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	Through The Looking Glass

Our best-selling Portable software now on ROM chips

Pack your favorite programs into just a few slots in your ROM drawer!

- Save valuable memory space
- Eliminate need for disk drive -Custom ROMs available too!

Now you can simultaneously free up memory space in your Portable Plus and save yourself the trouble of using a disk drive.

How? It's simple: Some of our best-selling software products are now available on ROM Backup—as many as five products per chip. Insert one or more of our ROM Backup chips in your ROM drawer and you'll never have to load those programs again.

It's the ultimate in convenience. It's much faster than running programs off a disk drive. And it leaves your computer's internal memory free for data and other programs.

ROM BACKUP: HOW IT WORKS

Before we could offer software on ROM to our customers, we thoroughly researched the field, locating the most reliable sources of Roms and ROM services. In addition, we have formed special ROM agreements with our leading software suppliers, including Borland International (Turbo Pascal), Simon & Schuster (Webster's Spelling Checker), and Southern Software (SideWinder).

For numerous legal, economic, and logistical reasons, we offer ROMs to you as a Backup Service. This means you may purchase a product on ROM provided you already own the product on disk. (If you purchased a disk product from us— Personalized Software-we have that in our records. If you purchased a product elsewhere, you must show us proof of purchase before we can sell you the ROM Backup.)

Also, it is important that you read and adhere to the licensing agreement that comes with the disk-based version of the software you buy, because the same agreement applies to the corresponding ROM Backup. In most cases, this means you may use the software on only one computer system. Remember, you are buying a backup copy of your software, not a second

Having to buy both the disk version and its ROM Backup is not without advantages. For one thing, many disk products include extra utilities that have to be deleted from the ROM chips in order to save space. Also, if your ROM drawer gets full, you can remove a ROM chip and still run the corresponding program off your disk drive.

LIFETIME MONEY-BACK GUARANTEE

Our ROM Back-Up Service comes with a lifetime guarantee: If a ROM proves defective at any time—as long as you own the computer in which it is installed—we will replace it at no charge.

In addition, our regular 60-day guarantee of satisfaction also applies: If, within 60 days, you are dissatisfied with a ROM Backup product for any reason, you may return it for a full refund. However, we don't think you'll be dissatisfied. You'll find these ROMs to be fast, reliable, and an incredible boost to your productivity.

Whatever your reason: to free up valuable memory space...to minimize the need for an external disk drive...or for sheer convenience, order one or more of our best-selling programs on ROM Backup today.

Complete ordering instructions are inside the back cover.

SOFTWARE AVAILABLE ON ROM

Here are the programs we're offering on ROM Backup. (For product details, see individual ads elsewhere in this issue.) Note that in many cases you can save space in your ROM drawer by buying two or more programs on the same chip. All our ROMs come with complete, easy-to-follow installation instructions. To order, use order form inside back cover.

			Price	
Product	Notes	Size of ROM	(See order form Disk	n for details) ROM Backup
Shelp	Includes improved version of note extraction program.	32K	\$49.95-55.00	\$55.
SideWinder	Does not include any of the utility programs that come with the disk-based version of SideWinder.	32K	\$59.95-79.95	\$55
The Editor		64K	\$79.95-99.95	\$95.
PrinterTalk + Format110		64K	\$59.95-89.90	\$95.
Shelp + SideWinder	Same versions as on 32K ROM chips (see above).	64K	\$109.90-134.95	\$95.
Turbo Pascal	Includes RUN.COM, which can save 10K of disk space from any program you compile with Turbo.	64K	\$89.95-99.95	\$95.
Typing Whiz		64K	\$39.95-49.95	\$95.
Best of DOS Tools	Contains selected utilities from Portable Utilities Disk, Vol. 1: DOS Tools*	128K	\$39.95-49.95	\$119.
Super ROM The Editor Shelp SideWinder Mini PrinterTalk Format110	Mini PrinterTalk is the abbreviated version included on the PrinterTalk disk; it is functionally equivalent to PrinterTalk for most applications. Shelp and SideWinder are the same versions as on the 32K ROM chips—see above.	128K	\$249.80-324.80	\$149.
Webster's Spelling Check		256K (Two 128K ROMs)	\$69.95-79.95	\$179.

*Utilities included in the Best of DOS Tools ROM Backup are as follows. For program details, see Portable Utilities ad in this issue.

WHEREIS PRNCONF PACK VDI MOVE TRIM DIRS CHANGE ASK SQPC FDUMP ARCE MOVEALL COPYNEW RENDIR LABEL FCOPY CYPHER ARC520 FDATE

ARC520 is shareware; the author normally requests a \$35 contribution. However, you do not need to send any money. We've already paid your user fee

CUSTOM ROMS

You may have some programs or data of your own that you would like to put on ROM—either a single copy for yourself or in quantity for others. (Important: you may not copy off-the-shelf software onto ROM chips without permission of the publisher.)

We are happy to offer our same high-quality ROM Backup Service on a custom basis, at the following prices. Note: Programs can span two or more 64K ROMs.

32K ROM: \$123 for first ROM

\$32 for each additional ROM* 64K ROM: \$135 for first ROM

\$54 for each addditional ROM* 128K ROM: Minimum order 100 units.

Please call for prices.

For details, call or write for our free information sheet, How To Order Custom ROM Backup.

*Further discounts are available for orders of 10 or more identical ROMs.

ABOUT ROMS

A ROM ("Read-Only Memory") is a microelectronic chip that stores programs or other data. Once information is "burned in" to a ROM, it cannot be altered. A different form of ROM, called an EPROM, can be altered once information is burned in. (EPROM stands for

Erasable Programmable Read-Only Memory.)

Although blank ROMs are in general less expensive than blank EPROMs, the initial burn-in costs for ROMs are much higher. ROMs also require a much longer lead time to produce than EPROMs. Currently, EPROMs that can be run on the HP Portables come in 16K, 32K, and 64K cizes POMs are 129K. 64K sizes. ROMs are 128K.

We use EPROMs for our 32K and 64K backup chips, and ROMs for our 128K packages.

PUBLISHER'S MESSAGE



Hal Goldstein

You should enjoy this issue. I did. Paul Grimmer, Thomas Page, and Ed Keefe outdid themselves with informative reviews in this peripheral issue. When you read their articles on printers, portable modems, and peripheral communication, you will not only learn about products, you will be educated.

We are continuing the expanded letters section. As you read these letters, you will see what a wealth of

knowledge our Portable worldwide readership offers. Thanks to HP Corvallis support and David Hughes for their last minute answers to questions raised in some of these letters. In this issue we also begin our Portable Profiles column. Please continue to send in your profiles of how

you or your company use the HP110 and Portable Plus as well as your comments for the Letters section.

This issue also represents another step forward in Personalized Software's goal of servicing you, the HP Portable user. There are a number of new products on our order form. In addition, we are now offering a backup ROM service to Portable Plus users for most of our software. In this issue you will see that more and more products are becoming available through HP and third party vendors to meet your needs.

Finally, in this issue you will read that Portable Plus owners (assuming money is no object) can actually configure a Portable Plus to four and one half million bytes (4.5M) of Memory/Edisc space.

Hal Goldstein

Tetters

Condor Junior On HP110

I read with interest your brief discussion of Condor Junior on the HP110 last issue. I have used Condor Junior on the HP110 for about one and a half years. If you're interested in a minimum learning curve, this is the program to get. It is menu driven with extensive HELP facilities. The manual is short and concise, but with the on-line help not much more is needed. There are a couple of features from the full up Condor package that were included in Condor Junior but aren't documented.

When running the program you may elect to use menus or not. If you elect to use menus and make an error in the command line, the program will return you to the point of your error and allow you to edit the line or access HELP for more information. This is an excellent feature for learning the program.

The ease that Condor Junior provides in making input screens for data entry is outstanding. It also allows for easy rearrangement of the created form if you're interested in changing it cosmetically, adding data fields, or deleting data fields.

There are some problems, however:

1. If you are using the menu feature you must have at least 128K working RAM set or the program may not run. Without menus as little as 96K RAM is sufficient.

2. If you are running the program with the data file on the A drive and run out of disk space you will lose the entire data file.

3. The program is too large to run off the A drive with its full capability. Especially the menu features.

4. The report writing feature is limited

and tedious.

5. There is no provision to print to a disk file, although you can translate the data base to a format that can be read by most word processors, BASIC (useful for importing to Lotus), and Pascal.

6. There is no provision to READ data from a disk file, it must be entered from the keyboard.

7. As with any database, if it gets big enough it just won't fit on the Edisc anymore. Even a moderate size file of 80K is impossible to sort on the Edisc since a temporarly file the same size is created. Sorting this size data base on the 9114 disk drive is a problem as well since it will take 20 to 30 minutes with Condor Junior.

In order to minimize these problems, I recommend using Condor Junior only off an external drive and maintaining the data files externally as well. If you have only one drive, I recommend clearing enough A-disk files to allow at least two times the file size (remember to allow room for data entry and sorting during the session), then operate with the data file on drive A and the Condor Junior program external.

Overall, Condor Junior and its bigger brother Condor are excellent 'user friendly' database programs. If you have a need for a database while using the HP110 this is the choice.

Also, The Editor is every bit as good as you advertised! It only took a couple of days of routine office work with this program to start realizing its flexibility. Good job!

Keep up the good work!
M.A. Koerber, Florissant, MO
[Condor Junior has just had its price decreased by \$100. Because of the enthusiasm of a number of readers, we decided to add the program to our order

form at the back of the issue. Condor Junior now retails at \$99.95. We'll sell it to subscribers for \$89.95.]

Next Year's Taxes

For the past three years I have used the Lotus tax templates from Siron Systems, 13445 S.W. Cresmer Dr., Tigard, OR 97224, 503-655-2743. This program is supplied on 5 ¼ " disks, which I transfer from my IBM via the HPLINK program and board. I clear the Edisc to a minimum and

set memory at maximum (252 or 256), then go into Lotus and use the **/FD c: r\/FR** and proceed.

The program has lettered forms A, B, C, D, E, F, G, R, SE, and W and numbers 2106, 2119, 2210, 2441, 3468, 3903, 4136, 4255, 4562, 4684, 4835, 4952, 4972, 5695, 6251, and the standard 1040. It is interactive and seems happy with the 110. Printouts from the ThinkJet seem to be acceptable to the IRS.

I only load those programs that I need. The use of Lotus on ROM seems to reduce the size of memory required so that about 200K will do the job. The price of the personal version I use is \$20.

I like to test programs written for IBM computers on the 110. Some run easily, others have screen problems, and some tie the 110 in knots. Before trying an IBM program that has not been run on the 110, I recommend copying your Edisc to a floppy.

John Henderson, Federal Way, WA

Excellent Backup Routine

I've enclosed a listing of a batch file that I've been using for a while. At the end of each day, all I have to do is type **daysend** and follow the simple instructions. The batch file changes its own date (see the

second line of the file) and then copies all files changed that day from the A drive to the C drive. (Before I got **copynew** from your DOS Tools disk, the batch file copied all the files.) The two beeps are to tell me it's done. A **beep.com** program comes from either the Norton Utilities or the DOS Tools disk

The net result of running this file is that the copies of **daysend** that are on both the A and C drives are time- and date-stamped at the time of the last running of the file. This way I can see what I last saved all the A drive files.

For my usage of the Portable, a **day-send** disk lasts approximately six months. I will admit to occasionally looking through the disk and removing files known to be saved elsewhere. The batch file is as follows:

pause Insert DAYSEND disk in drive C:
copy a:\daysend.bat+,,
copynew a:\ c:\
beep
beep

Keith Schaefer, Craryville, NY

Overseas Import Taxes

In my letter of Jan. 24 I mentioned the high taxes that are imposed on imported Personalized Software goodies. You asked me if I had any suggestions (within legal and ethical boundaries) to reduce those taxes. Well, I have: often books are sent together with one or more disks. If the package you send does not carry a note differentiating between software (disks) and manuals (books), Customs takes the total amount as a starting point for their calculations. But books normally are taxed low are not at all! And this is no trick or ethical/legal bypass—this is the truth.

Also, is it possible to use another kind of character in *The Portable Paper* to distinguish between a lowercase L and a 1 (one)? I have tried to see the slightest difference between these two characters, but I'm unable to do so! The type of characters you use is clear and easy to read, but this l and 1 problem...

Also, on the DOS Tools disk **wearout** doesn't work at all.

R.M. Franquinet, The Netherlands [Hal—I am ignorant as to what happens to our products once they leave the U.S. borders. From letters apparently each country has its own way of dealing with our products. Some charge no tax, some charge an exorbitant tax; some are inconsistent. As long as it is legal and ethical, if you have suggestions, tell us with the order.

We are seriously considering working with a distributor in England. Would it be worth it if you had to pay 10 to 20% more for the actual product (saving some shipping charges)? I am open to input from any of our Non-U.S. customers.

wearout.com does not seem to work with the HP9114B disk drive.

From now on, our characters will be

distinguishable: numbers \mathfrak{G} (zero) and \mathfrak{X} (one), letters \mathbf{O} and \mathbf{l} .

Communications And Battery Life

I travel a great deal and have discovered the big productivity level called E-Mail to keep in touch with my management consulting practice clients here and abroad. Three hundred baud on the HP110 is too slow, though, and I'm glad to hear you're zeroing in on one of those cigarette-package-sized 1200 baud battery-operated modems for the HP110. The ones I've read about have 25-pin RS-232 connectors, which is a pain. We need one with a 9-pin male connector to plug right into the 110's serial port.

Since HP makes a big point of the low battery drain of the HP-IL interface, if you start selling the 1200 baud outboard modem please try to give us an idea of how much it will penalize battery life.

I'm amazed how convenient a battery-operated computer is. We move it around the office several times a day, and I find myself instinctively taking it along on visits to clients. Here in the Rockies we average at least one power interruption a day that will crash any 120VAC computer system. We find it necessary to invest in \$700 UPS boxes for all such systems, but the 110 has its own "built-in UPS" whether plugged into the wall or not.

Often I'm away for several weeks and want to leave the batteries on charge in my HP41s (N-cell Nicads), HP-IL Thermal Printer and Cassette Drive (both use 82033A C-cell Nicad batteries), HP110 (sealed lead-acid battery), 9114 Disk Drive (sealed lead-acid battery), and 2225B ThinkJet (Nicad battery).

It's very important to the longevity of both lead-acid and Nicad batteries to NEVER leave them in fully discharged condition. If you do, at best their lives will be shortened, and at worst they'll forget altogether they're supposed to be batteries.

Compact Nicad and lead-acid cells and batteries like those above will self-discharge at the rate of a few percent per day when left standing at room temperature. Even if you're not using them, they'll soon run down to zero if you don't keep them on charge, risking untimely death.

But leaving either a lead-acid battery or Nicad on charge 24 hours a day quickly charges the battery to full capacity, after which the internal resistance of the battery rises rapidly, converting the charging energy to heat. This warms the battery well above room temperature, especially since the heat can't easily escape from the confines of the Portable, disk drive, printer, etc.

Battery life is limited ultimately by internal chemical degradation processes, which proceed much more rapidly as operating or storing temperature of the battery increases. Thus, if you leave your lead-acid cells or Nicads on charge all the time, they're going to be running con-

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tinuously hot and their lives shortened significantly.

The "right" way to maintain a leadacid or Nicad battery on standby for extended periods is to charge it for an hour or two a day—enough to maintain full charge, but with the battery remaining at room temperature most of the time.

A convenient way to do this is to connect your batteries to HP's 82059B (continued on page 38)

Making More of Your HP Portable by Hal Goldstein

Critical Bug If Bypass PAM!

Please take heed of this warning from M.A. Koerber of Florissant, MO: "I use my HP110 extensively, and I believe I have been bitten by every bug in the machine. I would like to offer the following comments for your consideration.

"A word of caution on your article Bypassing PAM (Vol. 2, No. 2, p. 11). There are a couple of problems in operating the HP110 from DOS using the **config.sys** file you described. The most catastrophic is loss of all Edisc data if an alarm occurs. (Alarms are governed by a file named **pam.alm** file, which can be manually created in MemoMaker or automatically created by Time Manager.)

"I had this occur on one occasion and have never used the **config.sys** file again."

I checked out M.A. Koerber's bug report on both the HP110 and Portable Plus. Unfortunately, he's right. Therefore, if you use the alarm system on your Portable, then do not bypass PAM using the **config.sys** file as described in last issue.

I had a conversation with David Hughes about this. He said he didn't see the big deal about bypassing PAM, especially on the Plus, where DOS commands is always the first PAM application—whenever you are in PAM and want to be in DOS, just press **Return**. From DOS you can run applications by typing in the name of the file, by setting up batch files, or by predefining function keys (Vol. 1, No. 2, p. 10).

Another reader complained that even with the box cursor set in **System Config**, you will get a line cursor when bypassing PAM. The solution is to press **Extend char fl**; the line cursor will change into the box cursor.

Graphics Programs For The Portables

Ever since I started writing *The Portable Paper*, people have been asking me about the availability of graphics programs for the HP Portables. Other than the graphics included in Lotus 1-2-3, there has been a dearth of graphics products for the Portables. I always thought it a shame: both Portables have the capacity to produce high quality screen graphics which can be sent to the ThinkJet.

At last, in the past two weeks, two graphics-related products have come to my attention. The first, SKETCH, is a powerful freeform drawing program from Southern Software's Paul Grimmer; it works on the HP110 and Portable Plus. The second, FLOW CHARTING II +, from Patton & Patton of San Jose, CA, allows you to easily make flow and organizational charts; it works only on the Plus.

Since these products arrived shortly before our deadline, I will summarize the features as described in the product literature and give my brief first impressions. Next issue we will give a more thorough review of the two products.

A third product, discussed in the Special Features

section of this issue, is software that enables a Microsoft Mouse to be run with the Portable Plus. The Mouse will work with both SKETCH and FLOW CHARTING II + and in general is an excellent tool for graphics-related products.

FREE FORM DRAWING: SKETCH

Paul Grimmer, author SideWinder and Link, has done it again with SKETCH for both the HP110 and Portable Plus. Paul writes: "SKETCH is a powerful graphics tool that is limited only by your own imagination. It is easy to use and fun." What follows is a description of some of its features.

SKETCH lets you use the cursor and function keys for free form drawing while letting you control the speed of the cursor. With SKETCH you can draw with one keystroke: lines, boxes, circles, and arcs. Any shape can be filled with solid light or dark with one key.

You draw with a "pen" that you can raise to move around the screen without affecting the current drawing. You can edit the picture with an "eraser". Or you can "undo" your last action.

The entire screen can be inverted with one keystroke (light becomes dark and dark becomes light). Your drawing can extend more than 25% beyond the boundaries of the Portable screen. And the entire width of the ThinkJet can be utilized in drawings.

SKETCH permits normal characters to be mixed with graphics and makes five complete character sets available. These characters can be written to the screen normally, sideways, upside down, and in inverse video.

All or part of a screen can be saved to a file. Partial screens can be blown up vertically and horizontally or rotated; they can then be recalled and placed anywhere on the screen. All or part of the screen can also be sent to the HP ThinkJet or QuietJet printer. The picture can be blown up to any size and printed normally or sideways. Banners are easily made.

A utility is included that enables you to capture any graphics screen from any program such as Lotus 1-2-3 and then incorporate the file into SKETCH.

SKETCH takes 44K so it can comfortably reside in RAM in either HP Portable. The program costs \$80 and is available from Personalized Software for \$75.95 (see order form in back of issue).

FLOW CHARTING II+

I first heard about this program from Hewlett Packard. They tested it to see if it ran on the Plus. Apparently, they liked the program enough to loan Patton & Patton a Portable Plus to further customize it for the Plus.

FLOW CHARTING II+ is software designed specifically for the creation of flow charts and organizational charts. It lets you create, edit, and print executive-quality flow charts quickly and accurately.

FLOW CHARTING II + contains all the standard charting symbols and shapes: 26 predefined symbols in 95 sizes. It has 10 font styles.

You can center text or place text where you want. You can copy or delete blocks of text. You can choose whether you want to bump into a shape and stop or draw right over it. Backspace key can erase wrong lines back to their origin plus fix connectors and bypasses.

FLOW CHARTING II + lets you save pieces of your chart or special symbols; these pieces can then be popped into any chart. You define any size or shape and copy it anywhere. You can create a complete 14" by 11" chart on a 200-column by 120-line screen. The entire screen can be shrunk so that you can see the entire chart on one screen.

SUMMARY

I played with both programs for all of a half hour. Here are my initial thoughts—a more thorough review will appear next issue. First of all, in general SKETCH was written exclusively for the HP110 and the Portable PLUS. FLOW CHARTING II+ was written for the IBM PC and then modified to work on the Plus. That means SKETCH naturally takes more advantage of the Portable strengths and understands its limitations. One example: SKETCH takes up only 45K of Edisc space and can run using 120K amount of internal memory. FLOW CHARTING II+ takes up 94K but requires 216 of internal memory.

SKETCH has more features and can be used for a variety of graphics projects. FLOW CHARTING II + is more specialized. If what you want to do is make is make organizational charts or flow charts, FLOW CHARTING II + is designed to meet your needs quickly and easily. From what I can tell, you can accomplish the same flow charts with SKETCH, but it takes longer.

The FLOW CHARTING II+ program seems easier to learn, but there are more features in SKETCH. Both programs are pretty intuitive. Since both programs operate in graphics mode, Plus users cannot use memory resident Shelp with them. Therefore, you can save 12K of internal memory by disabling Shelp (temporarily rename the **config.sys** file).

FLOW CHARTING II+ costs \$229 (\$209 for subscribers) and SKETCH costs \$80 (\$75.95) to subscribers. The products can be ordered using the order form in back of the issue.

Product News From Personalized Software NEW SPELLING CHECKER DISCOVERED: TRADE-IN POLICY FOR PLUS OWNERS, GOOD DEAL FOR HP110

Several weeks ago a reader called up to say he got Webster's New World Dictionary Spelling Checker (Simon & Schuster) to work on the Portable Plus. I remembered reading very favorable reviews about the product. So I obtained a copy and, after some experimenting, did get the program to work on the Portable Plus and HP150. It won't

work on the HP110, however.

I love the product. It's fast, contains a large dictionary, and can be used without reading the manual.

We negotiated a royalty agreement with Simon & Schuster. As of this writing, we have come to a verbal agreement in which we obtained the rights to offer the

product both on HP 31/2" disk and on backup ROM.

The main advantage of Webster's over The Word Plus, the other spelling checker that we offer and that works on both Portables and the HP150, is that its dictionary is well over 100,000 words. The Word Plus's dictionary is 45,000 words. (The Word Plus is by far the best program we've discovered for the HP110.)

Now the question comes up, what do we do with those Portable Plus (and HP150) customers who already purchased The Word Plus from us. I know that if I had just spent \$129 for The Word Plus and discovered that for \$69.95 I could have gotten a better spelling checker, I would not be too happy.

Here is my proposal, in which everyone in the long run stands to gain. First of all, we will "upgrade" Portable Plus and HP150 owners' copies of The Word Plus to Webster's for free. Just send the entire Word Plus packaging—dictionary and all three disks—back to us. Include a note saying that you have destroyed all copies of The Word Plus and want to receive Webster's as a free trade-in.

Secondly, for HP110 owners, The Word Plus is easily your best choice of spelling checkers. The Word Plus was as if written for a 16-line screen. If you don't mind a "used" Word Plus, just send us \$99 instead of \$129, and we'll send you a complete Word Plus. If we don't have a used Word Plus to send you, we'll send you a new one. (Just change cross out the \$129 pricing on the order form; we'll understand.)

Both offers are good through July 31, 1987.

By the way, Plus owners: you may want to keep The Word Plus and still order Webster's. The Word Plus takes up less space, and offers additional utilities (such as word listings, frequency count, anagrams) that Webster's does not offer.

UPGRADES

Norton Utilities

As of this writing (April 10), we still have not received version 4.0 or the Advanced Edition of The Norton Utilities for shipping. You'll have to wait to next issue to find out about new features and whether there are any compatibility problems with the Portables or HP150. (Ed Keefe reports 4.0 works fine on the HP110 under the same conditions—alternative mode and /D2 option -that allowed 3.1 to work.)

From an ad I saw, there are some of the changes in the new 4.0 over version 3.1. Many of the utilities run three to five times faster than before.

File Info lets you attach descriptions up to 65 characters to your files. The Norton Integrator lets you control all the utilities from a single program and gives an online help.

The Advanced Edition contains all the features, functions, and enhancements of 4.0. In addition, the Advanced Edition includes Speed Disk, which sounds very much like the DISKPACK we included on the 1987 subscriber's disk. For hard disk users, there is Format Recovery, which protects against accidentally formatting a hard disk. The Advanced Edition also gives you more ability to capture and edit whatever physically remains on the disk.

Peter Norton Computing, Inc., manufacturer of The Norton Utilities, would not allow us to directly upgrade

USERS

More than **50 time-saving utilities** for your HP Portable or HP150—all on a single disk

Read this list. It may look long and boring, but it can save you an incredible amount of daily 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 in 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

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

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 HP.COM 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 pronter 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.

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.

TRIEDIR.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

VDL.COM Allows user to selectively delete flower 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

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

APPENDIX A Describes the contents of subdirectories/HP110,/SOURCE,/123DEMO found on the *DOS Tools* disk.

UTILS.DOC Reprints on disk *The Portable Paper* Vol 1, Issue 4, "Utilities" article. Gives practical examples of many of the files on the DOSTools 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)

Now available on ROM Backup for the Portable Plus! (See ROM ad in this issue.)

remember the names of the programs.)

And we've even changed some of the programs them-

selves so they work better and so their message displays are easier to under-

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your disk. To upgrade your disk, send Norton some kind of proof of purchase or registration card or master disk plus \$25 for version 4.0 or \$39 for The Advanced Edition.

As a courtesy to our customers, we will copy the new version of The Norton Utilities onto 3½" disk if necessary. Send us proof of upgrade, a formatted *double-sided* (or two single sided) disks, and a self-addressed \$.39 stamped envelope, and we'll put the new version on your disk. Alternatively, you can mail us \$7.50 and proof of upgrade, and we'll send you the appropriate disk—please mention if we can use a double-sided disk.

Peter Norton Computing can be contacted at 210 Wilshire Blvd., Santa Monica, CA 90403, (213) 453-2361.

RightWriter

RightSoft has announced an upgrade from RightWriter 2.0 to 2.1. RightWriter now checks grammar and supports MemoMaker, MS Word, MultiMate, and WordPerfect. All of you who purchased RightWriter 2.0 from us this year can upgrade by sending us \$7.50 to cover the cost of the disk, shipping, and handling. I haven't seen the upgrade yet, but I believe it includes a new manual.

For the convenience of our readers, we have worked out arrangements with RightSoft so that other owners requiring $3\frac{1}{2}$ " disk can upgrade through us. You need to send us the normal upgrade fee of \$29.95. In return we'll send you the new manual and the software on $3\frac{1}{2}$ " disk. If you prefer to obtain the upgrade from RightSoft, you can send them the \$29.95, and you'll receive the new version on $5\frac{1}{4}$ " disk. In either case you must send proof of purchase (the blue cover of the manual).

We will also be selling on 3½" disk the optional supplementary dictionary. This allows you to add words to the existing dictionary or use one of seven auxiliary dictionaries with RightWriter. These auxiliary dictionaries contain jargon for Business Administration, Computers, Engineering, Weaponry, Navigation, Shipboard, and Aircraft. The cost is \$29.95. You can use a blank line in the order form at the back of the issue or contact RightSoft at 2033 Wood St., Suite 218, Sarasota, FL 33577, (800) 992-0244.

THE EDITOR: FREE TRIAL OFFER AND SOME TIPS

I like The Editor a lot. I thought the best way to really show my enthusiasm was to make it as easy as possible for you to try it and see if it increased your productivity. Most of you should have received an experimental mailing several months ago. In it we offered to send you a copy of The Editor with printed manual (along with The Formatter if you desired) for your examination. The promotion was most successful and substantiated my feeling that most Portable and Plus users would like a compact, easy-to-use word processor with many more features than MemoMaker.

You may still take advantage of our offer. Just use the order form in back of the issue and in the *total* column write "free trial". You will have 2 months to evaluate the product and either send payment or invest \$.88 in third-class postage to send it back to us.

The one weakness in the product is that the program itself contains no print formatting capabilities. However, unlike MemoMaker, you are allowed to insert printer codes into your Editor document, so you can control your printer (lines per page, condensed print, etc.) from your document. Also, you can use PAM's **System config** to define certain ThinkJet characteristics such as skip perforations.

Alternatively, you can use PrinterTalk, Format110, or The Formatter to format your document (page numbers, headers, switch print styles, and so forth).

On The Editor disk, we now include **prnconf.com** from the DOS Tools disk. **prnconf** puts the ThinkJet into Epson emulation mode. If you do not have the program on your Editor disk, and you want it and a correspondingly longer **readme** file, you can upgrade in the usual manner (\$7.50 or send formatted disk and self-addressed stamped envelope). Most printer codes in Epson emulation are much shorter than normal HP mode. For example, to change to compressed mode in HP mode requires **esc&k2S**; in Epson mode: **CTRL O**. To generate the **esc** character in The Editor, hold down the **CTRL** key and press **o**

I have discovered a few more tricks other than what is in the **readme** file included on the disk. (Editor users: be sure to print the **readme** file on the master Editor disk.) One nice feature I hadn't noticed before is that it is not necessary to hold down the **Extend Char** key to delete or insert a character or a line. Just type the appropriate function key (e.g., **18** deletes a character.)

My wife discovered another feature/bug without knowing it when using The Editor on our HP150. She saved a file called **lesson 4**—with a space between the **n** and the **4**. I haven't figured out how to delete the file without deleting all the files on the disk. DOS generally does not allow file names containing spaces.

Here's a trick I find most useful. I use The Editor to translate ASCII files (such as those created in MemoMaker, The Editor, or taken off bulletin boards) into files easily manipulatable in WordPerfect on my IBM PC compatible machines. (The same trick should work for MSWord and other word processors.) First, I make sure each paragraph is separated by a blank line. Next, in The Editor I issue an esc Define Paragraph 1,9000 command. Then I do an esc Block Fill command blocking the entire file (skipping any tables I might have). Finally, I save the file.

After the commands have been issued, the file consists of very long lines—one for each paragraph. All extraneous hard carriage returns and blank spaces have been eliminated. Now I read the file into WordPerfect, and WordPerfect has no trouble formatting it.

DISKPACK AND DOS 3.2

I received several comments on the letter that appeared last issue in which John Buchanan warned against using **diskpack** on a hard disk using DOS 3.2. Ed Gilbert, author of the **diskpack** program included on the 1987 subscriber's disk, dropped me the following note.

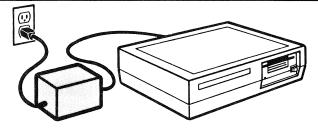
"There is no problem using **diskpack** with DOS version 3.2 on IBM compatibles. We use it here at work on Vectras and 150s, IBM XTs, and ATs with no difficulty.

"Other than problems with certain copy-protected software (notably Lotus 2), I know of no bugs in the program. I'd be happy to fix any bugs reported if I can have an accurate, detailed description of the bug including computer and disk type. A printout from the command diskpack -dl27 c: >prn would greatly help in any bug report. (In this case the command assumes drive C)."

If you do find any bugs, send them to me (Hal Goldstein) at *The Portable Paper* and I'll forward them to Ed.

When I spoke to David Burch in England about his

THE HP9114 Empowerer



If you've been frustrated trying to use your HP9114 external disk drive only to have the battery quit before you've finished your work, then you know the problem. Now you need the solution.

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.

According to Hewlett-Packard, you get up to 40 minutes of continuous usage before the battery dies. We've never gotten more than 20. Just formatting disks, transferring files or running disk intensive software and getting it to work can be a major triumph.

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 custommade. Both solve the HP9114 battery problem. And both will let you finish your work.

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How many times have you wished you had a 2nd external disk drive? Personalized Software is selling (for a limited time) complete HP9114A units including power supply at a substantial discount. Call 515/472-6330 for details.

two megabyte RAM drawer for The Portable Plus (see Plus Notes), he concurred with John Buchanan with his use of **diskpack** on the HP150, DOS 3.2. However, he found a workaround to save all his hard disk files. He **diskpack**ed his HP150 hard disk using DOS 3.2 and seemed to have lost his files. However, he put a DOS disk in drive A and used the **sys** command to put the DOS back on drive C, and all was well. David warned that if the HP150 is turned off first, a couple of dip switches on the disk drive must be switched (see manual) so that when the system is turned back on, it boots off the A rather than the C drive.

PAST ISSUES OF THE PORTABLE PAPER

If you began your subscription to *The Portable Paper* some time after the first issue (Jan. 1986), you can still get a complete set of *Portable Papers*. Just send us \$44 (the two-year fee \$99 minus the one year cost \$55). We'll adjust your subscription so that it covers exactly all 1986 and 1987 issues.

OUR CATALOG

All subscribers to *The Portable Paper* should have received Personalized Software's first catalog: *Products That Make HP Portables (and the HP150 Touchscreen) Smarter*. If you didn't get a catalog or would like more catalogs for your colleagues, please call us or drop us a line.

T/Master Review Delayed

We decided to put off publishing David Hughes' enthusiastic review on T/Master, an integrated package of word processor, database, and spreadsheet, that works on The Portables. There is a new communications module for the product, and it currently does not work on with the Portables. With David's help, T/Maker Company, authors

of T/Master, is getting the documentation and Portable needed to see if they can get the new module to work. Hopefully by next issue we will have the whole story.

More On X-Rays And The Portable

Jim Shelton of Raytown, MO writes: "I travel a lot, all by air. It is not unusual for me to pass through security five or six times a week. I pack up to 30 disks of data in the HP 13269V System Slimline Case along with the computer, printer, and disk drive. I always carry it on board. It is always x-rayed. I've never had a problem of any kind with the x-rays in 1½ years. However, one out of five times security will open it up anyway because it is so opaque on their screen. They will often manhandle the goodies and have scattered my disks on more than one occasion!

"X-ray is ionizing radiation and theoretically can do no harm to the magnetic domains on the disk but may damage the semiconductors in ROM or RAM. The radiation is so weak in the domestic airport machines that it is unlikely this will ever happen. (I've never taken the system abroad.) What you've got to watch out for is electromagnetic radiation (magnetic fields) from motors, transformers, and magnets, which can make a disk useless."

R.W. Richards, the Saudi Wanderer, tells us: "I have had a Portable since 1984. (Or is it 1983? Time flies when you are having fun in Saudi Arabia).

"My HP110 has been around the world with me a number of times, and I 've never had data lost when passing through airport x-ray machines. As a general rule I request a physical check of the unit, but this is not always approved. Disks which I carry with me on occasion have never been known to lose data either. Airport security people usually agree to let the disks be physically checked, if asked. I have forgotten from time to time, though, and they



have gone through with no problems later. "This only says I have not had a problem. One of our contracts with a foreign customer required the shipment of PROMs and after three sets arrived with useless data, a set was hand carried through. This set survived the trip. "The bottom line? I have never lost data, but it can happen. The answer is to request a physical check of the unit rather than passing it through the machines."

HP Bulletin Board With Portable Round Table Discussion

Bob Kohl, sysop of the Portovec HP bulletin board sent me the following message on his bulletin board for The Portable Paper. (Sysop means system operator—the person responsible for maintaining an electronic bulletin board.)

"Portovec is a user group that specializes in HP series 100 computers, as well as the Vectra. This includes the HP110, the Portable Plus, the 150A and B, and Touch II. We work on several different levels, from trying to get the users to explore the potential of their computers and what they can do with them, to seminars on specific software or kinds of software. We also deal in helping the users with tutoring sessions in things like Lotus, MS-DOS, etc. And we try to find the answers to the users' problems with hardware/software. As a matter of fact, we just had Gibson down from Lexisoft to do a fix session for all the people running Spellbinder on the HP150 (a debug and patch session in reality).

"The interests of the users in the group are diverse, so we try to stay flexible as to what we are trying to accomplish. We also publish a newsletter with fixes, patch, new helpful routines, etc., which features news, editorials, features. But it is hardly on the level of *The Portable Paper*.

'As far as the board goes, it was originally HP Heaven, as you might remember, but I was spending too much time on it to make a living so I converted it for Portovec as an attempt to motivate some of the users to really use their computers. I also intended it for E-Mail service. But as you will see it's gone well beyond that, and it seems to expand and get refined as time goes on, so I have no idea as to the limits I'll take the Board: that depends on time and money. The potential is staggering; I've seen some amazing FIDO BBS's...we'll see.

"One last note: Since this is a 'semi-private' BBS, an in-

terested user can either join Portovec (with all privileges) or just subscribe to the BBS for a 'contribution' of ten dollars. It's really not much considering they are looking at the better part of three months of my life...(Also, I have to cover the phone bills and maintain hardware.)

"Portovec BBS has just stepped up to a 2400 baud modem! There is also a Portable round table discussion! To get started log onto the Portovec computer with your computer by dialing 213-452-2197. You can log on at 300, 1200, or 2400 baud." The Portable DataCom Config default setting should work, or try 8 bits, no parity. If you prefer, you can contact *The Portovec Users Group, c/o Bob Kobl, 2811 Ocean Park Blvd., Santa Monica, CA 90405.*

IBM 3½" Disk Compatibility

According to my sources at HP, in theory, the HP Portables should be able to read information found on 3½" disks formatted for IBM and compatible machines. Portables users should also be able to write (save) information to 3½" disks formatted by an IBM compatible. However, an IBM 3½" disk drive probably cannot read an HP formatted disk. A special routine is being worked on so that IBM drives will be able to read disks from the HP9114. I haven't tried any of this since I don't have a 3½" IBM disk drive. However, if all the above is true, it seems to me that if you run the IBM DOS 2.1 format program to format 3½" disks from the Portable, then the IBM should be able to read it.

Apparently, the HP format routine adds a safety factor not present in the IBM format routine. The HP formatted disk allows two sectors to go bad before the data on the disk is lost. If any sector goes bad on an IBM formatted disk, then data can be lost. I am sure readers and HP will add or correct this explanation if need be.

As a matter of fact, Jonathan Feinstein of Chicago sent me quite a few details from his experimentation with IBM DOS version 3.2 formatted 3½" disks (the Portables use DOS version 2.1):

"I use a PC AT running DOS 3.2 with an IBM external 3½" disk drive. I first formatted a 3½" disk on the PC drive using DOS 3.2, then transferred two 5¼" disks full of data onto that disk using the **copy** command. Next, I took the disk and inserted it into my HP9114B. To my surprise, the 9114B attached to my Plus had no difficulty reading the disk. Furthermore, I was able to use **diskpack** (from the 1987 subscriber's disk). Then I copied files from my A drive onto that same 3½" disk without difficulty. Both **chkdsk** and PAM indicate that the full 730K is available for use.

"What this means is that the Portables are at least data compatible with the IBM Convertible and probably the other DOS 3½ inch machines. What I do not know is whether DOS 3.2 will allow HP format disks to be ready by the Convertible and compatibles.

"As I told you in our conversation, I tried reading the HP (PAM) formatted disk on a Zenith 181, and it did not work. **Chkdsk** treated the files as lost chains, so it is probably possible to retrieve them in this manner, if necessary.

"With respect to the possibility of formatting disks to the 3.2 format directly on the Portables, it would seem that all that would be necessary would be to move a copy of the 3.2 format utility over to the Portable. I have tried this with 3.1 utilities but got a **wrong DOS version** error message. There must be some way around this error—possibly one of the other portable manufacturers (Toshiba, etc.) using DOS 2.11 has a solution.

"Below is a summary of the technical information that I retrieved using Norton Utilities."

	DOS 3.2 Formatted	DOS 2.1 PAM Formatted
	3.5" IBM Disk	3.5" HP Disk
Storage Capacity	720,000 Bytes	693,000 Bytes
Sector Size	512 Bytes	512 B ytes
Track Size	9 Sectors	9 Sectors
Disk Size	80 Tracks	77 Tracks
Sides	2 Sides	2 Sides
Cluster Size	2 Sectors	2 Sectors
Clusters On Disk	713 Clusters	684 Clusters
Max Number Files In		
Root Directory	112 Files	176 Files
Outline Of Sector Useas	ge Of A Disk:	
Boot Ärea (DOS)	0	0
FAT Area (DOS)	1-6	1-6
Root Dir. Area (DOS)	7-13	7-17
Data	14-1439	18-1385

Bugs Documented

The Portable Computer Division Product Support department of Hewlett Packard is making available Software Status Bulletins for computer products manufactured in Corvallis. The Software Status Bulletin (SSB), produced by the STARS system, documents all known problems for products covered in the bulletin.

The Corvallis site manufactures three different lines of computer products. A separate SSB has been produced for each product line.

The SSBs available are as follows: Series 80 products, part number 5955-8680; MS-DOS products, part number 5955-8625, covers the HP110 and the Portable Plus; HP-UX products, part number 5955-8681, covers the Integral PC.

The SSBs must be ordered through: User's Library, Hewlett Packard, 1000 NE Circle Blvd., Corvallis, OR 97330, 503-757-2000. Note: these publications are not on the Corporate Price List and cannot be ordered through any other means.

The cost for each SSB is \$15, plus any applicable state and local taxes. The User's Library can accept phone orders for customers with a Mastercard or Visa credit card. Otherwise, customers may send a personal check to the User's Library. For customers in other HP divisions, the User's Library will generate an intra-corporate invoice given the division number and a billing account and location.

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PORTABLES

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The Portable Plus As A Sales Tool

By Guy Mendt, Hewlett Packard

[Guy Mendt is the Area User Support (AUS) person for Hewlett-Packard in Englewood, Colorado. He has been involved with HP's FPP (Field Productivity Program) since the pilot in February 1986 and is responsible for FPP implementation, training, and support in HP's seven-state Rocky Mountain Area.]

Consider these situations:

- Your customer is on the phone and needs the delivery schedule for his latest order.
- You just find out that your manager expects an account review first thing tomorrow and you're 800 miles away from the office.
- It's 5:30 p.m. and the customer is willing to sign a purchase order if you can provide the discounted prices by 5:45.

Sound familiar?

What if solving each of those problems were as easy as pressing a few keys on your Portable Plus? Hewlett Packard sales reps are doing just that.

HP has begun applying sales-force automation techniques using the Portable Plus. The program, internally known as the Field Productivity Program (FPP), is designed to provide HP's sales force with a competitive edge that allows sales reps to be more productive and to respond to customer inquiries more quickly.

Sales force automation is designed to overcome barriers in the sales process; its solutions should provide tools and techniques that change how sales problems are addressed. Late in 1985, HP identified three needs that could help its sales people reach their full potential: quick access to up-to-date order status information; an efficient means of communicating with other HP people; and remote access to price and availability information.

In early 1986, HP's U.S. Field Operations launched an automation pilot project involving over 100 sales reps. Sales reps using the Portable Plus recorded a 27% increase in customer contact time during the first eight months of the pilot project.

Reaction from the field has been positive: The Portable, according to Joyce Terpenny of the Parsippany, NJ office, "saved me from losing a \$35,000 deal. I accomplished in five minutes what it used to take me a day to do." Bob

Richardson, HP Boulder, says, "The ability to access HPDeskManager really pushes communication and productivity light years ahead of regular phone tag."

Customers have also noticed the difference. Marc Duame, a district manager in Englewood, CO, says that one of his sales reps "used the Portable Plus to illustrate that he would be able to provide excellent attention to detail on order status. At a users conference he demonstrated the ability to look up and report on the customers' orders right before their eyes. They were extremely impressed with this level of support." These results indicate that automation does make a difference, which led to HP's decision to equip each of its 2,000 U.S. sales reps with a Portable Plus by August of 1987.

All this from just the Portable Plus? Not quite. The initial automation toolset issued by U.S. Field Operations combines hardware and software tools designed to give sales reps freedom from the office and remote access to information. The hardware includes a Portable Plus with 896Kb of internal memory, a 9114B portable disc drive, and a ThinkJet printer. ROM software includes Memo-Maker, Time Manager, Lotus 1-2-3, Executive Card Manager, and Reflection 1. Additional software solutions consist of Price and Availability (PAL), Order Status (POST), and HPDeskManager.

In order to realize productivity gains and not create an added drain on sales rep's time, HP recognized that the automation toolset needed to be easy to learn and use. Training sessions were designed using accelerated learning techniques that allow 12 hours worth of material to be taught in a four-hour class. Tasks that normally intimidate even experienced users are simplified. Dialing into and logging onto a remote computer is as easy as making a menu selection and pressing the Connect Computer key. Pressing one more key allows the user to log on using either the RS-232 port for a 9600-baud direct connection, or the modem for a local call, 800 number call, or long distance call using a credit card number.

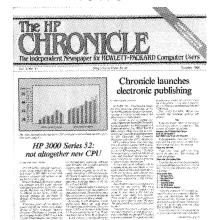
Sales reps access HPDeskManager, HP's electronic mail system, to communicate with any of their 80,000 fellow employees. Price and availability information for over 400,000 HP products (including parts and support products) is as close as the nearest phone. The sales rep simply logs onto an HP3000 system, then keys in a full or partial product number, product description, or product family. Sales reps view order status information using Executive Card Manager on the Portable Plus. Once daily, the Portable Plus dials a remote HP3000 and transfers order status information from an Image/3000 database to the cardfile on the Portable Plus.

Plans call for adding several tools to round out the system. AdvanceMail, a program that allows the sales reps to create, send, and receive messages without a constant connection to an HP3000, will be added later this year. Other tools include a sales-funnel management system, automatic lead distribution and tracking, a budgetary quote system, and expert configuration systems.

[Hal—In the next issue Guy will provide some tips and bints from the Field Productivity Program on making the Portable Plus easier to use.]

PCI delivers the news!

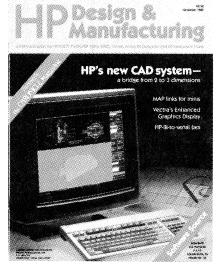
News



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

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□ Please send me more information on HP training videos

☐ HP Design & Manufacturing



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 & QUINNS REFLECTION SERIES for the HP 2622 and 2392 Communications. Up-to-date training techniques and individualized instruction at affordable prices.

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Mail to: PCI, Publications & Communications, Inc., P.O. Box 399, Cedar Park, Texas 78613-9987 U.S.A. (800) 531-5093 or in Texas call (512) 250-9023.

Exploit the HP-Portable-Plus with up to 4½Megabytes of user memory

All the storage space you'll need for even the longest business trip and all inside the computer! Just copy all your software & data into the PLUS and leave that bulky floppy disc drive where it really belongs - at home or in the office!

Each Memory or RAM-Disc Card comes complete, already installed in a plug-in drawer. Remove a blank drawer from the bottom of the computer and, in under two minutes, you're ready to exploit the full power of the Portable PLUS. If you're really hungry for memory, plug in two 2-Megabyte drawers and (with 512K built inside the PLUS) you've got 4½-Megabytes of RAM available.

Memory Cards

384K, ½, 1 & 2-Megabyte models allow enough memory to run the largest application, yet still give you large E-Disc storage on drive A:. Use PAM's System Config menu to partition Main (max 512K) and Edisc Memory.

384K, ½ and 1-Mb Memory Cards can be used on all Portable PLUS models. 2-Mb Cards are only useable on computers with 512K of inbuilt memory.

RAM-Disc Drives

No longer limited to the standard EDisk inside the PLUS, you can now add ½, 1 or 2-Mb fast access electronic drives. The unique lithium battery backed-up design protects and retains data on the disc even if you reset the computer. To use the disc, copy a special driver file from the supplied 3½" micro-disc and then format, write and read from the drive, as with a normal disc.

Availability

384K, ½ & 1-Mb Cards are available immediately. **2-Mb** cards will be despatched beginning 1st June 1987.

In the USA, our products will be available via Personalized Software, P.O.Box 869, Fairfield, IA 52556. Tel:(515)472-6330

Outside of the USA, contact SoftWord at the address below for purchase and details of local stockists and volume discounts.

Price List:	£ Sterling
384K Memory Card	
½-Megabyte Memory Card	£800
(Upgrade to 1-Megabyte)	£500
1-Megabyte Memory Card	
2-Megabyte Memory Card	£1800
½-Megabyte RAM-Disc	£800
(Upgrade to 1-Megabyte)	£500
1-Megabyte RAM-Disc	£1200
2-Megabyte RAM-Disc	

With the exception of ½-Mbyte models, Memory & RAM Cards are not expandable.

Prices, including postage, packing & insurance, are correct at 2.Apr.87, but subject to change.

United Kingdom residents should add 15% VAT to the above prices.

Payment should accompany orders, and be by Sterling Bankers' Draft payable to SoftWord.

For export orders please allow between 3 & 4weeks for issue of an Export Licence and delivery.

SoftWord also provide an EPROM burning service for Portable PLUS users wishing to install their programs into the Software Drawer.

 ${f SoftWord}, {f Astage, Rectory Lane, Windlesham, Surrey, GU20~6BW, England}$

Telephone: National Bagshot (0276) 75440 International +44276 75440

The HP110 In A Conference Environment

By Rolf R. Schmitt

[Rolf R. Schmitt has used an HP110 at his desk and on his daily commute to work by train between Baltimore and Washington since 1984. He authored the original version of the RPN calculator spreadsheet on the 1987 Portable Paper Subscriber's Disk.]

My high expectations for the HP110 were first put to the test when I took three just-arrived 110s, one HP9114A disk drive, and one HP2225 ThinkJet printer to an out-of-town conference. Lotus 1-2-3 was used for conference registration, assigning our company's five conference participants to workshops, and managing my travel voucher (complete with limits on my allowable per diem). MemoMaker was even more heavily used for note-taking and for the transformation of notes into conference findings and recommendations. Drafts could be revised quickly and reconsidered by the participants, leading to a more timely, better thought out conference proceedings.

The participants who used the HP110s generally had experience on microcomputers, but none had previously worked with a laptop portable. Everyone adjusted quickly, particularly since I could give them the HP110 set to MemoMaker. They merely hit any key, did their typing, and gave me the machine to store and print the results. Only one minor case of workspace deletion was recorded. The HP110s had more than enough ROM and RAM to be away from me and the disk drive for extended periods.

The HP110s were particularly effective for note-taking in the plenary and workshop sessions. Their small size and battery power made them unobtrusive and allowed them

to be used anywhere in the outlet-scarce rooms (and by the pool, where one workshop met). A heavy keystroke does make a distracting sound in quieter sessions, but a lightly stroked 110 creates far less keyboard clatter than the Geneva and other laptop portables.

Screen size and visibility are frequent criticisms of the HP110 that proved inconsequential in the conference environment and elsewhere. The 110's quick, crisp scrolling overcame the 16-line limitation of the screen. The LCD screen is obviously not the greatest, particularly when someone is trying to look over your shoulder. However, the adjustable angle and contrast made the display quite adequate for use by individuals indoors. Reflections did make the display very hard to read outdoors, although the 110's were used extensively by the pool.

Individual HP110s are reasonably light to carry, but I was decidedly grateful for the wheels on my suitcase when I transported all 40 pounds of computers/printer/disk drive. On the other hand, I had three stand-alone computers, a high-capacity disk drive, and a printer for the weight of one "transportable" micro.

Perhaps the biggest lesson from using the HP110 at the conference was the need for enough hardware. Participants who used the machines got hooked, abandoned their pens and paper tablets completely, and left little time for others to use the machines. The ratio of users to machines was 5 to 3 for the conference, and could not have been much more without conflict among the users. The common HP82059 AC adapter/recharger should also be in plentiful supply so you can recharge all machines overnight (if the hotel room has enough outlets). A spare battery pack for the disk drive is also mandatory.

Three suggestions are also important if you use the battery-powered ThinkJet printer. First, you should print a full page on the ThinkJet printer before the conference begins to make sure that the head doesn't need cleaning and repriming before someone asks you for output in a hurry. The printhead may clog after a few days of inactivity, which often occurs just prior to a conference while in transit. Once I had wiped the printhead clean after the first use, it worked fine for the rest of the conference.

Second, you should bring an adequate supply of printheads and ThinkJet paper with you (not to mention extra ink cartridge/printheads). The darkness of output on the ThinkJet paper is significantly better than on bond or xerox paper.

Third, remember that the ThinkJet uses a NiCad battery instead of lead acid, and should not be recharged until the low battery indicator comes on. It may be wise to carry an extra battery if you plan to use the printer away from electrical outlets for extended periods.

PLUS Notes

By Hal Goldstein

1, 2 Megabyte RAM Drawers Now Available For The Plus

Imagine 2.5 Megabytes of RAM available to divide between Edisc and internal memory! (A megabyte is 1000K or 1,000,000 bytes or characters of memory.) That's nearly 10 times the RAM capacity of the original HP110. Imagine further that you use both drawers for RAM, and you already have 512K of built-in memory. With two 2 Megabyte RAM drawers, you could carry around with you 4.5 of RAM! Who needs to carry around disk drives with that kind of storage potential.

The good news is that 1 and 2 Megabyte RAM drawers are now available. The bad news is that they are very expensive. HP is offering a new 1 Megabyte RAM drawer for \$1695. SoftWord of Surrey, England now has 1 and 2 Megabyte RAM drawers and several other interesting products. The 2 Megabyte drawer costs about 1800 English pounds, or about \$2880, assuming the dollar doesn't drop any more. Personalized Software (that's us) will distribute SoftWord's products in the U.S. and offer 10% discounts to subscribers of *The Portable Paper*.

Now, let's examine the different product offerings.

1 MEGABYTE RAM MEMORY DRAWER FROM HP

Hewlett Packard has announced a 1 Megabyte RAM drawer, part number 82992A. The new memory drawer, when installed in a Portable Plus with an internal memory of 512K, provides over 1.5 Mbytes of CMOS static RAM memory. The new drawer is compatible with all previous and current versions of the Portable Plus and requires no modification to the portable computer.

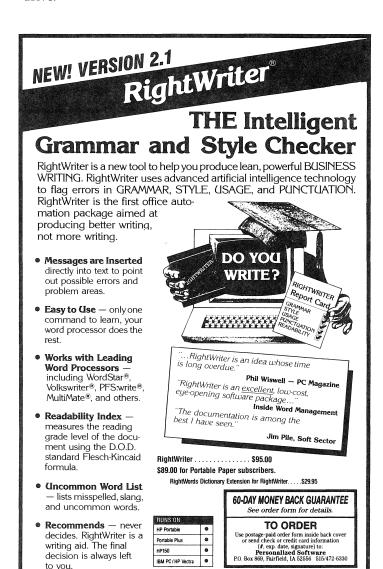
The new drawer lists at \$1695 and includes the Megabyte of memory. For customers with lower expansion memory requirements, the 128K RAM drawer (82981A)—\$395—and the 128K RAM card (8298A)—\$250—remain available.

ENGLISH COMPANY OFFERS VARIETY OF OPTIONS

Last issue we mentioned that David Burch of SoftWord in Windlesham, Surrey, England, had come up with greater capacity RAM cards. Indeed he has. SoftWord sells RAM cards for the Plus in various forms. These cards are already installed in a plug-in drawer included in the price.

SoftWord has two kinds of memory. The first kind is what you are used to. Plug in SoftWord's card, and you have increased your **Memory / Edisc** capacity. SoftWord calls these **Memory Cards**. These come in 384K, 500K, 1000K, and 2000K cards.

Alternatively, SoftWord supplies 500K, 1000K, and 2000K **RAM Disk Cards**. A RAM Disk Card is a self-sufficient unit powered by a lithium battery. Like the Memory Card, it can reside in the space for the memory or software drawer on the bottom of the Plus. When you operate the Plus, the RAM Disk Card becomes an electronic disk onto itself. For example, if you are not connected to the HP9114 disk drive, the RAM Disk Card becomes the C drive. If you are connected to the HP9114 or other disk drives, it automatically becomes the D or E drive.



RightWriter is a trademark of DecisionWare, Inc., WordStar is a t MicroPro International Corporation. MultiMate is a trademark of International. PFSswrite is a trademark of Software Publishing of Volkswriter is a trademark of Lifetree Software, Inc.

Webster's (web'stərs) n. The spelling checker rated Editor's Choice by *PC Magazine* (Dec. 24, 1985), and now available from Personalized Software for the Portable Plus and HP150.

-Customized on 3½" disk by special arrangement with Simon & Shuster, Inc.

PC Magazine rated eight leading spelling checkers for ease of use, flexibility, speed, overall program size, thoroughness, and accuracy. WEBSTER'S NEW WORLD SPELLING CHECKER came out on top—for a number of good reasons:

First, there's sheer size. WEBSTER'S contains over 110,000 words in its dictionary—five times the number in Hayden's Speller, 2½ times as many as in The Word Plus—yet WEBSTER'S dictionary and main program take up only 207K of disk memory.

Second, WEBSTER'S isn't just easy to use—it's positively a *pleasure*. It reads your files at high speed, then displays every questionable word *in context*, highlighted. At the same time, in a "window" off to the side, it gives you a list of possible correct spellings. A simple menu gives you the following options:

- Accept the word as is
- Replace the word with one of the suggested spellings

RUNS ON:			
HP Portable		HP150	•
Portable Plus	•	IBM PC/HP Vectra	•
Avail	able on	EPROM/ROM	

Enter the correct spelling manually

- Add the word to an auxiliary dictionary of frequently used words
- Replace all other occurrences of the word
 Look up the spelling of any other word at any

WEBSTER'S also lets you mark in your text any spelling corrections that change length of a word; this lets you quickly locate portions of text that may need reformatting.

WEBSTER'S will automatically locate double repetitions (like "and and"). It can correct transpositions ("itme" becomes "item"), missing apostrophes ("dont" becomes "don't"), and *typos* of all kinds ("spellling" becomes "spelling," etc.).

If you're not sure of a word, you can even *spell* it the way sounds, and chances are WEBSTER'S will supply the correct spelling. ("Fenomenon"

HP150 users: A special utility allowing WEBSTER'S to run on the HP150 is included on the disk. HP110 Portable users: Sorry, WEBSTER'S won't run on the 110; your best bet is still THE WORD PLUS, another top-rated spelling checker available from Personalized Software. (See ad in this issue.)

gets corrected to "phenomenon," for example.) In addition, WEBSTER'S will let you preview a list of all questionable words *before* displaying them in context; this saves you time because it lets you eliminate words from the questionable list (or add them to your auxiliary dictionary) before you begin the editing pass.

Portable Plus users:

spelling checker available on

(See ROM ad

John Dvorak, writing in the San Francisco Examiner, called WEBSTER'S "the best spell-checker we've seen in a long spell." Henry Kisor of the Chicago Sun Times has called WEBSTER'S "the best proofreading software on the market." We agree with them both—and we think you will too. Order your copy at no risk today.

Webster's Spelling Checker on $3\frac{1}{2}$ " disk customized for the Portable Plus and HP150 \$79.95 \$69.95 for Portable Paper subscribers.

WEBSTER'S SPELLING CHECKER works with any file produced by the Editor, WordStar, and MemoMaker. It also works with ASCII files produced by MS Word and Word Perfect.

Our version of WEBSTER'S includes a customized 3.5" disk and simple instructions for running the program on the Portable Plus and HP150.

If you must reset your battery, nothing gets lost on the RAM Disk Card drive. If the A drive demands you reformat it because it has somehow become corrupted, the data on the RAM Disk Card drive is safe.

Maybe you want to store the information on the RAM Disk Card or install it into a different Plus. The RAM Disk Card will retain its information for at least six months, independent of a Portable Plus.

Installation is easy: Remove your old drawer, if you have one, and insert of SoftWord's. The operation is simple, and the manual is clear and thorough.

Here are the prices in English pounds as of April 2, 1987. A 384K Memory Card costs £575. The rest of the pricing is the same whether you prefer a Memory Card or a RAM Disk Card.

500K (1/2 Megabyte)— £800 Upgrade to 1000K (1 Megabyte) £500 1000K (1 Megabyte) - £1200 2000K (2 Megabytes)— £1800

We will be SoftWord distributors of the cards in the U.S. You must call us (*Personalized Software*, 515-472-6330) for current pricing. The pricing will depend on the value of the dollar in relation to the English pound as well as any import fee required by law. However, we will provide a 10% discount to all U.S. subscribers.

Non-U.S. subscribers should contact SoftWord directly. You may also be eligible for a 10% discount; we are not sure yet. Tell them you are a *Portable Paper* subscriber.

Contact David Burch, SoftWord, Astage, Rectory Lane, Windlesham, Surrey, England, GU20 6BW. Phone—International: 44276 75440, National: Bagshot (0276) 75440.

EPROM and ROM Backups Available Soon From Personalized Software

We are now offering a ROM and EPROM backup service. We will be putting our best selling products on ROM or EPROM. In addition, under certain conditions, we will be able to provide custom backup service for your particular application.

EPROMs and ROMs are computer chips that fit in the back of your Portable Plus in the ROM drawer along with Lotus, your word processor, and whatever else you've got tucked away. (HP110s do not have a ROM drawer.) Instead of your programs or data residing on a disk or in RAM, that same information gets burned (etched) onto a chip. You can now order much of our software on pre-programmed chips.

You install these chips yourself quite easily. We'll supply clear instructions. You need a torx screwdriver with size 8 head to open the odd-looking screws sealing your ROM drawer. (You can probably find one at your local hardware or discount store.) Then it is a matter of properly lining up the centipede-type legs of your ROM or EPROM with the holes in a slot in the drawer. Push down the ROM, and you're in business.

EPROMs are erasable and can be programmed by relatively inexpensive machinery (around \$750 and up) with the proper software. ROM chips can be burned in only once, and it involves a more expensive process. Most recently, 64K EPROM chips that work with the Plus have become available at a reasonable price to supplement 32K EPROMs. 128K ROM chips also can be used with The Portable Plus. EPROMs are a form of ROMs, so sometimes we refer to EPROMs and ROMs generically as ROMs.





RECOMMENDED FOR THE HP110 PORTABLE

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

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

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 \$129 for Portable Paper subscribers

THE WORD PLUS

A Great Spelling Checker And More!

"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 $3.5^{\prime\prime}$ disk and simple instructions for customizing the program to the HP Portables.

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

60-DAY MONEY BACK GUARANTEE

See order form for details.

TO ORDER

Use postage-paid order form inside back cover or send check or credit card information (#, exp. date, signature) to: Personalized Software P.O. Box 869, Fairfield, IA 52556 515/472-6330

The cost per ROM chip is less than the cost per EPROM chip. However, EPROM chips can be ordered one chip at a time, whereas, to be cost effective, you need to order at least 100 copies of the same software on ROM. Copies of EPROMs are also much less expensive than the original master copy once a master is made.

I spent quite a lot of time researching the area and trying to come up with the most flexible solution in terms of product offering. Offering ROMs solely as a backup service seemed the best solution overall. What follows is a brief explanation of our reasoning.

There were many variables to take into account. First of all, we certainly do not want to violate any licensing agreement with software manufacturers. Consequently, we obtained permission from all the manufacturers or authors of software we intended to put on backup. If you intend to back up any of our software independently, you must obtain our permission.

When we talk to a manufacturer, we explain that we offer ROMs only as a backup service. That is, an original of the product must already have been purchased. This approach has made it easier to work with manufacturers or authors of the software, who would rather not alter the packaging or distribution of their product. If, on the other hand, like HP, we offered the product only on a chip, a much more difficult negotiating process would have to take place. As a small company, getting and maintaining the attention of a big company for such an agreement would not be easy.

We approached Borland International (Turbo Pascal), Peter Norton Computing (The Norton Utilities), Simon & Schuster (Webster's New World Spelling Checker), Southern Software (SideWinder), System Enhancement Associates (ARC520), Randy Salo (Shelp), Jack Bower (Typing Whiz), Ed Keefe (Format110), and Ed Gilbert (The Editor). Borland International (the good guys of our industry) gave us permission without hassle. Peter Norton Computing just gave us a flat "no" without much explanation. (Don't worry, we are not ones to take "no" for an answer.) We worked out some arrangement, usually involving royalties, with the other companies or individuals.

Frankly, the second reason for offering chips as a backup service is economics. HP sells most of its products for hundreds of dollars, and they are geared to producing chips. Because of lower overhead and the nature of the type of product we sell, we have been able to keep our disk-based products low, competitive with the IBM PC side of the industry, even though our volume is much lower. To pay for our time, effort, research, and knowledge, we must charges additional fees to produce the product on ROM. Furthermore, in order to make products available on ROM rather than EPROM, we have to take a calculated gamble: that we will sell enough ROM chips to more than cover our initial investment.

The third reason for offering ROM chips as a backup service is logistical. How do we update customers who already have purchased our products on disk? A backup service seemed the best method.

We spent a lot of time looking at combinations of products that could go on a chip. From talking with many of you, it seemed that your highest priority was using the



Can't plug your Portable, ThinkJet, HP9114, and HP hand-held into the same wall outlet because the recharger cubes are too big? Here's the solution:

The Model 110A Power Cube/Recharger from Summit Concepts.

The Model 110A has five power cords. Four are HP cords that plug into your HP Portable, ThinkJet, HP9114 disk drive(s), or HP hand-held (HP41, 71, 75, series 80, etc.).

The fifth is a conventional AC cord that plugs into the wall and powers the other four.

Get rid of that tangle of extension cords, power strips, or whatever else you've been putting up with. Order a Model 110A Power Cube Recharger today.

Model 110A Power Cube/Recharger \$89.95 \$84.95 for Portable Paper subscribers.

ROM drawer judiciously. You want to make the most out of the ROM drawer space available. We know that everyone has different needs and different demands for software. However, we tried to come up with solutions that balanced general requirements while making optimal use of space within each ROM or EPROM.

Please give us feedback if you have other suggestions. (See our ROM ad on the inside front cover or check the page opposite the order form for a complete listing of our offerings.)

In general we opted for 128K ROMs, which is certainly the most efficient way to go. We are taking a chance because we really need a certain number of orders to break even. But we feel pretty confident of our selections.

You can help us greatly by placing your ROM order now even though we won't be ready to ship until August or September. (EPROMs will be available in June.) We won't cash your check (unless it is also for other products) or charge your credit card until we ship. If we receive very few orders, we may have to cancel a ROM. I am particulary concerned about the DOS Tools ROM. We tried to cram as much good stuff in and keep the price low. So please indicate to us if you want this chip or any other.

Through some ROM cramming and some trickery we are creating a "SuperROM". We managed to get five of products onto one 128K chip: SideWinder, Shelp, The Editor, Mini PrinterTalk, and Format110. The other ROM backup product I am excited about is Webster's New World Spelling Checker. I have had many requests for putting a decent spelling checker on ROM—and I think Webster's is the best. I can't wait to put the two 128K Webster's chips into my Plus.

If you want us to make custom ROMs, call us to obtain an instruction sheet. In general if you want us to back up commercial software, you must obtain permission from the manufacturer. You may spread your application across two or more 64K EPROMs. You must allow an extra 2K for directory space and 1K for a **pam.mnu** file. Furthermore, the actual space required by any file MUST be a multiple of 1024 (1K). Compute the actual space by doing a DOS **dir** listing of your file. Then round up to the nearest multiple of 1024. So, for example if your file takes up 3924K bytes, it actually takes up 4096K (4 x 1024) on the EPROM. More details and examples are available when you ask for our Custom Backup sheet.

Portable Plus Connection To IBM

By Scott Orono

HP has announced a new product, SNALink/3270, for the Portable Plus. Now Portable Plus users can remotely link up to IBM mainframes and access data either in terminal or file transfer modes, without any local cluster controllers or protocol converters needed.

SNALink/3270 is ideal for professionals needing mobile access to IBM mainframes or sales or service people on the road.

The key features of the product are:

- 1. Reliable communications protocol;
- 2. 3270 Display Station emulation;
- 3. File transfer to or from an IBM mainframe operating in the MVS/TSO, VM/CMS or CICS environments;
- 4. Two simultaneous mainframe sessions;
- 5. One printer session;
- 6. "Hot shifting" back to DOS without affecting the main-frame session;
- 7. All SNA software in ROM (2 ROM set);
- 8. Six additional empty ROM sockets for other applications, such as MemoMaker or Lotus 1-2-3.

Combining this super portable communications product with a highly rugged, reliable, and powerful HP Portable Plus gives you a very effective solution.

To order this product, ask your local HP Sales Representative for Part Number 50922A.

MMTOP

Many of you called up saying the **mmtop** program from our DOS Tools disk does not work—it locks up the system. (**mmtop** allows Plus MemoMaker to print without the usual five-line margin.) **mmtop** works with most Plus systems, but the problem is apparently associated with one combination of system and MemoMaker ROMs that has not been isolated yet.

Lotus 2.01

Still no official word. However, it looks like Lotus 2.01 will be released mid-June, with upgrades available in August. Upgrade details are not yet final, but it looks like the cost will be about \$195.

Apparently, with 2.01 you can't just plug in the ROMs and go; there is an install procedure to go through first. Corvallis support already cautions: Please read the manual!

2.01 takes up three ROMs, but if you don't have room for three, you can leave out the one that contains help messages.

At this time, HP has been unable to test any 1-2-3 add-ons.

Corporate users, let us send a *Portable Paper* to all of your company's Portable users. Contact us for special corporate rates.



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

"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

Version 4.0 (Advanced Edition also available)

are also an excellent disk management sys-

tem. Here are some examples of what you

Let's say you want to sort directories and

files physically on disk-either by name, ex-

tension, size, date, time, or by any combina-

tion of these. Just use the ds (disk sort) com-

mand. 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

Or let's say you remember putting the

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 unerased?



"Indispensible." PC Magazine

needed amount of disk space.

"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 3½" disk customized for users of the HP110 Portable, Portable Plus, and HP150.

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 pachage: THE NORTON UTILITIES

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

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, iden-

tifying each occurrence by directory and file. Or let's say you can't remember which subdirectory 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

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.

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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.]

Finding A Letter Quality Printer

By Hal Goldstein

When I left HP in 1984, I brought with me an HP110 and a LaserJet printer. This combination was even more unusual then: both the HP110 and the LaserJet were new in the marketplace, and lasers printers and DOS laptop computers were not yet popular. I do not really recommend this awkward combination; however, showing how these two machines can work together will illustrate how to connect either HP Portable with most any serial printer.

How did I come to select those two machines? At HP I had used a high capacity Laser printer with the HP3000, so I knew something of the quality of print, silence, and speed that a laser printer affords. Often we are judged by external appearances, and I felt that the ability to produce high quality output would serve me well no matter what I ended up doing. In fact, the LaserJet proved invaluable to me. It allowed me to send out professional looking direct mailing pieces at a small cost. Many of you received my first batch in August 1985 asking you to subscribe to the The Portable Paper.

I am not really sure why I bought an HP110 rather than an HP150. I loved the HP110 from the start for its portability and power, and for some intangible reason that I have never been able to verbalize. To connect the beauty (HP110) to the beast (75-pound LaserJet) required an HP92221P serial printer cable.

To create the conditions so that my HP110 could talk to the LaserJet, I went into PAM's f6, System Config to set **Printer Interface** to **Serial**. I exited and went into PAM's **f5**. Datacom Config and set Serial port to RS-232. (Plus users: just use the Serial column.) After consulting the LaserJet manual, I determined that I should set the **baud rate** to 9600, the word length to 8 bits, stop bits to and parity as none. The default values were used for the rest of the settings.

So in general, all you have to do to use a serial printer is use the right cable (the HP92221P in almost all cases) and make the correct settings. Your serial printer manual will tell you what settings (and cable pinouts) are required. I have heard of very few problems making a serial printer work with a Portable as long as the cable and the configuration settings are correct.

Readers often ask me what letter quality printer should they buy for the Portable. Since any serial printer should work, the answer varies. When buying any piece of hardware or software, the best approach is to sit and write down your requirements. In the case of the serial printer for your Portable you might look at some of the following variables: portability, speed, price, quality of output, font options, noise, ease of use with Portable software, amount of planned usage, usage with what computers, support, reliability, maintenance costs, ease of sheet and envelope feeding, wide or normal paper width options, and ability to handle different paper size and

The good news is that there are many excellent printers on the market at all price ranges. If you are at all careful and think about what you want, it is hard to make too serious of a mistake.

Here are several suggestions in coming to a final decision. First, go to the library and glance through PC Magazine or other computer references that compare and evaluate a number of printers at once. They've already done the work for you. Second, ask friends and associates about what they like and dislike about the printers they

Third, go to a knowledgeable local dealer with a list of your specifications. He doesn't have to know about HP Portables, just printers. If you do work with a local dealer, your choice might be more limited and you might pay more than if you bought your printer mail order. However, if you use a reputable local dealer, he should help you solve any logistical or mechanical problems you might have after you purchase the printer. Furthermore, as a Portable owner, you have a unique advantage. You can directly test the printer at the dealer's shop. Just bring your Portable and HP92221P cable and try it. See if your Portable software works with the printer to meet your needs.

If you buy a serial printer other than HP, the PAM System Config values of Print Pitch, Print Line Spacing, and Printer skip perf are useless and should be set to the default, **No Config**. Controlling your printer's features such as lines per page, bold, and underlining become of function of your software. If you have MS Word, you should be all right. Extra printer drivers (software that supports different printers) can be found in the HP forum in Compu-Serve for MS Word.

With MemoMaker you probably will be able to use underline and bold. When printing, MemoMaker implements bold by typing a line, backspacing and retyping that same line again. Similarly, MemoMaker produces underline by backspacing over text and the typing the underline character. Certain printers do not recognize the backspace character so bold and underline will not work. Laser printers such as the LaserJet will not produce bold print by this overstriking method. However, for 90% of the printers, MemoMaker bold and underline should work fine.

Other word processors such as The Editor allow you to embed in the document the printer codes that the printer requires to access its capabilities. Text formatters such as PrinterTalk, Format110, and The Formatter, advertised elsewhere in this issue, will print MemoMaker, Editor, or other ASCII files. In doing so, they allow you to format

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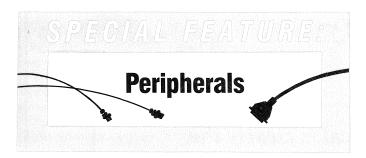
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the document and take better advantage of your printer's features. I initially wrote PrinterTalk so that I could make use of different LaserJet typefaces.

Let us know of successes and failures with serial printers. Share your enthusiasm for your Portable-printer connection with other readers—drop me a note.



Introduction

By Hal Goldstein

When I first conceived of this peripheral issue of *The Portable Paper*, I was thinking more in terms of printers and maybe disk drives. However, as the issue began to manifest, I was truly surprised to find all the hardware products that support and can work with the Portables. And we are not even considering in this issue HP video interfaces and the HP cassette drive mentioned in past *Portable Papers*. We hardly mention the HP9114, and the major article discussing the ThinkJet uses the ThinkJet only as a point of reference.

So what is left to talk about? Read on.

Paul Grimmer starts us off by talking about the new HP QuietJet printers. (Paul really deserves a great round of appreciation from Portable users. When I began *The Portable Paper*, readers continually asked me, how can I print my spreadsheet sideways to my ThinkJet, how can I make graphics, how can I transfer data to and from my handheld computers? Paul, through his company Southern Software, answered those questions with SideWinder, SKETCH, and LINK. Paul has kept the price of his software most reasonable even though he writes mostly for the relatively small market of HP Portable users.)

By reading Paul's knowledgeable and intelligent review, you will not only learn about the QuietJet but you will also understand your ThinkJet better. Later you will encounter another article by Paul about configuring an HP plotter to The Portable.

Around nine months ago I put Tom Page in contact with Touchbase Systems to review their portable TravelComm 1200 modem. Just about the time Tom had his review ready (the product did not work very well with the HP110), Touchbase came out with the WorldPort 1200, a Hayes compatible, shirt-pocket-sized, serial modem.

Tom patiently started over and continued to work closely with the manufacturer, giving the feedback of an HP Portable owner. Just when Tom was about finished with the review, Firmware Corp. of Corvallis, OR, came out with a 1200 Baud HP-IL modem. So Tom immediately went to work evaluating that portable modem. What follows is most thoughtful review of WorldPort and the HP-IL modem.

We then start exploring other peripherals that will work with the Portable. For example, we take a first look at using a mouse with a Portable Plus. We received a preliminary version of Portable Plus mouse software that lets you use a Microsoft mouse with Portable Plus applications. I'll share my initial reactions.

Then there are a surprising number of other peripherals that enhance the usefulness of the HP110 and Portable Plus. For instance you can: charge your Portable from a cigarette lighter; charge your Portable, ThinkJet, HP9114, and your HP41 from the same recharger; project the contents of your Portable screen onto the wall using an overhead projector; or empower your HP9114. This issue and this section covers examines many of the Portable peripherals.

QuietJet Evaluation

By Paul J. Grimmer

The newest addition to HP's InkJet printer family is the QuietJet. The QuietJet is slightly larger than the ThinkJet and uses paper in widths from 4" to 8½". The QuietJet Plus is the same as the QuietJet except that the Plus can handle paper in widths up to 13.2". The QuietJet retails for \$599 (\$100 more than the ThinkJet), and the Plus retails for \$799.

I have owned a QuietJet Plus for 4 months. The review which follows is based upon the point of view of a Portable Plus user, i.e., one living in a world in which the worth of the printer must be heavily weighed against the value of the ThinkJet.

I have mixed emotions about the new printer, especially for users of the Portable Plus. The printer has some features that are much better than the ThinkJet, and these are discussed below. On the other hand, unlike the ThinkJet, which had a battery-powered HP-IL version, the QuietJet currently is available in an AC-powered version that has both a serial and parallel connector. There are no plans for either a battery-powered version or an HP-IL version. The lack of a battery-powered version is not a major issue, but the lack of an HP-IL connector means that either you will have to dedicate your serial port to the printer (a \$50 RS-232 cable and decreased battery life since the serial port is always on), or you must use an HP-IL/RS-232 converter, which will cost you about \$320 (including the cable) and is an extra piece of hardware to carry around.

The new printer is much better than the ThinkJet in many categories. It has a much-improved paper handling system, is faster, and has a wider range of printing capabilities, including a Near Letter Quality (NLQ) mode and 10 pitch (i.e., 10 characters per inch). It even has the capability of accepting downloaded or ROM-based characters and fonts.

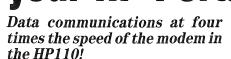
PRINT TECHNOLOGY AND SOUND LEVEL

Both the ThinkJet and the QuietJet use the same basic printing technology. A printhead containing an ink cartridge is pulled back and forth via a wire pulley system. Both use the same thermal ink jet cartridges (which now come in black, red, blue and green); these cartridges require a special "short fiber" paper that allows the ink drops to "blot" on the paper, causing the dots to run together.

Since the printhead never contacts the paper, the printers are inherently quieter than conventional impact-type dot matrix printers yet yield better overall quality than thermal printers.

Great portable modem for your HP Portable **Portable MorldPort 1200 internal modem** **The company of the com

WorldPort 1200 costs less than HP's internal modem, and can be used with more than one computer.



If you do data comunications with an HP 110 Portable, you've probably found the internal 300-baud modem to be annoyingly slow. Until now, the only solution was to buy a bulky 1200-baud external modem and lug it around wherever you go.

A better solution is the WorldPort 1200. It measures a trim $4"\times2"\times1"$, it's rugged, it weighs only $6\frac{1}{2}$ ounces including the battery, and it sends and receives at either 300 or 1200 baud.

A MYRIAD OF FEATURES

The WorldPort 1200 has a wealth of features you would expect to find in a desktop modem several times its size.

For example, the WorldPort 1200 has auto-dial,

auto-answer, and both pulse and tone operation. It comes with a standard modular phone plug for connecting with the telephone line. And it is fully compatible with the industry-standard Hayes AT Command Set, and with the HP110's Terminal software and the Portable Plus's TERM and Reflection software.

Since a modular plug is not always available, the WorldPort 1200 also has a built-in interface for an acoustic coupler. (Coupler itself not included.) And the unit is compatible with both the internationally accepted CCICC communications standards and the Bell communications standards recognized in the U.S.

The WorldPort 1200 uses a standard 9-volt transistor radio battery (it's included with the unit). A fresh battery will keep the WorldPort huming for 8-10 hours. You can extend battery life by operating the unit from a wall outlet when-

ever possible, using the AC adapter provided. The WorldPort 1200 draws no power from your Portable's battery.

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In addition to our standard 60-day money-back guarantee, the WorldPort 1200 comes with a 2-year manufacturer's warranty covering defects in materials and workmanship.

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The QuietJet emits a higher-pitched sound than the ThinkJet, presumably since the printhead is moving faster. I rate the noise levels of the printers as roughly equal.

QUALITY OF CONSTRUCTION

The QuietJet is constructed using HP's traditional high standards. While there are certain to be exceptions, the printer should enjoy the same low service rate that the ThinkJet has had. Although you probably do not intend to drop your printer, it is comforting to know that if it is dropped or banged around, it will still function properly.

SIZE

The QuietJet printers are wider and taller than the Think-Jet but smaller in depth. The QuietJet is almost 5" tall which, combined with the fact that it has a knob on the side, makes it difficult to put in most briefcases (although that was not one of the design objectives).

One annoying feature of the QuietJet is that the power module is not an integral part of the printer; instead it is a separate box about 3" on a side that sits in the middle of the power cord. The external module does make the printer lighter, but this is offset by the fact that there is an extra item to move with the printer. It certainly makes the printer less "portable". Apparently the reason for the external power module is to enable easier approval in the various electrical classifications and because it is cheaper to build. I am disappointed with this apparent shortcut and compromise in quality, and hope that HP corrects it in future versions.

CONNECTIONS

The QuietJet comes standard with both a serial (RS-232) and parallel (Centronics) connector. The logic of the printer allows incoming data on either line without having to physically switch between the two connectors.

As a Portable user you will immediately notice that there is no HP-IL connector on the back. There is also no HP-IB connector, for which, I believe, HP is getting a lot of heat from other sources, so I will not get into this sub-

ject here.

I have approached HP regarding both the logic of the HP-IL exclusion and also the possibility of adding it. They did not perceive a significant market for HP-IL, chose not to invest the time/money to provide it, and do not plan to provide it.

I consider this to be the most significant overall drawback of the printer. I think HP has left out a significant number of new users and also those of us who want to upgrade. Apparently the problem is not the HP-IL connector itself but the belief that any HP-IL device must be battery-powered like the HP-IL ThinkJet and 9114 disk drives. I believe that most Portable owners would gladly trade battery power for the other enhancements of the QuietJet versus the ThinkJet.

PAPER HANDLING SYSTEM

This is an area that has been improved greatly over the ThinkJet. The most obvious change is that there is a knob on the side that allows manual movement of the paper in a forward and reverse direction - a welcome change. Forward movement with the ThinkJet is accomplished via the linefeed and/or formfeed buttons, and reverse movement is not possible without releasing the paper from the pinfeed rollers.

The pinfeed rollers are behind the platen (the main roller) on the QuietJet, which makes manual loading of paper much easier.

The ThinkJet has two grit wheels instead of a true platen, but the QuietJet has a true platen with eight adjustable bailer arm rollers so that the paper is held more firmly against the platen.

One other major improvement is that the QuietJet allows you to vary where the left side of the paper is. Thus, you can establish the left print margin over a wide range for both pinfeed and cut sheet paper.

BUTTONS AND CONTROLS

Like the ThinkJet, the QuietJet has the power switch on the back and a control panel on the top left that contains Attention users of the HP41, 71, 75, and series 80 computers:

New product lets you transfer data both ways between your HP hand-held and your HP Portable, HP150, IBM PC, printer, modem, and more

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

Unfortunately, the HP-IL interface does not allow all possible combinations; notably missing is the ability to transfer data from HP hand-held computers to MS-DOS computers like the Portables, the HP150, and the IBM PC.

Now all that is changed, thanks to a software program called LINK.

LINK lets you transfer data from any HP-IL device to any other HP-IL device. This means, for example:

· You can transfer data both ways between an HP41, 71, 75, or series 80 computer and your Portable, HP150, or IBM access to your MS-DOS machine's computational power and unlimited storage capability.

- You can control your HP hand-held from your HP Portable or desktop computer keyboard.
- You can use your Portable or desktop computer's video screen to display entries made on your hand-held.
- · Your hand-held can access and control any peripheral device that connects to your Portable, 150, or PC-including modems, printers, plotters, mainframes, graphics tablets, and more.

In short, without adding a single piece of

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hardware,* LINK extends the power of your hand-held to include a whole world of peripherals and capabilities. And it does so for less than the cost of a single peripheral.

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LINK was written by Paul Grimmer, author of SideWinder, the sideways printing program, and Sketch, the freeform graphics program, both for the HP Portables

linefeed and formfeed buttons. The blue button on the ThinkJet used to set top of form is not present on the QuietJet. Instead, you do a formfeed and then use the knob on the side to position the paper to top of form.

The QuietJet has an offline button that allows the printer to stop printing so that you can view the printing and also position the paper. Printing can be resumed by another press of the same button.

The QuietJet also has a button with an indicator that allows you to directly set NLQ (Near Letter Quality), normal, or compressed print.

Those of you with an HP-IL ThinkJet do not have a set of DIP switches like the serial ThinkJet, but the QuietJet does. Unlike most printers (ThinkJet included), the Quiet-Jet's DIP switches are not in a hard-to-reach position on the back but are inside the front cover. The switches cannot be reached by hand but are easily reached with a pen or pencil.

In addition to providing serial settings for baud rate, parity, etc., the switches also enable several default settings to be established (all of which can be changed via software). These include carriage return definition, perforation skip on/off, and page length—as the serial ThinkJet does—but also include normal pitch (10 or 12 cpi), command set (HP or pseudo-Epson), and symbol set.

OWNER'S MANUAL

HP has made an effort in the QuietJet manual to ensure that a wide range of users (Apple, IBM, HP150, and HP Portable Plus) can connect the printer to the PC, get the switch settings right, and run it with many major software packages. Fully two-thirds of the 200+ page manual is dedicated to this end. The illustrations and examples are clear and concise.

Since most major software packages now have a wide

range of printers that they support, and since the QuietJet is sort of an enhanced ThinkJet feature-wise, the manual explains how to choose the correct printer driver for various packages. Essentially the selection usually comes down to this: a) if a QuietJet option is offered, take it; b) the next best choice is a ThinkJet, or c)if neither is offered, choose any HP printer offered.

The above points are belabored a bit much but the manual does give some good examples of limitations to expect from various programs that do not offer a full Quiet-

There is a serious omission from the manual concerning Lotus 1-2-3, however. Lotus does not provide a printer driver for the QuietJet. You can use the ThinkJet driver, but your graphs from the PrintGraph program print garbage if you try to make a plot larger than the full-size for the ThinkJet. If you want to utilize the larger graphics area of the QuietJet, you must buy the QuietJet driver from Phoenix Technologies (1-800-FOR-DRVR) for \$25. I have ordered one but not yet received it so I am not sure if it will work with Release 1A that Portable users have built-in; however, it will work with Release 2.

For those of you who want to write programs specifically for the QuietJet or who want to develop printer drivers for programs that do not offer them for the Quiet-Jet, you will find the section of the manual on programming and escape sequences adequate—except for the section on downloaded characters, which is very confusing (and which is also being rewritten by HP).

The impression that the manual leaves you with is that the QuietJet is an enhanced ThinkJet printer; for many users this is adequate. Unfortunately, however, the printer is much more powerful than the manual indicates, especially in terms of fonts and downloadable characters. Many

^{*}provided your 150 or PC is equipped with an HP-IL interface card available from Hewlett-Packard.

features are covered only briefly in the manual or not at all.

In fact, the printer is somewhere between the Think-Jet and the LaserJet printers. HP apparently decided that knowledge of the enhanced features was best left to professional developers since they (myself included) are the only ones who can get information on all of the printer's capabilities. To some extent, this is a good policy since the typical user will not need to know the mechanics of how to create a new font from escape sequences. (My company, Southern Software, has written and is testing a new program that will do that for you.) However, many word processors such as WordPerfect allow great flexibility in switching between fonts, and I do think the average user of these programs would like to know how to switch between the various built-in, plug-in, and downloadable fonts.

The manual does not even get into the discussion of what exactly a font is, much less how to switch between them. In addition, the QuietJet is similar to the LaserJet in that two complete fonts are active at all times (a primary and secondary), and you can switch back and forth between them by sending only one character to the printer. But the manual does not even mention this.

The bottom-line analysis of the owner's manual is that it is very good for novice users. Advanced users will perceive it to be adequate until they discover (if ever) that many capabilities are left untouched.

PAPER SIZE AND PRINT WIDTH

The ThinkJet has a very narrow range of paper sizes available. Since the pinfeed wheels and friction rollers are in fixed positions, the ThinkJet can effectively use only 8" wide paper.

The QuietJet can use paper from 4" wide to 8½" wide, and the QuietJet Plus can use paper from 4" to 15" wide. Currently, I know of no ink jet paper that is less than standard width, but wide paper is available.

The difference in paper widths is the only difference between the QuietJet and the QuietJet Plus. It is difficult to understand the rationale for the \$200 price difference other than that those who want the wider print regions for spreadsheets are typically corporate users who have deeper pockets than individuals.

Even on standard width paper, the QuietJet has been improved over the ThinkJet. Whereas the ThinkJet was limited to a print width of $6\frac{1}{2}$ in both graphics and text, the QuietJet can print a full 8". The following table summarizes the effective printing widths of the printers:

Table 1: Print Width Comparison

	Print	Normal	Condensed	Graphics	Lines
	Width	Print	Print	Print	per page
	(in.)	(12 CPI)	(21.3 CPI)	(96 DPI)	(8 LPI)
ThinkJet	6.67	80	142	640	53
QuietJet	8	96	170	768	64
QuietJet Plu	s 13.2	158	281	1264	105
(CPI: Charac	ters Per	Inch, DPI: 1	Dots Per Inch.	LPI: Lines	per Inch)

SPEED

Like virtually all printer manufacturers, HP bases its published values for print speed on one line of print, which means that the values are overstated for normal users. Since the printer must stop and reverse direction at the end of each line, the actual speed is somewhat lower than published claims. I ran comparative tests between the ThinkJet and the QuietJet by printing 20 lines of 80 characters. The QuietJet tested 22-26% faster (in draft mode), except in compressed mode (21.3 cpi), which was 6% slower. The following table shows the tested and published speeds for the printers for several cases. Note that the QuietJet figures are based upon normal width paper; speeds are 23-35% greater with longer lines on wide paper since the printer has fewer direction changes.

Table 2: Speed Comparison (Characters/Second)

	ThinkJet	QuietJet	% Difference
Published 12 CPI draft	150	192	28
Actual 12 CPI draft	99	120	22
Actual 10 CPI draft	-	106	-
Published 12 CPI NLQ	-	48	-
Actual 12 CPI NLQ	-	37	-
Actual 21.3 CPI draft	135	126	(6)
(CPI: Characters Per Inch	n, NLQ: Near	Letter Qualit	ty)

I checked with HP to ensure that the compressed mode figures were correct and found that this is just how the printer was designed.

Two other factors affect the QuietJet's speed. First, bold print with the ThinkJet is done in a single pass since that printer has a built-in bold character set (although many users do not like its appearance). But the QuietJet does bold by double-striking the text in the same direction, which causes the printhead to move over the bolded area three times (i.e., first pass, return, and second pass). Text containing much in bold will print about half as fast on the QuietJet as the ThinkJet using "built-in" bold capabilities.

Second, normal characters on both printers are a maximum of 12 dots tall—the number of ports in the print cartridge, so characters are printed in one pass. The design of the built-in character sets on the QuietJet is different for those characters that have ascenders such as Z. On the ThinkJet, the character is "smushed" so that the height of the character is still 12 dots, but on the QuietJet the character height is 12 dots plus the ascender. This means that the total character height can be as great as 16 dots, which the printer must do in two passes. Ascenders occur mainly in international characters; HP responded to complaints from international users that these characters were 'smushed" by making them taller. The net effect is that print speed is impaired when you use these characters (and also if you print at eight lines per inch the characters run on top of each other).

PRINT FEATURES

All of the features of the ThinkJet, e.g., underline, bold, wide, graphics, etc., work on the QuietJet with no modification, except one—"Display Functions" mode, which is very rarely used and is very similar.

In addition, the QuietJet offers the following additional features:

1. Near Letter Quality (NLQ)—This is why I bought the printer. The character sets are very high quality. Although draft is about 3.3 times faster, this is excellent for final-copy quality. You will find that you save a lot of time (and ink) by printing your document in draft before using NLQ. 2. 10 Pitch—The ThinkJet could not print at 10 characters per inch, only at 12. The QuietJet can print either in "normal" mode. Also, since wide is the current pitch divided by two, 10 pitch normal enables 5 pitch printing.

- 3. Subscripts/Superscripts—The QuietJet directly supports these. The ThinkJet does have a half-line feed option that can be used to simulate subscripts (and if the program is very smart also superscripts). But the QuietJet's look better and are easier to do, and the look is independent of 6 or 8 lines/inch setting (i.e., a half-line feed in 6 lpi differs from the same in 8 lpi).
- 4. Character Sets—Several built-in character sets are available, including HP Roman 8 (like the ThinkJet), the full IBM 8 set with the faces and linedraw characters, the IBM International set, US ASCII, and several 7-bit international sets. You can switch between these with one escape sequence.
- 5. Typeface—The built-in draft characters are a gothic typeface and NLQ characters are courier. I personally like the "look" of the ThinkJet characters (equivalent to QuietJet draft) over the QuietJet draft, but I like the QuietJet NLQ characters best of all.
- 6. Graphics—The QuietJet has single and double density graphics, as does the ThinkJet, but it also has a quad density mode. I have not yet found any software that makes use of this; I suspect the only reason quad is offered is because the printer must have higher vertical dot resolution in order to print text in NLQ. And higher vertical dot resolution is what quad density offers, so quad density graphics is really a by-product of NLQ text.
- 7. Transparent Data Transfer—This is a useful feature for software developers and is much like the feature found on the LaserJet.
- 8. Print Buffer—The ThinkJet has a 1K print buffer, versus the 2K buffer that comes standard in the QuietJet. You can buy additional RAM from HP to add an additional 16K of buffer to the printer, although installation of the two 8K chips is not user-installable. (I did it anyway in about an hour.) The chips cost \$45 each from HP. The enlarged print buffer is very nice, but the best feature provided by the additional RAM is that it allows more downloaded characters or even an entire downloaded font. Whatever RAM is not used for the downloaded characters/font is automatically used as additional buffer.
- 9. Downloadable Characters—The QuietJet can accept up to 10 draft characters (or 4 NLQ) that can overlay on top of the characters currently in use. If you need a special character or two and can sacrifice one or more of the standard characters, this can be a very useful tool. As previously discussed, the owner's manual is not very clear on this topic. (We at Southern Software have developed and are currently testing a program to do all of this for you.)
- 10. Downloadable Fonts—With the additional RAM available for the printer, you will have the option of downloading many characters as described above or even a whole font. Unfortunately, there are no fonts available at the present time other than an italic set our company has not yet released.

I am very disappointed with HP for their policy on RAM chips and fonts. The sockets for the chips are difficult to get to after the printer is assembled, and HP does not believe there is enough demand for larger print buffers or alternate fonts to warrant installation of the chips in the factory, where the cost would be an awful lot less than we have to pay retail for them. Other printers in this price range offer alternate fonts, and I believe this can/will be one of the best features available for the QuietJet.

11. ROM fonts—One of the two RAM sockets can be used for a 64K ROM, which can contain additional fonts (equivalent to all of those that are already built-in to the printer). As with the RAM chips, HP does not perceive a market for this and, in fact, has no ROM chips other than a demo ROM. We are investigating the possibility of providing this as a third-party service.

OVERALL RECOMMENDATION

From a technical standpoint, the QuietJet is a well-built printer that offers many features not found in the Think-Jet. In particular, the paper handling system, NLQ capability, speed, and multiple built-in character sets are strong points. Also, HP has offered excellent support to me as a software developer, although they cannot possibly offer this degree of aid to a large number of users.

On the negative side are the following: no HP-IL or HP-IB connectors, a cheap external power module, high price for the wide carriage version, overpriced and difficult-to-install memory expansion, no available additional fonts in either RAM or ROM, and an incomplete owner's manual.

On a 1-10 scale, I give the printer an 8.5 for technical merits but only a 5 for usefulness for HP110/Portable Plus owners. It has the potential to be an outstanding printer if HP will allow us to use it to its full potential.

[Paul Grimmer, president of Southern Software, is one of the world's leading experts on the HP ThinkJet, the Quiet-Jet, and the HP-IL interface. He is the author of the only sideways printing program from the Portable to the ThinkJet and QuietJet: SideWinder. He also wrote LINK software that facilitates transfer of data between all HP-IL devices. His newest release is SKETCH, a free form graphics program for the HP Portables.]

Low Cost, Portable, Letter Quality Printer By Hal Goldstein

If you are in the market for a letter quality serial printer for your Portable, I suggest you first read the discussion in this issue's *Foundations* sections. Also, please send us the names and prices of any letter quality printer that you have working with your Portable that you are happy with.

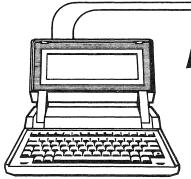
One possible choice that has come to my attention is the Brother HR-10 daisy wheel printer. In general Brother has a very good reputation for low cost, quality printers. The HR-10 has a flat button panel with indicator lights somewhat similar to the ThinkJet panel.

Since the HR-10 uses a daisy wheel print mechanism, you will find it noisier than the ThinkJet (60 dB, A scale). Also, it is extremely slow compared to the ThinkJet: 12 characters per second, vs. the ThinkJet's 150 characters per second. That means printing letter quality on your HR-10 will take more than 12 times longer then printing on the ThinkJet.

The HR-10 comes with a sprocket wheel feeder that allows for fanfold paper. It can print bold, underline, superscript, and subscript (however, as described in *Foundations*, you must use software capable of supporting these features). The HR-10 runs off of normal A-C power only—it is not battery operated.

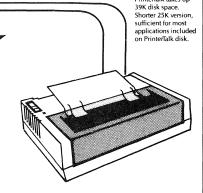
The HR-10 weighs 13.2 pounds, and is 16.5" wide by 11.3" deep by 5.16" tall.

From time to time there seems to be shortages of these printers in the U.S. The Brother HR-10 retails for \$349



PrinterTalkThe MemoMaker Enhancer

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MemoMaker users: Now you can take advantage of *all* your printer's features, not just bold and underline. PrinterTalk Version 1.2 A, an easy-to-use software package from Personalized Software, prints your MemoMaker files, allowing you to:

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 - -lines per inch
 - -lines per page
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- 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
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CUSTOMIZED FOR YOUR PRINTER

PrinterTalk stores the "escape sequences" (command codes) that tell your HP printer how to perform attributes and print functions. Escape sequences are already built into PrinterTalk for ThinkJet, LaserJet (and cartridges), and other HP printers, and you can easily customize PrinterTalk for any other printer as well.

SINGLE-KEY OPERATION

Instead of a hard-to-use, intricate series of control codes, a single labelled function key sends commands to your printer. Simple "help" screens in plain English tell you what to do, and all commands are summarized on a single sheet of paper for ready reference. The user manual is clear and concise, and includes easy-to-follow examples of all commands.

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(assuming the dollar doesn't drop any more against the yen). The HP9221P serial printer cable needed to connect the Brother to your Portable retails for \$40. Local dealers probably will not have them in stock, but you can order through them.

If you prefer, we can order one for you. Write in the name of the printer in a blank line in our order form at the back of the issue. *The Portable Paper* subscribers pay \$329 (which includes shipping) for the printer and \$30 for an equivalent cable.

HP Portable Users: Two Portable Modems

By Thomas Page, Introduction By Edward Goldfinger

INTRODUCTION—WHAT'S A MODEM?

By way of introduction to this article, a **modem** is a hard-ware device that sends and receives digitally encoded information over telephone lines. Telephone lines were designed for voice (analog) communication. In other words, a modem lets your computer communicate with other computers, including CompuServe and other electronic bulletin boards.

When a modem sends data, it must first encode the data for outbound transmission; this is called **modulation**. To receive data, the modem must first decode it; decoding incoming data is called **demodulation**. A modem is by definition both a **mod**ulator and a **dem**odulator—and this is how it gets the name **modem**.

In addition to a modem, you also need **communications software** in order to "talk" to another computer. This software handles a number of details so that you can easily exchange messages and files from one computer across phone lines to the other.

One of those details handled by the communication software has to do with **protocol**. Protocols are rules that both computers must adhere to for successful communication. These rules include agreement as to how many bits of digital information constitutes a character, signals between the two computers indicating successful transmission, error checking, and speed of transmission.

Modems are of two kinds: internal and external. An internal modem is one that resides inside your computer; an external one sits in its own enclosure outside your computer and is connected to the computer by a cable. In either case, a modem must also connect to the telephone line

Most modems connect to the telephone line by means of a standard modular phone plug that comes with the modem. The HP110 and Portable Plus have phone jack receptacles in the back of the units that connect to their internal modems. Another way to connect to the phone line is through an acoustic coupler, which sends and receives data by means of beeps through your telephone's earpiece.

Modems are also classified in terms of their "baud rate," which is a measure of the speed of data transmission.

The HP110 comes with an internal, fixed-speed, 300-baud modem. The accompanying communications software is called Terminal. The Portable Plus has an optional internal modem that can be run at either 300 or 1200 baud; built in to the Plus is a simplified communications software program called Term. Portable Plus owners also have the option of buying a ROM chip containing a more sophisticated communications program called Reflection (formerly called PC2622).

The modems that Thomas Page describes in his article are external, 1200-baud modems that are small enough to be considered portable.

For HP110 owners, a 1200-baud modem means significantly faster data transmission than the built-in 300-baud modem provides.

Portable Plus owners without an internal modem may wish to consider an external portable modem. One reason is lower price as compared with an internal modem. Another reason is that if you own several computers, instead of buying a separate modem for each one, you can use the same portable modem with all of them.

WHAT'S IN THE MARKET?

For the past three months my Thomas Page Ven-Tel modem has been gathering dust in a corner. Instead, I have been using two small battery-powered modems with my HP110. I found especially interesting the Modem 1200 manufactured by Firmware Corp. since it connects to the HP-IL interface loop rather than the serial (RS-232) port. HP-IL is much nicer than RS-232 because the cables are easier to connect, more flexible, and cheaper, and because connections are more stable (who takes time to screw down an RS-232 connector?).

The WorldPort 1200 (formally WorldLink 1200), manufactured by Touchbase Systems, Inc., is a much more standard device since it connects to the serial port. It is designed to plug directly into standard male or female 25-pin RS-232 connectors, which are available as options. Unfortunately it does not appear possible to equip it with a 9-pin connector and connect it directly to the Portable's serial port.

There are two reasons for this. First, the 9-pin connector is simply not strong enough to support the weight of the modem. And second, there are probably not enough Portable's to support a manufacturing run of 9-pin units. Therefore, a short adapter cable is required to connect the WorldPort. For testing I used an HP92221M cable and a gender converter since the test modem was equipped with a male connector.

USING THE WORLDPORT 1200

The first thing I tried after connecting the WorldPort 1200 modem to my Portable was typing **c:call ibmxtk2 office 1200** to see if this cigarette-pack-size 'Hayes compatible' would use existing configuration and autologon files stored on my external disk to call the IBM PC down the hall. The call went through just as if I had used my Ven-Tel modem. I transferred this set of configuration files to the A drive and tried to call the PC again using the very same files on the A drive. Imagine my frustration when the Portable went into autologon and stalled.

This failure is the result of the perhaps the only truly quirky characteristic of the WorldPort 1200. It is turned on and off by the presence or absence of a terminal ready (TR) signal from the computer. About 1/10 of a second is required for the modem to become operational after it receives TR. The delay that resulted from using the C drive to load files into the terminal program was sufficient to allow the WorldPort 1200 to become operational before receiving commands from my computer. Using the Edisc caused signals to be sent to the modem before it was ready.

This problem was solved by adding a W2 as the first command in my autologon files, thus causing the computer to delay before sending a command to the modem. A W1 delay was tried but was not sufficient.

I was able to use the WorldPort to do everything for which I have used my Ven-Tel. This has included both local and long distance transfers of files between my Portable at various locations and PCs at various locations. Files were successfully downloaded from CompuServe using CIS110, and a file was uploaded to CompuServe using Terminal and Xmodem protocol. Even though the Portable is a less than ideal host, I was able to use the auto answer feature of the WorldPort.

One especially nice feature of the WorldPort is its use of the extended Hayes 2400 commands and result codes rather than Hayes 1200 commands and codes. This enables the modem to display results codes on the screen indicating busy lines and the absence of dial tone. An X4 command is sent to the modem to activate these extended results codes.

In addition to the 25-pin RS-232 connector, the WorldPort has plugs to attach a battery eliminator and an acoustic coupler. If a battery eliminator is used, the start-up delay is eliminated since the modem turns on when external power is supplied. (Touchbase Systems provided the information; I did not test these features.)

It would be reasonable to assume that to maintain its small size, some design compromises were made in building this modem. Touchbase Systems indicated that this is definitely so. However, these compromises did not seem to harm the usability of the WorldPort. I could detect no significant increase in data transmission errors as compared to my Ven-Tel modem.

When given a dial command, the WorldPort sometimes echoed garbage to the screen. This was not especially harmful since the modem normally dialed the call accurately. However, if the telephone number was extremely long but less than the stated 40 character length of the command buffer, dialing errors would occur. Touchbase Systems indicated that they had not had this problem.

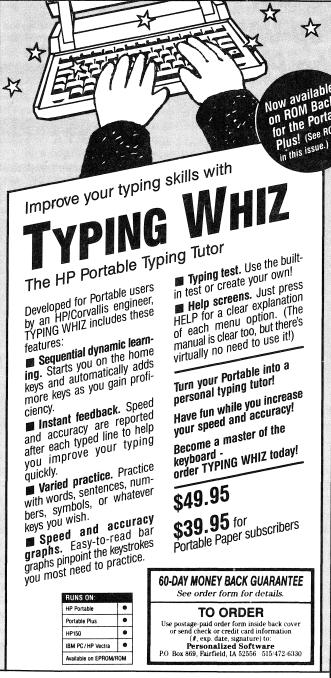
A number of serial port errors were encountered using the WorldPort. I have had this kind of problem with the Ven-Tel modem, but not quite as many. Since this usually occurred while dialing, recovery was simple: Abort the process and rerun the program.

The low battery indicator light is next to worthless. If it lights, hope you can get your file transferred before the battery dies. Touchbase Systems indicated that this was a design compromise. I found that the modem would become unable to dial or carrier detect **before** the low battery light turned on.

The WorldPort survived several informal drop tests with no detectable damage. The most severe of these was from a desktop to a hardwood floor.

A WARNING

The WorldPort 1200 contains delicate CMOS circuits that can be easily damaged by static electricity. Although factory settings are acceptable, you may wish to disable auto answer. Should you open the modem to change this switch, do not attempt to remove the circuit boards. The most delicate components are on the bottom. You have been warned—I wasn't, and I got to test a second modem.



Typing Whiz is one of the better typing programs on the market and is priced competitively. If you want to learn or improve your typing, buy Typing Whiz. Typing Whiz is on my highly recommended list.

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

WHAT THE LIGHTS MEAN

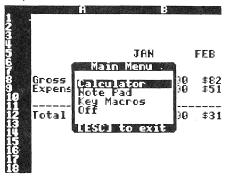
Four indicator lights (LEDs) are on the WorldPort 1200's case. These are: Low Battery, High Speed, Carrier Detect, and Call Progress. Since I always used 1200 baud, the High Speed light served as a good on-off indicator. The Call Progress light flashes while a number is being dialed or if a busy line is detected. Carrier Detect, of course, lights when the unit is connected to another modem. The Low Battery light has already been discussed.

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:

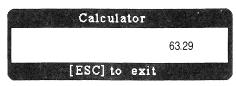
Press [Ctrl] [Shift] [Extend char] and up pops the Shelp menu:



SideKick and SuperKey are registered trademarks of Borland International, Inc

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.



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!



Note Pad

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.

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 **Off** and your Portable Plus turns off <u>without</u> having to return to P.A.M., and <u>without having to save your application file</u>. 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

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

The WorldPort 1200, by means of these indicator lights, gives more feedback than any built-in modem. I did not find myself dependent on any of these indicators except the High Speed light. Knowing if the modem is on is important for conserving batteries in both the modem and the Portable.

USING THE MODEM 1200

Before I could use the Modem 1200 from Firmware, I had to modify my terminal configuration files to indicate HP82164A in the device field. And since the Modem 1200 supports only the Hayes 1200 commands, I had to change the X4 command in my logon files back to X1. While I was doing this, I eliminated the W2 command; since the Modem 1200 is on all the time, this delay is not required.

I was able to use the Modem 1200 to transfer files between my Portable and PCs at several different locations. Unfortunately, the error rate was significantly higher than with the WorldPort or Ven-Tel. Communication with CompuServe was impossible with the Modem 1200. Large numbers of spurious characters appeared on the screen while just browsing around.

Despite this, I attempted downloading one file. I was not successful. The performance of the Modem 1200 is comparable to that of the TravelComm 1200, the original battery-powered modem and predecessor to the World-Port 1200.

The Modem 1200 is not usable with CIS110, Kermit, or any other program capable of addressing only the serial port. It seems to me that the inability of the Portable's operating system to intercept data directed to any standard output device and redirect it the HP-IL and, conversely,

redirect data from the HP-IL through standard input devices is a serious deficiency that HP should correct.

I suggested to Vern Lindsay at Firmware that a runand-stay resident utility similar to **search.com** could possibly solve this problem and make HP-IL devices more useful. He indicated that this was an intriguing idea but could not commit to pursuing it.

I did not test the Modem 1200 as extensively as I did the WorldPort because I received it much later, and because I quickly discovered it would not do some things I wanted to use it for. I intend to keep it a few more weeks and see if I can get it to autoanswer and just learn more about it. I think it is a promising device that needs more development.

COMPARING THE MODEM 1200 AND THE WORLDPORT 1200

The Modem 1200 uses a rechargeable battery that has a life of about 8 to 10 hours, according to Firmware. The WorldPort 1200 uses a 9-volt transistor radio battery that has a life of about 8 to 10 hours, according to Touchbase Systems. Except with the very best and hottest of batteries, however, I don't think the WorldPort will achieve this battery life.

Nevertheless, the effective battery life of the WorldPort is greater than that of the Modem 1200 since idle time does not count; it is powered only when the serial port is on. Since all devices on the HP-IL loop must be powered for 'the loop' to operate, I discharged the Modem 1200's battery once without transferring a single file. Because the Modem 1200 does not require powering



the Portable's serial port—a power-hungry device—the Portable's battery will be conserved as compared to using the WorldPort.

The Modem 1200 is about three times the size of the WorldPort. But you have to add to the WorldPort's size a modem cable and a spare 9-volt transistor battery and to the Modem 1200's size a transformer and cable. Effectively, the WorldPort is significantly smaller, although either will fit in the Portable's carrying case if no AC adapters or rechargers are carried. Part of the Modem 1200's larger size can be accounted for by battery charger electronics. Unfortunately, the Modem 1200's transformer cable connector—and therefore, I assume, transformer—are not compatible with the Portable, the 9114 disk drive, or the ThinkJet printer, making power maintenance more difficult than it would be with a matching transformer.

USING CROSSTALK AS A HOST

If you are using Crosstalk as a host for file transfer, you can easily check the Crosstalk display to get a report on blocks retransmitted (errors). To do this send the following two commands to the host:

Ctrl-C PIcture filename.pix Ctrl-C TYpe filename.pix

Since Crosstalk reads only the first two letters of a command, there is no need to type the part of the command shown in lower case. And of course substitute your own filename. I use the .pix extension to identify files created with the Crosstalk PIcture command.

INTERNATIONAL DATA COMMUNICATIONS

The WorldPort supports CCITT protocol (international data communications). Since I did not have available a host modem supporting CCITT protocol, I did not evaluate this option.

INSTRUCTION MANUALS

I was furnished with a preliminary manual with the test WorldPort. It leaves something to be desired, but with it and the information in this article I don't think anyone should have a problem using the WorldPort 1200. I am assured that a better manual is being prepared. Maybe it will contain some of the information in this article.

The instruction manual furnished with the Modem 1200 was very nice. Since this modem was designed primarily for use with HP41s, HP71s, and HP75s, it did not really have enough information about using it with the Portables. I don't know if a novice user would succeed in using the Modem 1200 with the information in the manual, but I had no difficulty.

WHICH ONE TO BUY?

At the present time, the WorldPort 1200 is the best 1200 baud solution for Portable users. I have not used a Plus and therefore have not had the opportunity to test its internal modem, but I think that if I had a Plus I would opt for the HP internal modem. After all, we are only talking money, and an internal modem has got to be more convenient than any external modem.

Another option is to continue to use my Ven-Tel external modem. I don't consider this a reasonable Portable solution (except for the fact that I've already paid for it...) because the Ven-Tel is not portable!

I could also replace the 1200 baud Ven-Tel with a 2400

baud model. This is not an unreasonable alternative since it doubles my speed without increasing the excess baggage.

At this time I do not consider the Modem 1200 an option because it will not work with programs such as CIS110 and Kermit that address only the serial port and because it lacks the accuracy of the WorldPort 1200. I like the idea of an HP-IL compatible modem; I have wanted one ever since I got the Ven-Tel modem. If Firmware can solve the I/O and accuracy problems and if they would upgrade to 2400 baud to make the larger size worthwhile I would consider it a real contender.

In a future issue I will discuss techniques for using an external modem with an HP110.

[Ed—The Modem 1200 can be ordered through Firmware Corp., 605 NW Fifth St., Suite 2A, Corvallis, OR 97330, 503-753-9314 for \$349. The WorldPort 1200 portable modem is available for \$199 from Touchbase Systems, Inc., 16 Green Acre Lane, Northport, NY 11768, 516-261-0423. If you order from Touchbase Systems, you will also need to buy an additional cable from a local dealer to connect the WorldPort 1200 to your HP Portable or Portable Plus.

The WorldPort 1200 is also available from Personalized Software. The package with adapter cable retails for \$235. The Portable Paper subscribers pay \$199, or \$179 without the cable. Please use the order form in back of this issue, or call 515-472-6330.]

Portable Plus Mouse

By Hal Goldstein

Apple Macintosh owners and a growing number of IBM PC owners attach a mouse to their computers. They use the mouse to painlessly select menu options and traverse the computer screen.

For the uninitiated, a mouse is a lightweight rectangular unit that attaches to the computer in a number of possible ways connected by a cable. A mouse lets you control the cursor movement in an application in a most intuitive way: whatever direction you move the mouse on desk—left, right, up, down, diagonally, in circles, whatever—the cursor moves on your screen. For example, if you are in Lotus and want to move from B2 to H67, roll your mouse on your desk in the appropriate direction and you'll arrive at your destination in no time.

In addition, most mice have two or three buttons on their top. Each button is assigned a key stroke. So, for example, on a three button mouse, in Lotus, you might define button 1 as /, button 2 as the **esc** key, and button 3 as **Return**. With a little practice you could easily traverse through the Lotus menu with those three keys, moving the cursor horizontally across the Lotus menu options to make the desired choice.

I am writing this article using our word processing product—The Editor—with a Microsoft Mouse attached via the Plus's serial port (in back of the Plus). Bill Saltzstein wrote a program (a device driver) that enables a Portable Plus user to use a mouse with almost any application on the Plus.

Unfortunately, the mouse won't work with the original HP110 Portable. Bill told me that there is not enough documentation on the HP110 serial port to write the software.

Bill sent me his software for evaluation. He wanted my comments and wanted to know whether I would be willing to market the product for him. Here are some of my first impressions and my comments to Bill on the preliminary version.

I had two opposite reactions using the mouse with the Plus. (I am not an experienced mouse user.) On the one hand, there is a kind of freedom using a mouse to move around the screen. The whole hand and arm comes into play when using a mouse. Without a mouse, the physical activity when using the Portable is limited to finger movements involved in typing. Rather than searching for cursor movement keys on the Portable Plus keyboard, you slide the mouse across your desk and the cursor just zips along. It's fun.

However, I found my initial experience frustrating. From the PAM screen I moved the cursor with the mouse to the PAM application box labeled "The Editor", clicked button 1 on my mouse, which I had defined as **Return**, and bang, I was in The Editor.

Sounds great. However, my experience was that as I moved the cursor in PAM, I lost sight of it. If you don't know where the PAM application up-arrow cursor is on the screen, it takes a bit to find it. With a little practice I would probably get used to the coordination between my hand moving the mouse and the cursor on the screen. (Bill actually provides a way to customize not only the mouse buttons for each application, but the speed and responsiveness of the mouse for each application.)

In The Editor, I have one mouse button programmed for the <code>esc</code> key (used to get in and out of menus), and one button for <code>return</code>. That way I can use the mouse not only to move around my file but also to use The Editor's menu. There is something appealing about using the mouse to traverse menus in The Editor and Lotus. But again I was frustrated since I would intend to press the <code>return</code> button but would press the <code>esc</code> button instead, and vice versa. Also, once again, practice should solve it.

Bill tells me that several Lotus users testing his product love using Microsoft Mouse with Portable Plus Lotus. I can understand that, but in Lotus I wished for an extra button or two on the mouse—so I could define a range without having to go to the keyboard to press period or backspace.

I purchased a Microsoft Mouse to test the product. When I opened the package I found all sorts of neat painting software included with the Mouse and a cable, none of which worked on the Plus. The retail price for the Microsoft Mouse is \$195. When combined with the cost of Bill's software and a cable for the Plus, the price gets to be relatively expensive for the whole Portable Plus mouse system

I went to a back issue of *PC Magazine* and found a review of seven mice. Their "Editor's Choice" is Logic-mouse from LogiTech, which retails for \$99.95. Also, it has three buttons rather than two buttons found on the Microsoft Mouse. Bill is now studying their technical reference manual to see if he can get his software to work without too much effort.

About two days after I received the mouse driver, and bought the mouse and the cable, Paul Grimmer (author of SideWinder and Link), sent me SKETCH. SKETCH is discussed in this issue's 110% column. SKETCH allows you to create all sorts of graphics on the screen, combine them with alphanumeric characters, and print them out or save

them to a file.

As you might guess, the mouse and SKETCH work wonderfully together. It is much easier and more fun to create drawings on the Portable screen using a mouse rather than the cursor keys.

A few days after I received SKETCH, I received a new version of FLOW CHARTING II + (Patton & Patton) designed for the Plus. This product is also described briefly in the 110% column.

With FLOW CHARTING II + you can create flow charts and organizational charts easily. Once again, the mouse should be most helpful with the product. I have sent both Paul Grimmer and Patton & Patton copies of Bill Saltzstein's mouse software to test and integrate with their software.

In conclusion, for those willing to spend the time to get used to the mouse, Plus users should find a mouse increases productivity, particularly in graphics programs and spreadsheets - and it's certainly more fun. By the next issue of *The Portable Paper*; we should have pricing and availability information on the Plus Mouse.

KODAK DATASHOW System

By Hal Goldstein

How many times have you tried to show a group of people something on your HP Portable screen? It's frustrating for everyone involved. Think how handy it would be to carry your Portable to an overhead projector and use the overhead system to project the Portable's screen onto the wall for an audience to see.

HP Corvallis told me of such a product they tested called the KODAK DATASHOW. The KODAK DATASHOW was developed to be used in conjunction with an IBM PC.

I have not seen the product, so I will quote directly from the DATASHOW literature, and then report how it works with the HP Portable Plus. (I do not know how it works with the HP110.)

"The KODAK DATASHOW system simplifies the projection of microcomputer images. It is a simple, fast, reasonably priced way to make and show computer-generated images that match the clarity of conventual transparency cells.

"Now it's easy to make computer-generated screen images equivalent to transparency cells and present them in room light to hundreds of viewers. All that's required is an ordinary transmissive overhead projector, the KODAK DATASHOW system and a host IBM PC compatible computer with color-graphics-adapter-compatible RGB port.

"You create screen images in advance on your IBM PC, save the digitized screen images on diskette, and later project them in autoshow sequence. You can also call up and present individual screen images by remote control at your initiative. Or use the DATASHOW system to display input from the host PC keyboard at any time during the presentation.

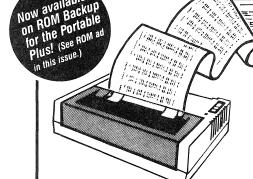
"The KODAK DATASHOW System includes a liquid crystal display (LCD) panel, a Projection Pad, a hand-held wireless remote control device, and operating software. It connects using the serial port.

"If you need real-time modification of projected screen images while the presentation is in progress, use the host computer's keyboard. Add or delete text. Update a spreadsheet formula. Resize a chart. Revise a diagram."

Unfortunately, the software that comes with the







SIDEWINDER

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

ThinkJet! (And the HPI50, Vectra, IBM PC, 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.

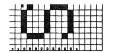
Just type in the file name, and SideWinder does the rest, printing up to 53*rows *sideways* - for as long as your paper supply lasts. You'll never need to cut and paste again!

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 **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.



MRHAN

A to Duit P to Frint

L to Load S to Save
Select to topple block

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 saw - anything you draw on the screen.

\$10 for both utilities when purchased with SideWinder

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

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.

*105 rows for QuietJet Printer

KODAK DATASHOW does NOT work with the Portable Plus. That means you could not use the Portable Plus and KODAK DATASHOW software to create a slide show based on a series of images the software captures. However, according to HP, you CAN use the system to project whatever is currently on the Portable Plus screen. Therefore, you can give a "real-time" presentation, changing the contents of the Portable's screen as you talk.

One final caveat—making the system work with the Portable Plus requires an additional Analog/TTL converter. Any DATASHOW dealer is likely to have them. One made specifically for the DATASHOW is from *Wolsten Computer Devices*, 201-678-0008.

The DATASHOW retails for \$1170. The converter costs an additional \$180.

You can call Kodak at 800-325-7495 and, at the tone, dial 7495 to find a local dealer. (If you experience phone

problems as I did, you can call 716-458-0177.) Alternatively, you can talk to Kathy Hubbard at Pacific Crest Software in Corvallis, Oregon (the home of the HP Portable), 503-754-1067. They are the folks that supplied the DATASHOW for HP to check out.

Using HP Plotters and The Portable

By Paul Grimmer

If you use a printer such as the HP 2225B or the HP7475A plotter (HP-IB or RS-232 interface) with your HP110, you have the option of making Lotus 1-2-3 plots on the printer or on the 7475A plotter on 8½ x 11 or 11 x 17 paper. (Portable Plus users should be able to adapt this information to your system.) While this allows great flexibility in plotting, it causes two problems:

1. Lotus allows for only one default graphics configuration file (graph.cnf), so you must have separate disks for each

plot type or be willing to change the plot parameters each time you use PrintGraph.

2. The owner's and Lotus manuals do not adequately describe how to set up the 7475A plotter from either a serial device (i.e., RS-232) or plot parameter standpoint.

Below is a description of a technique to generate plots using any of the above devices and have them all be on one disk and also appear as items to select from PAM. The general strategy is to create more than one graphics configuration file and rename the one needed to **graph.cnf** by activating a batch file from PAM.

SETTING THE PLOTTER CONFIGURATION FILES

- 1. From PAM, select **DOS Commands**.
- 2. Use a backup copy of the HP110 utilities disk, which contains PrintGraph, and insert the disk in the drive.
- 3. Type in the following lines (note that this assumes that you have the printer configuration file, as in a Lotus plot device, in **c:graph.cnf**, which is the way you received the disk from HP):

[Items in brackets are comments—do not enter]

c: [change to the C drive]

copy graph.cnf a:25graph

copy a:25graph

del a:25graph [now you have 2 copies of graph.cnf on C] **graph** [run the PrintGraph program]

4. Within the PrintGraph program, change the settings indicated below:

Device: HP7475A A4 Interface: Plotter

Page Size: Length 11, Width 8.5, Size: Manual, Top & Left

Margins 0.25, Width 7, Height 10, Rotation 90

Pause & Eject: Settings irrelevant

5. Save the settings (**Configure** sub-menu) and exit the program. Then type

copy graph.cnf a:smgraph

copy a:smgraph

del a:smgraph [now the 8½ x 11 parameters are in c:smgraph] **graph** [restart the PrintGraph program]

6. For "B" size paper, go back into the PrintGraph program and set the following:

Device: HP7475A A3 Interface: Plotter

Page Size: Length 17, Width 11

Size: Manual, Top & Left Margins 0.25, Width 16, Height 10, Rotation 0

Pause & Eject: Settings irrelevant

7. Save the settings and exit the program. Then type: **ren graph.cnf biggraph** [now the 11 x 17 parameters now in c:biggraph] **ren 25graph graph.cnf** [restore the original default parameter file] BATCH FILES AND PAM

1. Go into MemoMaker and type the following:

ren graph.cnf 25graph ren biggraph graph.cnf graph

ren graph.cnf biggraph

ren 25graph graph.cnf
2. Save this to a file named c:bigplo

- 2. Save this to a file named **c:bigplot.bat**. Then change **biggraph** to **smgraph** in lines 2 and 4. Save this to **c:smplot.bat**.
- 3. Use **get memo** to retrieve **c:pam.mnu** and insert the following lines at the beginning of that file:

Big Plot bigplot

Small Plot

smplot

- 4. Save this back into **c:pam.mnu** and exit MemoMaker. To return to PAM, type **exit**.
- 5. You know have four new files on the utility disk:

smplot.bat: This batch file makes the 8½ x 11 paper plot specifications the one used for PrintGraph, runs the plot program, and then makes the printer version of the plot specifications the default configuration file for future runs. Note that, using the parameters given above, the plot will be such that the x axis is on the long side of the paper. This file can be run from PAM by selecting **Small Plot** from the main menu.

bigplot.bat: This batch file is the same as **smplot.bat**, except that the plot is on the 11×17 paper. The x axis again is on the long side.

smgraph: Contains the plot parameters for the small paper plot. The batch file **smplot.bat** causes it to be renamed to **graph.cnf** for the plotting so that Lotus will recognize it and then change it back.

biggraph: Same as **smgraph**, but with 11 x 17 paper specifications.

Note also that **pam.mnu** has had four lines added to it to enable all of the above to occur with the press of a key.

PLOTTER SWITCH SETTINGS

1. RS-232: On the back of the plotter, make the following switch settings:

S2 : 0 (no parity)

S1 : 0 (irrelevant—if S2 = 0 there is no parity check)

D/Y : D (endline mode)

MET/US : US (irrelevant—program resets)
A4/A3 : A4 (irrelevant—program resets)

B4 : 1 ------B3 : 0 |

These four set 9600 baud with 1 stop bit

B2 : 1 I B1 : 0 -----

2. HP-IB: The only required switch settings are to make sure the address is the same as that specified in PAM for an HP-IB plotter.

USING THE PLOTTER WITH LOTUS

When you have loaded the utilities disk and are in PAM, you will see two new choices as menu items: **Big Plot** and **Small Plot**. As you may suspect, choosing one of these will bring up the PrintGraph program (actually **graph.exe** on the disk) with different plotter configurations. Note also that you still have the **PrintGraph** choice, which is the program with your old printer specifications in it (HP 2225B, etc.). Before you run either **Big Plot** or **Small Plot**, note that:

1. The 7475A plotter can come in either serial (RS-232) or HP-IB.

The plotter designation is in **System Config** (**f6** from the main PAM screen). It must be set according to what devices you have. Your choices are:

a. If you have an HP-IB type plotter (e.g., Opt. 002), you must have the HP-IL/HP-IB interface, and also it must be the last device in the HP-IL loop.

b. If you have an RS-232 type plotter (Opt. 001), you can either connect it directly to the RS-232 port of the 110 (which requires a special RS-232 cable, HP92221P), or



connect it via an HP-IL/RS-232 interface (e.g., HP82164A). In either case, the **Datacom Config** (**f5** in the main PAM menu) must be used to specify the various parameters for RS-232 devices. The parameters you must specify are:

baud rate—9600
word length—8
stop bits—1
parity—None
XON/XOFF pacing—Off
CTS line—Ignore
DSR line—Observe
DCD line—Ignore

2. Two points regarding the RS-232 version. One, the owner's manual states that "the system consumes substantially more power" when RS-232 is selected as the serial device (built-in RS-232 only) in the Datacom menu. If this is a concern, after you make your plots, enter the **Datacom Config** menu and change the device back to **Modem**. And two, the settings you choose in the **Datacom Config** section have no effect on the device used in the Terminal program. You can specify **Serial** in the **Datacom Config** menu and still use the built-in modem in the Terminal program.

USING THE HP7470 AND HP110

By John Henderson, Federal Way, WA

The Lotus PrintGraph program on the 110 utility disk drives the plotter and turns out high quality plots and overheads. Getting the setup correct requires a bit of attention, though. Before starting, make sure that the system configuration for the 110 is set for plotter and HP-IL. Then, when using PrintGraph, make sure the device interface option is set at 3 for the plotter.

There are a lot of options in PrintGraph, and you have to learn by trying to see what each one does.

Plot programs can also be written using HP_GL in MemoMaker. Using GWBASIC to write graphics is similar to doing it with the BASIC we used on the HP-85 series machines.

In terms of peripherals, we have used the 110 in conjunction with other IL devices. These include HP41, thermal printer, and tape drive. The programming is not easy but can be done if you get the right HP manuals. We have also used the HP-IL/HP-IB 82169A interface and use our HP-IB devices with the 110.

As time goes by and there are more programs commercially available, we are doing less and less programming of our own. Of particular value have been the Paul Grimmer's SideWinder and Sketch. [Ed—Paul's Link solves the a problem of transferring data between HP-IL devices.]

My 110 system consists of an early model 110, 2 disk drives, and a ThinkJet printer. The 7470 plotter is put into the loop when presentation graphics are desired.

Hope these comments are of some help to others.

Don't Buy The Brooklyn Bridge

By Hal Goldstein

Gary Goodman of Lynchburg, VA suggested I look into a White Crane Systems (Norcross, GA) product called "The Brooklyn Bridge" that retails for \$129.95.

The Brooklyn Bridge consists of software and a serial cable. The cable is used to connect a PC compatible laptop computer with an IBM PC or compatible. The software



makes one of the two computers the controller and the other a device. That way files can be transferred back and forth without using any communications software—a simple DOS **copy** command can be used to make the transfer. (For those of you with HP-IL cards in your PC's—it works similarly.)

White Crane Systems sent me a review copy to test out. I had to get a new cable made since the cable enclosed with The Brooklyn Bridge wasn't compatible. After about an hour of fooling around with my Portable Plus and Compaq Deskpro, I gave up. I discussed the product with HP-IL expert Paul Grimmer (author of SideWinder, Link, and Sketch) and serial port expert Bill Saltzstein (author of the Plus serial mouse driver). They both told me that there are major incompatibilities between the way the HP implemented its serial port on the Portables and the way the IBM PC serial port works. Furthermore, the HP110 and the Portable Plus implement the serial port differently, and the HP110 approach is not well documented.

The product would have been ideal for Portable users who use their Portable in conjunction with different PCs at work or in travel. They would not have to install a HP-IL card in every PC or have to depend on communications software in the PC and Portable. If we get enough interest, perhaps Bill, Paul, Wizard Cliff Looyenga, or one of our readers might undertake the project. Alternatively, maybe we can get White Crane to modify their product for Portable users.

In fact, just before our deadline I got a CompuServe

note from Gary Goodman. He called White Crane Systems, who said they will CONSIDER making a version for the HP110 and/or the Portable Plus. They would like to know what the market is. I don't know. Would you like such a product?

HP-IL 51/4" Disk Drive Ain't No More

By Hal Goldstein

For the past year I have been hearing about an HP-IL 5¼" disk drive that can be used to format IBM disks. I finally talked to Jeff Brown of *Steinmetz & Brown*, 2675 *University Ave, St. Paul, MN 55114, 612-646-2478*. Jeff told me that they were just getting out of the business of manufacturing HP-IL 5¼" drives, and they had sold all remaining units. The disk drives used to sell in the neighborhood of \$650.

I talked to Jeff about the possibility of our company, Personalized Software, manufacturing the units. He seemed open to the possibility and said he would send us a unit to examine soon.

In thinking about the idea, I am having second thoughts. Since IBM PC compatibles have come to be priced so low, you can purchase an IBM PC compatible with a single disk drive for less than you could have bought the Steinmetz & Brown unit. For another \$250 you can pick up a monitor and an HP-IL interface card. If you can get the card to work, you have the 5¼" drive required for data transfer to your IBM PC or compatible. As a by-product, you have yourself an IBM PC compatible computer.

Drop me a note as you find lower-priced IBM PC clones that work with the HP-IL card. We'll see how much it will cost you to buy that HP-IL 5 ¼ " disk drive IBM PC compatible peripheral for your HP Portable.

The HP9114 Empowerer

By Hal Goldstein

I would be remiss if I did not mention our product, the HP9114 Empowerer, a peripheral of a peripheral. As many readers have noted, although the HP9114 disk drive is a well-built, rugged machine, it has a serious flaw: it only runs off its battery; unlike the HP Portable and the Think-Jet it cannot run off AC power and sustain itself. Consequently, if you perform any disk intensive operation, the disk drive might run out of juice in the middle of the operation.

HP's initial suggestion was to buy a second battery pack and keep it charged. Then they updated a ROM in the original HP9114A, and that helped some. Then came the HP9114B, which is built to run twice as long on its battery as the original HP9114. I have not had a chance to use the HP9114B, but I have heard only a few complaints from HP9114B owners about running out of battery power.

When I started Personalized Software and had only a few products, my wife and I would make the disks on our sole HP9114A. You can imagine how frustrating that was to try to format and copy software in any quantity using that unit. My solution was to have an electrical wizard friend of mine, Norm Brown, build me what we now call an Empowerer. The HP9114 Empowerer plugs into a normal AC outlet and also into the male plug inside the HP9114 where the battery normally resides. Many, many disks later I am still using that same prototype Empowerer

and that same HP9114A.

My fried Norm builds each Empowerer. He describes the step by step procedure in Vol. 1, Nos. 3 and 4 of *The Portable Paper*. We charge \$129 to our subscribers and \$145 to non-subscribers for each unit. If you prefer, you can purchase an additional battery. We modify the battery so the Empowerer plugs into it and powers the HP9114. You can use the normal HP charger to recharge the battery. The Empowerer with battery costs \$199, \$225 to non-subscribers.

Padded Cases

By Hal Goldstein

In our January/February issue, we reported on some soft padded cases we saw at COMDEX for carrying your Think-Jet, HP9114, and Portable. Since then, we've had a chance to check them out more thoroughly and we really like them. They're FieldPro cases, made by *Amberst International* (540 N. Commercial Street, Manchester, NH 03101, 800-547-5600). One of the cases, the Model V12005, holds a ThinkJet or HP9114. Another, the V12085, is ideal for the Portable or Portable Plus; it is roomier and has more padding than the case that comes with either machine.

FieldPro cases are quite stylish. The outside is abrasion-resistant, washable, blue-grey Cordura nylon. The shoulder strap on the V12005 Printer/Disk Drive Case can be hooked onto the handle of the larger V12085 Portable Case and carried piggyback.

The Printer/Disk Drive Case retails for \$39.95; the Portable Case for \$59.95. Both cases are available from *Personalized Software, P.O. Box 869, Fairfield, IA 52556, 515-472-6330.* Subscribers pay \$37.95 for the Printer/Disk Drive Case, and \$56.95 for the Portable Case.

Power Cube/Recharger

This product—and the next—offer convenient ways to recharge your Portable, ThinkJet, HP9114, HP hand-held computer, etc.

The Model 110A Power Cube/Recharger lets you power and recharge up to four HP devices from a single wall outlet. The benefit of this becomes clear if you've ever tried to plug more than one device into a wall outlet. In general, it's not possible, because the recharger cube affixed to each plug typically takes up the space of two wall sockets.

The Model 110A has a single power cube that measures 4"x 2" x 1". The unit takes up only one wall socket, because the plug that goes into the wall is not affixed to the cube; the plug is attached to a power cord. The unit's four other cords have HP-type connectors for plugging into HP devices.

The Model 110A is manufactured by *Summit Concepts*, 1825 42nd Avenue, Capitola, CA 95010, 408-462-5457. Retail price is \$89.95. It is also available from *Personalized Software*, P.O. Box 869, Fairfield, IA 52556, 515-472-6330. We are unable to offer a subscriber discount on this product.

Mobile Recharger

This recharger (Model MNR-2 from S.O.S.) works off you car's cigarette lighter. It will charge one HP device at a time, and the manufacturer says charging time is about





30% longer than the time it takes with a wall charger. They also report that your car does not have to be running; you can recharge your Portable, ThinkJet, HP9114, or HP handheld overnight without running down a normal car battery.

The MNR-2 Mobile Recharger is made by *Software*, *Operations, and Systems Co. (S.O.S.), 1850 East 17th Street, Suite 102, Santa Ana, CA 92701, 714-558-1806.* Retail price is \$89.95. Portable Paper subscribers can order the product for \$84.95 from *Personalized Software*, *P.O. Box 869, Fairfield, IA 52556, 515-472-6330.*



By Ed Keefe

The Portables As Peripherals

In this issue of *The Portable Paper* you have read about many of the peripheral devices for the HP Portables. You have learned what peripheral devices are and have discovered some of the ins and outs of these devices.

Let me, in this Looking Glass column, reflect a slightly different point of view: that the HP Portables are, themselves, peripherals—peripheral devices of our minds. Ultimately, we are the ones who control and tame these wonders of plastic and glass. It is we who turn these small computers into extensions of our own minds and imaginations. For example, if we are involved most often with ideas and words, the computer will likely become a word processing peripheral to our mind. If we are involved with the mathematics of finance and business, the computer will become our number-crunching peripheral.

For artists, a computer can become a peripheral device for their creative talents. Artists can use computers as they would use canvas and paint. Musicians have turned the computer into a new musical instrument.

The Programmer As Artist

There is another type of artist who uses a computer. The computer programmer is an artist who uses a computer in much the same way that a sculptor uses clay. In the hands of a creative programmer, a computer can become almost anything you like. For example, suppose you wanted your HP Portable to become a display device for another, less capable computer. Or suppose you wanted to use the electronic disk in your HP Portable as a fast "pseudo-disk" for your favorite handheld computer. Could you get your HP Portable to become this type of peripheral device for another computer? The answer is: probably not. A better question might be, "Who in the world would want to do this anyway?"

To answer this last question, I would hypothesize that many readers of The Portable Paper would like their HP

laptops to do this.

Who Needs It, Anyway?

Judging from my correspondence, there are quite a few owners of the HP Portables who are also long-time fans of the HP41C and/or the HP 75C or 71B handheld computers. I count myself as one of these fans. And who among us hasn't longed for more and faster memory, and more than a single line display for these small machines? I suspect that we tolerate the limitations of these handheld computers because they still do some things better and more easily than a desktop or a laptop computer.

So if you are one of those people who would like to have the best of both worlds—handheld and desktop computing—you can retrieve your 41C or 75C from the file cabinet. Charge up its flagging batteries, because your HP handheld computer is about to get a new lease on life. A computer artist has been at work, and I would like to tell you what he has created for us.

The computer artist is Paul Grimmer, President of Southern Software. His latest creation is a computer program called LINK.

You may have noticed the ad for the LINK program in the pages of the Portable Paper and wondered what it could do. I'll try to describe what the LINK program can do and explain why it's a real breakthrough for HP handheld and laptop computer users.

What's The Problem?

To show that the LINK program is truly a solution to a problem, let me tell you about the problem faced by owners of HP handheld computers.

As I see it, the real problem with Hewlett Packard battery-powered computers is best described as a "breakdown in communication." None of the computers from HP can communicate easily with any other. Each of these computers has its own special talents. It would be great if they could be tied together to share their talents.

It looks like they should be able to communicate with each other. They all use HP-IL (the Hewlett Packard Interface Loop). And therein lies the real core of the problem. HP-IL is the classic example of a solution that became the problem.

Many of us HP Portable users think of HP-IL merely as a tangled set of wires that dangle from our computers, printers, and disk drives.

Actually, HP-IL is more like a secret document buried deep inside our HP computers and their peripheral devices. This document, scribed on the head of a silicon chip, is written in a language spoken only by a few wizards and sorcerers. Here is a small sample of the HP-IL language: IDY, RDY, NRE, UNL, DDL TALK, and LISTEN. Now, these words have no meaning in themselves. They are more like incantations. When used correctly they act like keys to open and close secret portals in the computer. When spoken by the uninitiated, they will often cause the computer to crash and burn.

Hewlett Packard wrote the original HP-IL document many years ago. The HP wizards first hid the document in a plug-in device for the HP41C. HP proclaimed that this HP-IL document would forever contain the language spoken by all its computers. It would become an HP standard. It would allow any HP computer to speak to any other HP computer.

However, just when everyone was getting used to this idea, HP apparently rewrote the secret document for each new computer. As a result, HP41Cs could not speak with HP75Cs. Also, if you ever tried to connect an HP41C to an HP110, the only result would be that each computer would want to control the other. The end result would be that neither would win. Both machines would lock up.

The problem with HP-IL is that there is no easy way that an ordinary person can get one HP computer to relinquish control of the Interface Loop and become a peripheral device for another computer. With Paul Grimmer's LINK program this is now possible.

Not Just Another Pretty Hack

What Paul has done can be compared to what some human relations trainers do with their clients. Human relations trainers often teach people to listen to one another. Paul has done this with the disputations HP computers. He has taught the HP Portables how to listen to their handheld counterparts. He has even taught the Portables to give up their demand to always be in control.

What this implies is that users of HP handheld computers who also have an HP110 or Portable Plus (or even an HP150 or PC compatible with an HP-IL Desktop Link Card) can now control these larger computers with their small computer.

A Bevy Of Benefits

As I mentioned before, one of the drawbacks of an HP41C or Series 70 computer is its single line display. Until now, to see more than a single line at one time, owners of these machines had to buy an HP-IL Video Interface and a video monitor

No more. Now, with LINK, you can use the video displays of the HP Portables as full, 80-column, multi-line displays for your handheld computer. Amazingly, you do not need any extra hardware on your desk. Furthermore, if you have access to a desktop computer that has an HP-IL card installed, you can even use the monitor on this machine. And your handheld computer can even take advantage of a monitor with color capabilities. Imagine: a full-color, 80x25 display for your HP41C.

Another limitation of handheld computers is their shortage of memory. This has always been a problem for people who used their handheld computer to collect large

amounts of data. Surveyors, salespeople, statisticians, and quality control people all fall into this category. In the past the solution involved buying a digital cassette drive or a disk drive. Now, with LINK, you can use the Edisc of your HP Portable.

For those of you with an HP41C and an HP110, try to imagine what it would be like to have 272 Kilobytes of extended memory for your handheld computer. And if that is not enough memory, you can even use the hard disk in your desk top computer for data and program storage. LINK will let you create a pseudo disk in part of your hard disk. This pseudo disk has its own directory and can hold up to 8.4 Megabytes of information. That's MEGAbytes, not Kilobytes.

LINK will also let your handheld computer use any and all printers. If you already have a good printer for your PC at work, you will not have to buy an HP-IL printer for your handheld computer. The same holds true for modems and other devices that can be hooked to a desktop computer. All of them are now accessible to your handheld computer.

For those of us who have ever tried to do extensive typing on either the HP71B or 75C, LINK has one more surprise. You can now use the keyboard on your laptop or desktop computer in place of the tiny keys on your handheld computer. This will work for a 71B right out of the box. For the 75C, you will need either an Extended I/O ROM or a program called KEYBOARDIS.

What More Could A Person Ask For?

There is a lot more that I wish the LINK program would do that it does not do. I wish that I could write programs for the HP41C on my HP110 and transfer them to the handheld computer for execution. Moreover, now that I have most of my HP41C and 75C routines stored on pseudo-disks, I wish there was a way to call up the directories of these pseudo-disks and have them appear in the display of the HP110. There isn't a way to do this yet. With the present version of the LINK program, the HP110 can function either as a pseudo-disk or a remote display: not both at the same time.

My next wish is that the mistakes in the user manual would be eliminated. I spotted a few typing mistakes in the manual. More significantly, Gary Goodman, a frequent contributor to The Portable Paper, informed me that

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Classified ads are \$.50 per word plus optional \$5 for bold headline (maximum 30 characters). Ads must be received by the 5th of every other month beginning February.

Complete Portable System For Sale Portable; HP 9114A, ThinkJet with cases. Excellent condition. Make offer. John Rothbarth, 314-291-8540.

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We'll manufacture, market, and distribute your high-quality Portable software

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We Convert Disks

We will convert your 5 1/4" disks to 3 1/2" or vice versa. Send us formatted disk and source disk. \$9.50 per source disk. Add \$4 for second day delivery. Personalized Software, P.O. Box 869, Fairfield, Iowa 52556, (515) 472-6330

Sell Me Your HP9114

I'll buy your used HP9114 if it is in excellent condition. Hal Goldstein, P.O. Box 869, Fairfield, IA 52556. 515-472-6330.

For Sale

HP110 \$700, ThinkJet printer \$225, Disk drive \$375. Call Jim Keersemaker, 914-439-3972.

Wanted: Dow Jones Spreadsheet Link HP45511D for HP110. Contact Rod Sharp, Box 2169, Santa Fe, NM 87504, 505-988-2305.

Brand New HP-IL ThinkJets: \$295 We obtained several unopened HP-IL ThinkJets from a now defunct computer store. We'll sell them while they last for \$295. Hal Goldstein, (515) 472-6330.



many of the 71B example programs in the user manual contained errors. Gary's opinion was that novices would not catch these errors and might think that there was something wrong with the LINK program. Veteran users of the 71B will be able to debug these BASIC programs, but could spend a good deal of time doing so. Gary did agree that the LINK program was well designed and trouble free and should be usable by owners of HP handheld computers.

In spite of the user manual's shortcomings, I am still sold on LINK. The program is easy to use and does everything that the advertisement says it will. But beyond its performance and ease of use, there is also a touch of "Mad-Hatter-Logic" in the LINK program. Ordinary computer logic says that it is O.K. for a more powerful computer to control a smaller computer. LINK says just the opposite. That appeals to my sense of irony.

We The People, In Order To Form A More Perfect Link...

But, more than anything else, the LINK program makes a statement. Ever since Hewlett Packard introduced its Interface Loop, users of HP-IL have been confined to equipment that would only work with the loop. This no longer has to be true. The LINK program says that we can break the HP-IL ties that bind us and move into the best of the computing world. That appeals to my sense of freedom.

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.



by The Wizard, Cliff Looyenga

Avoiding "Abort, Retry, or Ignore?"

Have you ever written a program and thought you had it "bomb" proof when you got an error message something

Not ready error writing to device PRN. Abort, Retry, or Ignore?

Or how about:

Not ready error reading from drive c: Abort, Retry, or Ignore?

The user has no real good way to answer those questions if the device is not available. If you answer Abort, the whole program will be aborted. Retry and Ignore will simply cause you to be prompted with the same question again. The only clean way out is to find a printer or disk and connect it up so as to satisfy the program.

A far better alternative would be to have the program either trap the error or make sure the device exists before trying to access it.

Trapping the error is not trivial. MS-DOS has a special interrupt handler that gets executed when the device is not ready. Taking over this interrupt and handling the error with your own interrupt handler isn't something that is



and HP9114 and ThinkJet

off your car's cigarette

It's the Mobile Ni-CaD Recharger (MNR-2) from S.O.S., and it couldn't be easier to use: simply plug one end into your car's cigarette lighter and the other into your Portable, Portable Plus, HP9114, or ThinkJet.

The time it takes to charge a given unit is about 30% longer than with a wall charger. Your car does not have to be running—the unit can operate overnight with no danger of running down a normal car battery.

Mobile Recharger \$29.95 (Sorry, we are unable to discount this unit)

'Also works with HP4ICCVCX, HP71B, and HP75CD hand-helds: HP82143 and HP82162 printerplotters; HP82161 cassette drive; and rechargeable reserve battery packs for all these devices.

simple to write.

The easiest way to check if the device is there for both HP Portables is to use the HP-IL interrupt and have the HP-IL controller check for you. This of course would not work if your printer was connected to your serial port, but does work quite nicely for HP-IL printers and disk drives. If you use the HP-IL controller to send the data to the printer it is much faster, too.

As an example of this increased speed, consider a program I wrote that prints graphics to a ThinkJet printer. Using the standard Turbo Pascal write command, the program took five minutes to run. However, when I sent the data to the HP-IL controller directly, this same program took 1 minute 30 seconds.

All the HP-IL services are available through interrupt \$54 (\$ means hex). The following code will configure the HP-IL loop and determine if there is a ThinkJet alive and well on the loop

if config(2) then hpiladdr: = find(0,35);

The above code calls two routines. The first one, config, places the loop into a known state and sets the timeout value for the loop to the value that is passed (2 in this case). It returns the value **true** if the loop is OK; otherwise it returns false.

The second routine, find, searches the loop starting at the address passed, 0 in this case, looking for a device that has the specified ID. **35** stands for a ThinkJet. The function returns the HP-IL address of the device unless it isn't there, in which case it returns a \$1F. By the way, the ID for an HP-IL disk drive is 16. Below are the two routines config and **find** written in Turbo Pascal (of course).

This function places the loop in a known state and assigns addresses.

LOOP_OK: = CONFIG(TIME);

TIME is an integer that is the number of seconds to wait before declaring a time_out error. LOOP_OK is set to true if the loop is ok, else false.

function config(secs:integer):boolean;

type registers = record

ax,bx,cx,dx,bp,si,di,ds,es,flags:integer; end;

var regs : registers; oldsecs: integer;

```
begin
  config:=false; { assuming failure }
 regs.ax: = $00; { command to configure the loop }
  intr($54,regs); { call hpil primitives }
 if (regs.flags and I) = \emptyset then begin { no error }
    oldsecs: = time(secs); { set timeout to secs }
   if oldsecs < > \emptyset then config: = true;
end;
This function searches the loop starting at the address
STARTADDR looking for a device with an accessory id of
ID. If the ID is $xF, only a class match is performed (only
the top four bits are compared with the device accessory
IDs). If a matching device is found, its address is returned
else 1F is returned.
      ADDR: = FIND(STARTADDR,ID);
function find(startaddr.id : integer):integer;
 type registers = record
         ax,bx,cx,dx,bp,si,di,ds,es,flags:integer;
       end;
 var regs : registers;
begin
```

```
find: =$If; { assume failure }
  if id < > 254 then begin
    regs.ax: =$0100; { command for find device }
    regs.bx: = (startaddr shl 8) or id;
    intr($54,regs);
    if (regs.flags and 1) = 0 then find: =lo(regs.bx);
{ return address }
    end;
end;
```

There are many HP-IL services that are available, of which I only covered two here. If you have the Portable Plus technical reference manual, all the services are discussed there. I have written a set of Turbo Pascal procedures that has routines to call just about all of the HP-IL services available. I've sent the disk with those procedures to Hal Goldstein at Personalized Software. If you send them \$7.50, they will send you the disk.

Cliff Looyenga provides technical support for HP PC's and HP3000's, and in those circles he is known as "The Wizard". He has developed a number of Portalbe and Portable PLUS utilities. You can reach Cliff via CompuServe, ID: 75106,2130. Please note that in last issue's Wizardry column the final end got inadvertantly chopped off the program listing.

(Letters continued from page 2)

Charger (used with the 110, Portable Plus, 9114 Disk Drive, 2225B ThinkJet, 82143A Thermal Printer, 82162A HP-IL Thermal Printer, and 82161A HP-IL Cassette Drive) or HP92266A Charger (to charge N-cell Nicads for the HP41) and then connect the charges to a programmable timer (20 bucks at Radio Shack), which you adjust to come on for one hour a day.

This will work fine IF—and ONLY IF—either the chargers or the devices holding the battery packs to which the chargers connect are equipped with BLOCKING DIODES to prevent the batteries from discharging back through the chargers when the chargers are disconnected from line power.

Question: Åre the 82059B and 92266A chargers equipped with blocking diodes?

If not, then are the following devices equipped with blocking diodes between the charger input socket and the battery pack: HP110, Portable Plus, 9114A and 9114B Disk Drives, 2225 ThinkJet, 82143A Thermal Printer for HP41, 82162A HP-IL Thermal Printer, 82161A HP-IL Cassette Drive, Battery Holder for Outboard Charging of 82033A 4-C-cell Nicad battery used in 821143A/161A/162A, Battery Holder for Outboard Charging of N-cell Nicads (permanently connected to 92266A Charger)?

Rodman A. Sharp, Santa Fe [David Hughes—I do not believe it is possible for the HP battery pack inside the computer to supply power back to the utility, for the following reasons:

1. The battery charger/regulator contains a full wave bridge rectifier consisting of 5.8V zener diodes at its input. 2. The wall unit appears to be a step down isolation transformer. There is no changing flux linkage produced from the DC that would cause an AC current to be induced in the transformer's primary windings.

In other words, the phenomenon should not occur...

HP Corvallis support—The HP chargers do contain the blocking diodes, and the charger cable is available as a separate part, with the diodes molded in. See page I-3 of the Portable Plus Tech Reference Manual.]

Time Manager Hint

I thought readers who, like me, are inveterate users of the Time Manager diary function would be interested in a little two-liner to get around the search of the appointments list every time one returns to the PAM screen. Initially, from the PAM screen rename **pam.alm** to some arbitrary name (I used FRED); this should be a one time requirement. Type the following in DOS or at the PAM screen:

rename pam.alm fred

The following program is then saved as **tmb.bat**. All you need to remember is to start Time Manager with the command **tmb** rather than the normal PAM screen box.

rename fred pam.alm

rename pam.alm fred

This program, which is initiated with **tmb**, will get your appointments back for Time Manager, then run Time Manager and on exiting Time Manager put your appointments out of the way so PAM runs a lot quicker. (To scan a large number of appointments can take in excess of 12

seconds.) *Morris Rooms, Berkshire, U.K.*

Charging The Portable

Regarding Jim Keersemaker's inquiry about charging the Portable in countries with unstable power (March/April 1987), it seems to me you provided the answer in the same issue. Simply hook up the Portable to a car battery through the MNR-2 mobile recharger. The battery would not have to be in the car but could be trickle charged off house current through a small charger. This may seem like a lot of trouble, but it has to be better than cooking an 110!

Matthew Wallace, Sac City, IA

Portable Self-Sufficiency

On your recommendation I purchased the MNR-2 mobile recharger from S.O.S. It works very well and is a great help in my business.

Here is a suggested energy source for Portable users: I purchased locally a 12-volt, 12-amp model EP#12120-1 dry cell battery called Technacell by Elpower Corporation, Santa Ana, CA 92701 for \$42.45. It is a maintenance-free rechargeable battery for cyclic and standby use. I also purchased the recommended electric charger, #CH12FA800 by Elpower for \$44.65. It comes with a male cigarette ligher end plug, same as the MNR-2 mobile recharger from S.O.S.

I purchased a female cigarette lighter end that I connected with the appropriate connectors to the Technacell battery. Now with the SOS mobile recharger I connect the battery to my Portable or my peripherals.



I have now used my Portable Plus for 40 hours, its battery remaining at 100% charge. The 12-volt battery has not needed recharging. The Portables use very little current—1 or 2 amps in two hours of constant use. It will last a long time, and, if needed, an overnight charge will again last for days and keep your Portable always charged 99 or 100%. Fantastic!

This setup works as well with the disk drive and printer batteries. I never use wall plugs any more and can work wherever I like, which is very convenient in my line of work!

in my line of work!

Henry Warren, Palm Beach, FL [Hal—The battery weighs 11 pounds. It is 8.38" by 2.75" by 5.5". The S.O.S. charger can now be purchased through us using the order form in the back of the issue. Henry inspired us to see if we can make some sort of product out of his idea—maybe with carrying case, maybe even with HP9114 Empowerer capabilities. We'll report on any progress.]

Printing Pointers

Here are a couple of helpful hints: Use liquid paper to mark the upper side of the IL plugs and add a short line on the smaller to indicate INPUT. They can then be plugged together like an extension cord.

To keep the paper from advancing when it is not supposed to: Make a hook from an old bicycle spoke; leave the side with thread to either put on the screw or a small Scotchloc. Drill a small hole for the hook in front of the pressure bar, maneuver the long end of the hook through the hole, and engage the pressure

bar into the hook, which should have enough spring action to keep the pressure bar captive. Install the nut or Scotchloc with a dab of cement. This permits one to create single space headings and doublespaced text. Not the most practical solution, but a way to do it.

In Lotus while you are defining a range, pressing . (period) moves the cursor around the corners of the range. The combination of using a period in this way along with the cursor keys adds to your flexibility when defining a range.

Ouestions:

1. Is it possible to create the telephone symbols # and * on the 110?

2. What are the use and application of the console mode and font. Choices: HP or Alt?

3. Is it possible to create and print the special characters shown on the template included in the back of the manual? How? *Michael Felsenstein, San Francisco [HP Corvallis—1. The* * and – are not

usable in the 110 Terminal phone field.
2. **HP** and **Alt** (**Alternate** on the Plus) refer to the codes sent by your keyboard to the program and to the character set used on the display. In **Alt** mode, the Portable emulates an IBM PC. These modes can be set in PAM, or set by escape sequences.

3. Most (but not all) of the characters shown in the appendix are available from the keyboard by holding down the **Extend char** key and pressing another key. The others can only be generated programmatically.

David Hughes

2. From pp. 1—10 of the Technical

Reference Manual:

"The console mode specifies the operation of the console during execution of an application or command. While PAM is running, the console is always in HP mode, which means the base font is HP Roman 8, and the special function keys generate HP sequences. In Alt mode, the base font is the Alternate font, and the keyboard generates IBM-style keycodes."

3. It is possible to create and print them with Series 100 BASIC, WordPerfect, or MultiMate. MS Word doesn't support line draw fonts on the screen. If your printer supports the line draw or extended ROMAN-8 fonts, all of the above word processors will support the special characters at the printer.]

Utilizing Line Drawing Character Sets

Thank you very much for the hint of **Ctrl Select** to get the box cursor in Word-Perfect. This has reconciled me with the package.

I've found that the Portable Plus in IBM mode behaves as an IBM in allowing you to type characters normally not accessible. (From PAM's **System Config**, set **console mode** as **Alternate**.) In DOS with the Plus in IBM mode press **Extend Char Select** to put the Plus in NUM mode. Now you can keep the **Extend Char** key pressed while entering, on the numeric keypad, the ASCII code. Releasing the **Extend Char** key will reveal the character on the screen.

HP110/HP110+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.

California, Southern California We meet 2nd Thur 7-9 at HP sales office, 5161 Lankershim Blvd, North Hollywood. Request PORTOVEC Notes Newsletter, Dave Mark, 818-794-4969.

Los Angeles County, Southern California,

Call during day. Blue Chip Computer System. 9701 West Pico Blvd, Los Angeles. Elmar M. Gomez 213-553-3393.

San Diego, Stephen L. Eyre. 619-452-8530. San Mateo, Santa Clara Counties,

San Francisco Bay Area,

BAYCHHU, HP Laptops & Handhelds, meet 2nd Sat of the month, Contact Jim Horn, 707-523-4890 eve., or Michael Felsenstein, 415-564-8279, eve.

Herbert L. Hamerslough. D: 415-340-8811. E: 415-323-9618.

Los Altos/Mountain View, Marge Sutton, D: 415-949-0509. E: 415-948-0627.

Colorado, Colorado Springs, Dan Ritt, 303-528-8080.

Denver, Call Bob Pressey, 303-777-0326 **Georgia**, *Atlanta*, Call Brian Walsh D:404-394-2500 E: 404-399-6842

Hawaii, *Honolulu*, Rodney Y. Fukuya if interested, 808-945-3111.

Illinois, *Chicago*, Call Jonathan Feinstein if interested, 312-528-0124.

Indiana, *Indianapolis*, Bob Glass, 317-638-2326.

Iowa, *Mid Iowa*, Ed Keefe D: 515-964-6644 E: 515-964-7064.

Southeast Iowa, Hal Goldstein 515-472-6330

Minnesota Minneapolis/St. Paul, John Ferman (612) 822-1372 (Meet 2nd Wed. 7:00 at

HP on Larpenteur Ave., St. Paul)

Maine, Yarmouth, Every last Tue 6:30, US Route one, Yarmouth, ME 04096, 846-5497 North Carolina, Charlotte and surrounding area, John Jacob, 704-334-3468.

Texas, *Houston*, Thomas R. Page, D: 713-759-4259, E: 713-528-7138.

Utah, *Utah County*, Donna Hoover, D: 378-4421, E: 375-4812.

Washington, Eastern Washington, Northern Idaho, Western Montana, and possibly Western Washington, Bob Sandberg. 509-466-4999.

Eastern Washington, Stephen S. Warner. D: 509-534-1588, E: 509-535-3322.

Washington D.C., Greater Washington D.C. Area, 8:00 PM, Third Monday of Each Month, Ballston Tower #1, 800 N. Quincy St., Room 519. Call to confirm and to say, Hi. William F. Cross. D:202-696-4112, E:703-845-9508.

Australia, 8 Avoca St, S. Yarra, Victoria, Australia. Nigel S. Ball. 03-267-8344.

England, Trafalgar House, Grenville Place, Mill Hill, London, NW7 3SA England. Tim Cullis. (01) 959 4359.

Netherlands, Mr. R.M. Franquiner, Menthenbergseweg 13, NL-6816 PR, Arnhem, The Netherlands

Spain, Club de usarios HP 110, Pont Reyes S.A., A la atencion de D. Enrique Serra, Ronda Universidad, 15, 08007, Espana.

I have enclosed a few simple batch files that define the function keys as line drawing characters. If there is interest perhaps you will print these in a future issue.

Paul Grimmer's new program SKETCH and related utilities are excellent and, among other things, it is possible to load the different fonts encoded in the Plus ROM and to capture (for further editing) and graphics display. Sergio Biguzzi, New York

My Clock Is Off

My **T** key sometimes will not register when struck repeatedly. To correct this problem I take the key cap off, and all is fine. But I can't find anything wrong with the key. Lately it also happens with another key.

Is there a simple way to adjust the 110 clock? Mine gains over 30 minutes per day

Jim Keersemaker, Livingston Manor, NY [HP Corvallis—If the 110 is gaining 30 minutes per day, the PPU is probably very confused. Copy all your files to a backup disk, then reset the PPU with the button in the battery compartment. (In the Plus, you must remove the battery jumper for about a minute.) If this doesn't fix it, the hardware needs repair. The PPU can be confused by running IBM PC software which tries to directly access the beeper—on either HP Portable, the PPU sits where the beeper would be on an IBM PC.]

Pertmaster Demo

Regarding Permaster, I thought you and your readers would be interested to know that Westminster Software has a Pertmaster demo program for \$50. This is a full function program that is limited to 50 events. For the Portable, this has the advantage of less memory required and may contain sufficient events for less complex projects. Obviously, for demo purposes it is quite enough to demonstrate how the system works.

You can get more details by writing Day Herion, VP Technical Support, Westminster Software, 2570 El Camino Real, Mt. View, CA 94040.

D.R. Wright, Honolulu HI

Speedy HP110 Data Transfer

I have two questions for the contributors to *The Portable Paper* who are adept with RS-232. Has anyone been successful transferring files over a null modem cable to the HP110 at 19,200 baud? I regularly transfer files at 9600 baud with Xmodem between my Atari 1040 ST (running Flash) and my 110 (running its infernal Terminal program) using the 92221P cable and a gender cable, but can never get the two to communicate at the higher baud rate. Also, is there any way to toggle on and off the printer while in the built-in Terminal program?

One final tip that originated with the HP handheld user community: An excellent pencil for writing on glossy sur-

faces is the STABILO 80008 A11 (for paper, glass, plastic, and metal). You can erase and write over glossy labels on a 3 ½ " disk with relative ease.

Rolf R. Schmitt, Baltimore [Hal—See Gary Goodman's letter that follows.]

Terminal Benchmarks

In response to Mike Driver's question about the speed of data transfer with the HP110 in *The Portable Paper*, Vol.1, No. 6, p. 11, and John Jacob's reply in Vol. 2, No. 1, p. 2, I did some checking on my own. The investigations centered primarily around the HP110's built-in Terminal program and used either Kermit or Smart-Com on an IBM PC. The results are shown below:

ASCII UPLOADING: HP110 Terminal (Protocols On) uploading to Kermit on an IBM PC:

From 1200 baud to 19,200 baud, the transfer rate remained constant at 120 characters per second. It appears that the Terminal program has a throttle in it which limits the speed.

HP110 DOS: (COPY **<filename>** AUX) uploading to Kermit on an IBM PC.

The transfer rate in characters per second is about 1/10 the baud. The rate leveled off at 9600 baud, which is probably as fast as the HP110 or IBM could go.

ASCII DOWNLOADING: HP110 Terminal (Protocols Off) downloading from Smart-Com on an IBM PC:

From 2400 baud to 9600 baud, the transfer rate remained constant at 230 characters per second. I do not know whether this is a limitation of SmartCom or the Terminal program. At 4800 and 9600 baud, the downloaded files were corrupted, except when the Terminal's **Recv Pacing** was set to **XON/XOFF**. This is very puzzling since the Terminal Emulator User's Manual describes the **Recv Pacing** parameter as controlling the HP110's transmitting, not its receiving.

MODEM7 UPLOADING AND DOWNLOADING: HP110 Terminal (Protocols On) with SmartCom on an IBM PC:

	Uploading	Downloading
Baud	Char/Sec	Char/Sec
300 1200	27	21
1200	91	43
2400	140	63
4800	217	64
9600	36	64

The Terminal program can be used at any of the baud rates in the menu. An external 1200 or 2400 baud modem can be a welcome improvement. But don't expect those files to literally fly across the phone lines

Gary Goodman, Lynchburg, VA

Some Thoughts

I enjoy your magazine. In particular, I was glad to see solutions to my problems with the 110.

A pleasant surprise was the features about the HP-IL equipment. I've had a complete set of tape drives, printers,

video interfaces, etc., for my HP41s. It had never occurred to me to connect the 110 into that loop. Now I use the two-screen operation for many jobs—the big monitor for holding key data, the 110 screen for real time.

My use of the 110 is primarily an extension of my "base" computer. I keep a couple of HP-IL wires attached to the HP-IL interface of the PC. There are others set from the HP-IL printer and disk drive. That way I can quickly connect any of three ways - 110 to PC, 110 to HP-IL, or PC to HP-IL.

To support the PC to HP-IL loop, I created files on the PC to configure the ThinkJet. I saw a couple of these in your magazine; when I get home from this trip, I'll send mine, which are a bit more exhaustive, and which also can be used for the LaserJet.

When the PPC put together ROM for the HP41, they put in some useful stat and curve-fit programs. Do you know of similar programs for MS-DOS?

I have been writing a computer column in the local paper. The target is those people who are thinking about their first computer. I've enclosed a copy.

Thanks again for your paper—it is excellent.

Walter Clark, Woodbridge, VT

On The Price Of The Portable Paper

If you have walked into a computer shop and looked or asked for some program for your Plus or 110, you know the feeling of having a machine that is a little on the outside of the mainstream supply line. The comment from across the counter from the salesman is, "Why don't you sell that toy and get a computer." If the time is given on my part, the salesman finds that I am running WordPerfect, Lotus, and Milestone, and have 512K, and then the comment from the salesperson is, "Where did you get your programs?"

As subscribers, you might at renewal time feel the cost is high for *The Portable Paper*. Consider trying to get just one program modified to run on the 110 or Plus on a 3½" disk. HP makes a great product, but there is a limitation when it comes to the software, and the costs for HP products are high.

If we all support Personalized Software, hopefully Hal and his staff can continue to bring new software and hardware, plus the endless information on the inner workings of the 110 and Plus. They have done a bang-up job since the start. Jack H. Sparks, Downey, CA

[Thank you, Jack. We want to continue to expand our product line and keep the costs reasonable. This is not always a simple task since our volume is relatively low and as we expand our product line our overhead increases. The best way for all of you to help is not only purchase our products but to get your friends or corporate colleagues to subscribe and purchase our products. We offer generous discounts for volume purchases.]





High Quality 31/2"

Disks at a Discount From Personalized Software

Regular Disks



Why pay \$69 for 10 disks in a fancy shrink-wrapped box with lots of artwork? We'll sell you quality Sony disks without the Sony labels or Sony boxes, packaged instead in an ergonomically designed library case at no extra charge (\$4.95 value).

Portable Paper subscribers pay only \$39.95 for 10 unlabelled disks. Price to non-subscribers: \$64.90.

Now only \$29.95

 $\begin{tabular}{ll} \textbf{Lifetime Warranty:} If a disk ever proves defective, return it to Personalized Software and we'll send you two good ones. \\ \end{tabular}$

Colored Disks



Ever find yourself hunting through disk after disk, reading label after label, just to locate the one you're looking for? Ever wish the right disk would just pop up and identify itself?

Now there's a solution: COLOR-CODED DISKS from Personalized Software. They're high-quality C.ITOH disks, and we're offering them at the following discount prices to Portable Paper subscribers (non-subscriber price is \$44.95 per set of 10 disks):

Rainbow Pack (10 disks, one each: red, yellow, green, dark blue, light blue, orange, maroon, red-orange, pink, and beige)

Monochrome Pack (10 disks of same color—choose from red, yellow, green, light blue, and maroon)

Set of 10 disks: \$39.95

2 or more sets of 10 disks: \$35.95 each

 $\label{thm:condition} \textbf{To order:} \ \ \textbf{Use postage-paid order form inside back cover or send check or credit card information $(\#, \exp. date, signature)$ to: Personalized Software, P.O. Box 869, Fairfield, IA 52556 (515/472-6330) HP150 users: Be sure to indicate "single-sided disks" on your order form if necessary.$

FOLD HERE



NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 1047 FAIRFIELD IA

Postage will be paid by addressee:

Personalized Software

PO Box 869 Fairfield, IA 52556



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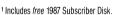
Name		What kind of computer do you use? (check all that apply)
Title		☐ HP110 Portable
		☐ ID150 toucherson
Company		☐ IBM PC or compatible
Address		
City/State/Zip		Specify size of disk: \square 3½" \square 5¼"
Telephone ()		IMPORTANT:
		Check here if you require single-sided $3\frac{1}{2}$ " disk:
Method of payment: ☐ Check ☐ Master of	Card □ VISA	
Card #	Expires:	
Cardholder Signature		



ORDER FORM

4	Personali Software						
	O. Box 869, Fairfield, Iowa 52556 (515)			OF	RDER	FORM	
Military	Product		Retail Price	Subscriber Price	Qty	Total	GO-DAY MONEY-BACK GUARANTEE If, within 60 days, you are dissatisfied with a subscription or product for any reason, you may return it for a full refund. Should you become dissatisfied with a subscription after the 60-day period, we will refund the unused portion of your subscription.
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SUBSCRIPTIONS	Check one: ☐ New subscriber ☐ Renewal	2 Year Subscription	99.001	N/A			SO-DAY S
Ы	Begin with: □ Jan.,1986 □Jan.,1987 □ Current issue	1 Year Subscription	55.00	N/A			MONEY-RACK S
SCR	Back Issues (indicate numbers)		9.20	N/A			GUARANTEE
9	Time Manager, Pack, HP Calculator 2		N/A	7.504			W GOATIANTEL S
	1987 Subscriber Disk ³		N/A	7.504			If, within 60 days, you are
.41)	10 unlabled Sony disks and case		64.90	29.95			tion or product for any
DISKS (p. 41)	10 colored disks—Rainbow Pack		44.95	39.95/35.956			reason, you may return it for a full refund. Should you
S	10 colored disks—Monochrome Pack. Spe	ecify color:	44.95	39.95/35.956			60-DAY MONEY-BACK GUARANTEE If, within 60 days, you are dissatisfied with a subscrip- tion or product for any reason, you may return it for a full refund. Should you become dissatisfied with a subscription after the 60-day period, we will refund the unused portion of your subscription
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	DOS Tools—Portable Utilities Vol. 1 (p. 5)		49.95	39.95			unused portion of your
	The Editor (back cover)		99.95	79.95			subscription.
*	Flowcharting II+ (Portable Plus only) (p.	3)	229.00	209.00			**************************************
	The Formatter (back cover)	··	59.95	49.95			
	The Editor/The Formatter (back cover)		159.90	99.95			
3	HP9114 Empowerer (Power Supply) (p. 7)		145.00	129.00			44 4 4 6 4007 0 4 11 15 14
ABE	Link HP-IL Connector (p. 22)	٥	80.00	75.95			¹ Includes <i>free</i> 1987 Subscriber Disk. ² Available only to subscribers.
(ALPHABETICAL)	101 Macros For Lotus 1-2-3 (p. 33)		69.95	62.95			3 Available only to subscribers.
5	Milestone		99.95	89.95			at least one 1987 issue.
*	Mobile Recharger (p. 37)		29.95	29.95			⁴ The \$7.50 includes shipping. Alternatively, you may mail in a formatted disk and a 39¢ self-addressed
	Norton Utilities Version 4.0 (p. 17)		99.95	89.95			stamped envelope to receive the software at no charge.
	Norton Utilities Advanced Edition (p. 17)		150.00	129.00			
*	Padded Case for Printer/Disk Drive (p. 8)		39.95	37.95			⁵ Subscriber price is \$39.95 if you purchased any other Turbo product from Personalized Software.
*	Padded Case for HP Portable/Plus (p. 8)		59.95	56.95			⁶ Subscriber price for colored disks (Rainbow or Monochrome Pack) is \$39.95 for one set of 10, \$35.95
*	Power Cube/Recharger (p. 16)		89.95	84.95			each if total order includes 2 or more sets of 10. Circle price that applies.
	PrinterTalk (p. 25)		49.95	44.95			⁷ Lower price is without cable for connecting to HP
5	PrinterTalk/Format110 (p. 25)		89.90	59.95			Portables. Circle price that applies.
PRODUCTS	Project 8, 9, 10		99.95	89.95			⁸ Indicate 32K, 64K, or 128K (or 2×128K for Webster's Spelling Checker)
4	RightWriter (p. 13)		95.00	89.00			,
	Shelp (works on Portable Plus only) (p. 28)	55.00	49.95			
	SideWinder + Utilities (p. 31)		79.95	69.95			
*	Sketch (p. 3)		80.00	75.95			
	Turbo Pascal (p. 19)		99.95	89.95			SHIPPING FOR
	Turbo Pascal Programs For The Portables	(p. 19)	49.95	44.955			U.S. ORDERS
	Turbo Pascal Starter Kit (Pascal/Tutor/Pasc	cal Programs) (p. 19)	179.95	149.00			U.J. UNDENJ
	Turbo Tutor (p. 19)		39.95	35.95			OVER \$200
	Typing Whiz (p. 27)		49.95	39.95			
*	Webster's Spelling Checker (works on Por	table Plus only) (p. 14)	79.95	69.95			FAST DELIVERY
	WordPerfect (Portable Plus only, disk-base	ed)	495.00	299.00			In most cases, you will receive your ship-
	The Word Plus (p. 15)		150.00	129.00			ment within 2-3 days of when we get vour order.
*	WorldPort 1200 Portable Modem (p. 21)		235./199.7	199./179.7			your order.
MISC.							
							SHIPPING AND HANDLING:
Ver)	ROM Backup—Product Description		Size 8	Price	Qty	Total	Portable Paper subscriptions:
i c							Subscription prices include U.S. Second Class mailing. Outside the U.S., add the following
무							amounts: Mexico and Canada: \$3 surface mail, \$6 air. Other countries: \$6 surface, \$18 air.
usio							All other products:
3	Important—Please read and initial:	ead vargions of the programs			ubtotal		In North America: Add \$4 for one item, \$7 for more than one item. FREE SHIPPING FOR U.S.
ÄČ	I already own (or am ordering) the disk-ba included in my ROM Backup order. If not p	urchased from Personalized	l	owa residents add	-		ORDERS OVER \$200. Outside North America: Add \$3 surface mail, \$10 airmail. We bill or
ROM BACKUP (inside front cover)	Software, I have enclosed proof of purchas	se. Initials:	Shipping and h	nandling (see box a	, , F		charge non-U.S. orders for the actual postage
€					TOTAL		if it exceeds these amounts.





² Available only to subscribers.

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³ Available only to those whose subscriptions include at least one 1987 issue.

⁴ The \$7.50 includes shipping. Alternatively, you may mail in a formatted disk and a 39¢ self-addressed stamped envelope to receive the software at no

⁵ Subscriber price is \$39.95 if you purchased any other Turbo product from Personalized Software.

⁶ Subscriber price for colored disks (Rainbow or Monochrome Pack) is \$39.95 for one set of 10, \$35.95 each if total order includes 2 or more sets of 10. Circle price that applies.

⁷ Lower price is without cable for connecting to HP Portables. Circle price that applies.

⁸ Indicate 32K, 64K, or 128K (or 2×128K for Webster's Spelling Checker)

How to Order





TO ORDER BY PHONE:

Call (515)472-6330 between 9:00 am and 4:30 pm Central Time, Monday through Friday, or use CompuServe EMAIL-ID 72257, 714.



TO ORDER BY MAIL:

- 1. Fill out your name, etc. on the reverse side of the order form.
- Be sure to indicate your disk requirements.
- **2.** Locate desired items on order form.
 - Subscriptions are at the top.
 - · Products are next and are alphabetized.
 - The blank lines near the bottom labelled MISC are for you to write in special instructions or to order miscellaneous products not listed on the form.



· The last section of the order form is for ordering software on ROM backup. See special instructions below.

- 3. Fill in desired quantity of each item.
 - Please pay special attention to footnotes.
- 4. Calculate shipping and handling costs (see box near bottom of order form).
 - Shipping is FREE for U.Ś. orders over \$200.
- Calculate total.
- 6. If paying by check or money order:
 - Make payable in U.S. funds to PERSONALIZED SOFTWARE
 - · Place check and order form in an envelope and mail
 - If you'd rather have us pay the postage:
 - Fold order form so panel addressed to Personalized Software is on the outside.
 - Tape shut and drop in mail.

ORDERING PRODUCTS ON ROM BACKUP (See inside front cover for complete information on ROM Backup Service.)

Step 1. Select the software programs for which you want ROM Backup from the list

Step 2. If you do not own the disk version of each program you have selected, determine which disks you will need to order.

Step 3. Enter your disk order in the alphabetical "Products" section of the order form. Write your ROM backup order in the "ROM Backup" section at the bottom of the order form.

Step 4. Be sure to initial the statement on the order form just beneath the ROM Backup section.

32K and 64K ROMs will be shipped to you by June 1987; 128K ROMs by August. If you pay by credit card, we will not bill you for the ROM Backup part of your order until we ship. If you pay by check, you can send a separate payment for the ROM Backup part of your order; we will hold that part of your payment until we ship. Example:

Step 1. Let's say you wish to purchase the following ROM Backups:

Turbo Pascal

Webster's Spelling Checker

Super ROM (The Editor, Mini PrinterTalk, Format110, Shelp, and SideWinder)

Step 2. And let's assume that you already own the following programs on disk:

Turbo Pascal The Editor PrinterTalk

Format110

To order the ROM Backups you want, you would first have to order the diskbased versions of the programs you do not yet have on disk, namely:

Webster's Spelling Checker Shelp

SideWinder (or SideWinder + Utilities)

Step 3. See sample at right for how order form should be filled out in this example, assuming you are a subscriber to The Portable Paper.

	(p. 16)		84.95		1
. L	FiniterialK (p. 25)	49.95	44 95		
	Printerfalk/Format110 (p. 25)	89.90	59.95		
3	Project 8, 9, 10	99.95	89.95		
-	RightWriter (p. 13)	95.00	89.00		
Γ	Shelp (works on Portable Plus only) (p. 28)	55.00	49 95	1	\$ 49.95
Γ	SideWinder + Utilities (p. 31)	79.95	69.95	1	\$69.95
7	Sketch (p. 3)	80.00	75 95		
-	Turbo Pascal (p. 19)	99 95	89 95		
Γ	Turbo Pascal Programs For The Portables (p. 19)	49 95	44 955		
	Turbo Pascal Starter Kit (Pascal/Tutor/Pascal Programs) (p. 19)	179 95	149.00		
Г	Turbo Tutor (p. 19)	39.95	35 95		
Г	Typing Whiz (p. 27)	49.95	39 95		
ŧГ	Webster's Spelling Checker (works on Portable Plus only) (p. 14)	79.95	69.95	1	\$ 69.95
Γ	WordPerfect (Portable Plus only, disk-based)	495.00	299.00		
	The Word Plus (p. 15)	150.00	129 00		
-	WorldPort 1200 Portable Modem (p. 21)	235 /199.7	199 /179 7		
1	ROM Backup—Product Description	Size #	Price	aty	Total
L	TURBO PASCAL	64K	\$95	1	\$95
L	WEBSTER'S SPELLING CHECKER	2×128K	\$179	1	\$179
	SUPER ROM	138K	\$/49	1	\$149
	Important—Please read and initial:	1		Subtotal	\$612.8
	I already own (or am ordering) the disk-based versions of the programs included in my ROM Backup order. If not purchased from Personalized	lo	wa residents add	496 tax	
	Software. I have enclosed proof of purchase Initials	Shipping and ha	indling (see box	at right)	
1	minda 3	1		TOTAL	\$612.8

PRODUCTS AVAILABL	E ON ROM BACKUP
Size of ROM Price	Size of ROM Price
Shelp\$55.	Turbo Pascal
SideWinder ^a	Typing Whiz
The Editor	Best of DOS Tools
PrinterTalk + Format110	Super ROM
Shelp + SideWinder ^a	Webster's Spelling Checker
^a This version of SideWinder does	not ^b Mini PrinterTalk is the abbreviated version included on the PrinterTalk disk.

include any of the SideWinder utilities.

ADDITIONAL PRODUCTS

To order any of the following products (or others described in The Portable Paper but not listed on the opposite page), simply write the product name and price on one of the blank lines in the MISC section near the bottom of the order form.

Product	Retail Price	Subscriber Price	Private File	\$39.95	\$34.95
CompuServe Starter Kit	\$39.95	\$35.95	RightWords	20.05	
HP9114 Empower with Battery Pack (p. 7)	225.00	199.00	dictionary extension for RightWriter (p. 13)	29.95	29.95
Format110 (p. 25)	39.95	35.95	SideWinder (without utilities) (p. 31)	69.95	59.95
Pertmaster*	695.00	545.00	Tiger Fox	32.95	29.95
*Specify whether HP110, Portable Plus, HP150, or IBM PC.			Turbo Toolbox (p. 19)	69.95	62.95

It is functionally equivalent to PrinterTalk for most applications.

Our Best Selling Products in Brief

CompuServe Starter Kit

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. 1 Condor Junior

An easy-to-use database program in a version designed for the HP110 and its 16-line screen. With almost no need to refer to the manual, you can enter data, sort, search, manage files, print address labels, and do limited report writing. Memory efficient—the main program is only 25K, and you add individual 10K programs for each function you wish to use.

See P. 5 DOS Tools Portable Utilties 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.

Back cover 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 mroe. Works with almost all printers. (Note: Documentation is in draft form; no technical support available.)

See P. 7 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. 3 Flowcharting II+

This program creates professional-looking flowcharts and organizational charts using 26 flowchart symbols in 95 sizes. Wide variety of text fonts for creating labels both inside and outside the shapes. Easy to add and delete lines without disturbing the rest of the flowchart. "Shrink Screen" feature lets you view up to 14"×11" chart on 25-line screen. (Runs on Portable Plus only.)

See P. 22 LINK HP-IL Connector

A software program that lets you transfer data from <u>any</u> 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!

See P. 33 101 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. 37 Mobile Recharger

Lets you recharge your Portable, ThinkJet, HP9114, HP hand-held computer, etc. from your car's cigarette lighter.

See P. 17 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 3½" disk (formerly available only on 5¼" 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.

1987 Portable Paper Subscriber's Disk

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

See P. 19 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. 16 Power Cube

Powers and recharges up to four HP devices (HP Portable, ThinkJet, HP9114, HP hand-held, etc.) from a *single* wall outlet.

See P. 25 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

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



3 Project Management Packages

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

See P. 13 RightWriter

Flags errors in grammer, style, usage, and punctuation, inserting comments directly into your document without mistakes. Also produces overall critique of 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. Also available: RightWords dictionary extension utility for RightWriter; it has 7 auxiliary dictionaries (including business, computers, and engineering), and also lets you add words of your own to RightWriter's built-in dictionary.

Inside front cover Software on ROM

Many of our best-selling programs are avialable on ROM chips via our ROM backup service. (Portable Plus only.) Saves valuable electronic disk space, minimizes need for disk drive. Custom ROMs also available.

See P. 28

See P. 31





Whether you're a Lotus spreadsheet, a Memo-Maker 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.

SIDE WINDER

This program, written specifically for the HP Portables, the HP150, and the ThinkJet printer, allows you to print your spread-

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.

See P. 3 Sketch

A graphics program for the HP Portables. Lets you draw free-form using cursor keys. Also draw lines, boxes, circles by pressing a single key. Fill shapes with light or dark solid. Five character sets can be displayed normally, sideways, or even upside-down. Entire screen can be printed on ThinkJet at virtually any enlargement. Screens can be saved for future use. Screens can also be imported into Sketch from Lotus and other programs. Only uses 44K of memory.

See P. 8 Soft Padded Cases

Roomy, rugged, high-quality, highly padded cases to protect your Think-Jet, HP9114, and HP Portable when traveling.

Tiger Fox

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

See P. 19 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 Tutor 2.0, a step-by-step interactive tutorial on Turbo Pascal programming; and Turbo Pascal Starter Kit (Turbo Pascal, Turbo Tutor, and Portable Pascal Programs).

See P. 27 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. 14 Webster's Spelling Checker

Rated Editor's Choice by PC Magazine, this spelling checker packs a hefty 110,000-word dictionary into just 207K of disk memory. Webster's shows you incorrect spellings in context and suggests corrections, also lets you preview questionable words before you edit. Excellent user interface—exceptionally easy to learn and use. Customized for the Portable Plus and HP150.

WordPerfect 4.1

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

See P. 15 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.

See P. 21 WorldPort 1200 Portable Modem

A battery-powered, highly compact (4"×2"×1"), lightweight (6.5 oz), full-featured external modem that transmits data at 1200 baud—four times the speed of the internal modem that comes with the HP110 Portable.

MemoMaker

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 Memo-Maker, 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 EDITORS'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 Memo-Maker, 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.

Beyond MemoMaker—Part II

THE FORMATTER gives you advanced formatting capabilities that even THE EDITOR can't handle-like: multi-line headers and footers automatic hyphenation (you can even add your own words to the built-in dictionary) • user-specified page length and line length automatic page numbering tables and charts-•table of contents generation • and more.

THE FORMATTER works by imbedding special formatting codes into your EDITOR, MemoMaker, or other ASCII text files. You can customize THE FOR-MATTER for almost any printer .

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)

- 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.

RUNS ON:	
HP Portable	•
Portable Plus	•
HP150	•
IBM PC/HP Vectra	•
Available on EPROM/F	ROM

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.

\$79.95 for Portable Paper subscribers.

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See order form for details.

TO ORDER

Use postage-paid order form inside back cover or send check or credit card information (#, exp. date, signature) to: Personalized Software P.O. Box 869, Fairfield, IA 52556 515/472-6330 for the Portable Plus! (See ROM ad

Special combined offer— **SAVE \$30:**

THE EDITOR and THE FORMATTER together-Only \$99.95 total (Portable Paper subscribers only

Note: The user manual itself is a challenge, and no technical support is available. We therefore recommend THE FORMATTER for strong computer users or those adready familiar with text formatters.

If you need any of the features listed above, and if you're willing to spend the time it takes to learn the commands, THE FORMATTER is for you. Order your copy, risk-free, today.

\$49.95 for Portable Paper subscribers

The Portable Paper Personalized Software P.O. Box 869 Fairfield, Iowa 52556

Application to Mail at Second Class Postage Rates Pending at Fairfield, IA

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

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

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

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 Golditer