getting Started part of the ECM manual. The program needs 128K minimum but works faster if you set up more main memory."

A final point that should be mentioned about ECM. Like most of the other products reviewed in this issue, ECM is a flat file database system. That is, ECM does an excellent job of managing a card file. However, if you create two distinct card files, with one field in common, ECM would not be helpful in relating the files.

So, for example, suppose you had one card file containing customer ID, name, and address. You had another file with customer ID and a history of purchases but no address. You could not combine the files using the common customer ID field in order to do a mailing to your best customers thanking them for their business. You would have to use dBASE II to accomplish such a task.]

dBASE II

A

By Ed Keefe

There is a saying in the computer business that software sells hardware.

I wonder how many people bought their computer because it would run the database management program dBASE II from Ashton-Tate?

This was certainly the case for me when I made the decision to purchase an HP110 almost three years ago. If dBASE II had NOT been available for the HP110, I would probably have opted for a computer system with less portability and more "dBASE-ability."

Nowadays, both dBASE II and the HP110 are considered passe by "state-of-the-art" users. Three years ago both the dBASE II program and the HP110 WERE state of the art. Today, both the HP110 and dBASE II are classified as "classics."

Hewlett-Packard no longer makes the HP110, but it still sells the dBASE II program for the HP110 and the Portable Plus at the classy list price of \$500.

That's a pretty steep price to pay for a piece of software that many would deem to be out-of-date, difficult to use, and even slightly "buggy". So why even consider buying or using dBASE II with your HP110 or Portable Plus?

The answer to that question depends on what you want to do with your portable computer.

Most users want a record-keeping program that will help them keep track of a list of customers or keep an up-to-date list of products. If this is what you want a database program to do, then you might be able to get by with a program such as Lotus 1-2-3. You might even want to experiment with the routines in the *Through the Looking Glass* column in this issue of *The Portable Paper* to see what kind of a database management program you can design with plain old MS-DOS.

Both Lotus 1-2-3 and MS-DOS have routines that will help you sort your data. And both contain procedures for letting you locate items in your database. Lotus 1-2-3, and even the EDLIN program, will let you add to your database and keep it up-to-date.

However, if you want to design your own fancy data-input screens and develop your own routines for printing

reports, then EDLIN falls down on the job. Lotus 1-2-3 is more capable in this area, but it demands that you learn something about macros.

On the other hand, dBASE II will let you design your own input forms very quickly. It will let you generate columnar reports—even reports which include subtotals—much more quickly. For example, to design such a report, you simply type in the command **report** and answer a standard set of questions.

dBASE II will automatically create the report for you.

However, this relative ease of data input and output does not justify a \$500 price tag.

When you buy dBASE II, you are really paying for a programming language, like BASIC or COBOL. Actually, dBASE II shares some of the characteristics of BASIC and COBOL. Like BASIC, dBASE II was designed to be used by novice programmers. Like COBOL, it is a business-oriented computer language. It deals with collections of information rather than with mathematical formulas.

Like other programming languages, it teases you with an illusory promise that you may be able to write some application programs that you could sell to others. One or two good application programs in the dBASE language would let you recoup this \$500 investment quite handily.

On the other hand, many other dBASE II programmers have gone before you. They have left a rich legacy of application programs that do everything from producing mailing labels to doing all the accounting for a medium-sized company. These applications tend to be well written and sell for anywhere from \$50 up to \$1500.

Of course there is a slight hitch in this money-making scheme. All your customers must also own the dBASE II program. On the HP Portables, dBASE application programs must use the dBASE program itself in order to work.

Also, the \$500 cost of the dBASE program is just the start of your investment. You will also invest a goodly amount of time learning how to program in dBASE II. You could spend weeks trying to figure out the documentation that comes with the dBASE II program. Doing so would be like trying to learn English with only a dictionary and a grammar book. So not only will you spend a lot of time learning how to use the program, you will probably spend more money on books that supplement the dBASE documentation.

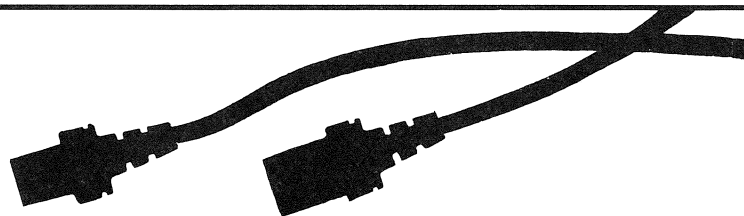
I have included a short list of my favorite dBASE reference books at the end of this article. These are books that I pull off the shelf whenever I get ready to re-learn dBASE II.

You might even wind up getting the IBM PC version of dBASE II. There are some programs that come with the IBM version of dBASE II that are not included in the HP version. These programs are called **menugen.prg**, **formgen.prg**, **filegen.prg**, and **labelgen.prg**. They will speed up your program development immeasurably; however, they are available only on 5 1/4" disks. Also, they must be modified slightly to be used on the HP 110's 16-line display.

So, all in all, what you are paying for when you buy dBASE II is a learning experience. That means hours and hours of frustration in order to get the feeling of satisfaction and accomplishment that comes with designing your own computer program.

You may be asking, "If I'm going to spend my time learning to program my computer, why not learn a pro-

Missing Link



A breakthrough for users of the HP41, 71, 75, and series 80 hand-held computers.

Hewlett-Packard's HP-IL interface lets you transfer data from certain HP-IL devices to certain other HP-IL devices—for example, from hand-held computers to printers and disk drives, or from your HP Portable to an IBM PC.

Unfortunately, the HP-IL interface does not allow all possible combinations; notably missing is the ability to transfer data from

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LINK was written by Paul Grimmer, author of SideWinder, the sideways printing program for HP Portables.

gramming language like Turbo Pascal or BASIC? What's the advantage of dBASE II over one of these other programming languages?" These are good questions.

The answer depends on how fluent you are in BASIC or Pascal. If you are proficient in Pascal, you might be able to write your own database management program in a week or so. I daresay that if you were proficient in dBASE II, you could write the same database program in less than one evening.

If you are a complete novice to programming, then dBASE II will still be a chore to learn, but you will get results more quickly than you would using BASIC. dBASE II handles many programming tasks automatically in a way that is transparent to the user. You don't need to be concerned with writing the code for a file indexing routine, for instance. In short, the greatest advantage is that the learning curve for dBASE II is much shorter than it is for Pascal or BASIC.

dBASE II does have some drawbacks, however. One of the things you will quickly learn about dBASE II is that the built-in editor is not worth using. When developing programs in dBASE II it is far better to use the HP110's MemoMaker program for entering the text of dBASE II application programs. Doing so will reduce the amount of your frustration by at least 50%.

In short, dBASE II for the HP110 and/or Portable Plus is not for the faint-hearted, nor the penurious. Rather it is for those who are willing to invest money and time in order to make their computer do more of what they want it to do.

References

Rob, Peter, *Programming with dBASE II and dBASE III*,

Wadsworth Publ. Co., Belmont, CA, 380pp. Contains chapters on using microcomputers and an introduction to the terms used in database management programs. About half of the book is devoted to using dBASE. The other half deals with programming in dBASE II/III.

Green, Adam B., *Advanced dBASE II User's Guide*, Prentice-Hall, Inc. Englewood Cliffs, NJ, 1984 250pp, \$29.00. This book assumes familiarity with dBASE II. The book discusses such topics as macros in dBASE, handling strings, dates, and numbers. It also has a section on recovering damaged dBASE data files and debugging dBASE II programs.

Stultz, Russell A., *The Illustrated dBASE II Book*, Wordware Publishing, Inc. Plano, TX, 312pp. This book can serve as a learning tool for dBASE II, but is better used as a reference book. All dBASE commands are arranged in alphabetical order. Each dBASE command is described in detail and is shown in several typical applications.

Krumm, Rob, *Understanding and Using dBASE II*, Brady Communications Co., Bowie, MD, 308pp. This book uses a series of lessons that get increasingly more complex as they go along. When you have finished this book, dBASE II should be a tool with which you feel comfortable.

Castro, Luis, Jay Hanson, and Tom Rettig, *Advanced Programmer's Guide*, Ashton-Tate Publ., Culver City, CA, 1985, 665pp. This book, along with its optional 5 1/4" disk, is the bible of dBASE II/III and contains a wealth of tips, techniques, and programs. As far as I can tell, almost all of the programs contained in the book and on the disk work on the HP110. The book contains a treatment of microcomputer usage and database management. There is even a whole course outline for use by instructors who want to teach dBASE II/III to others.

Turbo Pascal Toolbox

A

By Ed Keefe

For those who are interested in designing their own database management program on the HP Portables, I would recommend a more than casual look at Borland International's Turbo Toolbox, which is also available from Personalized Software.

I say "more than a casual look" because that is what it will take to get the job done. In order to use Turbo Toolbox, you will need a working knowledge of Turbo Pascal. The Toolbox contains a dozen or so well-designed procedures that you may use to electronically paste together your own record-keeping program.

The Toolbox comes with a sample database program on the disk. This program, when compiled and run, will keep a list of customers in the computer. It will also let you search for names and customer codes and print a sorted list on the screen or the printer. If you buy the Toolbox from Personalized Software, the accompanying 3 1/2" disk contains this sample program in a version that will work on the HP110.

If you want to make any further modifications to this program, you will be in for a very good challenge. The Toolbox will send you up and down such things as B+ trees and into ISAM (Indexed Sequential Access Method) files. However, if you are proficient in reading Pascal source code, you should be able to see what the sample program is supposed to do. (The comments in the source code are scant and sparse.)

The documentation for the Toolbox is all contained in the first 85 pages of the Users' Manual. This documentation assumes that you are very conversant with Turbo Pascal. It is not a textbook for beginners in Pascal.

I have used this Toolbox for several application programs and found it to be a workable solution to designing my own record keeping systems. If you need to develop your own database management system, the Turbo Toolbox may be just what you are looking for.

PC File III

A

By Hal Goldstein

Thomas Page of Houston, Texas and Joe Lischka of Ft. Lewis, WA sent me positive reports about running PC-File on the HP110 and Portable Plus respectively. Tom Page sent me a disk containing PCFile III and detailed instructions for customizing it with the HP110 and PAM. Tom says, "PC-File III runs very well on the HP110—just choose **ANSI terminal** within PC-File during configuration.

"Unfortunately, the 16-line HP110 display is a bit awkward since PC-File was designed for a 25-line display. However, all data displayed by PC-File can be made visible since you can scroll the HP110's display. The display of PC-File will be improved if alternate character set is selected in the Portable's configuration menu. Do not select alternate console mode.

"The main subset of PC-File will even run from the HP110's A drive. The PC-File manual indicates 128K of

RAM is necessary to run PC-File. I have run it in as little as 120K. I have not created any serious databases so I do not know if trouble will result from using such a small RAM.

"I have not fully evaluated operation of PC-File on the Portable. If you make any discoveries or modifications please tell me."

Joe Lischka sent me the following on CompuServe: "I've acquired Jim Button's PC-File III database program and so far it runs with no problem on the Portable Plus. I first downloaded an evaluation version of the program from a bulletin board, then ordered the program from ButtonWare for \$70. Got it on both a 5 1/4" floppy and a 3 1/2" microfloppy. The microfloppy is in IBM format and could not do a diskcopy, but was able to copy all files separately to the Edisc."

PC-File III, Version 4.0 retails for \$59.95 (see box for details). For an extra \$10 you can get a 3 1/2" IBM disk. Joe's note is the first I've heard that Portable users can read files on an IBM formatted disk. Alternatively, you can download an evaluation copy from a bulletin board, or call ButtonWare to find a local users group who can supply you with an evaluation copy.

If there is enough interest, we would be happy to distribute it on 3 1/2" HP formatted disks with Tom Page's and our customization and put the product on our price list.

Last year PC Magazine did an exhaustive review of databases. In its August 1986 issue, page 294, it discussed PC-File. I will paraphrase some of their comments about the program below.

According to the review, PC-File III is a strong price performer for the inexperienced or weekend database user who needs a speedy database with a no-nonsense approach. The program is simple to set up and use, and you won't need the manual except for occasional reference. For protection data can be encrypted.

You can enter up to 42 fields, of between 1 and 65 characters. The last "Super" field is left for lengthy comments or notes. You can also designate numeric data fields of fields with automatically generated input such as dates.

Most PC-File modules are simple and self-explanatory with plenty of prompts. A report writer is included but somewhat cumbersome to use. Through the master menu, you can request sorting, searches, global updates and deletes, and edit masks for controlling input. The program has been translated into 13 languages. PC magazine concludes that PCFile III is strong on ease of use and speed, but is not as flexible as some other File managers.

T/Master

A

By Hal Goldstein

I sent David Hughes a review copy of T/Maker to see if he liked it and could get it to work on The Portables. David got it to work on the Plus, and thinks he will be able to get it to work on The Portable. David raves about the product every time he talks with me on the phone. He wants me to have the program burned into ROM for the Plus.

What is T/Maker? First of all, David has just received a newer version called T/Master. T/Master logically integrates a full-featured word processor, a 55,000 word

speller, a database manager, a spreadsheet, bar chart graphics, a macro programming facility, and file management. A comprehensive communications module should be available by the time this issue of *The Portable Paper* goes to press.

David promises us a thorough review. In the meantime in this Database issue, we'll use a few of David's comments about T/Master's database management capabilities.

The database manager is powerful enough to compete with dedicated database products. Sonja Roizen, vice president of T/Maker Research, told David that the database features of T/Maker (the earlier product) and recently T/Master have been used to maintain all of their company's database information, including payroll, inventory, and sales information.

The database editor operates on plain ASCII text. It is used to enter, revise, or delete data from a database file. A database file consists of several definitions. A record definition defines the data structure. Screen definitions define the presentation of the data on the display. Numerical information can be manipulated within the database. T/Master also includes report writing capability.

Tune in next issue for more information.

Condor Junior

A

110

By Hal Goldstein

As I reviewed this database section, I realized that there was no simple database program written for the HP110 and its 16-line screen. Then the day before this material was to go to the typesetter, I received a call from Bob Walters of Huntington Beach, CA. He told me that he just purchased Condor Junior for the HP110 manufactured by Condor Computer Systems, Ann Arbor. He is pleased with the product.

Bob told me the whole program is menu driven and very simple to learn and use. It has the normal flat file database capabilities. With Condor you can define your database and enter data easily, sort, search, do file management, print address labels, and do limited report writing. Bob runs the program off the C drive with no problems.

I called Condor and talked with Jeff Joll. He told me that the program is very modular. The main program is only 25K. Depending on whether you want to enter data, define the data base, search, sort, create mailing labels, you can add individual 10K programs for each function. Therefore, Condor sounds very well suited for the Portable environment, and that it can be run from the A drive.

The HP110 version is a subset of a more robust product that runs on the IBM PC. The IBM PC version takes up much more memory (the files are over 300K). The main difference is that the PC version allows you to relate two files with different structures and has more advanced report writing abilities.

Jeff said he would send me an HP110 version and an IBM PC version to review. He thought the both the HP110 version and the IBM PC version might run on the Portable Plus.

The purchase price for Condor Junior is \$195. If you would like to order the product from Personalized Software, send us \$169.95 plus shipping.

Conclusion

If your HP Portable database needs are simple, there are products available to fulfill your needs. With the exception of dBASE II and possibly T/Master, all the products reviewed here are flat file systems. That is, they all manage one file of like defined records reasonably well whether the contents be addresses, accounts receivable, a coin collection, or recipes. However, with these flat file managers you cannot relate, say, the addresses file with accounts receivable. You are probably best to use your desktop PC for more sophisticated data management needs.

If you do want to relate files, customize a user interface, or design your own reports then your choice is probably limited to dBASE II.

If you want to easily integrate text, spreadsheet, or communications data with your database (the simplest example being a merge of a form letter with customer names), then T/Master will be your choice.

If you have a Portable Plus, and want an easy to use file manager in ROM, (and don't mind paying a little extra for the convenience), then ECM is for you.

With either The Portable or Portable Plus, if you want a straightforward easy-to-use database system and don't want to spend a lot of money, PC-File is your choice.

If you have an HP110 and want to use a simple, clean program that is memory efficient and designed for your 16-line screen, choose Condor Junior.

If you are a Pascal programmer or a would-be programmer, get Turbo Toolbox. You'll receive the Turbo Pascal source code for a database system that contains excellent sort and search routines. Knowledge of sorting and searching is fundamental for programmers.

Finally, if your database needs are simple and don't require a lot of searching or a lot of records, use Lotus or the Time Manager address book. Since most Portable users have Lotus in ROM, Lotus is a good starting point for handling database needs.

PLUS Notes

Lotus 2.01 And HAL

The Lotus 2.01 upgrade for the Portable Plus is at least two to three months away and maybe longer. HP will give no firm date as to when the upgrade will be available. HP is investigating whether Portable Lotus users will be able to use HAL, the new, much heralded natural language Lotus front end. However, I don't think we should be very hopeful. HAL has large memory requirements. In addition, much of the HP Portable version of Lotus runs directly out of ROM. (Most other applications such as MemoMaker are copied into RAM in the same way an application would be copied into the RAM of an IBM PC.)

My guess is that it would make it take a good bit of additional engineering to get HAL to work with ROM-based Lotus. Hopefully I am wrong.

Please drop me a note or give me a call to report your successes or failure in getting HAL or any other of the new

spelling

How to find spelling errors—and fix them—in a flash

THE WORD PLUS
A Great Spelling
Checker
And More!

By Hal Goldstein

Some spelling checkers only tell you which words aren't in their dictionary. Others tell you the most likely correct spellings. Still others correct misspelled words for you automatically. But THE WORD PLUS does all these things and more—and it does them fast.

First of all, THE WORD PLUS contains a hefty 45,000 word dictionary. (You can use a 35,000 word dictionary instead; this saves 30K of memory space. On the HP110, this leaves 40K for your document. The full dictionary and main spelling program take up about 165K.)

Second, when you ask THE WORD PLUS to check spellings for you, it lists every word it doesn't recognize, and then for each such word it gives you a wide range of options. These include:

- Look up and display all dictionary words with similar spellings
- View the word in context, right in your document
- Correct the spelling
- Insert the correctly spelled word into your document (and optionally print a message if the new spelling causes a change in line length)
- Leave the word as is, but mark it in your document for later consideration

- Leave the word as is and add it to the main dictionary
- Add the word to your own dictionary of special terms (for instance, jargon or technical terms you only use in certain types of documents)

THE WORD PLUS also tells you the correct spellings of individual words independent of any document.

It can find all the words with a given prefix or suffix—or even find words that rhyme.

It can do a global search and replace on multiple words in a single pass. And its hyphenation feature inserts "soft hyphens" into words, making it easier for many word processors to format text properly.

Additional utilities within THE WORD PLUS will count all the words in a file, count the frequency of each word in a file, and alphabetize the words in a file automatically.

If you've ever worried about spelling errors or embarrassing "typos," worry no longer. Order THE WORD PLUS. It's fast, it's friendly, and it never forgets a spelling.

THE WORD PLUS \$150.
\$129 for Portable Paper subscribers

"Of all the spelling checkers I've used, I like The Word Plus best. . ."

—Jerry Pournelle
Author of
"Chaos Manor" column
Byte Magazine

THE WORD PLUS works with MemoMaker, The Editor, and other word processors that can produce ASCII files.

Our version of THE WORD PLUS includes a 3.5" disk and simple instructions for customizing the program to the HP Portables.

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Portable Plus	•
HP150	•
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Lotus add-ons to work with either the HP110 or Portable Plus.

RAM Cards With Greater Capacity

Just before the deadline for this issue, our office received a call from David Burch in England. Unfortunately, I wasn't available to take the call, but apparently his company now makes higher capacity RAM cards that will work in the Portable Plus drawer. He was interested in the possibility of us distributing his products.

I have no more details, but promise to report fully next issue. If you would like to contact him, his address and phone: *Softword, Astage House, Rectory Lane, Windlessham, Surrey, England GU20 2EG (44) 276-76440*. Tell me of your results.

EPROM Update

We are making slow but steady progress on the EPROM front. Our plan at this time is to offer backups on much of the Software we sell in EPROM. Thanks to Lauren Hansman of Totallogic Systems, I am writing this article using The Editor in EPROM in my Plus. He also put Shelp, PrinterTalk, and SideWinder in EPROM for me. It all works

so far with no problems!

By next issue we definitely should have some pricing and ordering information both for EPROM backups of our products and backing up other company's products.

The EPROM chip that best balances economy with storage capacity is about 32K. There is also a 64K chip, but this chip wholesales about 5.5 times the cost of the 32K chip. 128K ROM chips are also possible. If we can figure out which combination of our products to put in a 128K chip, we could have them burned in quantity. That would be the best solution for selling our products on chips. We are open to suggestions.

In the past several weeks I have discovered quite a few companies that can also do EPROM backup for you. These companies are appropriately cautious not to violate any licensing agreement when making the backups—so you should check with the original manufacturer before engaging their (or our) services. Of course, if you want to backup your own program or data, there is no problem.

Here is a brief description of who is out there.

As mentioned above, Lauren Hansman created prototypes in EPROM of some of our software. He is most knowledgeable. He even rewrote the **extract** program in-

cluded on the Shelp disk. Lauren can be contacted at *Totalogic Systems, LTD, 156 D Valley Stream Dr., Nepean, Ontario K2H 9C6 Canada, (613) 726-1616.*

Lauren recommended FirmWare as a good U.S. contact. There you can speak with Craig Battrick, *605 N.W. Fifth St. Suite 2A, Corvallis, OR 97330, (503) 753-9314.* (Craig told me of a new product of theirs that should be of great interest to HP110 users—a 300/1200 Hayes compatible HP-IL modem. In next issue's peripherals issue, we plan to review that modem along with a portable serial modem from Touchbase design.)

You can also contact Barry Demers of Demco Research and Development. They are the makers of the SPC software and A/D Plus software drawer discussed later in this column. They are at *4500 North Grand River Ave, Lansing MI 48906, (517) 321-4500.*

Also, mentioned in the issue's *Letters* section is S.O.S., *1850 East 17th, St., Suite 102, Santa Ana, CA 92701 (714) 558-1806.* A contact person is David Erbas-White. S.O.S. are the folks that make the nifty cigarette lighter Portable charger.

Finally, Peter Bogdonoff is launching *PROMotion, 23 Laurel St., Salem, MA 01970, (617) 744-5628.* Since he is just starting, he might be more aggressive in his pricing.

If you deal with any of these companies, tell us your experience and we'll share it with other readers.

Demco Introduces A/D Software Drawer, SPC

Demco Research and Development supplied us with the following information about several of their new products for the Portable Plus. They have been working with the Buick-Oldsmobile-Cadillac Division of General Motors and with the HP Portable Computer Division at Corvallis, OR, while developing a new drawer for The Portable Plus. This drawer features a 16 channel A/D converter and 256K of space for EPROM's or ROM's. At the same time, Demco wrote a Statistical Process Control (SPC) software package. Together, using Demco's own gauging transducers, Demco is providing the auto industry with a totally portable SPC system.

The A/D drawer provides the user with the ability to carry programs and acquire analog data without support of numerous peripherals. The SPC software is available on EPROM or diskettes. With it you can quickly translate raw data into accurate sampling results. The Demco SPC software offers XBar/R (with graphic output), random sampling, histograms (with graphic output), and process capability. The Demco SPC software also allows for easy transfer of data to Lotus 1-2-3.

For more information, contact Barry Demers, *4500 N. Grand River Ave., Lansing, MI 48906, 517-321-4500*

Updated Technical Reference Manual

The Portable Plus Technical Reference Manual, 45559K, has been extensively revised. The original manual had over 20% of its pages edited or expanded, and a whole new section has been added about the SNA/3278 drawer. If you already own this manual, you can purchase the update pages—45559U. You must order the manual or update through your local HP sales office.

Converting Software to French, German, or Italian

It is possible to convert Portable Plus applications software to French, German, or Italian. Simply install the appropriate localization ROM in your software drawer along with Executive Card Manager, Reflection 1, and/or MemoMaker/Time Management revision A.02.00. These applications will then run with local-language menus, messages, and help.

Localization kits consist of a localization ROM plus local-language manuals for the three supported applications. The applications ROM's will always ship with manuals in English. You should be able to purchase these kits from your HP sales office.



Through the Looking Glass

By Ed Keefe

"You are sad," the Knight said in anxious tone: "let me sing you a song to comfort you."

"Is it very long?" Alice asked, for she had heard a good deal of poetry that day.

"It's long," said the Knight, "...The name of the song is called 'Haddocks' Eyes.'"

"Oh, that's the name of the song, is it?" Alice said...

"No..." the Knight said..."That's what the name is called. The name really is 'The Aged Aged Man.'"

"Then I ought to have said 'That's what the song is called?'" Alice corrected herself.

"No, you oughtn't: that's quite another thing! The song is called 'Ways and Means'...and the tune's my own invention."

—Lewis Carroll, *Through the Looking Glass.*

Beginners in the wonderland of computing often look at the field of database management programs and become "sad" very quickly. The words used in database management are confusing, to say the least. There are "fields" and "records", "files" and "databases", "searches", "sorts", "B+ trees", "relational, hierarchical and flat file management programs," and on and on...

To add to the confusion, there are all the different programs available for "doing" database management: PC-FILE, dBASE II, Executive Card Manager, List Manager, Notebook II. Like most "country & western" songs, these programs sound almost alike on first hearing.

To paraphrase Lewis Carroll, if you're "sad" about all this, let me "sing you a song of databasing"—no, let me show you how to write your own song of databasing—and call the song some "Ways and Means." The words may be someone else's: the tune will be our own invention.

Designing Your Own Database Program With DOS

Long before there was PC-FILE III or dBASE III or even Lotus 1-2-3 there was MS-DOS, the disk operating system for the HP110 and Portable Plus.

MS-DOS has several routines that you can use to build your own database management system. And when you are done, you will know more about DOS on the HP Portables, more about record-keeping programs, and more of what you might want from a database program if and when you buy such a commercial program.

To get started on this project, you will need the following program files from your MS-DOS collection: **debug.com**, **edlin.exe**, and **sort.exe**.

For owners of the Portable Plus, these programs are already built into your computer. For those of you with the HP110, you will need to procure copies of these programs from your PC/MS-DOS disks at work. (The programs were not provided with the HP110.) You should look for some of the programs on the Supplemental disk for PC/MS-DOS, version 2.1. You may have to transfer the files to 3 1/2" disks or put them on the Edisc of your computer. Altogether they will take up about 20K bytes of disk space. *[Ed—Be sure not to violate any licensing agreement]*

Once you have lined up the MS-DOS programs, you will write a **batch** program and a couple of text files which will make using these programs easier. I'll tell you up front that the resulting program will not be user friendly: merely cordial, or user tolerant.

Let me show you what the files look like, tell you how you can key them into the computer, and then, finally, tell how to use the batch program.

The batch program is called **edb.bat** and looks like this:

```
echo off
cls
type dbkeys
echo press g and return
debug edlin.exe %1
type doskeys
cls
```

You may even use **edlin**, the very small and crude line editor that comes from MS-DOS, in this batch file. The best way to do this is to get your computer out of PAM and into the DOS mode of operation. Do this by moving the arrow to the DOS Commands prompt on the PAM screen and then pressing the **fl** key to start the application. When you see the **A>** prompt on the screen, type in the line **edlin edb.bat**

and press the **Return** key. You will get the message **New file ***

The (*) asterisk is **edlin**'s way of telling you that it is waiting for your next command. So, type in **i** and press the **Return** key. ("i" stands for "insert".) The prompt will change to **:***; you may proceed to key in the above program.

Be careful when you are using **edlin**. It is not a word processor. This means that if you see a mistake in line 1 when you are typing on line 3, you can't simply move the cursor up two lines and correct it. **edlin** is a "line editor." It will let you work with only one line at a time. The only key that works well for making corrections is the backspace key. Also, you must press the **Return** key at the end of each line. However, you can generate lines of up to

254 spaces (something MemoMaker can't do). In **edlin**, the characters beyond the normal right edge of the screen will be shown as wraparound lines.

When you are almost finished, your batch program will look like this:

```
1: echo off
2: cls
3: type dbkeys
4: echo press g and return
5: debug edlin.com %1
6: type doskeys
7: cls
8:*
```

The cursor will be on line 8:*. At this point, press and hold the **Ctrl** key while tapping the **Break** key once. This will return you to the * prompt. Check your typing. If you see any mistakes, just type in the offending line number (e.g., 4) and press the **Return** key. The whole line will appear along with a blank line beneath it. This line would also be labelled 4:*. You may then key in the correct version of the line and press the **Return** key.

When you are finished, (or if you have made no mistakes), type in the command ***IP** after the * prompt and press the **Return** key. This will give you a complete listing of your batch program.

If you are satisfied, press the **E** key and the **Return** key to end the editing session and save your work on your Edisc.

Do not run the program yet. You still have to create two other files that are needed by the **edb.bat** file.

However, when you do run the program, it will clear the screen and shut off the "backtalk" from DOS. The program will automatically set up the top-row function keys to work with your database program. The **edb.bat** program will also give you a very short reminder of what to do next: "PRESS g AND Return". It will then load the **debug** program which, in turn, will load the **edlin.exe** program which will, in its turn, load your datafile. (This last file loading is accomplished by the "%1" in the fifth line of the batch program.)

This may seem like a lot of goings-on. I will try to explain why using **debug** to run **edlin** is a good strategy later in the article.

Finally, when you are finished with your database, the **edb.bat** program will reset the function keys to their normal DOS use.

Now for the files that will set and reset the function keys: **dbkeys** and **doskeys**. We will use **edlin** to generate these two files. When we are finished, we will have two "text" files that will redefine the top row function keys on either of the HP Portables.

You may even use the **doskeys** file apart from the **edb.bat** program to reset the DOS function keys. This comes in handy on the HP110 when you have been running MemoMaker or Terminal while in DOS mode. Both of those built-in programs fail to redefine the function keys completely. **doskeys** will compensate for that deficiency.

Let's start with the **doskeys** file, since it is the easier one to create. Again, let's use **edlin** to construct the file. Get back into **edlin** with the command **edlin doskeys** and press the **Return** key. When you see the **New File and *** prompt, use the **edlin** insert command **i** followed by the **Return** key to get started.

When you have finished keying in the following nine lines, your file will look like this (which you may confirm by issuing the **IP Return** command as above):

```
1: ^[&f0a1k16d2L.Copy.1..Char..^[p
2: ^[&f0a2k16d2L.Copy.up.to.Char^[q
3: ^[&f0a3k16d2L.Copy .....All .....^[r
4: ^[&f0a4k16d2L.Skip.1..Char..^[s
5: ^[&f0a5k16d2L.Skip.up.to.Char^[t
6: ^[&f0a6k16d2L.Void .....Input.^[u
7: ^[&f0a7k16d2L.Toggle.Insert.^[v
8: ^[&f0a8k16d2L.New .....Line..^[w
9:*^[[2J^[&jB
```

NOTE: In this listing, I have substituted periods for blank spaces. Thus, where you see a period, you should press the space bar when entering the file.

The **^[** symbols in the above listing stand for the ESCAPE code (ASCII character 27). This little character is what triggers the computer into changing the function keys. Keying the ESCAPE code into the file is a good trick; here's how to do it. Press the three keys **Ctrl**, **V**, and **[**. You will see **^V** on the screen. This will change to **^[** when you view the file later.

When you have finished entering the file and are sure that all is as it should be, go ahead and end the editing session. You should press the **E** key when you see **edlin**'s * prompt on the edge of the screen. Then press the **Return** key. The file will be saved on your Edisc.

You may test this file to see if it gives you the desired results. A simple test would be to set the function keys off by pressing the **Menu** key. Then key in the line **type doskeys** and press the **Return** key. The prompts for the keys should turn on and the keys should behave as they normally would when you are running your Portable in DOS mode.

If you have managed to get the **doskeys** file working, then you are ready for a real challenge: keying in the **dbkeys** file. This file will redefine the function keys for use with **edlin**.

When you have finished keying in the nine lines for this file, you should type in the **IP Return** command. Here is what you should see:

```
<-^C 1: ^[&f0a1k7d6L.Line#?I
2: ^[&f0a2k16d4L.Search.FromLn#1,?S
3: ^[&f0a3k16d2L.Copy .....All .....^[r
4: ^[&f0a4k15d8L.View.@..Line.#-1,+12L
5: ^[&f0a5k16d2L.Page:UseNextPrev
6: ^[&f0a6k14d2L.Insert...Texti
7: ^[&f0a7k15d2L.Save.&...BackupE
yq8: ^[&f0a8k15d5L.Quit...NoSave
9:*^[[2J^[&jB
*
```

NOTE: Once again, I have placed periods in the text where you should press the space bar. Hopefully this will alleviate some of the problems when this article is printed using proportional typesetting.

Now to get this file keyed in, you will have to use the keystrokes shown below. Do this carefully. Where you see the letters **Ctrl**, do NOT type C-t-r-l. Rather press and hold the **Ctrl** key while tapping the key that follows this in the text. You should see **^V**, for example.

```
1: CtrlV[&f0a1k7d6L.Line#?ICtrlVM<-CtrlVC
2: CtrlV[&f0a2k16d4L.Search.FromLn#1,?S
3: CtrlV[&f0a3k16d2L.Copy .....All .....CtrlV[r
```

```
4: CtrlV[&f0a4k15d8L.View.@..Line.#-1,+12LCtrlVM
5: CtrlV[&f0a5k16d2L.Page:UseNextPrevCtrlVM
6: CtrlV[&f0a6k14d2L.Insert...TextiCtrlVM
7: CtrlV[&f0a7k15d2L.Save.&...BackupECtrlVM
8: CtrlV[&f0a8k15d5L.Quit...NoSaveqCtrlVMMyqCtrlVM
9:*CtrlV[[2JCtrlV[&jB
```

Owners of the Portable Plus should substitute **+21** for **+12** in line 4 of the above file.

The best way to key in the above lines of "nonsense letters" is to have someone read them to you while you hunt and peck. Or if you don't want to practice your typing skills, see the offer at the end of this article.

When you have finished keying in the file, be sure to use the **edlin E Return** command to save all your work.

This **dbkeys** file should only be used by the **edb.bat** program. When the **edb.bat** file invokes this file, the function keys will be redefined to perform the following commands in the **edlin** program:

Function	Command
Key	
[f1]	Show the current line number
[f2]	Search for a string of text from beginning of a file.
[f3]	Copy all text from previous line.
[f4]	Display screenful of text beginning at current line number.
[f5]	Display consecutive groups of 23 lines of text. (110 users will need to press Extend Prev to view the text that scrolls off the screen.)
[f6]	Insert text beginning at current line number.
[f7]	Save current file (create a backup copy) and exit the program.
[f8]	Quit both the edlin and debug programs without saving any changes.

Trying It All Out

Now that you have done all the hard work, let's see if the program will work.

Since this is supposed to be a database management system, we need a data file with which to work. This file should contain straight text material. If you don't have such a file handy, you can use the following command to generate it: Just type in the line **dir > files** and press the **Return** key. This will create a file containing a listing of the files on your Edisc.

Now just type in the command **edb files** and press the **Return** key. The screen should clear, the message **PRESS g AND Return** should appear. The next line will show a — (minus) sign and the cursor. The function key prompts should also turn on.

Press **G** and then the **Return** key and you will see the message **End of input file**. On the next line you will see **edlin**'s * prompt. We're ready to use our record management program.

To "page" through all the information in the file, simply press the **f5** function key repeatedly. Eventually you will run out of material and the **f5** will let you go no further. HP110 owners will have to use the cursor keys to view the part of the file that scrolls off the top of the screen. If you want to page through a file starting with line 10, for

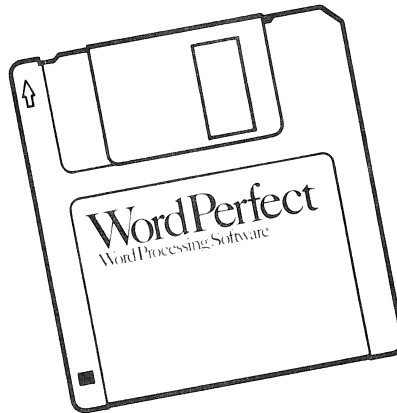
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(As always, you have to plan memory space in the



Portable Plus. You'll need 512K of RAM in order to allow space for WordPerfect and still leave room for other files on your electronic disk. To save space, you can optionally remove the thesaurus and/or the spelling

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instance, key in **10** alongside the **edlin *** prompt and then press the **f5** key.

Pressing the **f1** key at this point will let you see the current line number. For example, if your file had 24 lines in it, you would see the following:

```
*I
24:* < — ^C
*
```

Now suppose you wanted to search for all the files that have the extension **com**. To do so just press the **f2** key. You will see ***1,?S** Type in the search string **COM** (all upper-case letters) and press the **Return** key. If you have any such files on your disk, this routine will find and display the name of the file. (Otherwise it will tell you "Not found"). On the next line will be the question "OK?". If you press **N** or the space bar, the routine will search for the next such COM file. If you press **Y** or the **Return** key, the search will stop.

If you want to view the next 12 or 21 lines in the file, just press the **f4** key. The **f4** key does not change the current line number; The **f5** does. You may check this out by pressing the **f1** key.

To go to a particular line, just key in the line number alongside the **edlin *** prompt and press the **Return** key. The line will appear on the screen with a similarly numbered blank line below it. If you do not want to change this line, press and hold the **Ctrl** key while tapping the **Break** key. DO NOT press the **Return** key or you will lose all the information on the line.

If you DO want to make some changes, press the **f3** key. This will give you a copy of the line with which to work. You may use the backspace key to back up to the point of change and re-enter the rest of the line. The right

and left cursor keys do not work properly in **edlin**. Be sure to press **Return** at the end of the line to lock in your changes. Do not use the cursor keys to go to the next line.

To delete a line, just type in the line number followed by **D** and press the **Return** key. Thus to delete line 7 you would do the following: ***7D [Return]**

To insert a new line between the current lines 6 and 7, for example, key in **7** alongside the ***** prompt and press the **f6** key. You will see **7:*** followed by the cursor. You may enter a line of text and press the **Return** key. This will give you **8:*** followed by the cursor again. If you want to stop entering text, just press the **Ctrl-C** keys to get back to the ***** prompt.

It is usually a good practice to save any changes that you make while you are working on the file. You can do this by pressing the **f7** key. This key will save your current file and cause you to leave the **edlin** program. You will see a—(minus) sign on the edge of the screen. This means that you are now back in the **debug** program. You can get back into the **edlin** program by pressing **G** and **Return**. (If we were not using **debug** to run the **edlin** program, we would have to re-start **edlin** at this point.) If you want to return to DOS now, just press the **Q** key and follow that with the **Return** key.

If you want to quit the **edb.bat** program without saving any changes, simply press the **f8** key. This will put you back to DOS **A>** prompt and reset the function keys.

What more could you ask for in a record management program? With **edb.bat** you can add, delete, and change records, view them, move around in them, and even search and find items in the data file.

About the only thing that **edb.bat** won't do is to sort

your file for you. However, the MS-DOS **sort.com** program will do a respectable job of that.

Say for example that you wanted to sort the database called **files** so that the files were arranged in order of increasing size. To do this just type in the following command alongside the DOS **A>** prompt (again, wherever you see a period in the line, press the space bar instead): **type.files.l.sort./+14.>.filesize** and then press the **Return** key.

This command relies on the use of the **l** and **>** symbols to send the output of the **type files** command THROUGH the **sort** program. The **sort** program will sort the file based on whatever is in column 14 and higher of each line. It will then send the result TO the file called **filesize**. Running this routine is confusing to beginners since, if everything works, no message appears on the screen. You simply get the **A>** prompt back again after a short delay.

Now you can issue the command **edb filesize** to get into your database program and play around with this file. As a test of how much you have learned, see if you can have the **edb** program find all the files created or updated in December. (Hint: Search for lines with - in them.)

There's a lot more that we could do to refine and expand the operation of this little program, but that's enough for now. You can try it out with a database of your own making. For example, you could use **edb** to create a mail-

ing list. You could even use the **Tab** key to maintain evenly spaced columns. Then you could sort the list by first, last name, company name, or zip code. With **edb** you could then keep the list up to date very easily—and you will be able to do this with only about 20K bytes of programs on your Edisc. Oh, sure, **edb.bat** is not as elegant as some of the commercial products, but you will have to admit that the price is right.

For those who would like to try this “database composition” but dread the thought of typing in all the esoteric code for the **doskeys** and **dbkeys** files, let me make the following offer. Just send me a formatted 3 1/2” disk in a self-addressed stamped mailer. I will return the disk with the **edb.bat**, **dbkeys**, and **doskeys** on it. Sorry, but I cannot provide any of the MS-DOS files on the disk. They're not mine to give away. However, I will provide a 38K byte file called **words.prn** that contains a glossary of almost 100 computer terms. You can use that file as a datafile. (Send your request to FastAid Co., 314 S.W. Logan, Ankeny, IA 50021.)

Until next time...Happy Porting.

Ed Keefe is an author, programmer, and Computer Science instructor. He is the president of The FastAid Co., 314 SW Logan, Ankeny, IA 50021. Ed's CompuServe I.D. is 73277,1064.

110 WIZARDRY

by The Wizard, Cliff Looyenga

Which Database to Choose?

Given the vast number of databases available for the Portable it's hard to know where to start. Actually the lack of choice is more serious than funny. So often I wish I had a database system for the Portable that would fit easily on the Edisc. Lotus does quite well except that it is “unfriendly” and has no report generation capabilities. Datafax and dBASE II both require the external disk, so be prepared to wait awhile. Besides, I don't know if either of those products are still available for the Portable. [Ed—HP no longer sells Datafax.]

For me, I want to be able to quickly check my database to find out what box number has some item in it in storage, or what the address is for a friend. Portable Plus users have the luxury of having Executive Card Manager available, but Portable users are left without.

Not for long. I am working on a new database package is in the works that will run on both Portables, fits on Edisc nicely, has a report generator, and can import and export files of different formats. Keep an eye out for it in *The Portable Paper*.

Anyone Home?

For this issue, I figured I'd tackle something a little more fun than useful. Have you ever thought about buying a telephone answering machine, but didn't know if it would

be worth it because you don't know how many calls you miss when you are out? Well, I figured that since the Portable has a modem that can answer the phone, I'd write a program that would just monitor and count how many phone calls I miss when I'm not home. This is accomplished by intercepting interrupt 4B hex (ring detect).

Handling interrupts from Turbo isn't real trivial because you don't know where all your registers are pointing. Because of this, you can't execute any Turbo code without first setting the registers to point to the appropriate segments where Turbo is. For the program included below I cheat. Instead of trying to figure out where Turbo is in memory, I found that the code segment remains the same during the interrupt so I leveraged off that and made my interrupt counting variable in the code segment.

To do this I declared the var **INT_COUNT** to absolute to a constant. The program included below will give you the date and time of every call that came in since the program was started. Note that if you have a pulse dialing phone, and you make a phone call while the program is running, it will count that as a call. (Dialing the phone will usually generate more than 200 interrupts). Here is the program; I hope you have fun with it.

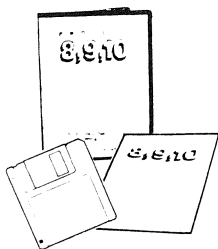
Finally, I have made provisions for the program to work on either Portable. If you have a Plus, simply change the constants at the top of the program as indicated in the comments.

```
{** program to count # of phone calls since program starts running **}
program phone;
const interrupt = $4B; { change this to $42 for a Portable Plus }
threshold = 150; { change this to 2 for a Portable Plus }
interruptcounter : integer = 0;
type regpac = record
    ax,bx,cx,dx,bp,si,di,ds,es,flags:integer;
end;
str80 = string[80];
str255 = string[255];
```


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```
VAR oldvect__ofs,
    oldvect__seg,
    newvect__ofs,
    newvect__seg : integer;
int__count : integer absolute interruptcounter;
reg : regpac;
```

```
{** The following procedure will get the date and time **}
function get__datetime:str80;
begin
    get__datetime:='02/01/87 14:12';
end;
```

```
{** The following routines is for setting and getting int vectors**}
Procedure Get__vector(vnum:integer;Var vseg, vofs : integer);
    Var register : regpac;
begin
    Register.ax:= $3500 or vnum;
    Msdos(register);
    With register do begin
        vseg:= es;
        vofs:= bx;
    end;
```

```
Procedure Set__vector(vnum:Integer;vseg, vofs : integer);
    Var register : regpac;
begin
    With register do begin
        ax:= $2500 or vnum;
        dx:= vofs;
        ds:= vseg;
    end;
    MSDOS(register);
end;
```

```
{** procedure where the interrupt occurs **}
The first thing this procedure does is increment the interrupt
counter int__count. It then clears the interrupt for the Portable
Plus. }
```

```
procedure phoneint;
begin
    INLINE($50/$55/
        $BD/int__count/
        $2E/$8B/$46/$00/
        $40/
        $2E/$89/$46/$00/
        $E4/$A0/
        $B0/$18/
        $E6/$A0/
        $5D/$58/$CF);
    { push AX & BP }
    { mov bp,offset int__count }
    { CS: mov AX, [bp+0] }
    { INC AX }
    { CS: mov [bp+0], AX }
    { IN A0 }
    { mov ax,$18 }
    { OUT A0 clear interrupt }
    { pop BP & AX }
end;
```

```
{** MAIN **}
```

```
begin
    writeln('The Phone Watcher By Cliff Looyenga');
    writeln;
```

```
{** redirect the ring detect interrupt **}
```

```
get__vector(interrupt,oldvect__seg,oldvect__ofs);
newvect__seg:= cseg;
newvect__ofs:= ofs(phoneint)+7;
set__vector(interrupt,newvect__seg,newvect__ofs);
```

```
{** handle incoming calls **}
```

```
reg.ax:= $ffff;
intr($59,reg); { enable ring interrupts }
int__count:= 0;
repeat
    while int__count=0 do if keypressed then
        int__count:=-1; { wait for ring }
        if int__count<>-1 then delay(12000); { let it ring some
        more }
        writeln(int__count);
        if int__count>threshold then begin { must be an incoming
        call }
            writeln(get__datetime,' ',int__count);
            delay(30000); { wait for person calling to hang up }
            delay(30000);
        end;
        if int__count>0 then int__count:= 0;
        until int__count<0;
```

```
{** reset vector **}
```

```
set__vector(interrupt,oldvect__seg,oldvect__ofs);
reg.ax:= 0;
intr($59,reg); { disable ring interrupts }
```

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(110% continued from page 6)

tor, checking for bad sectors in the process.

If there are no bad sectors, each file name is displayed, followed by the message **File(s) copied**. If a file is bad, its file name is followed by the message **data error reading drive a: abort, retry, ignore?** In response to this message you should type **i** to ignore each error.

More Info On Axonix

We've had a number of people call requesting additional information on the backlight upgrade from Axonix. With the upgrade you are able to run the backlit display in two modes—low intensity or high intensity. According to Dave Cox of Axonix, the low intensity mode cuts down your battery power more than 50% for the Plus. The HP110 can run in low intensity mode for only about one half hour. The high intensity mode can be run only off an outlet using the power supply and jack supplied by Axonix.

Cox says that you can save battery power by turning off the backlighting when you have enough light; the display will still be legible, although not as good as what you get on the Portables without the backlight upgrade.

According to Cox, the upgrade allows the display to be easily read in any lighting condition, including total darkness; reduces eye strain and user fatigue; and enhances group presentations. The illumination is uniform across the screen. Visibility is slightly degraded in high bright ambient lighting, that is, in direct light from the sun or a desk lamp.

From first and second hand reports this is what I gather. If you mostly use your Portable or Portable Plus at your desk where you can easily plug it in, this backlight upgrade is a significant improvement. If you travel a lot and use your Portable many hours at a time only on battery, you should consider the tradeoffs carefully before upgrading.

The installation is performed at the Axonix factory with a one-week turnaround guaranteed. The cost of the backlight upgrade is \$300. For information or scheduling, contact Axonix Marketing at 417 Wakara Way, Salt Lake City, UT 84108, 801-582-9271.

GWBasic Update

The 150/110 GWBasic product (45450D) has been updated with the addition of a Portable Plus version and bug fixes for the HP150 and HP110 versions. If you have a copy of the old product, you can order an upgrade from Direct Marketing Division. Send back your old master disk (but not the manual) and ask for the 45450-63002 upgrade.

Write Verify Bug

When using HP110 DOS **diskcopy**, it is possible to get the error message **Data error writing drive C, Abort, Retry, Ignore?**. The files still get copied and work fine.

The problem is a bug in the HP110's built-in **Write Verify** function accessed via the PAM **f6 System Config** menu. When this function is turned on, it is supposed to operate similar to the MS-DOS verify option; however, there is a bug. To avoid any copying problems, turn the "Disk Write Verify" field in **System Config** to "off".

HP-IL Link Program

Paul Grimmer, author of sideways printing program SideWinder, has done it again. On our price list at the end of this issue, you will find a program called Link. If you want to transfer data from your handheld HP41, 71, 75, or series 80 computer, to your HP Portable, or to your HP150 or IBM PC with a HP-IL card, then Link is your program. Link retails for \$80. Subscribers may purchase it from Personalized Software for \$75.95.

HP110/HP110+ USER GROUPS

Thanks to so many of you who are willing to help organize local users groups. Users groups give an opportunity to share tips, answer questions, discuss other products, trade free software and Lotus templates, and meet other professionals.

As you will notice some areas have more than one contact person and some major areas have none. If you are in a "missing" area and would like to organize a group, contact us. If your groups combine also tell us. We will publish this column each issue, keeping it up to date. Write *Local Users Groups*, Box 869, Fairfield, IA, 515-472-6330.

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(B Drive continued from page 16)

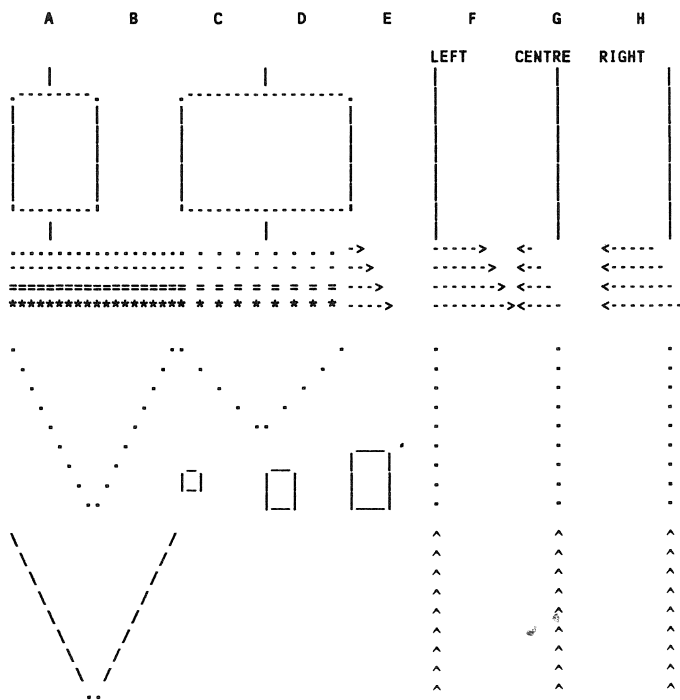
Lotus 123 B

By Hal Goldstein

Easy to Create Graphics Using Lotus

A request I hear most frequently is for a Portable product that can create graphics. Paul Grimmer, the author of SideWinder and Link, promises me an exciting new such product for review and resale. In the meantime avail yourself of the following idea shown to me by Michael Kabay of Montreal. The idea is simple, fun, and, as far as I know, original.

I met Michael at our booth at INTEREX (the HP international users group conference) in Detroit last September. He spent about five minutes in Lotus on my Portable creating the following file:



The chart occupies columns A through H, each column using the default column width of 9 characters. The characters in the chart are hyphens, periods, asterisks, equal signs, greater and less than signs, carets, vertical bars, and underlines.

Prefixes: apostrophe, caret, quote, and backslash are used to left justify, center, right justify, and replicate. The vertical bars, periods, and carets under the columns entitled LEFT, CENTRE, and RIGHT are left justified, centered, and right justified. The row of periods, hyphens, equal signs, and asterisks are created with the backslash replication operator. For example, cells A14 and B14 contain '*

and cells C14 and D14 contain '*.

Now, the fun starts. Once you have designed a model similar to the above, you can start copying and moving cells and groups of cells to empty spreadsheet space and create different patterns. You can experiment with different column widths. All sorts of interesting designs (including text if you wish) can be created and printed.

Send us your creative or practical fruits of this technique and we will publish your explorations in a future issue.

Macro Trick

Way back in the first issue I promised to publish the following chart. The chart is for you macro aficionados who like to save space and keystrokes in your macros.

It turns out that you can substitute most of the first 25 ASCII characters for Lotus release 1A macro symbols. For example, ASCII number 1 (**CTRL A**) stands for the macro symbol {up} and ASCII 23 (**CTRL W**) stands for {edit}. Therefore, a **CTRL A** followed by **CTRL W** in a macro is equivalent to the macro {up} {edit}.

Note that this substitution only works in Release 1A and not in Release 2.

CTRL	ASCII	MACRO	CTRL	ASCII	MACRO	CTRL	ASCII	MACRO
^@	0		^J	10		^T	20	back tab
^A	1	{Up}	^K	11	~	^U	21	{PgUp}
^B	2	{Down}	^L	12	{Esc}	^V	22	{PgDn}
^C	3	{Left}	^M	13		^W	23	{Edit}
^D	4	{Right}	^N	14	{Graph}	^X	24	{Table}
^E	5	{Name}	^O	15	{Del}	^Y	25	{Query}
^F	6	{End}	^P	16	{Home}		26	
^G	7		^Q	17	{Calc}			
^H	8	{GoTo}	^R	18	{Window}			
^I	9	{Abs}	^S	19	tab			

In the chart the ^ in the **CTRL** column stands for **CTRL**. The number under **ASCII** is the ASCII equivalent. The **MACRO** column contains the Lotus 1-2-3 macro symbol. Therefore, for example, **CTRL I** is equivalent to ASCII 9 which can be substituted for {Abs} in a macro.

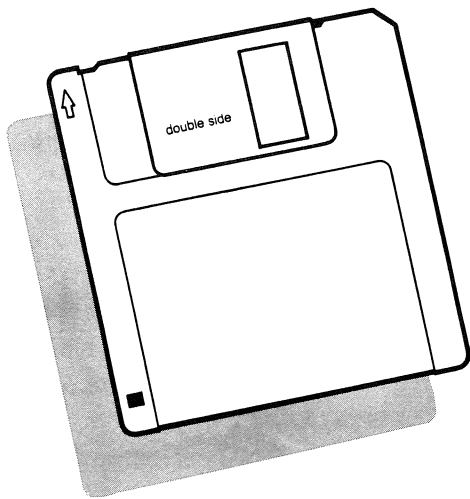
There are several approaches to generating these lower value ASCII characters in the Portable environment. They all involve create a .prn file containing these special ASCII characters. Once the .prn file is created, the characters can be imported into any spreadsheet using the File Import command.

If you happen to own a program such as The Editor, MSWord, EDLIN (built into the Plus) or other programs capable of generating these ASCII characters, then you can create the .prn file directly. Alternatively, you can use the command

copy con codes.prn

and from the keyboard using the control key and the appropriate letter generate the desired codes.

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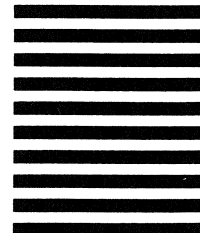
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Gets you started on the Electronic Information Service, CompuServe (which includes the HP forum). Includes \$25 worth of free time, complete Users Guide, permanent user ID number and preliminary password, and CompuServe's monthly magazine, Online Today.

See P. 0 DOS Tools Portable Utilities Disk, Vol 1

Well over 50 excellent public domain programs that enhance DOS, all tested on The Portables. Documentation has been rewritten for clarity and ease of use, and includes examples, index, and table of contents.

See P. 38 The Editor/The Formatter (separate packages)

The Editor: Many features not in MemoMaker, including search/replace, embedded printer codes, up to 255 columns per line. Also does word wrap, right justify. Easy to learn and use. Uses less than 40K. Versions for HP110, Plus, IBM PC, HP150 all on master disk.

The Formatter: Sophisticated text formatter for large reports, program documentation, etc. Multi-line headers, footers, page numbers, table of contents, glossary capabilities, and more. Works with almost all printers. (Note: Documentation is in draft form; no technical support available.)

See P. 17 HP9114 Empowerer

A hardware product that prevents the HP9114 disk drive from running out of juice in the middle of your work. Plug in empowerer to your HP9114 and a normal wall outlet, and you can run your HP9114 forever.

See P. 23 LINK HP-IL Connector

A software program that lets you transfer data from any HP-IL device to any other HP-IL device. Now you can access your main computer (HP Portable, HP150, or IBM PC), its unlimited storage capability, and all its peripherals from your HP41, 71, 75, or series 80 hand-held!

101 Macros for Lotus 1-2-3

Useful as themselves and also as learning tools for novices and experts alike, these macros include: recalculating ranges, double spacing spreadsheet prior to printout, hiding notes next to data cells, addressing form letters, and printing labels automatically.

See P. 3 The Norton Utilities —Customized For The Portables

Allow you to recover deleted Portable files and organize your electronic and external disks. Peter Norton has authorized Personalized Software to include an extra 3 1/2" disk (formerly available only on 5 1/4" disk) with each package sold. The disk includes The Norton Utilities, additional utilities, and instructions for running The Norton Utilities on the Portables and the HP150. Both version 4.0 and the Advanced Edition are now available.

The Portable Paper

The only publication exclusively for Portable and Portable Plus users.

1987 Portable Paper Subscriber's Disk

Software on disk includes (1) DISKPACK, a pack utility that can work with subdirectories, usable with Edisc, external disks, hard disks. Commercial equivalent sells for \$50. (2) Time Manager's Calendar Utility. Prints WEEK-AT-A-GLANCE calendar from Time Manager's appointments list to the ThinkJet. (3) ThinkJet Cartridge Tester. (4) C Drive Copy Utility. Copies file from one disk to another WITHOUT having to copy file first to your Portable. (5) Other surprise goodies. (6) The PLUS HP Calculator program also comes on this disk.

See P. 7 Portable Pascal Programs

These 600,000-plus bytes of Turbo Pascal routines and documentation for Portable and Portable Plus users include programs that access Portable graphics and sound plus business, statistic, utility, game, and other routines. Great for beginners and professionals alike.

See P. 19 PrinterTalk and Format110: MemoMaker Enhancers

These two independently developed programs expand the formatting capabilities of MemoMaker. With PrinterTalk you can change type styles in the middle of a document, change number of copies and lines

per page, do automatic page numbering, and much more. Format110 lets you format headers, footers and page numbers; chain or merge documents; compensate for "widow" and "orphan" lines and much more. Purchase both products at the same time and receive a 33% discount (subscribers only).

Private File

Protects your confidential letters, documents, spreadsheets, programs, and data communication files. Private File scrambles your file so only you can unscramble it.

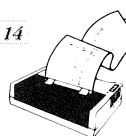
See P. 10

Shelp



Whether you're a Lotus spreadsheet, a MemoMaker memo, or almost any program, Shelp gives you immediate access to a notepad and calculator, and lets you define up to 26 keyboard macros—that is, assign up to 31 characters to a single keystroke. Written exclusively for the Portable PLUS.

See P. 14



SIDEWINDER

This program, written specifically for the HP Portables, the HP150, and the ThinkJet printer, allows you to print your spreadsheets (or any other text file) sideways. This means you can print your 60 column by 40 row spreadsheet on the ThinkJet from your Portable as one long printout without cutting and pasting.

3 Project Management Packages

All 3 work on the HP110, Plus, HP150, and IBM PC. Project 8-9-10, a Lotus template. Helps you manage small to medium projects. Milestone, also for small to medium projects. (On HP110, you need to scroll to see entire Milestone screen.) Pertmaster, for medium to large projects (specify which machine). All three are reviewed in Vol. 1, Issue 6 of The Portable Paper.

RightWriter

Flags errors in grammar, style, usage, and punctuation, inserting comments directly into your document without mistakes. Also produces overall critique of document (strength of delivery, use of jargon, grade level). Uses more than 2,200 rules and a 45,000 word dictionary, and works with most word processors.

Tiger Fox

A great video game of changing mazes and double pursuit. First video game designed for The Portables.

See P. 7 Borland Turbo Pascal —Customized For The Portables

Turbo Pascal, the HP Portable programming language of choice, outstrips others in price, performance, compatibility, memory consumption, and programmer environment. The WordStar-type editor alone is worth the price. Borland has authorized Personalized Software to include an extra disk with their product customizing the Turbo editor to The Portables' editing keys. Also available: Turbo Pascal Toolbox which creates a data base file management system, and Turbo Pascal Tutor 2.0, a step-by-step interactive tutorial on Turbo Pascal programming.

See P. 15 Typing Whiz

Better than almost any typing program on the market—designed specifically for The Portables and the HP150. Immediate numeric and graphic feedback of your progress.

See P. 30 WordPerfect 4.1

Disk based Portable PLUS version of the best selling word processing package. Includes spelling checker and thesaurus.

See P. 26 The Word Plus

An excellent spelling checker with a choice of two dictionaries—45,000 words and 35,000 words—plus the ability to input additional words and abbreviations of your own. Also does word counts. Customized to the HP Portables.

Beyond MemoMaker

You won't believe all the word-processing features this \$99.95* program contains—and it takes up less than 40K of memory!

*(only \$79.95 for Portable Paper subscribers)

by Hal Goldstein

Let's face it: MemoMaker is an adequate word-processor, but it has its limits. No search and replace. No simple way to merge files. No destructive backspace key. (To delete the last character, you have to use the left arrow key and the deletion key[s].) No compressed or expanded printing. No...—but why go on? If you use MemoMaker, you probably have your own list of things you wish it could do.

Well we have good news! Now there's an easy-to-use text editor that runs on the Portable and Portable Plus that will satisfy almost every item on your wish list. And the program comes with a built-in bonus: It also runs on the HP 150, IBM PC, and HP Vectra, which means that **now you can use the same program and files on your desktop that you use on your Portable.**

The program is called THE EDITOR. It does everything MemoMaker does plus a heck of a lot more. And you don't have to go to the expense of buying WordStar (for the Portable) or MS Word (for the Plus) to go beyond MemoMaker's capabilities.

THE EDITOR's most valuable features are listed on the chart to the right. It's quite a list, isn't it? To me, THE EDITOR is a real blessing. I use it daily instead of MemoMaker, and I've silently given thanks to its author, Ed Gilbert, many, many times. Just a few minutes with THE EDITOR (that's all it takes to be up and running) and I think you'll be a fan of his too.

In addition to the many great features listed to the right, there are five more I especially want to emphasize:

1. THE EDITOR's Lotus-like menus make it incredibly easy to use.

2. THE EDITOR creates ASCII files, which means you can send your files to and from almost any other program or computer without special formats or codes.

3. THE EDITOR will automatically back up your files to protect you against mistakes: When you save a file, THE EDITOR saves not just the current version, but the previous one as well.

4. THE EDITOR takes up less than 40K of memory.

5. THE EDITOR loads and saves files and executes commands exceptionally fast.

Even in the desktop market, **it is difficult to find a word processor with this many useful features at this low a price.** For the Portables, THE EDITOR simply can't be beat. See for yourself: Order your copy, risk-free, today.

THE EDITOR \$99.95
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THE EDITOR gives you all these great text-editing features and more:

- **Search and replace.**
Just tell THE EDITOR what word or phrase to look for, and it will find every place you've used it. At your option, it will display each occurrence, or replace the occurrences either selectively or globally.
 - **Edit two files at once.**
THE EDITOR will display two separate portions of text at the same time, one above the other. You can view and edit two parts of the same file—or even two different files—simultaneously.
 - **Backspace delete.**
You can erase the last character with a single keystroke.
 - **No limit on file size.**
If you're an HP110 Portable user, you're no longer confined by MemoMaker's 819-Line limit. You can have as large a file as internal memory allows.
 - **File merge.**
You can merge two or more files together with ease.
 - **Compressed and expanded.**
You're no longer restricted to bold and underline. You can imbed control characters in your text to tell your printer to print all or part of your text compressed, expanded, bold, underlined, or whatever else your printer can handle.
 - **Unlimited line length.**
Your files are no longer limited to 80 characters per line. This means, for example, you can print 132-character lines on your ThinkJet printer in compressed mode.
 - **Lines per page.**
You can specify the number of lines per page, using the control codes required by your printer.
 - **Easy in, easy out.**
You can exit from THE EDITOR, run another program, then type a one-word command and be back in THE EDITOR in a flash, exactly where you left off. This includes exiting and returning from DOS—which means you can delete, copy, and rename files while running THE EDITOR.
 - **Right justification and automatic paragraph indent.**
A simple command right-justifies your text, and at the same time automatically indents your paragraphs however many spaces you wish.
 - **Undelete.**
Erased something you want back? No problem. A simple command will undelete the last word, line, or block of text deleted.
 - **Upper/lower case conversion.**
Another simple command lets you change upper case to lower case and vice-versa without having to retype anything.
- In terms of useful features per dollar, and in terms of the convenience and increased productivity you gain, I feel that THE EDITOR is a truly exceptional buy. I urge you to try it. Order yours today.

Hal Goldstein