



THE Portable Paper

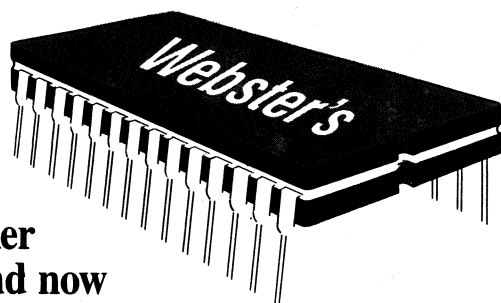
HP to Produce DOS/1-2-3 "Palmtop"

PS News:
2400 Baud Internal Modem, Flash ROM Card,
WordPerfect & Norton Utilities on ROM,
MORE!

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Portable Plus users: At last! A great spelling checker available on ROM!



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 & Schuster, 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
- Enter the correct spelling manually

RECOMMENDED FOR:

HP110 Portable	Portable Vectra	●
Portable Plus	HP150	●
IBM PC and compatibles		●
Available on ROM Backup for the Portable Plus		

- 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 time

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 ("spelling" 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" 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.

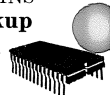
John Dvorak, writing in the *San Francisco Examiner*, called WEBSTER'S "the

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 3½" disk customized for the Portable Plus and HP150 \$79.95
\$69.95 for Portable Paper subscribers.

PRODUCT NO. WB11NS

Webster's is available on ROM backup for an additional \$179. See ROM ad in this issue for important details.



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. A special utility allowing WEBSTER'S to run on the HP150 is included on the disk.

60-DAY MONEY BACK GUARANTEE

See order form for details.

TO ORDER

Use enclosed postage-paid order form or send check or credit card information (#, exp. date, signature) to:

Personalized Software

P.O. Box 869, Fairfield, IA 52556 515/472-6330

PV PV users: Please subtract \$10 from subscriber price (since we don't have to send you additional customized disks or extra documentation). Be sure to indicate "PORTABLE VECTRA" on your order.

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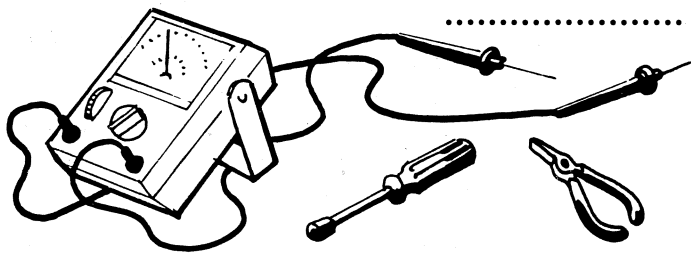
Price List center

NEW!

Save money on repairs and upgrades

90-day guarantee
on all repairs
and upgrades.

Let our expert technicians fix your HP equipment
— HP110, Portable Plus, ThinkJet, HP9114,
HP150 computers and disk drives, and more!



HP Portable and HP150 users: If your equipment isn't working properly — or you've outgrown its capacity — don't throw it away!

Send it to us instead. We'll send it back running like a charm.

Repairs are as low as \$65. Most upgrades are \$250 or less. And we guarantee our work for a full 90 days.

To set up an appointment for a repair or upgrade, give us a call. Then send in your machine. We'll look at it for just \$25, then give you a firm price on parts and labor. If you decide to go ahead, the \$25 will be applied to the cost of our work.

Here are some typical charges:

- HP110 or Portable Plus screen replacement or upgrade: \$195
- HP110 or Portable Plus keyboard replacement: \$250

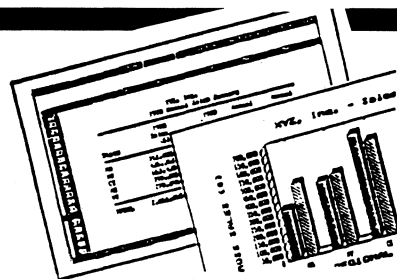
- HP110 or Portable Plus case replacement: \$175
- HP110 or Portable Plus internal modem replacement: \$195
- FastPlus upgrade (faster processor for Portable Plus): \$250
- 256K to 512K upgrade for Portable Plus: \$395
- 128K to 512K upgrade for Portable Plus: \$495
- HP9114 repair: \$65-135
- HP ThinkJet repair: \$65-135

Other repairs depend on our cost of parts and a \$42/hour labor charge. You can expect a range of \$75-\$250 for repairing most HP Portable and HP150 computers and peripherals.

To extend the life of your HP equipment, call our repair service today! (800) 373-6114. We guarantee you'll be pleased with the results!

Why pay \$500 or more for Lotus® 2.01 when you can have all the features for just \$79.95?

\$79.95 for disk version; \$195 for disk version plus ROM Backup (subscriber prices)



Until now, if you wanted the advantages and compatibility of Lotus 1-2-3, Version 2.01 for your Portable Plus, you had to pay more than \$625 for a ROM.

Now you can have a program that acts similar to Lotus 2.01 for just \$195 (disk and ROM) — or only \$79.95 for the disk version.

You can't get that much spreadsheet power for your Portable Plus for less!

The program is called As-Easy-As, because it's as easy as 1-2-3, and it fully lives up to its name: As-Easy-As does almost everything Lotus 2.01 does (and some things it doesn't).

If you're new to spreadsheets, you'll find As-Easy-As powerful, yet easy to learn and use.

If you already use another spreadsheet, you have very little new to learn. As-Easy-As works in much the same way as Lotus — and it reads and writes Lotus, version 2, WK1 files and Lotus, version 1, WKS files, so you don't have to change your data.

Gain the advantages of a full-fledged spreadsheet at a fraction of the price, order As-Easy-As at our risk today.

Retail Price	Our Price
--------------	-----------

As-Easy-As on disk	\$99.95	\$79.95
PRODUCT NO. AS11NS		

As-Easy-As ROM Backup (Disk + ROM)	\$215.00	\$195.00
PRODUCT NO. AS11NK		

MEMORY REQUIREMENTS

As-Easy-As requires 272K of Portable Plus main memory, plus 120K of electronic or floppy disk space (plus another 50K of disk space if you want to use the Help files).

As-Easy-As does virtually everything Lotus 2.01 does — and more! Portable Plus version available only from us.

AS-EASY-AS

As-Easy-As features include the following:

- Accommodate large worksheets (8,192 rows by 256 columns)
- Choice Pull down/Panel Menu
- Choice of functions including mathematical, statistical, date, time, logical, financial, string, and user-definable
- Powerful frequency distributions tables (Bins)
- Capable of linking current worksheet with information from other worksheets
- Versatile, powerful graphics capabilities, printer support includes 9/24-pin & LaserJet, ability to create .PIC files, chart-generation capabilities for bar, line, X-Y, pie, stacked bar, hi-lo, polar, area charts, delta semi-log & log-log graphs
- User-config. screen options
- X/Y data regression
- Database operations, data input forms, reads/writes dBASE files
- Text search, replace, justify
- Goal-seeking capabilities (give desired answer & As-Easy-As gives you the input)
- Configurable Printer setup
- Worksheet auditing
- Named range, function, and macro selection lists
- Multiple planes (3-D simulate)
- Macro program language, including 70+ powerful macros
- Macro record/playback capability, single-stepping through macros
- Full support of sub-directories and path names
- Able to shell to DOS

Lotus 1-2-3 is a registered trademark of Lotus Development Corp.

PUBLISHER'S MESSAGE



Hal Goldstein

HP in Corvallis, Oregon, the original manufacturers of the HP110 and Portable Plus, has the charter and tradition of producing state-of-the-art calculators. Under the umbrella of that charter, they soon will put HP back into the MS-DOS portable computer market.

HP110 and Portable Plus users will be disappointed that HP Corvallis will not, at least as of yet, produce a follow-up product to their Portable Plus. Internal HP politics prohibits this.

However, HP Corvallis apparently will do the next best thing. According to various sources, they soon will introduce

a "palm-top" PC compatible computer with Lotus 1-2-3 and Lotus Metro built in ROM. The palm-top will make use of a 1 Megabyte card for RAM storage. Sound familiar? See the lead 110% article for more details.

The Portable Plus won't die. More products for the machine keep coming to our attention. Read this issue's expanded News From Personalized Software to learn about the latest developments on an internal 2400 Baud modem with Fax Send capability, the 1 Meg RAM/2 Meg Flash ROM drawer, Norton Utilities on ROM, the Keefe Kollektion, WordPerfect completely on ROM, and more. Also with this issue we are announcing HP110 and Portable Plus systems bundled with plenty of software at excellent values. You may find this an excellent time to purchase systems for yourself, your company, or your family.

In this issue you will also find the usual assortment of tips, tricks, and knowledge about HP Portables. In particular those with battery problems should look at Richard Hall's article about batteries and fuses. Portable Vectra and LS/12 users who desire more storage space, see Vectra Views for a discussion of three portable hard disks that connect to the host computer via the parallel port.

Finally, I write this message as the Gulf War comes to the end. One of our salespeople in his National Guard unit, Cliff Harvey, was called to serve. We look forward to his return soon.

I am going to take the liberty of making a few remarks, not as publisher of a computer magazine, but as a human being.

Technological advances have made our human family small and interconnected. Cultural differences, natural to life, enrich all of our experience. However, our contacts with people of different lands and different cultures validate our innate sense: all people have the same fundamental desire to live life more fully without suffering. We, as human beings, are more similar than we are different.

Every individual and every nation has a sovereignty that must be respected. As we grow stronger within ourselves as individuals and as human species, let us pray that humanity no longer will need huge armies, guns, bombs, and other weapons of destruction to solve its problems and preserve that sovereignty.

I'm very optimistic. We see much on the surface of life that may seem discouraging. Yet, the melting of the enmity of the superpowers, putting men in space, and the daily use of our portable computers show other possibilities. Humanity continually accomplishes

FOR HANDY REFERENCE: Items *directly* relevant to the three HP Portables are denoted in this issue as follows:

110 110 Portable **P+** Portable Plus **PV** Portable Vectra **LS/12** Vectra LS/12

When items are *partly* or *indirectly* relevant they are denoted as:

110 110 Portable **P+** Portable Plus **PV** Portable Vectra **LS/12** Vectra LS/12

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incredible feats through the collective power of its intellect, its consciousness, its desire, its spirituality. As human beings we have the collective ability to make anything of the world we desire. Let's desire and create not only world peace but a Heavenly Earth. Why not?

Hal Goldstein

Letters

Connecting an HP110 to an Apple LISA

110 More than once, I have noted that a subscriber was thankful for *The Portable Paper* because of one single piece of information that saved him or her time, helped to unsnarl a complicated problem, or offered an essential piece of information.

P+ I resubscribed to *The Portable Paper* largely as an expression of loyalty to you and your dedicated band of courteous employees ... I recently purchased an Apple LISA from Sun Remarketing (I'm becoming an expert at locating top-of-the-line equipment cheap) with a 20MB hard drive, 12" screen, and 2MB RAM, so I could run sophisticated Macintosh programs like Pagemaker 3.02, Illustrator 88, and Aldus Freehand. Coincidentally, your November/December 1991 issue proclaimed that it was possible to connect the HP110 to a Macintosh. After some snooping I discovered that the 25-pin cable that connects my HP110 and HP DeskJet also works between the HP110 and the serial port in the back of the LISA. By following Byron Rigby's step-by-step instructions I had, within a half hour, HP text appearing simultaneously on the LISA and the HP110 screens! (The instructions for saving configurations in TERMINAL.COM didn't work for me: "save the configuration by pressing f1" didn't work, but saving by pressing f2 [store file] did work.)

This ability makes the sturdy, reliable HP110 a perfect text entry portable for the MAC! The 110 has all the good features of the HP portable, plus the capability of sending things to an Apple ...

So, for \$1,000 (down from \$10,000 in 1983) I have a LISA that can run MAC Plus programs. A used HP110 can be purchased inexpensively from Personalized Software [*\$395 for a refurbished HP110 backed by a one-year warranty*]. For not very much money I have quite a powerful computer system. The DeskJet I purchased used from you will also work with the LISA, using Jetlink Express by GDT Softworks Inc.

I had heard a lot about HP portables being incompatible with IBM or Apple products, but within a half hour I had everything working fine! Using your

HP92221P cable I now send text to the LISA, which downloads it into a file in Quick Link II (one of many communications programs that will work). Then I use Apple File Exchange to translate the file from Quick Link II to Microsoft Word 4.0, with instructions to delete the line feed after each carriage return. I am absolutely delighted with this unexpected turn, and wish to thank you personally.

On another issue, the growing cry concerning a range of illnesses that are attributable to exposure to CRT radiation, the susceptibility to obscure health symptoms for people like myself who feel physically drained by too much exposure to a CRT, makes the HP110 LCD screen an important selling feature now that the inexpensive HP110 can readily be used to input text for a LISA or MAC. There is no radiation from the HP110. (I have measured it using a rented meter.)

I have an idea you might want to consider: insert a notice in the next issue of *The Portable Paper* calling for subscribers to send in a description of their HP-related software and hardware setups. They could include comments about special hookups, unusual configurations, batch files, and any other features of their systems that have appealed to them. I, for example, would write a note including the fact that I have been delighted with the Editor II, and HPrint working with the HP110, HP9114 drive and HP DeskJet. Now, all this is being reconfigured to include the Apple LISA! I am writing the text for my next book of inventions: *Public Therapy Buses, Information Specialty Bums, Solar Cook-a-mats, and Other Visions of the 21st Century*, (to be published by St. Martin's Press, Fall, 1991) on the HP110 and transferring it to Pagemaker layouts in the LISA. The entire book, except for my drawings, will be done on the HP110 and the Apple LISA.

My thanks again. I "feel" the good orientation and philosophy emanating from Personalized Software, which I understand includes employees who practice Transcendental Meditation and study related subjects at Maharishi International University in Fairfield. Dedication to universal values is not necessarily contrary to sound and ethical business success. The enthusiasm, honesty, seriousness, and cheerful customer support of your "for profit users group" has been a success. Many of us are rather happy we stumbled onto Personalized Software.

Steven M. Johnson
53324 Kenneth Avenue
Carmichael, CA 95608

HP110 in Botswana

110 Please accept a belated but hearty thanks for your swift and professional service in getting the correct information to me, arranging the necessary credit, and shipping the extra HP110 plus batteries to me before our return by plane to Botswana. Since I only contacted you 6 days before our flight, including a weekend, I think it pretty impressive that the goods arrived one day after we finalized arrangements, and two days before our flight. Everything was in good order. What helped particularly was your ready willingness to discuss matters at length over the weekend and at your home by phone. I hope your company gives adequate recognition to this kind of customized, professional, rapid, and high-quality service.

P+ I wish also to express my pleasure with the HP110 and Portable Plus line of products, and my gratitude that your company has picked up where HP has left off. We spent a year back in the States after having worked in Botswana for the previous 3 years. We were, of course, eagerly looking over the new portables, attracted particularly by the backlit screens. But then we reflected that we had bought our HP110 in March 1985, investing in the features of ruggedness and reliability of HP products; that we have used it continuously for the intervening 6 years, transporting it on the corrugated dirt roads, subjecting it to the fine dust and fierce heat of Botswana for those three years, exercising only common sense precautions, without anything, ANYTHING, going wrong, ever! So we decided to continue using it; what a workhorse.

We have an interloop system, so we can operate independently of electricity for extended periods, because we do not ourselves have electricity. We work in a rural setting organizing community development projects. The backlit screen would come in handy in place of candle or lantern light at night, but we feel that the hardware is proven for durability, the software is speedy and adequate for all our needs, and we are getting along just fine, thank you. We got a second unit so each of us can work on one, and so one is available when the other is away being charged. This coming year we expect to buy another refurbished ThinkJet and Disk Drive and sell them locally with one of the HP110s. Then we will upgrade ourselves to a Portable Plus. We will also try the DeskJet printer for higher quality printing.

Douglas Maher
Box 162
Maun, BOTSWANA

Controlling ThinkJet: line spacing, print pitches with MemoMaker

110 **P+** I purchased a used HP110 Portable from Personalized Software last February, and I am pleased to say that it is working fine alongside the HP2225B ThinkJet printer and the HP9114 external disks.

However, with the above setup I have a small technical problem which may be of interest. My problem is how to address or communicate with the printer to take advantage of the line spacing print option, and the different print pitches such as expanded, condensed, and expanded-compressed — all three of which show up on the self-test print-out sheet. (I have no problem with other "opts"—i.e. underlining, **boldface**, and double space.)

I hope you have the answer to this problem, as I have been unable to fathom the murky depths of the Owner's Manual.

Truman Henley
762 W. Montana Avenue
St. Paul, MN 55117

[First of all, you can access any of the ThinkJet's features by entering PAM's f6 System Config. In System Config you can change line spacing, printer pitch, and perforation. However, once you exit System Config, you may not change spacing, pitch, or perforation until you reenter System Config. Portable Plus users may enter Escape Sequences (listed in the ThinkJet manual) to control the ThinkJet. Ctrl-[within Portable Plus MemoMaker generates the Escape character. There is nothing HP110 owners can do within MemoMaker.

When I first obtained my HP110 in 1984 I faced the same frustration. At that time I wrote a program which we eventually marketed called PrinterTalk. PrinterTalk prints MemoMaker documents with embedded two-character strings that allow you to control your ThinkJet. So, for example, if you start a phrase with @W and end it with @Z, PrinterTalk will print that phrase as compressed. Ed Keefe, our Looking Glass columnist wrote another program called Format110 that lets HP Portable users add headers, footers, and page numbers to their MemoMaker documents. We sell the two products together to subscribers for \$59.95 — Hal.]

Loves LaserJet IIP, wants Flash ROM Drawer

I recently purchased an HP LaserJet IIP and I love it! For the first time I have been pleased with what WordPerfect 5.0 from Personalized Software can do. I will be the first to STRONGLY recommend one to every Portable Plus user. For the cost of software and the total cost I have

invested in my system (purchased long before Personalized Software had such great deals) the expense is well within reason.

P+ One can purchase one of these babies for less than \$1,000 if you are willing to look around. The setup is easy and everything works! I have installed HP's WordPerfect font cartridge and again encountered no problems. It's nice to do *italics*, large and extra large fonts.

The only item that would make my Plus system more complete would be the rumored "Flash ROM/RAM drawer" at an affordable price. The internal hard drive sounds interesting, but probably way out of line as far as price (you can get a 386SX for \$2,000 these days, with VGA, or even SVGA) so I wait with skepticism.

Until then I am very interested in getting WordPerfect 5.0 completely on ROM (given that the upgrade is reasonably priced). I understand completely the R&D of these products, but I also have a need in price vs. performance from other products that I may someday upgrade to. This reasoning is what was behind my decision to purchase the LaserJet IIP — it will be useful for years to come.

Products developed for the Plus tend to be limited vs. cost. I would have upgraded to a 1MB drawer long ago, if not for the price. (You can buy a complete 286 system for nearly the same price!!) I love the Plus, but price for the system and hardware shot itself in the foot shortly after conception.

You guys, however, have saved the Plus from a fate worse than death and should be commended for it! I love my Plus because you people made the Plus sing, while HP did nothing but command extortioner prices for something that did not work with the real world. I, however, never hold a grudge, because HP does manage to make rock-solid, soundly-engineered products that seem to last beyond its competition. They just screwed up with the Plus (the bean counters got in the way). I will continue to support Personalized Software and all their collective efforts for the foreseeable future, because I still need my portable, and wouldn't trade it (except maybe for Compaq 386 STE) for any of the models currently on the market.

Keep up the good work, and the rest of you buy a LaserJet for the Plus! You won't regret it.

Keith Egan
Geologist
56 Marindale
Logan, Utah 84321

Trouble with P.Plus battery & reaching you via phone!

110 **P+** **PV** **\$1/2** I'm writing you a memo because it seems to be such a hassle to try to communicate over the phone. Many, many times I've paid for a long distance call just to hear your answering machine say "everyone's in a meeting, etc." Also, when I ask for a particular salesman, I get a very demanding "who's calling" and then "he's in a meeting." This is typical used car sales tactics which I and others find very rude. Why aren't calls put right through — does it make any difference who's calling. I know of two potential 110 sales you have lost because of this. I think Hal needs to 'fix a problem.

About my plus: I think I have a problem with the battery. If I leave it unplugged overnight or for a day the battery will go from say 95% to 0% (or close to 0%). It does turn off after 5 minutes. My 110 has never gone below 64% and I don't treat it any differently. Any ideas? I still have a problem with DAC Easy — it won't load even if I try to load one file at a time — always hangs up on one particular file. This program uses a lot of memory — do you really need the 1 or 2MB drawer?

Also, it appears my briefcase was stolen a couple of days ago and my "Time Manager" manual was in it — how can I get another?

Robert A. Moorhouse
P.O. Box 37
St. John, Virgin Islands 00830

[We are sorry for any inconvenience or discourtesy you or any other customer has experienced with us. We have company-wide meetings Tuesday and Friday afternoons at 4:00 and other occasional meetings when we turn on the answering machine. We have been short-staffed since the Gulf war began as Cliff, one of our three salespeople, was called to serve.

See the battery fuse article in 110% for a reason for your sudden battery problem.

Finally, Frank Keresztes-Fischer has been working on putting Dac-Easy on ROM. We hope to announce its availability next issue. A ROM version of DAC-Easy should free up some space. — Hal.]

Adventures: 1991 Subscriber's Disk

VIEW.COM

In the .DOC file for VIEW.COM, REP is mentioned but not explained. It is REP.BAT that contains the following code:

(Letters continued on page 39.)

110%

Making More of Your HP Portable

by Hal Goldstein

HP Palmtop PC with 1-2-3 Built In

Many of us have been waiting for years for HP Corvallis to produce another laptop that would build on the many advantages of the HP110 and Portable Plus electronic RAM and ROM disk based approach to portable computing. Unfortunately, as many of you know, HP politics and logistics forced an end to the Corvallis, Oregon charter to produce laptops. The laptop division moved to Sunnyvale, CA where eventually HP decided to get out of the portable computer business.

Meanwhile HP Corvallis has continued producing state-of-the-art calculators. According to rumours we have heard for months, Corvallis is going to enter the MS DOS world again with a new Palmtop PC. Lotus 1-2-3 and Lotus Metro will be built in ROM. There will be a 1 Megabyte RAM card available for file storage. Here is what a recent CWeek magazine article reported.

According to *PC Week* magazine Hewlett-Packard and Lotus Development Corporation are co-developing an 8088-based pocket-sized computer called "Jaguar." HP's contribution to the project is a palm-sized PC-compatible that weighs less than 12 ounces and has a display size of a Rolodex card. Lotus adds 1-2-3, 2.2 and Metro desktop management software (loaded into ROM so that the programs don't take up any of the 1MB RAM card used for data storage). The diminutive calculator-sized computer comes with 512K of internal memory and is expected to cost around \$600.

Jaguar will offer the full range of HP business calculator mathematics, the core graphing and spreadsheet capabilities found in 1-2-3, 2.2, and Metro's memo pad, appointment book, and calendar software. The different software programs are accessed by pressing calculator buttons. The display, though small, is reportedly crisp and easy to read.

Jaguar is priced reasonably and should be attractive to existing 1-2-3 users as well as the large number of professionals accustomed to the reliability of Hewlett-Packard calculators.

Replacing a Blown Battery Fuse

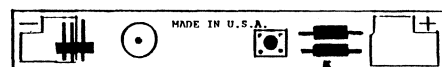
By Richard Hall

Many "dead batteries" turn out to be blown battery fuses. If your HP Portable works when you have it connected to the AC adapter, but not with the battery, you may have a blown fuse (especially if you have reason to believe your battery is charged and in good shape).

The HP110 and the Portable Plus both use a 0.5 amp battery fuse, but because of differences between the two computers, the location of the fuses is slightly different. In addition, the physical appearance of these fuses may differ depending upon the fuses manufacturer.

The HP110's battery fuse is found on the Battery Board, which is located on the top of the 110 battery pack.

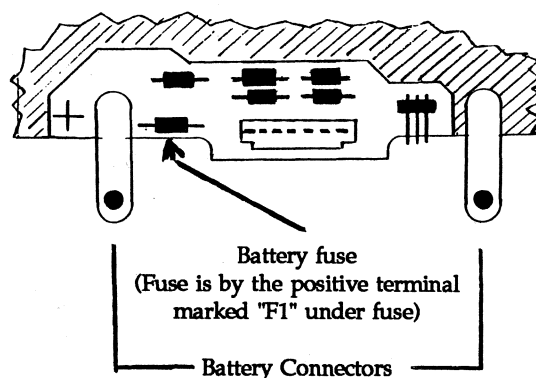
HP110 Battery Board



Battery fuse on 110 battery board
(Lower fuse on positive side)

The Portable Plus's battery fuse is found on the main processor board. (The main processor board and the battery fuse are visible in the bottom of the Plus's battery compartment after you remove the white Battery Cover and the black Battery Terminal Cover.)

Bottom Section of
Portable Plus Main Processing Board



REPLACING BLOWN FUSES

Replacing the fuse requires a new fuse, a soldering iron, and the knowledge and skill needed to solder small electrical components. It's relatively simple to remove the Battery Board from the HP110 battery pack. Then you could unsolder and replace a bad fuse. However, getting at the battery fuse in the Portable Plus is a little more difficult. You may need to disassemble the Portable Plus and remove its Main Processing Board to unsolder its battery fuse. We are not going to describe the process in detail because if you don't already have the skills you shouldn't attempt it.

If you want to do your own repair, Ed Keefe tells us that you can get a replacement fuse through Allied Electronics (800-433-5700). The Allied Electronics catalog refers to the fuse as an "Axial-Lead PICO II Subminiature Fuse," stock number 845-2014. You will probably be able to get the fuse through any competent electronics supply store, including Radio Shack, or you might try one of the many electronics parts catalogs available (Newark, Mouser, DigiKey, etc.).

WHY DID THE FUSE BLOW IN THE FIRST PLACE?

Ron Chase, Personalized Software's technical wizard, says that there is only one reason why a fuse ever blows — "too much current passing through it." Remember, even if you successfully replace your own fuse, you don't eliminate the reason the fuse blew in the first place.

Component failure inside the computer can cause you to blow a battery fuse. However, another more common cause for a blown battery fuse is shorting out the circuit board while changing a battery. Take care not to allow the battery terminals to make contact with the exposed printed circuit board when removing or replacing the battery. Make sure the metal strap that connects the battery is folded out of the way and be careful not to touch the circuit board with a nut driver, torx wrench, or any metal tool.

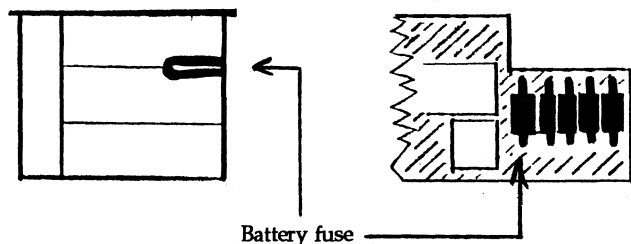
THINKJET & DISK DRIVE BATTERY FUSES

The ThinkJet and the HP9114 both have a 5 amp battery fuse located in the battery pack. The HP9114's battery fuse is soldered on a small green circuit board (left-most in a row below the notch in the top right of the board).

The ThinkJet's fuse is soldered between two of the batteries and is covered with black "shrink tubing" (it looks like a thick black loop of wire).

ThinkJet Battery Board

HP9114 Battery Pack



PERSONALIZED SOFTWARE REPLACES BATTERY FUSES AND TROUBLESHOOTS FOR THE CAUSE

If you wish to have Personalized Software replace a battery fuse or troubleshoot your HP Portable, Printer, or Disk Drive, give us a call at (515) 472-6330. Ask for one of our sales/service representatives, who will answer any questions you have, fill out a Service Repair Request, and give you shipping information.

Some Frequently Asked Questions About HP Portable Computers

DISK DRIVES

- Q.** How many external disk drives may be connected to the Portable?

A: *The Portable can support up to 8 external disk drives.*

- Q.** My 9114 seems to need charging after an hour of use, even when I have it plugged into the wall outlet. Why does the power still run down so quickly?

A: *The HP9114 can store enough power to last 40 minutes during times of heavy disk access. The charger that comes with the HP9114 does not allow the HP9114 to run off of the wall outlet, it is used solely for charging the disk drive battery when the drive is turned off. To be safe, always recharge the disk drive before doing large disk backups.*

Personalized Software's Empowerer II lets you run your HP9114 Disk Drive directly off AC current. A modified 9114 battery case inserts into the disk drive's battery compartment and connects to a special AC adapter. We have the Empowerer II for both the HP9114 and the ThinkJet. Be sure to specify which peripheral you will be using the Empowerer II with. (Product number for the 9114 Empowerer II is EM13NH. Subscriber price is \$95.)

- Q.** I have a Portable, a ThinkJet printer and an HP9114 Disk Drive. The Disk Drive was fully charged at the beginning of the day. Even though I never accessed the drive, the power light started blinking at the end of the day. I only used the printer. Why is the disk drive losing power?

A: *Even when the HP9114 is not being accessed, it is "awakened" for several seconds each time another peripheral on the loop before the HP9114 is accessed. To help optimize*

New software breakthrough!

50% more file space for as little as \$89.95!

- **Easy to use**—if you can save a file, you already know how to use **SQUISH PLUS**!
- **A must for every HP Portable owner—ROM Backup version especially valuable if you use a Portable Plus!** (Sorry, **SQUISH PLUS** doesn't run on the HP110.)

It isn't often we find a program that's a must for every portable user, but Squish Plus is just such a program.

Squish Plus lets you increase your disk storage space by 50% or more for as little as \$89.95—without having to install any hardware or learn any new commands.

Squish Plus compresses files, saving them much more efficiently than DOS. For example, a word processing file of 50K might only take 30K using Squish Plus.

COULDN'T BE EASIER!

To use Squish Plus, you simply add a new drive letter to your system (for example, e:). If you wish, the new "drive" can be password protected.

Then, whenever you save files to the new "drive," Squish Plus compresses them automatically. When you retrieve a compressed file, Squish Plus automatically expands it to its normal size.

The saving in disk space is enormous: Squish Plus compresses data files (spreadsheets, text documents, databases) by 30-70%, and compresses program files by 5-25%. On the average, *you will increase the amount of data you can store on a disk by 50% or more!*

Note: All your other software can use the compressed data *as is*. There are no new commands to learn. You set up directories and perform all file operations—save, retrieve, copy, rename, backup, etc.—the same way you always do. (File backup takes up fewer disks, of course, and is significantly faster.) You can even use the Norton Utilities "Undelete" program to re-

cover compressed files that have been deleted!

Initial set up is easy too. There is no need to reformat or repartition your present disk. All you do is install Squish Plus as a "device driver." (You don't even have to know what that means. The manual—one of the best we've seen—walks you through the procedure in 5 minutes.)

ANY DRAWBACKS?

Other file compression programs impose a speed penalty. But Squish Plus is so efficient *there's virtually no loss of speed*—especially on the Portable Plus—except perhaps for a slight additional wait with some of your program files and largest data files.

Other file compression programs also set aside a significant amount of internal memory space for file decompression. But Squish Plus uses only 36K of memory for everything.

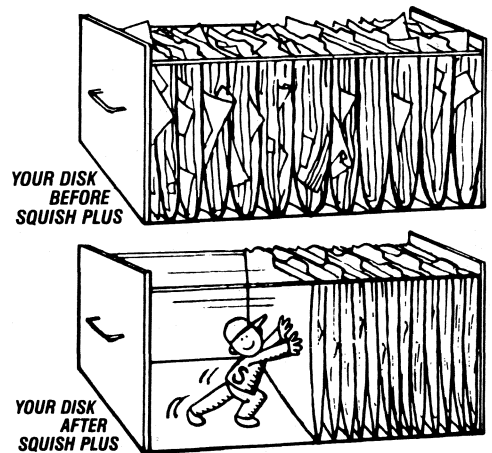
(Portable Plus users may need to increase internal [main] memory by as much as 36K. On the Portable Vectra and LS/12 Laptop, Squish Plus simply borrows 36K from the 640K of memory that's built in.)

WHAT ABOUT DISK SPACE FOR THE PROGRAM ITSELF?

The files on the Squish Plus disk total 139K, including several Squish Plus utilities.

Portable Plus users can get by with just 54K by eliminating all but two essential Squish Plus program files. (You can even reduce your Edisk space requirement to zero if you're willing to disable PAM and load Squish Plus from an HP9114 each

RECOMMENDED FOR:	
HP110 Portable	
Portable Plus	●
Portable Vectra	●
HP150	●
IBM PC and compat.	●
Available on ROM Backup for the Portable Plus	



SQUISH PLUS "compresses" your files so they take up less disk space!

time you reboot).

A better alternative—and the one we recommend—is to purchase Squish Plus on ROM Backup (see box below).

Whatever computer you use, *there is no other way to expand your file storage space that is as easy or economical as Squish Plus*. Order your copy at no risk today.

	Retail Price	Subscriber Price
Squish Plus for IBM PC compatibles	\$99.95	\$89.95
PRODUCT NO. SQ12NS		
Squish Plus for Portable Plus	\$129.00	\$99.95
PRODUCT NO. SQ11NS		
Rom Backup Package (includes Squish Plus for Portable Plus on disk and two 64K Backup ROMs)	\$264.00	\$234.95
PRODUCT NO. SQ11NK		
Squish ROMs (Must own Squish Plus for Portable Plus for each ROM set purchased)	\$135.00	\$135.00
PRODUCT NO. SQ12NR		

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Special Portable Plus version

The authors of Squish Plus have worked with Personalized Software to create a customized version that runs on the Portable Plus. *This version is available only from us.* Be sure you specify "PORTABLE PLUS VERSION" when you order.

Buy Squish Plus on ROM!

With disk space at a premium in the Portable Plus, the best way to buy Squish Plus is on ROM Backup.

Our exclusive ROM Backup package includes the Squish Plus disk, and two ROMs—128K total—that contain all the Squish Plus files (except for one that you'll never need).

With Squish Plus on ROM, all the useful Squish Plus utilities will always be available, and you won't have to give up any disk space at all.

CALL NOW!

515-472-6330

time of the HP9114, either take the disk drive off the loop when not in use, or put it after all the other peripherals on the loop.

LOTUS 1A ON THE HP110 AND PORTABLE PLUS

110
P+
Q: Every time I try to run the HP110 Lotus 1-2-3 Tutorial, I get the "Loading Tutor" and then I return to the PAM screen. What's wrong?

A: *You need at least 192K bytes of memory on the electronic disk to load the Lotus Tutorial. Check the SYSTEM CONFIG menu (f5 from PAM) for the number of bytes you have allocated for memory.*

Q: Is there any way to load the Lotus Tutorial without using an external disk drive?

A: No.

Q: What are the differences in Lotus 1-2-3 on the Portable Plus and the HP110?

A: *Louts 1-2-3 runs virtually identically on both machines. It executes out of ROM and requires about 40K bytes overhead of RAM. The PrintGraph and Translate utilities are on the external HP110 utilities disk and on utilities disks that come with versions 1A and 2.01 for the Portable Plus. The tutorial on the HP110 utilities disk requires a minimum of 192K RAM to run.*

Q: How much memory does the Lotus 1A application use?

A: *Approximately 96K bytes minimum is required on the HP110 and 108K bytes minimum on the Portable Plus.*

Q: Can the built-in Lotus application on the HP110 and Portable be transferred to another personal computer?

A: No. *None of the built-in applications on the HP110 or Portable Plus are transferrable.*

Q: When I try to run PRINTGRAPH the message "LOADING PRINTGRAPH" appears, but the system returns to the PAM menu instead of running the program. What's wrong?

A: *You need at least 152K bytes of memory on the Edisk to load PRINTGRAPH. Check SYSTEM CONFIG menu for the number of bytes you have allocated for memory.*

Q: Why does the message "MISSING OR ILLEGAL CONFIGURATION FILE" appear on the screen when I try to run LOTUS 1-2-3 on the HP110?

A: *To clear this message press Return and select the following commands: /WORKSHEET, GLOBAL, DEFAULT, UPDATE. This creates a default configuration file called 123.CNF for which LOTUS 1-2-3 looks each time it is invoked.*

Q: I want Lotus 1-2-3 to pause after each keystroke (single-step execution) in my macro, rather than type the entire sequence. How is this done?

A: *Press CTRL-f1. There is no need to hold down the Shift key as indicated in the manual.*

Q: I worked on a Lotus file that I had transferred from my IBM to my 110, and then transferred it back to the IBM, but now the worksheet only takes up half of the IBM screen. How can I get the worksheet back to normal?

A: *When you transfer a Lotus worksheet from The Portable to the IBM, it remains in its 16 former line format even after it is transferred back to the IBM. To expand the worksheet back to its original size on the IBM, hit /WORKSHEET WINDOW HORIZONTAL to create a window. Then invoke WORKSHEET WINDOW CLEAR and your worksheet will then take up the full IBM screen again.*

OTHER QUESTIONS

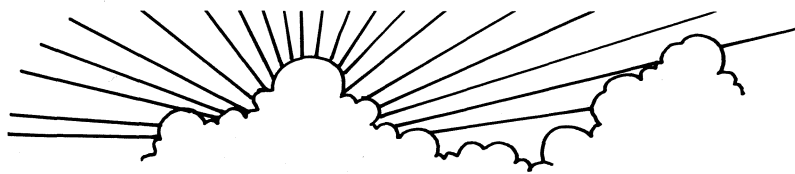
Q: Can you send control or escape sequences to the printer in a MemoMaker file?

A: *MemoMaker on the HP110 Portable does not support embedded escape sequences. Press **Ctrl-]** on the Portable Plus.*

Q: I ran out of memory when using MemoMaker. How can I configure The Portable for the largest possible memo?

A: *Your Memomaker document is limited to available system memory or 64K bytes, whichever is less. To get a 64K document, your system memory must be set to 120K or greater. This allows for 27K taken up by DOS, and 20K used by MemoMaker. With your memory set to at least 120K, you can get 819 lines, or 14.9 pages. Note that the amount of memory used is independent of your settings or the amount of white space: to maximize the size of your document set the margins as wide as possible and don't use blank lines.*

Q: The MemoMaker program is much larger on the HP150. Why?



The Editor II It's way beyond MemoMaker!

You won't believe all the word-processing features this \$129* program contains—and it takes up less than 40K of memory!

* (only \$99.95 for Portable Paper subscribers)

By Hal Goldstein

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

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

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

THE EDITOR II's most valuable features are listed on the chart to the right. It's quite a list, isn't it? To me, THE EDITOR II is a real blessing. I use it daily instead of MemoMaker, and I've silently given thanks to its author, Ed Gilbert, many, many times. Just a few minutes with THE EDITOR II (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 great features listed to the right, there are six more I especially want to emphasize:

1. THE EDITOR II's Lotus-like menus make it incredibly easy to use.
2. THE EDITOR II 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 II will automatically back up your files to protect you against mistakes: When you save a file, THE EDITOR II saves not just the current version, but the previous one as well.

The Formatter

THE FORMATTER gives you advanced formatting capabilities that even THE EDITOR II 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 II, MemoMaker, or other ASCII text files. You can customize THE FORMATTER for almost any printer.

4. THE EDITOR II takes up less than 40K of memory.
5. THE EDITOR II loads and saves files and executes commands exceptionally fast.
6. THE EDITOR II comes with a well-written reference manual and a step-by-step tutorial.

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 II simply can't be beat. See for yourself: Order your copy, risk-free, today.

THE EDITOR II on disk \$99.95
Portable Paper subscriber price .. \$79.95

PRODUCT NO. ED11NS

ROM BACKUP version \$194.95
(THE EDITOR II on ROM and disks)

PRODUCT NO. ED12PP

For users of Version I or SuperROM:

EDITOR II Upgrade Kit on disk ... \$35.00
PRODUCT NO. ED14NS

Upgrade Kit on ROM and disk \$58.00
PRODUCT NO. ED15NR

NEW VERSION!
Now has line and block centering,
powerful macros, and new
printed tutorial!
Easy to upgrade from Version I.

RECOMMENDED FOR:

HP110 Portable	●
Portable Plus	●
Portable Vectra	●
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IBM PC and compat.	●
Available on ROM Backup for the Portable Plus	

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Special combined offer—

SAVE \$30:

THE EDITOR and THE FORMATTER together—
Only \$119.95 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 already 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.

THE FORMATTER \$59.95
Portable Paper Subscriber price \$49.95

THE EDITOR II gives you all these great text-editing features and more:

- **Search and replace.**
Just tell THE EDITOR II what word or phrase to look for, and it will display each occurrence and/or replace the occurrences either selectively or globally.
- **Edit two files at once.**
THE EDITOR II 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.
- **Block and line centering.**
THE EDITOR II lets you center blocks and lines of text with a few simple keystrokes.
- **Powerful macros.**
Store any sequence of keystrokes and play it back at the touch of a single key. Macros can be edited, deleted, stored in files—even autoloading on startup. THE EDITOR II comes with over two dozen macros to get you started.
- **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 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 in compressed mode.
- **Lines per page.**
You can specify the number of lines per page, using the control codes required by your printer.
- **Easy in, easy out.**
You can exit from THE EDITOR II, run another program, then type a one-word command and be back in THE EDITOR II exactly where you left off. This includes exiting DOS—which means you can delete, copy, and rename files while running THE EDITOR II.
- **Right justification and automatic paragraph indent.**
A simple command right-justifies your text and automatically indents your paragraphs however many spaces you wish.
- **Undelete.**
A simple command will undelete the last line or block of text deleted.
- **Upper/lower case conversion.**
Another simple command lets you change between upper case and lower case without having to retype anything.

In terms of useful features per dollar, THE EDITOR II is a truly exceptional buy. I urge you to try it. Order yours today.

Hal Goldstein

A: MemoMaker was originally written in Pascal and re-written in Assembly language to conserve ROM space on the HP110 (the HP110 version of MemoMaker is 20K, the HP150 version is 110K).

Although MemoMaker itself is only 20 K on the HP110, the minimum RAM required is 111K. This is because in addition to the RAM required for MemoMaker (20K) you have to allot RAM for the HP110 operating system (27K) and allot RAM for the maximum document size (64K).

Q: How much internal memory is available on the HP110? Can the internal memory be expanded?

A: There are 272K bytes of RAM available on disk A and 384K bytes of ROM on disk B. No, you cannot expand the internal memory. Only external drives may be added.

110 Q: Can I use the Portable in European countries?

P+ A: Yes. You will need a 220 volt adapter/recharger, HP product number HP82066B (Personalized Software has them in stock).

Q: Where is the serial port located on the Portable?

A: The serial port is located on the back right-hand side of the system, next to the modem connector. This is a special 9-pin connector as opposed to the larger 25-pin connector some 8086 computers have.

Q: Will memory be affected if there is a power outage while running the Portable with the adapter plugged in?

A: No.

Q: How do I run the Portable's built-in Diagnostic Test?

A: To run the built-in test, proceed as follows:

- Turn off the Portable
- Hold CTRL-SHIFT-EXT CHAR keys down and press the f8 key.

HP110 users can run a more extensive diagnostic test with the TEST program on the HP110 Utilities disk.



Dungeons and Dragons

By Michael Coulter

[Editor's note: When I left the heart of Silicon valley in California to move to a small town in Iowa, my fellow Hewlett-Packard engineers could not understand it. After six years, one of my

former workers, Michael Coulter, finally paid me a visit. I don't think he is ready to move quite yet, but no one who visits can ignore the high quality of life here.

As a parting gift he introduced a game called Hack that he felt would work on the Portable Plus. (Ed Keefe and Aaron Morse confirm that it does). Further he wrote two excellent documentation files: an introduction and a hints file to ease the transition into Hack's world of Wizards, Umber Hulks, Dragons, and Cavemen. I have edited these two files to give a flavor of the game.

I personally have not entered this underworld of intrigue. Michael warned me of its addictive quality. Therefore, I do not know if there are any problems of it working on the Plus. If you want a copy, order the two disk Keefe Kollektion described in Through The Looking Glass and News From Personalized Software columns for \$29 - Hal.]

P+ Hack is a computer game inspired by Dungeons and Dragons and is a descendant of Rogue. It was first implemented on UNIX. When you play Hack you choose to play a particular kind of character: Caveman, Fighter, Knight, Speleologist, Tourist, or Wizard. Your character will explore the Hack dungeon with the ultimate goal of carrying out the Amulet of Yendor. In your explorations you will encounter various creatures and objects. Your challenge is to learn how to cope with these creatures and use the objects and complete your quest.

A terminal-oriented display is used. As you explore a level, a map is maintained on the screen. Your character will start out on level 1. There are up and down stairways. If you go upstairs from level 1, you exit the dungeon and leave the game. Below the map there is a status line which gives information about the state of your character. Above the map is an input line where you will be prompted for your commands and told of the results of your actions.

Here's a sample screen, after a level has been partially mapped:

```

|.....H.|
|..d..!.....+
|@.....<.....+
+-----+
|
+-----+
|..=.....|
|.....>...+

```

Level 1 Gold 120 HP 2(16) AC 8 STR 18 EXP 1

Your character is the "@" sign. The room contains you (@), your dog (d), a magic potion (!), a Hobgoblin (H), and the up staircase (<). The other room contains the down staircase (>) and a magic ring (=). Any alphabetic character you see on a map is a monster. Most non-alphabetic characters are objects.

A status line will be shown below the map. The above sample status line has the following elements:

USED HP PORTABLES AND PERIPHERALS

USED HP110 Portables
Portable Pluses
HP150s
HP9114 Disk Drives
HP-IL ThinkJets
HP-IL Converters
Video Interfaces
HP Software
HP ROMs
and more
(If you've bought a 1- or
2-megabyte RAM drawer,
we'll even buy your old RAM
drawer and extra memory!)

We buy them.

No longer using your HP
Portable or peripherals?
Turn them into cash
through The Portable
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Prices fluctuate, so
call us for current
figures.

We sell them.

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equipment makes sense.
You know HP quality!
Even used HP machines
can serve you well for
years. Call for current
prices.

We guarantee them.

Any used item you buy from us can
be returned within 30 days for a full
refund. In addition ↴

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(parts and labor)
on all used equipment!

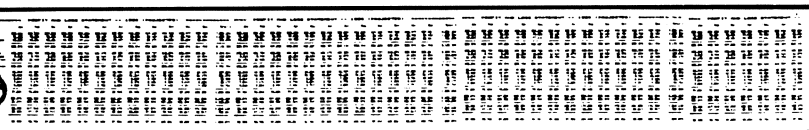
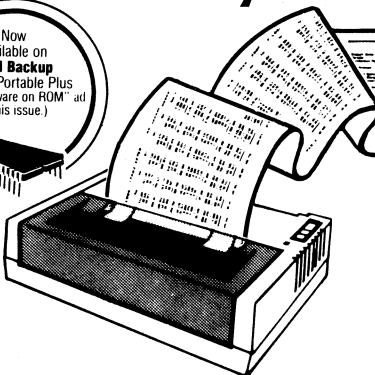
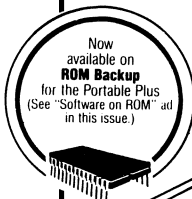
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SIDEWINDER

SideWinder is published by Southern Software

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

(And the HP150, 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

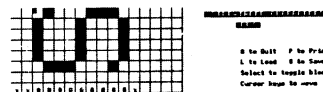
PRODUCT NO. SW11NS

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.

RECOMMENDED FOR:	
HP110 Portable	•
Portable Plus	•
Portable Vectra	•
HP150	•
IBM PC and compat.	•
Available on ROM Backup for the Portable Plus	

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.



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
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\$10 for both utilities when purchased with SideWinder

★ For a complete graphics software program, see ad for "Sketch"
in this issue.

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check or credit card number to Personalized Software, PO Box
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*105 rows for QuietJet Printer

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Level 1 — the level of the dungeon shown on the map.

Gold 120 — how many gold pieces you are carrying.

HP 2(16) — Hit points indicate how much damage you can take before you die.

AC 8 — your armor class. An unarmored character has an armor class of 10.

STR 18 — your current strength. Eating a tin of spinach or drinking a potion of strength will increase this. Drinking poison or being stung by a poisonous creature will lower this number.

EXP 1 — your experience level. As you gain experience by destroying monsters, your experience level will rise.

P+ Commands are typically single characters. You fight a monster by trying to move to the space where the monster is. Your character can only carry so much stuff, so at some point you have to decide what to carry and what to leave behind or consume.

Another important thing to know when you are learning the game is that you can copy the file where your game is kept and if you are killed, you can copy the saved file back and pick up the game where you left off. Purists consider this to be cheating, but when you are learning the game, it will save you from having to start over again and again.

In the hack distribution disk there are a number of text files may be studied to learn more about the game.

Here are a few random hints to give more of a flavor of the game. You shouldn't read them if you want to discover everything yourself:

- Early in the game you are in great danger from starvation. Eat any monster that isn't poisonous or causes damage. After a body is dead for a while it becomes tainted. Eating a tainted body will kill you unless you immediately quaff a potion of healing or a potion of extra healing.
- You can bargain with a shopkeeper by dropping most of your money and paying for an object. You can use a wand of digging or a pick-axe to dig a hole in the wall of a shop and take items without paying for them.
- An elven cloak will protect you from the sleeping bite of a homunculus (h), or the poisonous sting of a killer bee (k). It will protect metal armor beneath it from a rust monster (R). It makes it much more difficult, but not impossible, for a cockatrice (c) to turn you to stone. It is difficult to win a game without an elven cloak.
- A tame dog will not step on a cursed item.
- The two most important rings are a ring of teleport control and a ring of fire protection. Other important rings are a ring of levitation and a ring of regeneration.
- As your luck increases it will be easier to throw gems to a unicorn.

- To kill a dragon you need either a ring of fire protection or lots of hit points from a nurse.
- Eating a lecrota monster gives you the ability to teleport at random times.
- Eating a giant bat will make you confused. Feed it to your dog.
- An umber hulk is dangerous. Its gaze can confuse you.
- Before you get to the real end game, you will probably need to get a wand of wishing on the maze level.
- When you zap (z) the wand of wishing, you will be asked for what object you want. You get three wishes.

The final end game is played in hell, which is burning hot, so if you haven't eaten a dragon you must wear a ring of fire protection.



110/Portable Plus Tips and Important Differences

By Michael Felsenstein

110 No need to repeat Portable Plus advantages over the HP110 like screen, RAM sizes, and customized B drive. However, changing from the HP 110 to the HP Plus is full of surprises. Unfortunately not all pleasant. The appearance of both machines is almost identical, something like identical twins they are hard to distinguish, but their characters are usually completely different. Here is a list of some of the differences I found using the HP110 and the Portable Plus:

1. For identification purpose the names of the Portable Plus' keys are capitalized and fused into a single word, so two word keys appear with a second capital letter in the middle of the name.
2. In Lotus 123 CTRL-Break to interrupt a series of commands will not work. Use escape instead. (Are there other alternatives?). This is probably not the only difference in Lotus. The manual is the same for the HP110 and the HP Plus.
3. For heavy Memomaker users there are some other changes to get used to. For example, if you start with GetMemo and try to erase whatever the last filename was, you find out that no single key will do it. The best way to accomplish this is:
 - A. Turn the Insert off;
 - B. Press the arrow key left all the way if a drive change is needed and start overwriting. No canceling back space.
 - C. Next press **Return** as prompted on line 3 of the screen. The "F keys" display DocumentFile* or ASCIIFile* and FileManager*.

CONDOR 3 and CONDOR, JR.

Database management made easy!

If you have customer files, sales records, inventory, or lots of *anything* that you need to keep track of, you need a database management system (DBMS).

If you want a sophisticated DBMS that even a beginner can use, try Condor 3 or Condor, Jr.

Condor 3 runs on the Portable Plus, Portable Vectra, and HP150. Its smaller cousin, Condor, Jr., runs on the HP110 and Portable Vectra only. Both versions let you **set up a database in a single step**, simply by typing a picture of the input form right on your screen. You enter and modify data—or even revise the database structure—simply by typing right on the same form.

Unlike other database systems, you simply tell Condor **what** to do, not how to do it—and you tell it using simple, English-like statements such as LIST CUSTOMER BY NUMBER NAME STATE

AND COMPUTE TOT SALES.TOT DATE.

As a result, it takes only one fifth the time to compute, display, sort, search, or report on your data using Condor as compared with other database systems such as dBASE III. Most users find they can create and begin to use their first database within minutes after opening the package.

Condor 3 (but not Condor, Jr.) is a fully **relational** DBMS. That means you can use Condor 3 to compare, select, and combine data from two or more files. Condor 3 also lets you create your own custom report formats. (Condor, Jr. includes a LIST command for limited report writing.)

You can transfer data back and forth from Condor 3 to Lotus 1-2-3 print files

WHAT THE EXPERTS SAY:

"If you want a database you can use immediately (without even opening the manual) . . . Condor 3 is the DBMS to buy."

—Jim Morgan, Data Base Advisor

" . . . a textbook example of what a database management system should be."

—James Perotti, PC Magazine

" . . . for a straight database, I'll take Condor."

—Jerry Pournelle, InfoWorld

and other files not created by Condor.

Over 150,000 Condor programs are currently in use. We think the Condor people have done a fabulous job of packing an enormous amount of database power into an incredibly easy-to-use system. We urge you to try Condor 3 or Condor, Jr. at our risk today.

Condor 3 \$495.00
\$379.00 for Portable Paper subscribers

PRODUCT NO. CRI1NS

Condor, Jr. \$99.00
\$89.95 for Portable Paper subscribers.

PRODUCT NO. CRI3NS

RECOMMENDED FOR:		Condor 3	Condor, Jr.
HP110 Portable			•
Portable Plus	•	•	
Portable Vectra	•	•	
HP150	•	•	
IBM PC and compat.	•	•	

MEMORY REQUIREMENTS

Condor 3 requires only 128K of memory to run. The entire program, including the report writer, fits in less than 360K. Since each command is in its own file, you can save memory space by deleting any commands you don't need.

Condor, Jr. is even more memory-efficient: the main program is only 25K, and you add individual 10K programs for each function you wish to use.

HPduette

It transfers files both ways between your Portable Plus and your desktop computer without an HP-IL card!

An HP-IL card inside your IBM PC or compatible computer lets you transfer files to and from your Portable Plus.

It's a good solution to the data transfer problem, *provided* you only use one desktop computer. But if you ever need to transfer data between your Portable Plus and someone else's desktop computer, you're stuck—or at least you were until now.

Because now there's a way to do it with software.

It's a program called HPDuette. Together with a special serial connecting cable that it comes with, HPDuette is all you need to transfer files at high speed both ways between your Portable Plus and any IBM PC compatible desktop.

HPDuette performs complete error checking during the transfer process to ensure data integrity. It handles multiple-file transfers, subdirectory transfers, and DOS "wild card" usage. It lets you use DOS commands such as type, list, rename, and erase without having to exit the program. And it transfers data *faster* than you can with an HP-IL card.

HPDuette is easy to use too. Simple menus and easy-to-understand help screens are available at all times.

For true convenience in file transfer to and from your Portable Plus, order HPDuette today.

HPDuette with cable for Portable Plus . . . \$99.95
\$89.95 for Portable Paper subscribers.

PRODUCT NO. DU11NS

RECOMMENDED FOR:	
HP110 Portable	Portable Vectra
Portable Plus	• HP150
IBM PC and compatibles	•

HPDuette is a registered trademark of Platte River Associates, Inc.



HPduette comes with a serial cable and two disks; you load one disk into your Portable Plus and the other into the desktop.

HPDuette transfers data at 57,600 baud. To use HPDuette, you connect the 9-pin serial port on your Portable Plus to the serial port on your desktop computer using the serial cable that comes with the program.

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110
P+

4. In Portable Plus Memomaker, FileManager* replaces the Directory on the 110; quite an improvement, as there is no need to save and exit to PAM to do any of the DOS commands available directly from FileManager*. FileManager in Memomaker makes a lot of sense. Not only does it display the files stored in any of the active drives, it offers all the file manipulation the 110 offers in PAM. It is one of the best enhancements of Memomaker. It allows change of the default drive (A is the best choice for speed and disk drive protection).
5. In Portable Plus Memomaker the StartApplic key has practically disappeared, the user has to type in the name of the file in most instances. Where F1 on the HP110 used to do StartApplic, the Nameless default file has been replaced by Tempmemo, which has to be spelled out at the beginning of the session. The Portable Plus table and arrow keys are much faster, but saving a file on the A drive takes seconds, as compared to the almost instantaneous 110.
6. If disaster strikes on a 110 a very gentle tap on the battery compartment reset button can reset the computer sometimes without losing the content of drive A. The Portable Plus has a screwed-on battery cover with a tiny hole in front of the reset button, which makes it difficult to gently tap; besides it does not seem to work.
7. Another feature available only on the 110 is the modification of the help key in MemoMaker into a canceling backspace key (see Vol.1, No.1, Pg.2). The MemoMaker program on the '88 Subscribers Disk does the same for the Portable Plus.
8. The Format Keys within MemoMaker also act in a completely different manner on the Plus. Format leaves keyboard and ExtendChar function keys active while deciding where to place margins and/or tabs. Changes can be made while typing. Under BlockKeys, **F5 EnhanceBlock** will show on the screen the actual active enhancement. No more distortion of the alignment. Bold and Underline are just that on the screen. Align-Block is a two-step operation on the Plus. After defining the area to be aligned (using the arrow keys), pressing **F5** gives you the **BlockOk** prompt. Then press **BlockOk** and **AlignmentOK**, allowing the writer to double check the alignment. Press either **F5** or **F8** to **CancelAlign**. Gently tapping **F5** twice returns the screen to the **BlockKeys**.
9. Make sure SystemConfig in PAM is set for the proper printer. The Plus is quite different from the 110, as it offers more built in options.
10. Another neat feature not mentioned in the manuals, but present in the Portable Plus and 110, is that both computers can be changed from line cursor to box cursor simply by pressing **ExtenChar** and **F1** simultaneously, where box cursors are supported by the software. There is no need to go into SystConfig.
11. There are a few enhancements which increase the attractiveness of the Plus. It contains a **PACK** command to consolidate the unused space in the Edisc.

The **SECURE** command, same as **Pack** has to be typed in. **EDLIN** is a text editor which permits you to make corrections in DOS, or create new ASCII files (like batch files). As a matter of fact, all DOS commands are resident in the B drive and no exterior disk is needed as for the 110.

12. Vol.5, No.3, Pg.10 mentioned that by pressing **Ext-f5** you add a blank line before the line your cursor is on. However, if the cursor is located at the end of the line, this adds the line between the following text.

CONTROLLING PRINTERS FROM FILE MANAGER

I like being able to enter FileManager from within Memomaker and then modify the printer configuration. I store the escape sequences for my most popular printer settings in batch files on the A drive and then use FileManager's "Print File" option to send the escape sequences to the printer. [Please see Michael's article in Vol.5, No.4, Pg. 16, for more on creating and storing escape sequences - Rich] This allows me to configure the printer without using the hard reset or having to go through DOS. For instance, I've stored the escape sequence for expanded-compressed printing mode in a file named **K3** and the escape sequence for 8 lines per inch in a file named **L8**. My **L6** file contains the escape sequences that return my printer to its default settings.

This method eliminates saving and exiting into DOS, or PAM to configure the printer. Saving printer escape sequences on disk to configure the printer is not mentioned in the manual. After having problems with configuring the printer with SystConfig, I found using escape sequences a practical alternative. It eliminates the use of the hard reset with its sometimes disastrous consequences. While these commands hog memory, the safety they provide is well worth a little memory loss.

The HP110 and Portable Plus are adequate for the everyday requirements of most operators (which in many cases can be covered by Memomaker and Lotus 123). However there are problem situations where the knowledge of MS DOS is priceless. Some areas are covered in the HP manuals as well as in the early issues of *The Portable Paper*. In addition to some fairly good DOS textbooks, Community College Districts and/or computer-oriented public schools should have live DOS instruction. This is one more step out of the "computer hell" I mentioned in previous issues of *The Portable Paper*.

FORMATTING A DISK

After formatting a disk the 11-character disk designation volume label can be entered. Even backspace will work but will not show on the screen until the end.

If a disk's content is obsolete there is no need to wait for reformatting. The command: **format c:/c** will do the job immediately (but probably erases the directory).

THINKJET PAPER ADVANCE

Portable Plus/ThinkJet paper advance seems to have a reason. It skips most printed letterheads, between date, name and address it is about right to fold close to the eighth hole, the proper distance for many standard window envelopes.

One way to work around this quirk is to print one page at a time and after the first page, move the paper perforation back at least to the plastic paper guide on the ThinkJet. If two letters have to be started at the top of the page, start both at the perforation by turning the two sheets 180°. The ideal would be a program to reconfigure the "print memo" key. Another possibility could be the use of Post-It to add more paper at the top of the page.

LOTUS

HP110 users will find sometimes a plus sign instead of a slash, because they inadvertently pressed Select and Extend Char simultaneously. This is for the 16-key numerical keyboard configuration. Press these keys again to cancel this configuration.

DOS NOTES

When in DOS, the Ctr Dsp key sometimes will not work. To make it work, move back to either the top of the page, or the point where no further clearing is needed and use the Ctr Dsp combination keys to eliminate undesirable text. If the entire screen has been cleared, scrolling will no longer work. The entire file has been cleared.

Directories longer than 128 files when reaching 128 will become very slow to display. A 100-files limit seems to be a good rule of thumb to keep things humming. By the same token, keep subdirectories at 50 files; they slow down at 64 files.

BYPASSING A BLOWN FUSE

Having already blown the battery fuse on my HP110, it was not hard to identify the fuse on the Portable Plus. It's the item marked F1 on the bottom of the circuit board to the right of the positive battery connector. The fuse on my board had a light green body; red, brown, and black rings, and a change of color at the end. I understand that the physical appearance of the fuses may differ.

I tested the computer with a battery I had already charged. I created a temporary bridge to bypass the fuse. When I accessed PAM the screen no longer died when disconnected from an outside power source.

I located more information about the fuses you mention in *The Portable Paper* (Vol.5, No.6, Pg.39). I called the 800 number you listed and I might get the fuses through them. I believe you should make the fuses available in multiples



Hewlett-Packard's HP110 Portable

**PORTABLE
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Includes word processor, Lotus 1A, built-in modem, communications software—and a ONE-YEAR GUARANTEE!

Hewlett-Packard's HP110 Portable was way ahead of its time.

An MS-DOS machine (version 2.11), the HP110 stores programs and data on ROM chips. The rugged unit weighs only 8 pounds, has a 16-line screen, and has enough available memory for more than 80 pages of word processing text.

With up to 20 hours of continuous use per battery charge, the HP110 is ideal for business travel.

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puters, used means worn out. But there's little that can wear out in an HP110, because there are no moving parts except for the keys.

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Used: \$895

We also publish the HP Portable newsletter, and offer more than 100 software programs that make the HP110 and Portable Plus even more powerful.



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Software INC.**

The worldwide HP Portable experts

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of three, along with installation instructions, for the computer, disk drive, and printer. The appropriate single fuses are not easy to obtain.

[CAUTION: *Personalized Software does not recommend bypassing the battery fuse. The battery fuse is placed where it is to protect the computer circuitry from damage. If a short circuit was responsible for blowing the fuse originally, bypassing the fuse could fry your circuit board and cost a lot to repair. For more on replacing the battery fuse, see page 5 in the issue — Rich.]*

THE EMPOWERER II

The new Empowerer provides greater flexibility during travel and power outages. It would be even better if it supported a battery as a standby for the disk drive.

If it's difficult or expensive to come by the disk drive battery cases, why not consider using hardwood blocks. An appropriately shaped block could carry the connector on the end and a recessed spring on the side. I experimented with using a long screw to insert the female plug inside the battery opening.

The ThinkJet is a more complicated problem. I prefer having a second battery for moderate use and let them blink during the night to assure a deep discharge. I have been quite lucky with my Ni-Cd powered equipment so far.

Lead-acid rechargeable batteries are a different matter. I believe a lot depends on the charging circuit. If it trickle

charges normally and responds to higher demands properly, a five year battery life should be the minimum. I bought a First Alert, a Ni-Cd rechargeable flashlight, years ago when it first came on the market. It still has adequate power.

MS WORD

110

P+

As I write this, the biggest problem with MS Word comes up again and again – the time needed to learn all of its commands and procedures. (Ed Keefe put it best when he talked about his education: \$275 for the calculator, \$10,000 and three years for his degree in mathematical physics.) MS Word is not quite that demanding, but it does come with a one-inch stack of instructions. Its instructions are neither easy to digest, nor remember. So far the thing I like best is that I don't have to align any blocks, and many Memomaker commands work.

Back to computer hell and MS Word. They instruct you on how to do most things, but they fail to tell you how to undo them.

BATTERY WOES

Because I changed from an HP110 to the Portable Plus, I now need to review all of my past issues of *The Portable Paper* and highlight different features. Right now I am on the latest issue, and I am trying to find the article dealing with the status of the battery in the Portable Plus. I reread the charging recommendations and concluded that the charging system is to blame on premature aging of the battery. It seems that our technology has not yet reached far enough to design a charger able to respond on more levels of the computer's power requirements. I don't believe HP did such a great job in the battery department, considering that during the warranty period I had plenty of battery problems. Shortly thereafter my printer blew its logic and the drive's battery went bad. The regulated power supply then supported the disk drive even with its poor battery. A suitable capacitor replaces a weak battery for good.

■

Can't use Serial Box with HP110 or Portable Plus

We briefly described the Serial Box in Vol.5, No.6, Pg.25 of *The Portable Paper*. This interface allows you to connect a full-sized AT or XT computer keyboard to a PC-compatible laptop or portable computer through the computer's serial port. Unfortunately we tested Serial Box on the HP110 and Portable Plus and it doesn't work.

■

NEWS FROM



Personalized Software INC.

Products that make HP Portables smarter

P.O. Box 869, Fairfield, Iowa 52556 515 472-6330

By Hal Goldstein

2400 Baud Internal Modem for Portable Plus (Fax Send also Possible)

P+

We can produce a 2400 Baud internal modem for the Portable Plus with Fax Send capability by June of 91 if we start production in March. The subscriber price for the modem would be \$395 per modem. Users have the option of trading in their 1200 baud modem for \$40 credit at the time of purchase.

The Fax Send may not be ready by the time the modem ships. The capability will be built into the modem, however software must be written for Portable Plus users to use Fax Send. Fortunately, David Hughes, as reported in past issues, is already working on fax software for the WorldPort 2496 Fax/Modem for the Portable Plus. He feels little effort will be required to have the same software work with this internal modem. However, we can make no promises at this point about delivery time.

We need to sell 40 of these 2400 baud internal modems to break even. If you feel you want one, please call to reserve one. (You do not need to send any money, but please be serious about buying one when it is available.)

Several companies such as HP have expressed interest in the modem in quantity. We can discount the modems in volume. If your company is interested in a volume purchase please call us right away. Unfortunately about half the three month production time and no small part of the expense involved relates to FCC approval. The sooner we can commit to make these modems, the sooner we'll ship.

1MB RAM/ 2MB Flash ROM Drawer

P+

By the time you read this we should have our first production model of a 1 Megabyte RAM / 2 Megabyte Flash ROM drawer for the Portable Plus. This drawer will fit in one of the two Portable Plus drawer slots. It should work in conjunction with a normal ROM drawer or with a memory drawer containing up to 1 Megabyte of RAM. By the time you read this, we hope to have done final testing.

These boards come with 1 megabyte of RAM and slots to put up to two Megabyte of Flash ROM in the drawer. As you may recall from past discussions (Vol.5, No.6, Pg.16 and Vol.5, No.4, Pg.25), you will be able to save and replace files into Flash ROM in subdirectories, 64K, 128K, or 256K bytes at a time. For example, if you had software applications or a database of information you could put all such files in a subdirectory on the Flash ROM. Program files or files that do not change often are ideal candidates to store on Flash ROM.

The procedure for putting files on Flash ROM is analogous to burning ROM chips for the ROM drawer, only you don't have to physically deal with the ROMs. Our ROMBO software (which we will include with the drawer) automates the process of preparing the files for the Flash ROM subdirectory. Then another software program also included with the drawer will copy the subdirectories into Flash ROM. Once you run through the process it should take about five to ten minutes to put files on Flash ROM.

We expect to have four drawers available for shipping late March or early April. Unless we have a volume order, these may be the only drawers produced. We will sell these drawers, fully populated for \$1695. If we do not sell all the drawers we may consider selling them as 1 MB RAM drawers with slots for users to add Flash ROM for \$300 to \$500 less. We do not expect the price of these drawers to go lower unless there are large volume orders.

Those interested in the drawer should also read the next article on breaking the 256K byte ROM file size limit.

All WordPerfect 5.0 Should Soon Fit in a ROM Drawer: (256K File Size Limit Broken)

P+ As chronicled in past Portable Papers, one of the limitations of the Portable Plus hardware, is that the ROM drawer cannot support files greater than 256K (actually greater than 254K). That means that no file or group of files can be greater than 254K.

WordPerfect provides an example of this limitation. Up until now, to run WordPerfect on the Portable Plus a 303K file named WP.FIL had to be stored on the A drive. Similarly the dictionary file for WordPerfect, over 300K, is too large to be ROMmed.

The ability to store files larger than 254K is also important with the advent of 2MB Flash ROM drawers described in the previous article. Flash ROM drawer users may wish to store, for example, large data base files in their expanded Flash ROM drawer.

Marcus Otto of Heron Computer in Berlin, Germany, figured out how to "fool" the system to allow larger than 256K files. A technical overview of the approach follows.

The trick has to do with modifying the root directory

and FAT table of the ROM pair that stores the first 254K section of a large file.

Marcus tells us to first divide up a large file into 254K subfiles (using, say, the Norton Utilities). Using the normal ROMBO software procedure, the first 254K file must get stored into two 128K "EVEN" and "ODD" image files. Those files eventually become a pair of 128K ROMs forming a 256K subdirectory.

About 2K of the 256K subdirectory consists of the FAT table and the directory of files in the ROM subdirectory.

The FAT table and directory must be modified slightly for the trick to work. Let's say you divide the 303K WP.FIL up into two files, WP1.FIL and WP2.FIL. WP1.FIL is 254K bytes and is divided into the EVEN and ODD image files. Using The Norton Utilities you can locate the name "WP1.FIL" as an entry in the directory table of the image files. The "WP1.FIL" name is associated with its file size: 254K. You must change the name from "WP1.FIL" to "WP.FIL" and the file size from 254K to 303K using Norton.

Then you must modify the FAT table. In general a FAT table contains a map of where the segments of each file physically reside in a subdirectory. In the case of WP1.FIL there is only one such segment. An End of File (EOF) marker exists to show at what address the file ends. The trick is to use Norton to change the EOF marker to 102H - the address of the beginning of the next file in the next ROM subdirectory in the ROM drawer! DOS does not check for illegal, out-of-bounds addresses. Therefore, by placing the remainder of the WP.FIL file (WP2.FIL) into the next ROM slot, DOS automatically links together the two partial files to make a whole WP.FIL.

Unfortunately, there are several confounding factors. First of all the FAT table is organized in 12 bit rather than 16 bit Intel Hex units. That means you have to do some nibble translation to determine the contents of the FAT table. Secondly, the EVEN and ODD image files hold the even and odd numbered bytes of the entire 256K image. That means byte 0 of the 256K ROM subdirectory is in the EVEN file, byte 1 is in the ODD file, byte 2 in the EVEN and so forth.

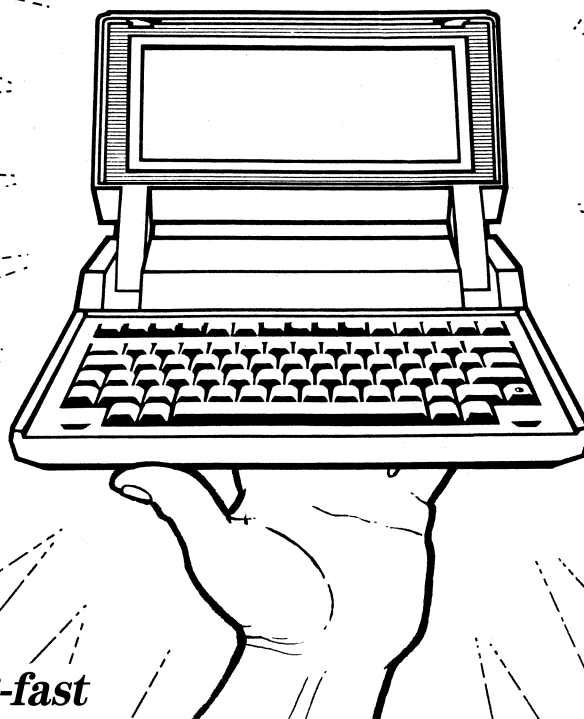
All this summarizes the strategy as faxed to me a day before this issue must go to the printer. I have not been able to completely decipher the ODD and EVEN files and make the correct changes yet although I have spent a few hours staring at the byte patterns of each of the files. Hopefully, by the time you read this Ed Keefe or I will have figured out (with the help of Marcus as necessary) exactly how to do it. Marcus wrote to me that ideally a program should be written to automate this process.

Any reader wishing to work on implementing the solution or writing a program to perform the task should give me a call as soon as possible.

Hopefully, we can replicate Marcus' work, and we can compress the size of the WP.EXE to 180K as several readers have reported. That will mean we can fit all necessary

(News from P.S. continue on page 23.)

MAXIMUM POWER FOR YOUR PORTABLE PLUS



Easy-to-use, lightning-fast ROM chips save valuable Portable Plus memory and eliminate the need for a disk drive.

The most powerful and unique feature of your Portable Plus is that it lets you store programs on ROM (Read-Only Memory) chips for instant access.

Almost all other portable computers require a disk drive in order to function. A disk drive—even a portable one—is a bulky piece of equipment, easily breakable, and slow in loading programs.

By contrast, a ROM chip weighs next to nothing, is virtually indestructible, and lets you load programs instantly. (Programs on ROM chips don't take up any space on your Edisc.)

All of which means that your 9-pound Portable Plus is **the fastest, most portable, and most reliable computer you can own**—provided, of course, you take full advantage of its ROM technology.

YOUR SOFTWARE DRAWER WAS MEANT TO BE FULL

The engineers at Hewlett-Packard designed the Portable Plus so it could accommodate an optional "software drawer" containing 12 ROM sockets. Clearly, their intention was that those sockets be filled with useful programs.

But if you're like most Portable Plus users, you probably are using

just a few of the sockets for ROM-based programs like Lotus 1-2-3 or MemoMaker.

That's fine as far as it goes, but if you aren't using *all* the ROM sockets—or if you have to carry around an HP9114 disk drive wherever you go—*then you are not using your Portable Plus to full advantage.*

To start using the *full* potential of your Portable Plus, look over the chart at the far right. It contains more than 50 programs and utilities available on ROM chips from Personalized Software.

Taken together, these ROMs cover *every application you're likely to need*—from word processing to spreadsheets to data

communications, graphics, programming languages, and more. Which means once you install these ROMs, you'll have everything you need right inside your Portable Plus. *You'll never have to carry a disk drive again.*

We invite you to browse through the chart, read the information at the right, and then order one or more ROMs today. You'll find them to be fast, reliable, and an incredible boost to your productivity.

Whatever your reason: to free up valuable memory space... to eliminate the need for an external disk drive... or just for the convenience of lightning-fast program loading, *fill your software drawer with ROMs* and you'll turn your Portable Plus into the powerhouse its designers intended it to be.

With our exclusive Double Guarantee, the risk is all ours. Why not order right now?

P.S. If you have questions about any of the ROMs, give us a call. Brian or David will be happy to make some recommendations as to which ROMs might best meet your needs for word processing, spreadsheets, or whatever applications you're interested in.

EASY TO INSTALL

We supply clear instructions and diagrams with every ROM order. If you prefer, send us your software drawer and we will install your ROMs for you—and test them—at no charge.

To remove your software drawer, first back up your A drive (so you won't lose your data), then use an ordinary screwdriver to remove the two outside screws on the drawer.

You won't be able to use your Portable Plus without the software drawer, so we recommend you call us first to make sure the ROMs you want are in stock, and to set an appointment for installation.

That way, we can install and test your new ROMs the day we receive your software drawer, then ship your drawer back that same evening. Return shipping within the Continental U.S. via UPS Second-Day Air is free for all orders over \$200. Please add \$15 to your order if you want overnight return shipping.

(In most cases, if you set an appointment in advance and use overnight shipping both ways, you'll only be without your software drawer for less than two business days. We'll ship the manuals and other materials in advance by surface carrier so you'll have them by the time you receive back your software drawer.)

HOW TO ORDER ROMS

To order, use the postage-paid order form in the center of this issue. For even faster service—or if you have questions about any of our ROMs—give us a call.

OUR EXCLUSIVE DOUBLE GUARANTEE ON ROMS

60-DAY GUARANTEE OF SATISFACTION

If, within 60 days, you are dissatisfied with a ROM product for any reason, you may return it for a full refund.

2-YEAR GUARANTEE AGAINST DEFECTS:

If a ROM proves defective at any time within 2 years, we will replace it at no charge.

IMPORTANT INFORMATION ABOUT OUR ROMS

We offer two kinds of ROM chips. One kind we produce ourselves; these are offered as part of our "ROM Backup Packages" (see below). The other kind are manufactured by Hewlett-Packard; we simply call these "HP ROMs."

ROM Backup Packages

A ROM Backup Package includes both the disk version of a program and the ROM version—plus the standard User's Manual and additional instructions for installing and using the ROM. (In the chart, prices of products marked "PS" are for entire ROM Backup Package.)

According to the agreements we have with the original software vendors, our ROM version is considered a backup copy of the disk version. Unless you already own the disk version, we cannot sell you the ROM Backup by itself.

Please note:

1. If you purchased the disk version of a program from us, we have that in our records. If you purchased the disk version elsewhere, you will need to show us proof of purchase before we can sell you just the ROM Backup.
2. Prices for ROM Backups alone are:

Best of DOS Tools	\$129.
The Editor	95.
Games (Chess+4)	105.
HPDuette	95.
HPrint	95.
Norton Utilities Adv. 4.0	99.
OutlinePlus	95.
Shelp	55.
SideWinder	55.
Shelp-SideWinder	95.
Sketch	95.
Squish Plus	135.
SuperROM	49.
TermPlus	95.
Turbo Pascal 3	95.
Typing Whiz	95.
Webster's Speller	179.
WordPerfect	295.
Writer's ROM	170.
Writer's ROM II	140.

3. It is important that you read and adhere to the licensing agreement that comes with the disk version of any software you buy, because the same agreement applies to the corresponding ROM Backup. In most cases, this means you can use only one version of the software at a time on only one computer system at a time. Remember, the ROM is a software *backup copy*, not an independent second copy.

HP ROMs

The HP ROMs that we sell do not include (or require) the corresponding disk versions. They are the same ROMs that HP sells, except ours are used—which turns out to be *better* than buying them new. Here's why:

Unlike other used products you can buy, there are no moving parts on a ROM, and nothing that can wear out. Because of this, our two-year guarantee against defects applies to used HP ROMs as well as to our own ROM Backups. (Two years is twice the guarantee against that Hewlett-Packard offers.)

Our used HP ROMs are also covered by our unique 60-day guarantee of satisfaction.

Best of all, our used HP ROMs are priced as much as 50% below retail. Look at the chart at the right and compare! (In the chart, "Retail price" of HP ROMs is HP's price new. "Subscriber price" is our price used.)

SOFTWARE AVAILABLE ON ROM

For product details, see individual ads elsewhere in this issue, in our catalog, or refer to articles in past issues. In this chart, "Type" refers to either HP (used HP ROM) or PS (Personalized Software ROM Backup Package—price includes both ROM and disk versions). **CALL FOR AVAILABILITY OF USED HP ROMS.**

Product	Part Number	Retail Price	Subscriber Price	Type	No. of chips	Notes
WORD PROCESSORS						
WordPerfect 5	WD11NK	\$919.00	\$595.00	PS	6	384K of files includes PlusPerfect, main WP program, help files, printer drivers, etc. Does not include required 300K wp.fil file, spelling checker, or thesaurus.
The Editor II	ED12NK	224.00	194.95	PS	1	The Editor version 1 is available as part of our SuperROM chip (see "Combined ROMs" below).
MemoMaker	-	-	-	HP	-	Comes on same chip as Time Manager (see "Combined ROMs" below.)
MSWord	MS20UR	394.00	199.00	HP	1	
MultiMate	MM20UR	520.00	295.00	HP	1	
WORD PROCESSING UTILITIES						
Format110	-	-	-	PS	-	Comes as part of SuperROM (see Combined ROMs)
FormatPlus	FP13NK	174.95	164.95	PS	1	
HPrint	HP12NK	175.00	170.95	PS	1	
Mini PrinterTalk	-	-	-	PS	-	Comes as part of SuperROM (see Combined ROMs)
OutlinePlus	OU11NK	175.00	165.00	PS	1	
RightWriter	RW11NK	205.00	199.00	PS	2	
Webster Speller	WB13NK	258.95	248.95	PS	2	
SPREADSHEETS AND UTILITIES						
Lotus 123,1A	LT12UR	495.00	295.00	HP	2	
Lotus 123,2.01	LT15UR	625.00	395.00 ²	HP	3	3rd ROM (Help files) doesn't have to be installed.
SideWinder	SW12NK	134.95	124.95	PS	1	Also available on a ROM with Shelp, and on our SuperROM chip (see "Combined ROMs" below).
DATABASE PROGRAMS						
Exec Card Manager	EC11UR	395.00	225.00	HP	1	(Lotus 1-2-3 can also be used as a database.)
COMMUNICATIONS						
PC2622	PC13UR	395.00	239.00	HP	1	VT100 and HP Terminal emulator.
Reflection	RF11UR	525.00	295.00	HP	1	Minor upgrade of PC2622
TermPlus	TE13NK	194.95	174.95	PS	1	Includes FormIBM, Jetctrl, and other great utilities.
PRODUCTIVITY BOOSTERS / GAMES						
Best of DOS Tools	DT12NK	179.00	168.95	PS	2	Selected utilities from DOS Tools ¹
FilePlus	FE14NK	164.95	154.95	PS	1	
Games (Chess + 4)	GA11NK	215.00	175.00	PS	2	Chess, Go-Moku, TigerFox, FastMind, Othello
HP Calculator	CL11NK	95.00	95.00	PS	1	From our 1987 Subscriber Disk
HP Duette	DU13NK	194.95	184.95	PS	1	Contains Portable Plus half of software
Norton Util.(Adv 4.0)	NU12NR	249.00	199.00	PS	1	Includes Vers. 3.1 and 4.0 utilities for directory sorting, modifying file attributes, file finding, file size, quick unerasing, text search, main NU program on one ROM.
Shelp	SH12NK	110.00	104.95	PS	1	Includes note extraction program. Shelp also available on ROM with SideWinder, and as part of SuperROM chip (see Combined ROMs below).
Time Manager				HP		Comes on same ROM as MemoMaker (see "combined ROMs" below).
Typing Whiz	TW12NK	144.95	134.95	PS	1	
Squish Plus	SQ11NK	264.00	234.95	PS	2	
GRAPHICS						
Sketch	SK12NK	175.00	170.95	PS	1	(Lotus 1-2-3 can also be used for graphics.)
PROGRAMMING LANGUAGES						
MSBasic	MS21UR	331.00	165.00	HP	1	This is not GWBASIC.
COMBINED ROMs						
MemoMaker/TimeMgr	MM21UR	245.00	119.00	HP	1	
Shelp,SideWinder	SH13NK	234.95	214.90	PS	1	Also includes SideWinder enhancement utility.
SuperROM (5 programs on one chip): The Editor, Format110, MiniPrinterTalk, Shelp, Sidewinder	SU11NK	474.00	299.00	PS	1	Mini PrinterTalk is the abbreviated version included on the PrinterTalk disk; it is functionally equivalent to Printertalk for most applications.
The Writer's ROM (5 programs on two chips): The Editor, FormatPlus, FilePlus, Webster's Speller, Shelp	WR11NK	499.00	399.00	PS	2	Includes PRNCONF:puts Thinkjet in EPSON mode mode, and TJCTRL, a popup program that controls Thinkjet from any program.
Writer's ROM Part II (2 programs on one chip): RightWriter, OutlinePlus	WR12NK	350.00	299.00	PS	1	

¹Utilities included in the Best of DOS Tools ROM backup Package are as follows. For program details, see catalog.
PACK DUMP TY CYPHER RENDIR WHEREIS TEE SDL FDATE LABEL DIRS TRANSLIT
CLEAN DIRALL ARCE MOVE OFF CHANGE ARCS20 TRIM BEEP SQPC SM
VDL TMA TJETA FCOPY ASK PRNCONF WAIT FGREP XCOPY FDUMP COPYNEW
Note: ARCS20 is shareware; the author normally requests a \$35 contribution. However, we've already paid your user fee.

²IMPORTANT: All HP ROM prices given here (unless otherwise stated) are for used ROMs. Used HP ROMs (especially Lotus 2.01) are sometimes not in stock. Call to verify availability of used HP ROMs and pricing on new HP ROMs if used ROMs unavailable.

OUR COMPLETE HP110, PORTABLE PLUS PRICE LIST

Product	Part No.	Retail Price	Sub. Price	With Portable Purchase*
* Items in this column are discounted further with a purchase of an HP110 or a like-new or reconditioned Portable Plus.				
** New products or new prices.				

HP110, PORTABLE PLUS COMPUTERS

COMPUTERS

Like-new 512K P.Plus ¹	PP36UC-P2	\$2795	\$995	
Reconditioned 512K P. Plus	PP16UC-P2	2795	795	
Reconditioned 128K P. Plus	PP12UC-P2	2590	395	
** Reconditioned HP-110	PQ11UC-P2	3000	395	
HP-110 Manual/Software Kit	MA13UC-P2	64	64	
Like-new German Plus ¹	PP37UC-P2	2795	995	
German localiz. ROM	GE31UR-P2	150	99	(50)
Like-new Swiss/Fr. Plus ¹	PP34UC-P2	2795	995	
French localiz. ROM	FR31UR-P2	150	99	(50)
Like-new Swedish Plus ¹	PP40UC-P2	2795	995	
Like-new English Plus ¹	PP31UC-P2	2795	995	
Like-new Italian Plus ¹	PP38UC-P2	2795	995	
Italian localiz. ROM	IT31UR-P2	150	99	(50)

¹ Like-new Portable Pluses come in original packaging with new battery, manual, and our 1 year guarantee.

SPECIAL HP110, PORTABLE PLUS BUNDLES

** Power Plus System ²	PP11UX-P2	\$4335	\$1095	
** Super Plus System ³	SU11UX-P2	6177	1795	
** Terminal Plus System ⁴	TE11UX-P2	5370	1095	
** Thrifty System ⁵	TH12UX-P2	3330	395	
** 5 ROM Special ⁶	RO11UX-P2	1496	395	
** WebDuetteTet ROM ⁷	WH11NX-P2	503	199	
** ThinkJet/Disk Drive Special ⁸	TH11UX-P2	1290	295	
² POWER PLUS — 512K Portable Plus, ROM expansion drawer, ROM-based software: Editor II, Webster's, FormatPlus, As-Easy-As, SideWinder, FilePlus, Shelp, and six free bonuses.				
³ SUPER PLUS — 512K P.Plus, 128K memory drawer, ROM expansion drawer, ROM-based software from Power Plus package plus the following on ROM: ECM, TermPlus, Reflection, HP Duette Time Manager, Norton Utilities, OutlinePlus, MemoMaker, GamesPlus, and six free bonuses.				
⁴ TERMINAL PLUS — 512K P.Plus, 1200 baud internal modem, ROM expansion drawer with ROM-based software: Reflection, MemoMaker, As-Easy-As, SideWinder, Time Manager, Advance Mail, and six free bonuses.				
⁵ SIX FREE BONUSES for Plus Systems include: "How to Use HP Portables" video, Norton Utilities 4.0 Advanced Edition, DOS Tools, GamesPlus, '91 Portable Paper Subscription and Subscribers Disk (all software on disk).				
⁶ 5 ROM SPECIAL — 128K P.Plus memory drawer and the following ROM-based software: ECM, OutlinePlus, GamesPlus, TermPlus, and HPduette. Can be purchased at this price with purchase of Terminal or Power Plus systems.				
⁷ WEB DUETTE TET ROM — Webster's Speller, HPduette, & Tetris-like game on ROM. (PRICE GOOD FOR TERMINAL PLUS SYSTEM.)				
⁸ THINKJET/DISK DRIVE SPECIAL — reconditioned HP-IL ThinkJet printer and 9114B disk drive. Price good with any P.Plus or HP110 purchase.				

PERIPHERALS

MODEMS

Used 1200 baud Internal	BM11UC-P2	\$600	\$250	(167)
WorldPort Modem 1200	WM11NH-P2	199	179	
WorldPort Modem 2400	WM12NH-P2	359	319	(295)
WorldPort M. 2400/MNP	WM13NH-P2	499	425	
WorldPort serial cable	WM14NM-P2	30	20	
WP 1200 Upgrade kit	WM13NG-P2	199	179	
WP Acoustic coupler	WM16NH-P2	79	79	
HP92205D Acoust. cpler	AC11NC-P2	195	135	

PRINTERS, PLOTTER (Reconditioned)

HP-IL ThinkJet Printer	TJ11UC-P2	\$495	\$199	(179)
ThinkJet (AC Powered)	TJ11UX-P2	545	249	(229)
Serial ThinkJet Printer	TJ14UC-P2	495	295	
DeskJet Printer, cable	DJ11UC-P2	837	395	(395)
DeskJet Plus, cable	DJ12UC-P2	995	450	
HP-IL 7470A Plotter	PL11UM-P2	1095	595	
PaintJet	PA12UC-P2	1395	CALL	
LaserJet 500 Plus	LA13UC-P2	4200	CALL	
LaserJet II	LA14UC-P2	2495	CALL	
LaserJet IID	LA12UC-P2	3795	CALL	
LaserJet IIP	LA15UC-P2	1495	CALL	

DISK DRIVES (reconditioned)

HP9114A Disk Drive	DD11UC-P2	\$795	\$199	(179)
HP9114B Disk Drive	DD12UC-P2	795	249	(199)
HP9114B (AC Powered)	DJ11UX-P2	845	299	(249)
15 MB Hard Drive	HD11UC-P2	2700	995	
(with HP-IB/HP-IL Interface, HP1B, HPIL cables)				

MEMORY, SOFTWARE DRAWERS (Reconditioned, P.Plus)

1 MB HP RAM Drawer	MM11NC-P2	\$1275	\$995	
384K HP RAM Drawer	MM12UC-P2	982	295	
256K HP RAM Drawer	MM19UC-P2	709	225	(199)
128K HP RAM Drawer	MM13UC-P2	436	150	(99)
128K HP Memory Card	MM14UC-P2	273	125	(99)
HP ROM Software Draw.	SW11UR-P2	195	99	(79)
**1MB RAM/2MB Flash ROM	MR11NH-P2	1995	1695	

ROM BURNING (Portable Plus)

ROM Burning kit	EP10NH-P2	\$695	\$595	(495)
(ROM burner & eraser, cable, 2 128K EPROMs, software, manual)				
128K byte EPROM	EP11NR-P2	69	59	(49)
(4) 128K byte EPROMs	EP12NX-P2	276	199	(179)
128K PROM (no erase)	EP18NR-P2	64	54	(44)
Four 128K PROMs (no erase)	EP19NX-P2	256	179	(159)
64K 27C512, EPROM	EP13NR-P2	25	22	(19)
ROM burning software	EP14NS-P2	250	195	
Custom 128K burning	EP15NE-P2	150	135	
Custom burning consult.	EP16NE-P2		75 per hour	

INTERFACE CARDS (reconditioned)

HP-IL Card For IBM PC	IL11UC-P2	\$195	\$119	(99)
** New HP-IL Card For PC	HP17HM-P2	195	159	
P.Plus Video Interface	VII4UC-P2	435	195	
P.Plus V.intf+Monitor	VM12UM-P2	750	275	
Composite monitor	VM11UC-P2	325	150	
HPIL/HP1B Interface	IL13UC-P2	395	235	
HPIL/Serial Interface	IL12UC-P2	295	179	

INPUT DEVICES

Log.Mouse P.Plus System	MS15NM-P2	\$219	\$179	
P.Plus Mouse Sftwre	MS11NS-P2	70	60	
P.Plus Mouse Cable	MS13NM-P2	30	20	
Numeric Keypad, P.Plus	TS11NM-P2	139	135	

THE PORTABLE PAPER

(Subscribers Disks Only Available With Subscriptions)

1991 Subscript. & Disk	PPN1PS-P2	\$55.00	(Free)	
All 1986-91 issues/disks	PL11PK-P2	159.00		
All 1986-90 issues/disks	PL14PB-P2	119.00		
Individual back issue	PP99PB-P2	9.20		
PP Binder Vol.6	PB16NM-P2	7.00		
PP Binder Vol.1-6	PB15NM-P2	35.00		

SOFTWARE ON ROM (P.PLUS)

If the product number ends with "UR", it is a reconditioned HP ROM. If it ends with "NK", it is a new Personalized Software disk plus ROM backup.

Product	Part No.	Retail Price	Sub. Price	W/Plus Purchase	Backup Price
Shelp,SdWndr	SH13NK-P2	\$235	\$215	(139)	95*
SuperROM	SU11NK-P2	474	299	(199)	49*
(Editor I, Format110, PrinterTalk, Shelp, SideWinder)					

Communications

Advanced Mail	AD12UR-P2	\$295	\$150	(99)	
PC2622	PC13UR-P2	395	239	(99)	
Reflection	RF11UR-P2	525	295	(139)	
TermPlus	TE13NK-P2	195	175	(99)	95*

Graphics

Sketch	SK12NK-P2	\$175	\$171		95*
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Productivity Boosters / Games

DOS Tools	DT12NK-P2	\$179	\$169	129	
FilePlus	FE14NK-P2	165	155	(99)	95*
GamesPlus	GA11NK-P2	205	175	(159)	105*
HP Calculator	CL11NK-P2	95	95		
HP Duette	DU13NK-P2	195	185	(139)	95*
** Norton Utilities (Adv.)	NU12NR-P2	249	199		99*
Shelp	SH12NK-P2	110	105		55*
Squish Plus	SQ11NK-P2	264	235	(199)	135*
Typing Whiz	TW12NK-P2	145	135	(99)	95*

Programming Languages

MSBasic	MS21UR-P2	\$331	\$165	(99)	
Turbo Pascal 3	TP13NK-P2		No longer published		95*

Spreadsheets and Database

As-Easy-As+SideWinder	AS11NK-P2	\$215	\$195	(159)	115*
Exec. Card Mgr	EC11UR-P2	395	225	(199)	

* You must own the disk version of the product in order to use Backup Price.
 ** New products or new prices.

Lotus 123,1A	LT14UR-P2	495	249	(199)
Lotus 123,2.01	LT15UR-P2	625	395	
SideWinder	SW12NK-P2	135	125	(99)

Word Processors

Editor II	ED12NK-P2	\$195	\$175	(99)	95*
MemoMkr/TimeMgr	MM21UR-P2	245	119	(99)	
MSWord	MS20UR-P2	394	199		
MultiMate	MM20UR-P2	520	295	(199)	
WordPerfect 5.0	WD11NK-P2	940	595	(495)	295*
** Writer's ROM	WR11NK-P2	499	399	(299)	170*
(Includes Editor II, Webster's, FormatPlus, FilePlus, Shelp)					
Writer's ROM II	WR12NK-P2	350	299	(250)	140*
(Includes RightWriter and Outline Plus)					

Word Processing Utilities

FormatPlus	FP13NK-P2	\$175	\$165	(99)	95*
HPrint	HP12NK-P2	175	171		95*
OutlinePlus	OU11NK-P2	175	165		95*
RightWriter	RW11NK-P2	205	199		110*
Webster Speller	WB13NK-P2	259	249	(199)	179*

SOFTWARE ON DISK

Product	Part Number	Retail Price	Subs. Price	Backup Price
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Communications

CompuServe starter kit	CM11NS-P2	\$39.95	\$35.95	
Kermit	KE11NS-P2	19.00	19.00	
Relay Gold (Plus)	RG11NS-P2	295.00	279.00	
TermPlus	TE12NS-P2	99.95	79.95	(49)
Term110	TE11NS-P2	99.95	79.95	
YTERM	YT11UC-P2	135.00	49.95	

Database/Accounting Software

Condor 3	CR11NS-P2	\$495.00	\$279.00	(249)
Condor Jr	CR13NS-P2	99.95	89.95	
Dac-Easy Accounting	DC11NS-P2	150.00	129.00	
Used dBase II	DB11UC-P2	550.00	295.00	

File Transfer

HPDuette for P.Plus	DU11NS-P2	\$99.95	\$89.95	
Link110	LK12NS-P2	90.00	85.95	
Link Plus	LK11NS-P2	90.00	85.95	
ReadHP	RD11NS-P2	79.95	69.95	

Graphics

Log.Mouse P.Plus System	MS15NM-P2	219.00	179.95	
PrintMaster (Portable Plus)	PR11NS-P2	79.95	69.95	
Sketch	SK11NS-P2	80.00	75.95	
Sketch Halftone disk	SD11NS-P2	9.50	9.50	

Learning Material for HP110, P.Plus

How to Use the HP Portables Video Tapes	VP11NM-P2	\$150.00	\$119.00	(99)
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Productivity Boosting Utilities / Games

BacTools	BC11NS-P2	\$49.95	\$39.95	
DOS Tools	DT11NS-P2	44.95	39.95	
FilePlus	FE12NS-P2	69.95	59.95	(49)
HP110 Utilities Disk	UD11NS-P2	20.00	20.00	(Free)
HP110 Productivity Disk	SB11NS-P2	35.00	35.00	(Free)
GamesPlus	GA11NS-P2	99.95	69.95	(49)
** Norton Utilities Adv.	NU12NS-P2	150.00	99.95	(99)
** Norton Utilities	NU11NS-P2	99.95	79.95	(79)
Private File	PF11NS-P2	39.95	34.95	
Shelp	SH11NS-P2	55.00	49.95	(49)
Squish Plus (Portable Plus)	SQ11NS-P2	129.00	99.95	(79)
Tiger Fox	TF11NS-P2	32.95	29.95	
Time Manager (See HP110 Productivity Pack above.)				
Typing Whiz	TW11NS-P2	49.95	39.95	

Programming

Compiled BASIC (USED)	MS13UC-P2	\$425.00	\$225.00	
FORTTRAN (USED)	FO12UI-P2	395.00	250.00	
MS BASIC (USED)	MS11UC-P2	325.00	165.00	
MS GW BASIC (USED)	GW11UC-P2	425.00	250.00	
Programmer's Tools (USED)	PT11UC-P2	325.00	175.00	
Turbo Pascal 5.5, P.Plus	TP52NX-P2	219.00	175.00	
Upgrade for Plus, HP150	TP15NS-P2	69.00	69.00	
(must own IBM PC Turbo 5.5, honor license)				
T.Pascal 3.0 Optimizer	TP17NS-P2	125.00	119.00	

Project Management

ilestone	ML11NS-P2	\$99.95	\$89.95	
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SpreadSheet and Statistics

101 Macros	MC11NS-P2	\$69.95	\$62.95	
As-Easy-As	AS11NS-P2	99.95	79.95	(59)
Lotus 123, v2.01 / Symphony				
P.Plus Software Driver	LT14NS-P2	69.95	59.95	
SideWinder and Utilities	SW13NS-P2	79.95	69.95	

SideWinder	SW11NS-P2	69.95	59.95	(49)
Statistix 2.0	ST11NS-P2	169.00	159.00	

Word Processors

The Editor II	ED11NS-P2	\$99.95	\$79.95	(49)
Editor Pack	FM16NX-P2	259.00	195.00	
(Editor II, FormatPlus, Webster Speller)				
Editor II/Formatter	ED13NX-P2	119.95	99.95	
PlusPerfect	WD14NS-P2	150.00	129.00	(99)
VI (Unix-like editor)	V111NS-P2	195.00	169.00	
WordPerfect 5.0 P. Plus	WD17NS-P2	645.00	395.00	(299)
(Includes PlusPerfect)				

Word Processing Utilities

Format110	FM12NS-P2	\$39.95	\$35.95	
FormatPlus	FP11NS-P2	79.95	69.95	(49)
Formatter	FM11NS-P2	59.95	49.95	
HPrint	HP11NS-P2	80.00	75.95	
MemoMaker Pack	FM14NX-P2	159.90	125.00	
(Format Plus, Webster Spelling Checker)				
OutlinePlus	OU11NS-P2	89.95	69.95	
PrinterTalk	PT11NS-P2	49.95	44.95	
PrinterTalk, Format110	PT12NS-P2	89.90	59.95	(49)
RightWords Dict. Ext.	RW12NS-P2	29.95	29.95	
RightWriter	RW11NS-P2	95.00	89.00	(79)
Webster's Speller	WB11NS-P2	79.95	69.95	(49)

ACCESSORIES, SUPPLIES

BATTERIES

HP110 Battery ⁹	BT12HC-P2	\$39.00	\$39.00	
HP9114 Battery	BT13HC-P2	69.00	69.00	
Portable Plus Battery ⁹	BT11HC-P2	59.95	59.95	
Refurb. ThinkJet Bat. ¹⁰	BT12NG-P2	47.00	47.00	
Refurb. 9114 Battery ¹⁰	BT11NG-P2	37.00	37.00	
ThinkJet Battery (new)	BT14HC-P2	65.00	65.00	

⁹ Includes instructions, torx screwdriver, nut driver.

¹⁰ You must send us your existing battery.

CABLES

92221M serial modem 110,+	CA13HC-P2	\$42.00	\$42.00	
HP92221P serial print 110,+	SC13HC-P2	42.00	42.00	
HP-IL Cable, 1 Meter	HP14UM-P2	8.00	8.00	
HP-IL Cable, 1/2 Meter	HP12UM-P2	16.00	6.00	
HP-IL Cable, 5 Meters	HP11UM-P2	10.00	10.00	
Port-Mac DB 9-pin Cable	PO11NH-P2	59.95	59.95	
Port-Mac DIN 8-pin	PO12NH-P2	59.95	59.95	
(Port-Mac Cables connect 110, P.Plus to Apple Macintosh)				
Serial modem 110,Plus	WM14NM-P2	42.00	20.00	
Serial printer 110,Plus	SC13NM-P2	42.00	27.95	

CARRYING CASES

HP vinyl 110, + (Like New)	BV11UC-P2	29.00	29.00	
HP leather 110,+ (Used)	CS11UC-P2	89.00	49.00	
HP fabric system (Used)	SC11UC-P2	110.00	59.95	
Targus leather system	TA11NM-P2	199.95	179.00	
Targus nylon system case	TA12NM-P2	99.95	89.95	

POWER SUPPLIES, RECHARGERS

110, +, 9114, TJ charger	RC16UC-P2	\$20.00	\$20.00	
(European charger)				
Empowerer II, HP9114 ¹¹	ER11HC-P2	25.00	25.00	
Empowerer II, ThinkJet ¹¹	EM13NH-P2	119.00	95.00	
Mobile Recharger	PR11NM-P2	69.95	59.95	
Power Cube	PR13NM-P2	89.95	79.95	

¹¹ \$75 if you send us your TJ or 9114 battery.

PRINTER and DISK SUPPLIES

3.5" disks (10), case	DS11NM-P2	\$44.90	\$29.95	
DeskJet ink cartridge	CT11HC-P2	20.95	20.95	
HP92261n inkjet 2500 z	TJ12HC-P2	69.95	69.95	
HP51630a inkjet 500 z	TJ13HC-P2	19.95	19.95	
TJ ink cartridge (HP)	TJ14HC-P2	11.95	11.95	
TJ ink cartridge (plain)	TJ15HC-P2	11.95	11.95	
TJ ink cartridge (red)	TJ17HC-P2	13.95	13.95	
TJ ink cartridge (blue)	TJ16HC-P2	13.95	13.95	
TJ ink cartridge (green)	TJ11HC-P2	13.95	13.95	
** HP ThinkJet Printer stand	AC12HC-P2	49.00	49.00	

UPGRADES / REPAIRS

256K to 512K Plus Upgrade	256KNG-P2	\$1100	\$395	
128K to 512K Plus Upgrade	128KNG-P2	1100	395	
FastPlus (CPU Upgrade)	FA11NG-P2	250	199	(159)
HP110 keyboard repl.	KE11UC-P2	225	195	
HP110 screen repl.	LC11UC-P2	435	195	
P.Plus screen upgrade/repl.	GO11NG-P2	350	195	
P.Plus keyboard replacement	KE12UC-P2	320	250	
Repairs		CALL	CALL	

HP no longer manufactures HP Portable equipment. All items on this price list have never been used or are reconditioned and in excellent condition. All items come with a 60-day money back guarantee and a 1-year Personalized Software warranty.

PRICE LIST LS/12, PORTABLE VECTRA

LS/12 SPECIFIC PRODUCTS

Product	Part Num.	Retail Price	Sub. Price
LS/12 COMPUTERS			
Used LS/12, 20MB Drive	LS11UM-P2	Call for \$, avail.	
Used LS/12, 40MB Drive	LS12UM-P2	Call for \$, avail.	

LS/12 MEMORY

1 MB EMS Memory	EM11NH-P2	\$295	\$285
4 MB EMS Memory	EM12NH-P2	1195	1095

LS/12 INTERNAL MODEMS

HPD1502a 2400 Modem	IM11HL-P2	\$449	\$369
** Holmes 2400 FAX/Modem	DA11HL-P2	699	469

LS/12 DRIVES

Weltec 5.25" Drive	WE11NH-P2	\$349	\$299
LapTape tape backup	LA11NH-P2	795	695

ADDITIONAL LS/12 PRODUCTS

Expansion Chassis, Cable	EX11NH-P2	\$599	\$599
Numeric Keypad	NU11NH-P2	129	115
** HPD1057A Battery	NB11HL-P2	299	179
** HPD1058A Recharger	BC11HL-P2	109	99
** 80287 math coprocessor	MA11HL-P2	649	379
LS/12 Carrying Case	BC11HL-P2	59	59

PORTABLE VECTRA CS SPECIFIC PRODUCTS

PORTABLE VECTRA COMPUTERS

New Portable Vectra CS 20	VE13HC-P2	\$3595	\$1795
Used Port.Vectra CS 20	VE17UC-P2	Call for \$, avail.	
Used Port.Vectra CS	VE12UC-P2	Call for \$, avail.	

INTERNAL MODEMS

HPD1003A 2400 Baud	VE16UC-P2	Call for \$, avail.	
HPD1002A 1200 Baud	MO11UC-P2	Call for \$, avail.	

SERIAL CARD & EMS MEMORY

Dual serial/EMS Card	AD11HC-P2	\$250	\$198
1 MB EMS memory	EM11HC-P2	595	295

EXTERNAL HARD DISKS

TravelDisks: hard disk, P. Vectra CS bus extender card, cable			
TD-10 (10 MB) new	TD11NH-P2	\$995	\$945
TD-10 (10 MB) refurb.	TD12NH-P2	650	595
TD-20 (20 MB) new	TD13NH-P2	1095	995
TD-20 (20 MB) refurb.	TD14NH-P2	775	725
TD-30 (30 MB) new	TD15NH-P2	1195	1095
TD-30 (30 MB) refurb.	TD16NH-P2	900	835
TD-40 (40 MB) new	TD17NH-P2	1295	1195
TD-40 (40 MB) refurb.	TD18NH-P2	1100	995
TD-100 (100 MB) new	TD19NH-P2	1895	1795
TD-100 (100 MB) refurb.	TD20NH-P2	1500	1395
TD-250 (250 MB) new	TD21NH-P2	3495	3195
TD-250 (250 MB) refurb.	TD22NH-P2	CALL	CALL
Extra P.Vectra Bus Extend	TD23NH-P2	80	75
Extra cable	TD24NH-P2	110	99
Extra IBM Bus Extend card	TD25NH-P2	50	47

OTHER VECTRA CS PRODUCTS

HP-IL Adapter Card	HP16NM-P2	\$245	\$235
HPD1007A Soft Case	CS12HC-P2	Call for \$, avail.	
Battery (HP D1001-60924)	BA11HC-P2	250	225
** Recharger (HP 5061-4335)	VR11HC-P2	97.50	97.50

MONITORS FOR VECTRA CS, LS/12

Monochrome Monitor	VII2HC-P2	129	119
CGA Monitor	MO12HC-P2	399	299
EGA Monitor	MO13HC-P2	599	479

THE PORTABLE PAPER

(Subscribers Disks Only Available With Subscriptions)

Product	Part #	Price
1991 Subscription & Disk	PPNIPS-P2	\$55.00
For Vectra CS, 1988-91 issues, disks	VE11PK-P2	109.00
For Vectra CS 1988-90 issues, disks	PP15PB-P2	79.00
For LS/12 1989-91 issues, disks	LS11PK-P2	89.00
For LS/12 1989-90 issues, disk	PP12PK-P2	59.00

Individual back issue	PP99PB-P2	9.20
PP Binder Vol.3	PB13NM-P2	7.00
PP Binder Vol.4	PB14NM-P2	7.00
PP Binder Vol.5	PB16NM-P2	7.00

Reconditioned PRINTERS for the LS/12, P.VECTRA CS

Product	Part Num.	Retail Price	Sub Price
New Diconix - parallel	DT11NH-P2	\$519	\$399
New Diconix - serial	DT12NH-P2	539	415
Serial HP2225D ThinkJet	TJ14UC-P2	495	295
Parallel HP2225C ThinkJet	TJ11U1-P2	495	295
** DeskJet Printer, cable	DJ11UC-P2	837	395
** DeskJet Plus, cable	DJ12UC-P2	995	450
PaintJet	PA12UC-P2	1395	CALL
LaserJet 500 Plus	LA13UC-P2	4200	CALL
LaserJet IID	LA12UC-P2	3795	CALL
Rugged Writer	RU11UC-P2	1695	CALL

PERIPHERALS for the LS/12, P.VECTRA CS

PORTABLE MODEMS, FAX

WorldPort FAX/Modem	WF11NH-P2	\$699	\$599
WorldPort Modem 1200	WM11NH-P2	199	179
WorldPort Modem 2400	WM12NH-P2	359	319
WorldPort M. 2400/MNP	WM13NH-P2	499	425
WorldPort serial cable	WM14NM-P2	30	20
WP 1200 Upgrade kit	WM13NG-P2	199	179
WP Acoustic coupler	WM16NH-P2	79	79

EXTERNAL DRIVES, TAPE BACKUP

Backpack			
5.25", 1.2MB Floppy Drv	BP11HC-P2	\$349	\$329
3.5", 2.8MB Floppy Drv	BP12HC-P2	\$425	\$395
Weltec Serial 20MB Hrdisk	WE12NH-P2	\$1099	\$899
Valitek Serial and Parallel Port Tape backup units			
60 MB Valitek	VA11NH-P2	1695	1495
160 MB Valitek	VA12NH-P2	2395	1995

OTHER LS/12, VECTRA PERIPHERALS

EtherNet Adapter	ET11NH-P2	\$695	\$629
Logitech Mouse	MS14NM-P2	119	99
Statpower PC100+ Inverter	ST11NH-P2	179	169

SOFTWARE for the LS/12, PORTABLE VECTRA

The Editor II	ED11NS-P2	\$99.95	\$79.95
Condor 3 for IBM	CR11HM-P2	495.00	379.00
LapLink	LA11NS-P2	139.95	119.00
NoSquint II	NO11NS-P2	49.95	45.95
Squish Plus	SQ12NS-P2	99.95	89.95
REDline	RE11HC-P2	49.95	49.95

CALL FOR CONSULTATION AND PRICING
ON OTHER IBM COMPATIBLE SOFTWARE PRODUCTS

ACCESSORIES for the LS/12, P.VECTRA

PRINTER SUPPLIES

TJ plain paper cartridge	TJ15HC-P2	\$10.95	\$10.95
TJ inkjet paper cartridge	TJ14HC-P2	10.95	10.95
HP92261n inkjet 2500 z	TJ12HC-P2	64.95	59.95
HP51630a inkjet 500 z	TJ13HC-P2	19.95	19.95
DeskJet ink cartridge	CT11HC-P2	19.95	19.95

FLOPPY DISKS

10 3.5" disks and case	DS11NM-P2	\$44.90	\$29.95
10 3.5" 1.44M disks, case	DS12NM-P2	69.95	59.95

CARRYING CASES

Targus leather system	TA11NM-P2	\$199.95	\$179.00
Targus nylon system case	TA12NM-P2	99.95	89.95

CABLES

Standard Parallel Cable	PL11NM-P2	\$29.95	\$24.95
P.Vectra 25-pin serial prn	SE12HC-P2	29.95	24.95
9-pin AT serial prn cable	SE11HC-P2	29.95	24.95

(News from P.S., continued from page 17.)

WordPerfect files on 4 128K ROMs. An optional 5th ROM will contain Help files. An optional set of 3 ROMs could contain the dictionary, and 2 more ROMs (in conjunction with the dictionary ROMs) could contain the Thesaurus.

P+ If all this works, our plan is to hold the Subscriber WordPerfect ROM price to \$595. That would include five WordPerfect ROMs (the four main ROMs and the help ROM). We would sell the additional ROMs for the speller and Thesaurus at \$49 each - our price for blank PROMs.

For those who already own WordPerfect on ROM, we will sell the ROMs for \$49 each. Therefore, the basic four ROM set will go for \$196. (You will be required to send in your current WordPerfect ROMs for us to legally send you the upgrade). As soon as all this is finalized, we will send out a mailing to all customers of WordPerfect for the Portable Plus.

You may, if you wish, call in your order now. When you do, we will tell you the status of WordPerfect on ROM.

ANALOG-TO-DIGITAL CONVERTER DRAWER FOR THE PORTABLE PLUS

Marcus Otto wrote us that Heron Computer also has a working prototype of an analog-to-digital drawer that fits in the Portable Plus drawer slot. This drawer allows the Plus to collect external analog information: real-world events such as temperature or water pressure. Marcus said that he would write an article for *The Portable Paper* if his success is more than "fleeting."

Norton Utilities on 1 ROM Chip

P+ For years I have wanted to put Norton Utilities on ROM for the Portable Plus but have been unable to for various reasons. I now have a one ROM version of the most important utilities in my Portable Plus. We crammed the 7 most useful utilities for the Portable Plus on one ROM by compression techniques and by using files from Norton Utilities 3.1 rather than 4.0 in some cases. (Norton Utilities 3.1 is a small version. For Portable Plus usage versions 3.1 and 4.0 are pretty much equivalent in most cases).

I designed the ROM version so that Norton Utilities gets called from PAM. When Norton starts from PAM a help screen pops up listing the seven utilities on the ROM, what they do, and how to invoke them. The user then may press **Return** to start the main NU program or press **Ctrl-C** to return to PAM. Here is what we included on the ROM:

- DS.EXE —Physically sorts your files on disk by name, extension, size, or date;
- FA.EXE —Examines or changes file attributes;
- FF.EXE — Finds a file through maze of subdirectories;
- FS.EXE — Determines actual space files take on disk;
- NU.EXE** — (Version 4, Advanced) Examines, manipulates contents of data on (electronic or floppy) disk;
- QU.EXE —Unerases a file mistakenly deleted;
- TS.EXE —Searches for text within files or erased files;

ORDERING INFORMATION

The subscriber price is \$99 (if you have already purchased from us Norton Utilities for the Portable Plus). The subscriber price for those who have not yet purchased Norton Utilities from us is \$199 (for the disk and ROM package of Advanced Edition).

We have also lowered the subscriber price of The Norton Utilities Advanced Edition from \$129 to \$99.95 and the price for the standard edition from \$89.95 to \$79.95.

On Sale: HP Portables Loaded with ROM Software

110 We have been able to continue this newsletter and remain viable as a company by obtaining HP Portable equipment (often never used) and then reselling it. Over the past months we have not only obtained HP110's and Portable Pluses, but many HP ROMs such as MemoMaker, ECM, and Reflection, along with software and memory drawers. In addition, thanks to our ROMBO ROM burner and arrangements with third party manufacturers of software such as The Editor, Shelp, Norton Utilities, As-Easy-As, Games, Duette and so forth, we have obtained the rights to reproduce these products for a relatively low sum. In addition, to lower the cost of our 5 hour video on how to use HP Portables, we have put the original three tapes on one VHS slow playing tape with minimum loss of quality.

All this adds up to the ability to create Portable Plus systems full of ROM based software, disk software, and the video for incredible values. If our new brochure of these systems is finished in time it will accompany this newsletter. Otherwise you will receive it in about two weeks. However, you may order these bundles starting at the time you receive this newsletter.

Four bundled systems, Power Plus, Super Plus, Terminal Plus, and the Thrifty System, are described below.

THE POWER PLUS SYSTEM

If you mainly need word processing and/or spreadsheet analysis, the Power Plus system is an excellent value. It's built around an **HP Portable Plus** with a **ROM expansion drawer**. The following ROM-based programs are included:

The Editor II — easy-to-use full-featured word processor; **Webster's Spelling Checker** — comes with a 110,000 word dictionary; **FormatPlus** — command center and document formatter; **As-Easy-As** — powerful Lotus-like spreadsheet program; **SideWinder** — prints spreadsheets sideways; **FilePlus** — a great file manager; **Shelp** — pop-up productivity booster with note pad, calculator, and keyboard macros.

The Power Plus System costs \$1,095. The following six free bonuses are included on the Power Plus, Super Plus, and Terminal Plus Systems:

SIX BONUSES FOR THE POWER PLUS, SUPER PLUS, AND TERMINAL PLUS SYSTEMS

1. **How to Use the HP Portables** — A 5-hour video demonstration and tutorial showing you how to get the most out of your HP Portable.
2. **The Norton Utilities 4.0 Advanced Edition (on disk)** — best-selling data recovery and file utilities.
3. **DOS Tools (on disk)** — more than 50 public domain programs to enhance the Portable Plus.
4. **GamesPlus (on disk)** — Bridge, Chess, Go-Moku, Othello, Yahtzee, Concentration, and more.
5. & 6. **1991 subscription to *The Portable Paper* and the 1991 Subscribers Disk.**

THE SUPER PLUS SYSTEM

The ultimate portable system, including an HP Portable Plus, 1200 baud internal modem, a 128K memory drawer, a ROM expansion drawer, and all the software from the Power Plus System. In addition, you get these programs built-in on ROM:

Executive Card Manager — a Rolodex-like database; **TermPlus** — data communications between computers via modem; **Reflection** — HP2662 and VT100 terminal emulation for HP3000 & mainframe computer use; **HP Duette** — transfer files between Portable Plus and any PC-compatible computer via serial cable; **Time Manager** — HP's scheduler; **Norton Utilities 4.0** — best selling disk utilities; **OutlinePlus** — menu-driven outliner for planning; **MemoMaker** — HP's easy-to-use word processor; **GamesPlus** — 7 games for the P.Plus including Bridge, Chess, Go-Moku, Othello, Yahtzee, Concentration, and more.

The Super Plus System costs \$1,795, including the above mentioned free bonuses and Tetris.

THE TERMINAL PLUS SYSTEM

Built around an HP Portable Plus equipped with an internal 1200-baud modem, a ROM expansion drawer, and the following ROM-based software programs:

Reflection — terminal emulation program; **MemoMaker** — word processor; **As-Easy-As** — spreadsheet program; **SideWinder** — spreadsheet printer utility; **Time Manager** — scheduler; **AdvanceMail** — interact with HPDesk program on HP3000.

The Terminal Plus System costs \$1,095, including the above mentioned free bonuses.

WEBSTERS, HPDUETTE, AND TETPLUS ON ROM

For \$199 more, Terminal Plus purchasers can add Webster's 110,000 word dictionary spell checker, HPDuette file transfer to PC via serial port program, and a Tetris-like game, all built in on ROM.

THE THRIFTY SYSTEM

Built around the HP110 Portable computer, an internal 300 baud modem, and the following ROM-based software:

MemoMaker — HP's easy-to-use word processor; **Lotus 1-2-3, version 1A** — powerful spreadsheet program; **Terminal** — HP data communications software.

The Thrifty System costs \$395, including the free bonuses described below:

SIX FREE BONUSES FOR THE THRIFTY SYSTEM

1. **"How to Use the HP Portables"** — 5 hour video
2. **HP110 Productivity Pack (on disk)** — including the most useful HP110 programs we've found: Time Manager, FormIBM (formats 3.5" disks so the 110 and a PC can read them), Pack (disk packing utility), and SWP (great file manager).
3. **PrinterTalk (on disk)** — adds to MemoMaker's capabilities, letting you change fonts in middle of documents, specify lines per page, and more.
4. **Format110 (on disk)** — lets you format MemoMaker files, chain or merge documents, and more.
5. & 6. **1991 subscription to *The Portable Paper* and the 1991 Subscribers Disk.**

ORDERING INFORMATION

Every system we sell comes with a one-year guarantee. And should you be dissatisfied with any item, you can return it within 60 days for a full refund.

Power Plus (Prod.# PP11UX-P2)	\$1,095
Super Plus (Prod.# SU11UX-P2)	\$1,795
Terminal Plus (Prod.# TE11UX-P2)	\$1,095
Thrifty System (Prod.# TH12UX-P2)	\$395
* ThinkJet & disk drive (Prod.# TH11UX-P2)	\$295
* 5 ROM special (Prod.# RO11UX-P2)	\$395
** Webster's, Duette, TetPlus (Prod.# WH11NX-P2) ...	\$199

The 5 ROM special includes 128K P.Plus memory drawer, Executive Card Manager, OutlinePlus, GamesPlus, TermPlus, & HP Duette.

* *Can be purchased at this price with the purchase of a Portable Plus or HP110 portable computer.*

** *This price good with Terminal Plus System.*

If you have any questions — or would like some help deciding which system is best for you — call us toll-free at (800) 373-6114.

Keefe Kollection

P+ Ed Keefe, in his Looking Glass column, describes some of the files he is putting on his "Keefe Kollection." The Keefe Kollection consists of a number of programs that did not make the 1991 Subscriber disk but work on the Portable Plus. Also see the 110% article on Hack (a "Dungeons and Dragons" type game). It is included in the collection.

The subscriber price for the set of two disks is \$29 (\$39 for non-subscribers). The disks come as is, with documentation on the disk.

Shelp

Recommended by Hewlett-Packard, and used by more than 1,000 of their employees.

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, right in the middle of your application (Lotus in this example):

	JAN	FEB
Gross	30	\$82
Expenses	30	\$51
Total	30	\$31

Main Menu

- Calculator
- Note Pad
- Key Macros
- Off

[Esc] to exit

SideKick and SuperKey are registered trademarks of Borland International, Inc.

Instant Access Pop-ups for the Portable Plus: Calculator • notepad • macros • and more

"A great, easy-to-use productivity booster. If there's one program every Portable Plus owner should have, it's Shelp."—Hal Goldstein, Publisher, The Portable Paper

The menu gives you 4 choices: Calculator, Notepad, Key Macros, and Off.

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!

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

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

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

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

PRODUCT NO. SH11NS

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

© Copyright 1987 Personalized Software

Like the Subscribers Disks, it is impossible for us to provide technical support for these programs due to the many pieces of diverse software on the disk and the fact that the Kollection is not a profit-making item. However, you can correspond with Ed Keefe about any of the programs.

OutlinePlus

P+ [Excerpted from David Toliver's documentation for OutlinePlus.]

[I really want to encourage Portable Plus users to take a look at OutlinePlus, a great new product. David Toliver the program's author spent many hours adapting the product to the Portable Plus. He used feedback from Portable Paper columnists Tom Page, Ed Keefe, and myself. He also used The Editor II as a model for a user interface.]

I use outlining for planning, brainstorming, keeping track of commitments made by my employees, keeping track of phone contacts, writing reports. My to-do list is kept in outline format. To give you a flavor of OutlinePlus we have excerpted part of David Toliver's most readable and thorough manual — Hal.]

OutlinePlus is a computer program adapted expressly for the HP Portable Plus computer. It is essentially the same

document planning tool that we learned to use when writing essays in school. However, electronic outlines increase the power and usefulness of ordinary outlines in much the same way as word processors improved upon typewriters for developing complete textual documents.

Outliners can be compared to and contrasted with word processors. The OutlinePlus builds on knowledge and use of conventional outlines and electronic word processors.

GETTING STARTED WITH OUTLINEPLUS

After installing OutlinePlus, start it from PAM by moving the arrow to the OutlinePlus box and pressing **return**. The first screen you see is called the startup screen. Here you name new or existing outlines and text files to work on. File must have DOS acceptable names (AMIMALS.DOC).

The next screen you see is the editing screen. There is a status line at the top of the screen, followed by a 2-line menu, followed by a ruler. All your work creating outlines and text is done on this screen. When you get the editing screen, you can immediately begin typing your document.

For example, say you entered the following 4 lines:

Mammals
Birds
Fish
Insects

Numeric labels provided for every line you typed would make your outline document look like this:

1. Mammals
2. Birds
3. Fish
4. Insects

Every labelled line is an entry in the outline. Pressing the **return** key after each entry caused a new outline entry to be created. Use the arrow keys to move the cursor around in the text that you have typed. This demonstrates a very important characteristic of OutlinePlus: many of the package's commands behave exactly like their counterparts in conventional text editors and word processors. In particular, the WordStar editor and Personalized Software's The Editor commands are used as a model for many OutlinePlus commands.

Now move the cursor to the end of the "Mammals" line. You can do this by using the Arrow Keys, or the Wordstar sequence, if you know it. After placing the cursor at the end of this line, press **return**. Note that a new outline entry with the label '2' has been established, and that all the rest of the labels have been renumbered.

However, cats are a type of mammal. Thus the entry should be subsidiary or down one level from mammals. In an outliner, making an entry subsidiary to another is called "demoting the entry." In OutlinePlus on the HP Portable Plus, put the cursor on the "cats" entry and press the **User System** key to demote the entry. Your outline should look like this:

1. Mammals
 - 1.1. Cats
2. Birds
3. Fish
4. Insects

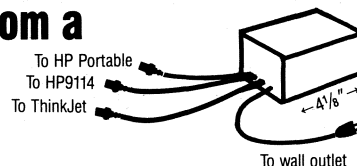
The opposite of demoting is promoting. In OutlinePlus, the **Menu** key promotes an item.

OutlinePlus handles text in a free-form manner. Go to the end of a line and write a short paragraph about the entry. Note that when you get to the end of the line, the line wraps after the last word that fits on the line, just like a word processor. It is easy and often desirable in an outline to write pages of text whose lines are not labelled.

You need never lose the big picture, though. That is because OutlinePlus allows you to hide the details. One command, Hide ContLines, will alternately hide and reveal all continuation lines.

There are several options for saving your outline to a file. These include **File Save+exit**, which will save the outline and return you to PAM, and **File New**, which will save the outline and return you to the startup screen of OutlinePlus.

Power your Portable, ThinkJet, and HP9114 from a single wall outlet.



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 Power Cube/Recharger from Personalized Software.

The Power Cube has four power cords. Three 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 fourth is a conventional AC cord that plugs into the wall and powers the other three.

Get rid of that tangle of extension cords, power strips, or whatever else you've been putting up with.

Order a Power Cube/Recharger today.

Power Cube/Recharger \$89.95
\$79.95 for Portable Paper subscribers.

© Copyright 1987 Personalized Software

OutlinePlus files are ASCII text files. As such they can be read by many other word processors and text editors available for the Portable Plus.

FEATURES OF OUTLINEPLUS

OutlinePlus shares a number of features found in other outline processors, and adds some new ones. Some of OutlinePlus's features include the following:

ASCII TEXT OUTPUT FILES — Outlines are stored as ASCII text files. These can subsequently be printed, used with other word processors, sent through a modem, or otherwise handled as you would any other text file.

BLOCKING COMMANDS — Lines can be marked off as blocks, which then can be moved, copied, deleted, promoted, or demoted.

DEFINING MARGINS — The margin of the continuation line can be defined to be either directly below the text of the initial line of the paragraph or flush left on the screen and in the file.

DECIMAL AND CLASSICAL LABELS — A decimal or classical label reflecting the structure of the outline being developed adjusts itself automatically to all changes. The label reflects the level of each entry in the outline.

DELETE — Characters, words, lines, structures and blocks can all be deleted under command control.

FILING OPTIONS — The document can be abandoned or saved, with control remaining in the edit screen or returning to either the startup screen or DOS.

FULL SCREEN AND FILE NAVIGATION — Arrow and other control keys to move the cursor about the screen to bring to view other parts of the working document.

HALF-SCREEN SHOWING PATH FROM ROOT — Select this command and the top half of the screen presents the first line of every entry that is a direct antecedent of the top line in the edit section. The outline remains in the bottom half of the screen.

Speed up your Portable Plus

At least 60% faster with our low-cost "FastPlus" upgrade!

By installing a faster processor and increasing the clock speed of your Portable Plus, you can run Lotus 1-2-3 and other applications at least 60% faster than before.

The upgrade is straightforward, but requires skill and experience working inside a Portable Plus.

If you want to try it yourself, see our instructions in *The Portable Paper* Vol. 3, No. 1, pp. 12-14.

If you want our trained technicians to do it for you, call to schedule an appointment, then send us your Portable Plus and \$250.

(This covers the cost of desoldering the Harris 80C86 processor and replacing it with the faster NEC V30, increasing the clock speed from 5.33 MHz to 8 MHz, and

returning your computer to you via UPS surface. If you prefer overnight return shipping, add \$35.)

In most cases, we'll perform the upgrade and ship your computer back the same day we receive it. In all cases, we guarantee our work for 60 days.

Please note: This upgrade will void your HP warranty, and HP will be under no obligation to service your Portable Plus in the future. However, we will continue to service upgraded machines, and HP repair centers may, in fact, do the same.

This "FastPlus" upgrade will make your Portable Plus more than twice as fast as the original IBM PC—that's even faster than the HP Portable Vectra!

To save time running your spreadsheets, editing your documents, loading programs, saving files, and almost anything else you use a computer for, order the "FastPlus" upgrade today. You'll appreciate the difference it makes!

"FastPlus" upgrade for Portable Plus \$199

PRODUCT NO. FA119G

(Be sure to call first to schedule an appointment.)

Overnight return shipping . . \$35.

PRINT OPTIONS — Both text and outline documents can be printed from within the program.

REFORMING PARAGRAPHS — Outline entries longer than a single line can be reformed so that they fit nicely on the screen and in the file as a paragraph.

SEARCH AND REPLACE — Strings located anywhere can be replaced with another string.

SHIFTING STRUCTURES AND BLOCKS — Entire blocks of structures can be promoted and demoted on the screen as you develop your outline.

STRUCTURED TEXT WITHOUT LABELS — A whole outline or parts of an outline can have their labels suppressed. If this is applied at one time to the whole outline, the resulting document is called a structured text file. You can choose to develop a structured text file from the startup screen or switch to it by a command during the editing of an outline.

GLOSSARY OF OUTLINING TERMS

The following are terms commonly used in outlining:

Antecedents — All entries above and containing an entry, from the entry's parent to the root, are known as its antecedents.

Children — All entries below, or descending from, an entry in a hierarchy are known as that entry's children.

Depth — The depth of an outline is the last level displayed before the entries are hidden from view.

Descendants — All the children of an entry, together with their children, etc., are known as the entry's descendants.

Hierarchy — a method of organization in which higher levels contain one or more entries at lower levels.

Label — Labels are provided and maintained by OutlinePlus to mark the beginning of entries and clarify the hierarchy of the outline. Labels come in Classical (I, I.A, I.A.1, etc.) and Decimal (1, 1.1, 1.1.1, etc.) styles.

Level — Each entry is at some level between 0 and 9. The first, or root, entry and the continuation lines that follow it are at level 0.

Node — When an outline is viewed as a tree structure in memory, every line is a node of this tree.

Parent — The entry above an entry in the hierarchy (one level up) is known as its parent.

Root — The first line of the file is called the root of the document structure.

Siblings — All lines at the same level in the hierarchy and that have the same parent are "siblings."

Structure — An entry, its continuation lines, and all its descendants are known as a structure.

ORDERING OUTLINEPLUS

OutlinePlus is available to subscribers on disk for \$69.95 (\$79.95 for non-subscribers) and as a ROM backup package (disk and ROM) for \$165. OutlinePlus also is included on Writers ROM II, which costs \$299. Use center order form and price list, or call (800) 373-6114 to order.



[Vectra Views contains information which specifically pertains to the Portable Vectra CS and Vectra LS/12 Laptop PC. In this column we note the latest developments in Portable Vectra and LS/12 products from Hewlett-Packard, Personalized Software, and other third parties, and include specific tips for Vectra and LS/12 users. Please feel free to contribute on disk or letter to Personalized Software, P.O. Box 869, Fairfield, IA 52556, call (515) 472-6330, or Fax (515) 472-1879.]

New Parallel Hard Drives

Three new portable hard drives suitable for the LS/12, Portable Vectra CS, or any PC-compatible portable have come to our attention recently. These drives connect to the computer's parallel port.

EXPORT "T" HARD DRIVES

Systems Peripherals Consultants has begun shipping its new Export "T" Series of external hard drives. Weighing from 1 to 2 lbs, these 20 - 200 MB units connect to the parallel port of any PC-compatible computer. The unit comes with a "T" connector that allows the user to simultaneously connect the hard drive and a printer to the LS/12 or Vectra CS and operate both at the same time. The Export "T" is shipped with an AC power supply but has a battery option. Retail prices start as low as \$595 for the 20MB drive. The battery pack is extra.

PARALLEL LINE HARD DRIVES

Pacific RIM Systems of Hayward, California, markets a smaller, lightweight parallel hard drive. Its 3/4 pound 20MB and 40MB models come with flexible parallel cables and have a Ni-Cd battery pack option. The Pacific RIM hard drives come with a parallel in port and a parallel out

port, allowing you to daisy-chain other parallel devices. The 20MB model retails for \$799 (an additional \$99 for the Ni-Cd battery pack).

LIBERTY HARD DRIVE

The Liberty Portable Hard Drive weighs between 2.5 and 3 lbs., but comes with its power supply built in (no external AC adapter). Two models, a 52MB and a 105MB hard drive, are available for PC-compatibles like the LS/12 and Vectra CS. Additional models are available for MACs.

A big plus for the Liberty hard drive is its porting flexibility. You get 25-pin parallel-in and parallel-out ports on the back of the unit, which allow you to connect your printer through the hard drive. You also get a "scuzzi" (SCSI) port and a built-in SCSI controller that allows you to connect up to six additional SCSI devices.

The IBM-compatible version weighs under 2.5 lbs and is 2" x 5" x 7". The 52MB version retails for \$899, the 105MB drive retails for \$1,199. Liberty drives are available with a built-in, self-adjusting international power supply.

ADVANTAGES OF SMALL, PARALLEL HARD DRIVES

Parallel port hard drives allow for high-speed transfer of data and are ideal as backup and data transfer devices. Pacific RIM tells us that many of their clients (accountants, lawyers, and engineers) need the ability to carry large amounts of data with them on the road for presentations or consultations. Many have access to computers at home and at other office sites and just carry one of these lightweight drives with them instead of a laptop computer.

All of these parallel devices allow you to daisy-chain a printer through a parallel-out port on the back of the unit, eliminating the need for an extra printer port on the computer. The Liberty Hard Drive comes with a SCSI port, which lets you daisy-chain up to 6 additional SCSI devices.

These hard drives can be shared by many computers and users. This is an easy, although slightly expensive way of adding extra megabytes of hard disk storage to your LS/12 or Portable Vectra CS.

Export "T" Hard Drives
Systems Peripherals Consultants
7950 Silverton Avenue, #107
San Diego, CA 92126
(619) 693-8611

P20 Hard Drives
Pacific RIM Systems
2655 Barrington Court
Hayward, CA 94545
(415) 782-1013

Liberty Systems
122 Saratoga Avenue, Suite 16
Santa Clara, CA 95051
(408) 983-1127

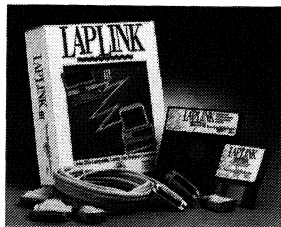
You can purchase any of these drives from Personalized Software for 10% off the retail price.

NINE ways to make your LS/12 Vectra or Portable Vectra CS more productive!

Transfer your files to another PC without hassle!

Highly rated **LapLink** software offers high-speed file transfer between your Vectra and another IBM PC compatible using **LapLink's** special cable. Versatile (works with parallel and serial ports) and easy to use (simple manual or automatic file tagging).

LapLink for PV, LS/12 la11ns
Retail: \$139; Subscriber: \$119



Access any Ethernet network with your Vectra!

Xircom Pocket Ethernet Adapter attaches to your Vectra (or any PC compatible) parallel printer port. It lets you connect to any Ethernet LAN, supporting Novell NetWare versions 2.0a and higher. It's 5 oz: the size of an audiocassette case.

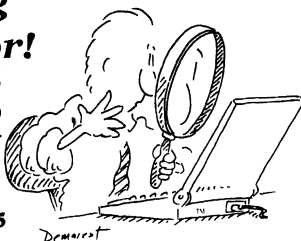
Ethernet Adapter, LS/12,PV et11nh
Retail: \$695; Subscriber: \$629



No more squinting to find your cursor!

Why search for a faint underline? Make Vectra cursor BIG and BOLD with **NoSquint II** and see the cursor clearly without strain.

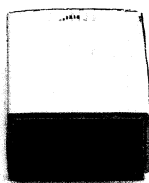
NoSquint II PV, LS/12 no11ns
Retail: \$49.95; Subscriber: \$45.95



Back up your LS/12 hard disk files to tape!

Tallgrass Technologies top-quality tape backup unit backs up LS/12 #20 or 40 Meg hard disk. Connects via LS/12 floppy disk connector in back. HP lab tested and approved.

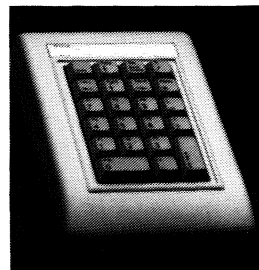
LapTape Backup Unit, LS/12 la11nh
Retail: \$795; Subscriber: \$695



Fast numeric entry for your LS/12!

The **Zenith Numeric Keypad** plugs into the right side of your LS/12. Calculator-style numeric keypad simplifies spreadsheet and database numeric entry tasks.

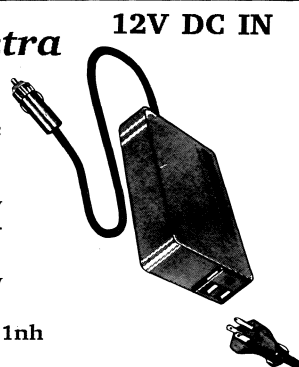
Numeric Keypad, LS/12 nu11nh
Retail: \$129; Subscriber: \$115



Recharge your Vectra while driving!

Plug your Vectra recharger into the 4.5" x 3.5" x 1.3", 1 lb, **PC100+ StatPower Pocket Power Inverter**. Recharge your Vectra battery by connecting the PC100+ to your car's cigarette lighter. The PC100+ provides instant 115V power from any 12V source.

StatPower PC100+ PV, LS/12 st11nh
Retail: \$179; Subscriber: \$169



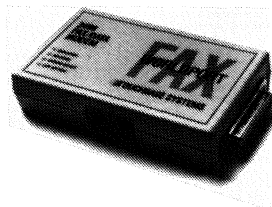
12V DC IN

115 AC OUT

Fax your files anywhere, anytime!

Now you can have both a 9600 bps Group III facsimile and a full-featured 2400 bps modem in one completely portable, pocket-sized unit! Share the **WorldPort 2496** among different PC's, or use it just for your work and travels. Connects to Vectra serial port and can operate from its own battery or from AC power.

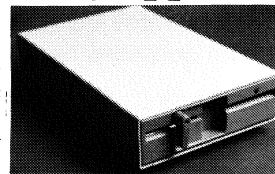
WorldPort 2496 PV,LS/12 wf11nh
Retail: \$699; Subscriber: \$599



Access files from 5.25" floppies using your LS/12

Weltech 5.25" disk drive plugs right into the LS/12 external drive port in back of LS/12. Can read from and write to 360K and 1.2M floppy disks.

Weltech 5.25" drive LS/12 we11nh
Retail: \$349. Subscriber: \$299



External 5.25" drive connects to parallel port without losing port

The **Backpack** floppy disk drive connects to the LS/12's or Portable Vectra CS's parallel port, giving you access to 5.25" diskettes. Can read/write to 360K or 1.2M floppy disks. Extra parallel port on drive lets you connect printer to it.

Backpack 5.25" External Drive PV, LS/12 BP11HC
Retail: \$349; Subscriber: \$329

Parallel Port Multiplexor

This small adapter from Xircom can be used to add a second parallel port to any PC-compatible computer. It is designed with a DB25 connector at one end that connects to the parallel port on the back of the LS/12 or Portable Vectra CS. Two DB25 connectors at the other end provide two parallel ports for the computer. The Multiplexor includes a 1K TSR program that controls the flow of data going to the two parallel ports on the Multiplexor.

Xircom also produces the LAN adapters and the Multiplexor lets you connect both its Pocket LAN adapters and other parallel devices (printers, hard drives reviewed above) to the same parallel port.

The Multiplexor is ideal for those who need access to two printers (dot matrix and LaserJet) from the same parallel port. It retails for \$95.

For more information please contact: XIRCOM, 26025 Mureau Road, Calabasas, CA 91302, (818) 884-8755.

"COP" Software Deters Theft?

By Richard Hall

Computer Owner Protection or "COP" (aren't marketing people clever) is a service that registers computer owners in the Identifax central data bank for five years for \$49. Registrants receive COP software that installs a special audible ID code on PC-compatible computers such as the LS/12 and Portable Vectra CS. Every time you turn on your portable, the ID code is sounded.

So, if your computer is lost or stolen, and somehow gets back into the hands of the police, all they have to do is phone up Identifax and turn on your machine. The ID code can be transmitted over the phone lines and decoded by Identifax. They will give your name and address to the police and you will get your computer back. Gee, that sounds so nice and orderly.

However, I occasionally have attacks of cynicism and certain questions have forced their way into my mind:

Cynical questions

- What if the thief doesn't turn your computer over to the police?
- What if the honest person who finds your lost computer has never heard of Identifax?
- What if nobody has Identifax's phone number.
- What if the hard drive gets erased?
- What if we didn't have credit card protection clubs and companies like this wasting our time and money?

I suppose this service could be useful to somebody. On second thought, no I don't. Save your money. Tape a business card to the bottom of your portable. Better yet, create a batch file that flashes ID information on the screen whenever your computer is turned on. That batch file should have your name, a phone number where you can be contacted (business phone number is fine, don't include your home address), and most important of all, include THE REWARD THE FINDER WILL RECEIVE FOR RETURNING YOUR COMPUTER (\$50 is probably sufficient, \$100 catches peoples attention).

I bet this approach will be more successful, and you don't have to join a protection club.

■ PORTABLE ■ PROFILES

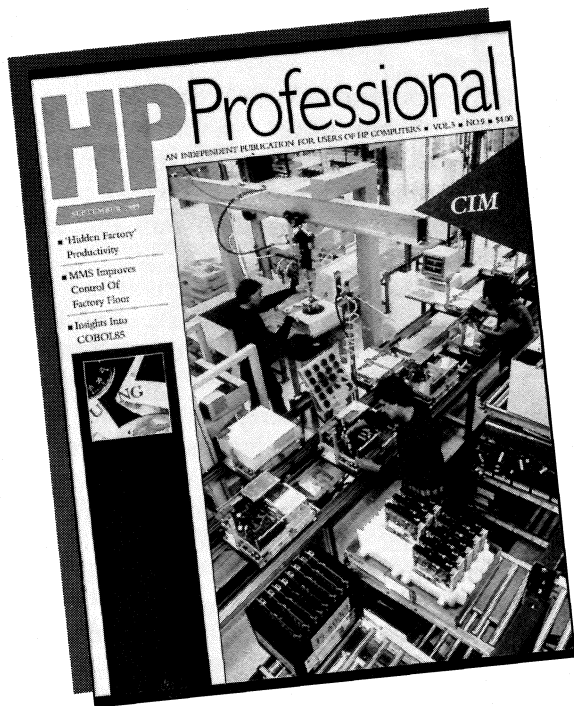
Let us profile you or your company's use of an HP Portable. Tell us about your interesting or unusual application of The Portable. Or share a description of how you use it: let other readers benefit from your experience. Give us a call (ask for Hal or Rich), or send a draft on disk, paper, or Fax, to Personalized Software, P.O. Box 869, Fairfield, IA 52556, Phone: (515) 472-6330, Fax: (515) 472-1879.

Chemometrics for Microcomputers

By William Pinnick

My love for HPs began 15 years ago as a graduate student at Ohio State University when I bought my first HP calculator; an HP-45. I kept it all of six weeks before trading it in for an HP-55. This was one of the first programmable models and had 20 memories and 50 program steps! With it in hand I started viewing problems differently. Instead of finding "the" answer to a problem, I started finding algorithms that would solve entire classes of problems. My grades improved, and my performance at work improved as well. Before long I bought an HP-67; more memory, more programmability, and the ability to record programs

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If you're a Hewlett-Packard computer user, and buyer of HP-related hardware, software, or peripherals, HP Professional, the monthly magazine for Hewlett-Packard commercial and technical computing, is for you. It's a free source of valuable information that will help you do your job.

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Or call Lori Ulbrich at (215) 957-1500, or FAX (215) 957-1050.

or data on little magnetic cards. I encouraged the laboratory I worked for to purchase an HP-97, a printer version of my HP-67, and I started documenting programs for the various number crunching tasks we had in the laboratory.

As well as documenting programs for work, I began submitting programs to the HP User's Library and articles or tips for its associated newsletter "Key Notes." Also instead of just waiting for problems to come to me in the course of my work, I started looking for tasks to automate, document, and submit. About ten years ago I bought my fourth HP calculator: an HP-41CV. Subsequently its memory has grown to its maximum of 6.6K and I've added a card reader, HP-IL, cassette, printer, etc. I have continued to write programs and submit documentation; of course the scope and size of the programs grew along with the capabilities of the machine. I "published" a 67 page manual for the HP-41 program set called "The Complete Bowling League Secretary."

Six years ago I added an HP-75D to my collection of "calculators." At about the same time I changed jobs. In my new position I needed techniques to optimize multiple variables, create data tables, generate graphs, reports, etc. I wrote several programs for the HP-75 to meet my needs and published those with wider appeal through the HP Users' Library and the independent PPC. Several programs were adapted for other instruments and adopted by other labs to simplify their workload and make results more consistent between analysts. Again, my abilities to solve problems had expanded with the increased computing power available. I was in control because I had access to my computer day or night, I didn't have to share it with others at work, it was available whenever I got an idea or had the time to work on a problem. I could always maintain the integrity of my data, augment my data base, and program the applications as needed. My career progressed in parallel with my reputation as a problem solver.

Three years ago I got an opportunity to buy a used HP-110 Portable: I jumped at the chance! With the addition of a disk drive, a couple programming languages, and some technical tips from Personalized Software via *The Portable Paper*, I feel I have one of the best computers available. It has served me well and is still going strong; helping me maintain my reputation as a problem solver in my current position.

My current job involves development of quantitative analytical methods for many new over-the-counter (OTC) product formulations. I spend about half my time in the laboratory developing methods. My remaining time is spent writing monographs and validation documents for the procedures used. Much of this is incorporated into documents submitted to the FDA to obtain approval to market the drugs we manufacture.

Most of my writing has been done on my trusty HP Portable! Until recently I took my HP-110 to work with me every day. All my drafts began on it, at first in Memo-Maker, later in either VDE or The Editor. Once my first draft was completed and my supervisor's revisions

Charge your Portable (and HP9114 (and ThinkJet) off your car's cigarette lighter!

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 \$69.95

Portable Paper subscriber price \$59.95

PRODUCT NO. PR11NM

* Also works with HP41C/CV/CX, HP71B, and HP75C/D hand-helds; HP82143 and HP82162 printer/plotters; HP82161 cassette drive; and rechargeable reserve battery packs for all these devices.

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incorporated, I would transfer it to an IBM using an HPIL interface card. From there the file was converted to RTF/DCA format, copied to a 5.25" disk, and submitted along with a printed copy of the text for management review and eventual incorporation into our submission documentation.

In just the past couple months all that has changed. I now have a Macintosh IICI on my desk. I no longer take my Portable to work with me each day. Instead I carry only a 3.5" disk: the Mac, equipped with Dayna's DOS Mounter, is capable of reading and writing to an IBM formatted 3.5" disk! I still do just as much work at home on my Portable, I just don't need to take it to work anymore to accomplish the transfer. In addition, the Mac is equipped with Excell, which can read and write Lotus WKS files on disks formatted on the HP-9114 disk drive using FORMIBM from the 1988 Subscribers Disk. I do have to translate all my text files to either RTF/DCA or Microsoft Word using either my Portable Plus or one of the few remaining IBMs at work. All in all, *my Portable Plus is just as useful in the Mac environment as it was in the IBM environment.* I love my Portable!

However; as I indicated above, writing is only half the work, the last half. First I must find a suitable analytical method. Here again I find my Portable an essential tool.

Modern analytical chemical methods can be divided into two broad categories. The instrumentation in the first category achieves its required specificity by using a separation technique to isolate each chemical component for sequential measurement by a single, universal (non-specific) detector. This technique includes such methods as high-performance liquid chromatography (HPLC), gas chromatography (GC), or thin-layer chromatography (TLC). Method development for each of these techniques requires optimization of a number of experimental variables such as choice of column, solvent blend composition, temperature, and flow rate.

Needless to say, I have written programs for my Portable Plus which assist in this optimization procedure.

2400 baud portable modem for your HP Portable

The 4"×2"×1" WorldPort 2400 costs less than HP's internal modems, is faster, and can be used with more than one computer.



Weighs only 6½ ounces!

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

A better solution is the Worldport 2400. It measures a trim 4"×2"×1", it's rugged, it weighs only 6½ ounces including the battery, and it sends and receives at 300, 1200, and 2400 baud.

A MYRIAD OF FEATURES

The Worldport 2400 has a wealth of features you would expect to find in a desktop modem several times its size.

EXTRA BONUS FOR USERS OF THE IBM PC AND NEW HP PORTABLE VECTRA

Included with the WorldPort 2400 at no charge is the acclaimed communications and remote control software package, Carbon Copy PLUS (retail value: \$195). The program also comes free with the WorldPort1200—WorldPort2400 Upgrade Kit. (Carbon Copy PLUS will not run on the HP110 or Portable Plus, but both WorldPort modems will run with HP's communications software, namely the Terminal program for the HP110, and TERM and Reflection for the Portable Plus.)

For example, the WorldPort 2400 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. It offers non-volatile storage of up to 20 commands. 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 2400 also has a built-in interface for an acoustic coupler. (The coupler, an optional extra, runs at 300 and 1200 baud.) The unit is compatible with both the internationally accepted CCITT communications standards and the Bell communications standards recognized in the U.S.

The WorldPort 2400 uses a standard 9-volt transistor radio battery (it's included with the unit). A fresh battery will keep the WorldPort humming for 8-10 hours. You can extend battery life by operating the unit from a wall outlet whenever possible, using the optional AC adapter. The WorldPort 2400 draws no power from your Portable's battery.

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The WorldPort 2400 offers portability, reliability, well-designed features, and ease of use. Order yours, risk-free, today.

	Retail Price	Subscriber Price
WorldPort 2400 modem	\$359.00	\$319.00
	PRODUCT NO. WM12NM	
WorldPort Modem 2400/MNP	499.00	425.00
	WM13NM	
WorldPort 1200 modem (without software)	199.00	179.00
	WM11NM	
Cable to connect modem to HP Portables	30.00	20.00
	WM14NM	
Acoustic coupler (300/1200 baud)	79.95	79.95
	WM16NM	
Upgrade kit: WorldPort1200—WorldPort2400 (includes Carbon Copy PLUS software)	199.00	179.00
	WM13NM	

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Portable Plus	•	HP150	•
IBM PC and compatibles	•		•

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Just this week I took my Portable back in to work to optimize an HPLC mobile phase blend using an overlapping resolution mapping (ORM) technique. This program is graphics-intensive and I have not yet converted it to run on an IBM or Mac; consequently, I used my trusty Portable. I could never have written it in the first place had it not been for the excellent graphics routines and tips available for the Portable from Personalized Software.

Instruments in the second category rapidly acquire data by simultaneously detecting responses from the unresolved components with a multitude of specific detectors. In this technique the signals from these many channels are processed to extract information about the individual chemical components in the mixture. Instruments in this category include mass spectrometers, infrared spectrometers, and diode array detectors which can simultaneously monitor both the ultraviolet (UV) and visible (VIS) portions of the spectrum. These instruments collect vast amounts of data quickly, then process it to extract the information desired.

Here again I have a program for my Portable to help sort out the necessary data from all the garbage collected. A technique called abstract factor analysis (AFA) can determine the number of variables needed to explain the variability observed in a multicomponent data set. For example; a pharmaceutical formulation may contain over a half dozen components that could effect a multicomponent

UV assay. However; the AFA program may show that only three factors are needed to accurately describe the spectra of product samples. Then it is fairly easy to prepare a small set of standards containing only those three components critical for obtaining accurate analyses. Once again my trusty Portable comes to the rescue!

So here I am, an analytical chemist by profession, but a programmer by nature. Throughout my career I have been faced with ever more challenging problems. Only by acquiring the instruments and skills to face those challenges have I been able to succeed. HP Portable computing power has been one of the critical factors which has helped me to acquire those essential skills. I plan to continue this upward spiral with the acquisition of a Portable Plus in the next few weeks. I am looking forward to the new challenges ahead that it will enable me to overcome.

[Bill is an analytical chemist working with Chem-micro-Metrics, 1689 Scarborough Rd., Greenville, NC 27858. Chem-micro-Metrics is a major international pharmaceutical manufacturer with headquarters in England and manufacturing sites in several countries around the world. He uses his Portable every day, and his article begins with a little background so you will understand why he's sold on Portable computing power.]



Through the Looking Glass

By Ed Keefe

THE KEEFE KOLLECTION TAKES SHAPE

P+ Over the past couple of months I've been looking at more software than I care to think about: picking and choosing which programs should go in "The Keefe Collection."

PV In the process, I've collected two disks full of useful programs for the Portable Plus. Here is a brief description of what the "Kollection" contains, to date:

- LS/12** ■ **MGN-HP.ZIP**—Menu Engine is a batch file enhancer that will let you create pull-down menus and 1-2-3 like menus for use on the Portable Plus. It is an original program by Ed Keefe. The set of programs contains full documentation and sample set ups. It requires some knowledge of batch file programming. However, the sample files will get you started in the right direction.
- **POPSTAT.ZIP**—A statistical analysis package. This program uses the graphics capabilities of the Portable Plus. Pretty good stuff, if you're into statistics.
- **CSAP310.ZIP**—CSAP ver 3.1 is a utility program along the lines of the Norton Directory Sort (DS). CSAP sorts all directories on a disk by name, extension, date or size. The ZIP file even includes the C source code.
- **VDE16A.ZIP**—Naturally, the Keefe Kollection would not be complete without the latest rendition of the Video Display Editor. This version supersedes the version on the 1991 Beginners' Disk. Some of the macro commands have been enhanced and changed.
- **VDE-BC.ZIP**—This is a set of macro files to use with VDE.COM to produce Big Characters and Interesting Borders in your documents. The characters are all created with IBM line drawing characters.

- **WPLIT-HP.ZIP**—If you like WordPerfect, but don't need all the extra features of that word processor, then WP-LITE may be just right. Actually, WP-LITE is VDE disguised to look something like WP 4.2. The function keys mimic those in WP 4.2 and there is even a small set of pop-up help screens that look like those in WordPerfect. You can type documents using WP-LITE and then import them directly into WordPerfect for further formatting.

- **SLEDHP.ZIP**—The Small Editor (mentioned in *The Portable Paper*, Vol.4, No.3, Pg.29 and Vol.4, No.5, Pg.36) has several interesting features such as sorting and column insertion and deletion. For some unknown reason, SLED never made it onto a Subscribers Disk. The size of the program is perfect for the Plus: 13K.

- **MATH.ZIP**—is a command line math parser. It finds the value of expressions such as $\text{SIN}(35.6)^2 + (\text{COS}(78.9)^3)/5$.

- **ADV-GAME.ZIP**—This is a simple text-based adventure game that can be played on the Plus.

- **EMPIRE.ZIP**—Another game for the Plus. This one is a game of strategy.

- **NETHACK22.ZIP**—This is the ultimate adventure game. It will tax the limits of most Portable Plus machines. The .EXE file is 180K. It will also tax your game playing skills. Believe me: this one is tough to master. (See "Dungeons and Dragons" in 110%.)

- **SORTF.ZIP**—An alternative to the DOS Sort utility program. The program will sort files larger than 64K and will sort on any field or column in a text file.

- **SWEEP151.ZIP**—This program has more features than previous Sweep programs. SWEEP moves through a directory tree executing DOS commands or programs as it goes. It has loads of switches to play with.

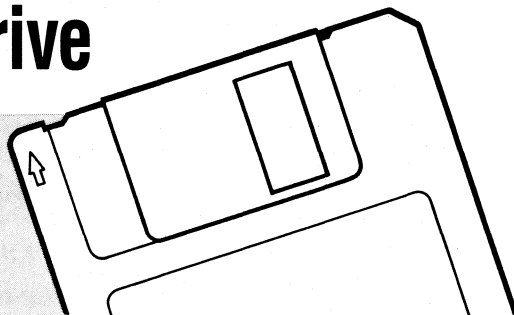
THE SECOND DISK

The second disk in the Kollection contains a set of files that will let you manage Terminate and Stay Resident programs on the Plus. **TSR29.ZIP** is freeware from Turbo Power Software. The main programs in this set are MARK and RELEASE. Mark initializes the computer prior to loading a TSR program. Release lets you recover the memory used by a TSR without having to re-boot the machine.

A major portion of this second disk is full of programs that will let you come close to emulating a UNIX operating environment on the Plus.

Now you can use HP Portable or HP150 disks (single or double sided) in a 3½" IBM compatible disk drive

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Pricing
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Even though your HP Portable/HP150 and the new IBM compatible computers both use 3½" disks, the disks are incompatible—HP disks can't be used in IBM machines.

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Portable Plus	•
Portable Vectra	•
HP150	•
IBM PC and compat.	•

One such program mimics a subset of the Berkeley UNIX shell. The **SHELL** program will remember previous commands and let you repeat them or recall them to the command line for modification. You can even write small script files to automate processes on the Plus.

For those who are familiar with UNIX, I've chosen two editors from this operating system. **VI** is the classic editor in almost every UNIX system. This particular version of VI will run on the Portable Plus with some help from the P16 emulator. It contains a limited subset of the commands of the full VI editor.

P+ **Micro EMACS** is another popular editor. Micro EMACS is quite good. It makes excellent use of the Portable Plus's function keys. Granted, it does not have all the bells and whistles of the more recent versions of EMACS. On the other hand, if I had seen Micro EMACS two years ago, I would probably not have given the Video Display Editor a second look.

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Other files in the UNIX series are utility programs with strange sounding names, such as **SED** (a stream editor), **ROFF** (a text formatter), **HEAD** and **TAIL** (lets you view the first and last lines of text files), **FGREP** (similar to DOS's "FIND" utility), **MV** (moves files across directories or across disk drives.)

ARCHIVERS-COMPRESSORS

Within the past several months there has been a rash of programs that perform file compression and decompression. I've included a couple of these programs on the disk for your inspection.

DIET110.ZIP— This is truly an amazing file compression program. It will compress ALL files, including text files and executable files. When it compresses .EXE and .COM files, the files still remain executable. DIET is

freeware from Japan. It is along the same lines as LZEXE or PKLITE. It is fairly fast and shows better compression ratios for some files than other programs.

■ **LHA205.EXE**— This is the latest rendition of the LHARC file compression program. The help screen is full of strange looking characters (supposedly Japanese). However, the documentation is in English.

DECISIONS-DECISIONS

P+ Needless to say, while wading through the mass of programs, I found many programs that worked only on 100% PC-compatible computers. Those programs filled up another three disks. I debated whether to add these to the Keefe Kollection. In the end, I decided to omit them, mostly because it would have taken a couple of months to add my own documentation to the files.

For example, the one program that I found to be most useful was a shareware BASIC compiler that had its own built-in editor and file manager. The APBasic program has no documentation other than that provided in its pop-up help screens. I mentioned this program in the previous "Looking Glass" column, with the request that anyone who wanted the program should drop me a note. So far, only one person has responded.

There is one program that I intend to put on this disk, space permitting: Stereo Shell, version 3.12. I know for a fact that Stereo Shell will work on a 100% compatible PC. I also know that it works on my Plus and gives me a dual directory file manager and menu system for my editor and several different file compression programs. I have heard from several people that they have not been able to get it to work on their Plus's. If you get this disk, I'd appreciate it if you could test the program on your Plus to see if you can get it to work.

I am currently in the process of testing all the programs one last time to make sure they all work on the Portable Plus. The disks should be ready for distribution by the time this issue of *The Portable Paper* reaches you.

The Keefe Collection can be obtained from Personalized Software by subscribers for \$29 and non-subscribers for \$39.00.

STILL MORE SOFTWARE

P+ The RunTime Library for Turbo Pascal 6.0 finally arrived. In the next several weeks I hope to find the time to use the RTL to modify Turbo Pascal 6.0 to run on the Plus. TP6 has some new features, including a built-in assembler and the Turbo Vision interface development kit. Turbo Vision will let programmers create elaborate menu systems and pop-up help screens using object oriented programming modules. It's all very slick and polished. Here's hoping that some of it will work on the Plus.

The final version of OutlinePlus is IN and working on both the Plus and the PC. OutlinePlus is much more capable than the outliner in WP5.1 or SideKick+.

OutlinePlus comes in two flavors. The ready-to-run version is not modifiable. If you can put up with the beep-on-error feature, this is the version that most people will want to learn.

The other version of OutLinePlus is modifiable. If you want to modify the menu structure, the keystrokes and the help files, David Toliver has provided you with a version that will let you do that. The cost is that the program requires a DAT, .HLP, and .MNU file to work. This makes it a poor candidate for putting on an EPROM.

OutLinePlus loads and saves files quickly. It does a remarkable text editing job and makes writing almost fun.

NEW HARDWARE

110 **P+** **PV** **S/12** The college where I teach finally decided to upgrade our microcomputer equipment. We now have a local area network that supports almost 3000 users. For those of you who have gone through the process of moving onto a network, you can appreciate what a headache that has been.

To compound the problem of adjusting to the new technology, thirty of the 150 new computers came equipped with hard disks.

I went through the process of formatting all the hard disks and building a menu system to support their use in several different courses. The computers worked well for the first few days. Then, all of a sudden, several of the computers failed to work. It seems that a few students decided to use the hard disks as repositories for their own favorite programs. Without knowing what they were doing, students managed to copy various versions of DOS's COMMAND.COM program into the root directory and clobbered the AUTOEXEC.BAT and CONFIG.SYS files to boot. Guess who took all the heat whenever a computer didn't work.

Rather than forbid copying software onto the hard disks, or, worse yet, write protecting the hard disks and making them accessible only with passwords, I chose a more benign and expedient approach. I simply used the DOS FDISK program to divide the 40 megabyte disks into a 30 megabyte C: drive and a 10 megabyte D: drive. I then installed the "official" software on the C: drive and issued the DOS command BACKUP C: D: /S which made a single backup file of all the files on the main disk drive. The backup file resides in the smaller (D:) portion of the physical disk. Now, if some erstwhile, novice hacker decides to mess up the C: drive, that's OK. It only takes three minutes to completely reformat the C: drive and RESTORE the official files from the D: drive to the C: drive. If you have to deal with a similar situation at work, you might want to try this approach to managing "publicly accessible" hard drives. It isn't totally "foolproof," but it seems to work.

Until next time: Happy Porting.

[Ed Keefe is an author, programmer, and computer science instructor. He is the president of the Fast Aid Company, 314 SW Logan, Ankeny, IA 50021. Ed's CompuServe ID# is 73277,1064.]

THE SAVVY USER

By Thomas R. Page

PUTTING TIME MANAGER ON A ROM

P+ Last issue I reported that I successfully put Time Manager (TM) on a ROMBO ROM. I did not tell the truth. Being an extremely careful person, I did not pull my MEMO-TM ROM until after I had installed my B:\D ROM containing two files: the Time Manager program I copied from the MEMO-TM ROM and renamed TMEXE.COM, and a compiled batch file TM.COM to manage a library of TM files and load the Time Manager program.

Everything tested OK, so I copied the contents of the MEMO-TM ROM to a disk and removed it from the ROM drawer. TM worked just fine until I executed a program from the TM command line and pressed any key to return to TM. Instead of TM I got the DOS prompt. It took a week of agonizing over strange TM files before I figured out what was happening.

TM was written to squeeze the max out of the Portable's memory. When TM loads another program, it, like

COMMAND.COM and PAM.COM, allows the new program to write over memory occupied by itself. If we worked off floppy disks instead of ROM and RAM disks I might have noticed TM reloading from a disk after executing a DOS command. Since I changed its name and moved it to another directory, my Time Manager could not find itself. Since I really wanted my TM shell program to execute first instead of simply burning a new ROM name MEMO-TM, I decided to look at the TM program with DEBUG and see if I might be able to fix it to look for itself at a different address.

Since I no longer had the MEMO-TM ROM on my machine, I copied TMEXE.COM to the A drive and typed:

```
debug tmexe.com[Return]
```

At the debug prompt, "-", I typed, "D[Return]" four times. When I saw \memo-tm\tm.com at the right of the screen I knew the problem could be fixed. Beginning at memory location 0288 is a series of strings that tell TM where on the disks it is located.

After a little work with an ASCII table and the Debug instructions, (you can get them from a real DOS Manual), I determined I could add b:d\tmexe.com as the address of the TM program by typing:

```
-E 0288 62 3a 5c 64 5c 74 6d 65 78 65 2e 63 6f 6d[Return]
```

To remove residuals of the old path string I typed:

```
-E 029E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0[Return]
```

To view the changes and verify my work, I typed:

```
-D 0280[Return]
```

Satisfied with the results, I wrote the file to the disk by typing:

```
-W[Return]
```

To exit debug I typed:

```
-Q[Return]
```

Working with Debug can be tedious. Fortunately, commands can be passed to Debug with script files. A script file is a simple ASCII file sent to Debug using DOS I/O redirection. The following command will execute the Debug commands in TM.SCR against the file TMEXE.COM.

```
debug tmexe.com<tm.scr
```

If TM.SCR contains the following lines, the Debug session I described will be automated. The advantage of using a script file is that it makes it very easy to modify the commands to install different paths.

Also works on the
HP150.

FilePlus: The Portable Plus file manager. Fast, sophisticated, easy-to-use!

- List files in two directories simultaneously
- Copy, move, and delete multiple files
- Sort directories
- Create protected ("Read-Only") files
- Back up only those files that have changed since last backup
- And much more!

When Hewlett-Packard introduced the P.A.M. file manager in 1983, the program was ahead of its time. With P.A.M., users could copy, rename, and delete files by pressing function keys instead of having to enter DOS commands.

Today, however, users are more sophisticated—and so are the file management programs that have come on the IBM PC market. These programs go way beyond P.A.M. in their abilities and in the convenience they offer the user.

Most of these file managers won't run on the Portable Plus, but we've developed one that does. It's called **FilePlus**, and here are its benefits:

1. Display two directories

This is a feature that even some of the most popular IBM compatible file management programs don't have! FilePlus lets you list two directories (from the same or different disks) simultaneously on screen. This makes it especially easy to move files back and forth between the two directories.

2. "Point and Shoot"

You don't have to wade through P.A.M.'s function key menus to perform a simple operation like copying a file.

Instead, you simply display the contents of the source and destination directories side-by-side, tag the file you want to copy, then use a simple Lotus-like menu to enter the "Copy" command with a single keystroke.

You use the same "Point and Shoot" method to run programs and to move, delete, view, etc. any files you wish.

3. Tag multiple files

You can tag any number of files in a directory, then perform the same action (copy, rename, delete, protect, etc.) on all of them in a single step.

4. Sort files

FilePlus can list the files in a directory by name, extension, size, or date. (An alphabetical listing by name helps you locate files in a hurry. A listing by size is useful in determining which files to erase in order to free up any needed amount of disk space.)

5. Single-step "Move" command

To move a file from one directory to another, you no longer have to copy the file first then delete the original. FilePlus lets you do it with a single "Move" command—and you enter the command with one keystroke!

6. Protect your files

You can protect your files (make them "Read-Only") to guard against accidental deletion. FilePlus even lets you do this with entire directories! You can unprotect the files whenever you wish.

7. Show attributes (Read-Only, Hidden, Archive)

FilePlus displays the attributes of all the files in a directory so you can view them at a glance or change them in a flash.

8. Backup only if changed

FilePlus allows you back up just those files that have been changed since the last backup.

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for the HP110 and Portable Plus

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Portable Plus users: Is PC2622 or Reflection too complex for your needs?

In either case we have good news: two of the easiest-to-use communications programs we've ever seen.

Term110 was developed by Cliff Looyenga, who writes the "Wizardry" column for The Portable Paper. It runs on the HP110.

TermPlus was developed by Portable Paper contributor David Hughes from an earlier

prototype. It runs on the Portable Plus.

Both programs allow you to:

- Send and capture ASCII information;
- Quickly send programs, Lotus worksheets, and archive files via the XMODEM protocol;
- Log onto electronic bulletin boards and remote computers automatically;
- Store and access directories of phone numbers;
- Run other programs without severing the phone connection.

Both programs have on-line help, and use around 25K of electronic disk space.

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*ROM backup of TermPlus includes IBM disk formatting utility, ThinkJet control pop-up, and more.

D
D
D
D
E 0288 62 3a 5c 64 5c 74 6d 65 78 65 2e 63 6f 6d
E 029E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
D 0280
W
Q

If you tried this and the screen scrolls by too fast to read, the display may be captured to a file by modifying the DOS command to redirect the output to a file:

P+ debug tmexe.com<tm.scr>tm.bug

This command takes awhile to execute. Nothing will show on the display. The results will be saved in a file named, TM.BUG, which can be examined with an editor.

There is a less complicated way to put Time Manager on a ROM. Leave TM.COM named TM.COM and name the ROM MEMO-TM.

REMOVING AND INSTALLING A ROM DRAWER WITHOUT CRASHING

Building a ROM is much easier if the ROM drawer can be removed and replaced without losing memory. I have not done extensive tests of what causes a memory loss when the ROM drawer is opened and closed. I lost memory installing my first ROM. Since this disaster I have carefully turned the computer off with the PAM f8 key and removed all cables before removing the ROM drawer. Following this procedure I have opened and closed the ROM drawer 5 or 6 times without losing memory. This can't be luck, but I make sure that there is no irreplaceable data on the A drive before I even think about turning my computer over.

1991 SUBSCRIBER'S DISK

There are some real winners on the Subscribers disk. Tetris is great. I already have it on a ROM.

A SUGGESTION FOR DAVID HUGHES

One night David Hughes spent an hour on the telephone with me giving Debug commands to lead me on a very interesting journey through the folds of my Plus's memory. Maybe David could write a column leading us on safari through the insides of our computers.

USING REFLECTION WITH THE WORLDPORT 2400 MNP MODEM

I have described using the Worldport 2400 MNP modem with the Portable Plus and Reflection. As you may remember, the modem setup string that initiates the MNP protocol includes several backslashes that I was unable to send to the modem with a Reflection command file. I developed a solution to this problem that required turning on the serial port and using DOS echo command with I/O redirection to send the string to the modem.

Norm Lang called me with a much better solution: put the setup string in a Reflection command file but use two backslashes instead of one. The clue to why this will work is contained on page 7-3 of the Reflection manual. The carat symbol (^) in combination with another character is used in Reflection command files to indicate control characters. To permit sending the carat symbol itself Reflection interprets the combination "\^" as the carat character. The Reflection command interpreter ignores the backslash symbol when it sees it and transmits the next character (this would normally be a carat, but if the next symbol is another backslash, it will be transmitted).

Using two symbols to get one symbol to display is not uncommon in computers. Consider what is required to get an apostrophe to display as the first character in a 1-2-3 spreadsheet cell. It must be preceded by another apostrophe or other label prefix identifier.

This again demonstrates another fact of computers. Complicated and inelegant solutions are often discovered before the easy solution is. Often bad solutions are allowed to stand because they work. And since computers are so fast, any slowness or inefficiency that might result from poorly written code cannot be noticed. Although my solution is working, I think I will implement Norm's solution because it is more efficient and should be enough faster to notice.

Debug Session described above

```
-D
4B0B:0100 FA B8 30 89 05 10 00 B1-04 D3 E8 8C CB 03 C3 8E z80....1.Sh.K.C.
4B0B:0110 D8 8E D0 26 8B 1E 02 00-2B D8 F7 C3 00 F0 75 06 X.P&....+XwC.pu.
4B0B:0120 B1 04 D3 E3 EB 03 BB F0-FF 8B E3 FB 89 1E 00 00 1.Sck;p.c[...
4B0B:0130 B8 B0 08 A3 02 00 06 33-C0 50 8B EC BE 80 00 26 80.#...3@P>...&
4B0B:0140 8A 0C 46 32 ED 8B D9 83-C3 04 81 E3 FE FF 2B E3 ..F2m.Y.C..c~.+c
4B0B:0150 8B FC C6 05 63 47 E3 0D-C6 05 20 47 26 8A 04 88 .JF.cGc.F. G&...
4B0B:0160 05 46 47 E2 F7 33 C0 88-05 8C D8 8E C0 8B C4 50 .FGbw3@...X.@.DP
4B0B:0170 E8 D4 02 8B E5 CB A1 00-00 2D 04 00 8B E0 CB 00 hT.eKL~...K.
-D
4B0B:0180 00 A0 01 00 00 F4 01 00-00 F4 01 00 00 62 3A 5C .....t..b:\
4B0B:0190 62 69 6E 5C 63 6F 6D 6D-61 6E 64 2E 63 6F 6D 00 bin\command.com.
4B0B:01A0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:01B0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:01C0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:01D0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:01E0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:01F0 00 00 00 00 20 20 20-20 20 20 20 20 20 20 ....
-D
4B0B:0200 20 20 20 20 00 00 00-00 00 00 00 00 00 00 .....
4B0B:0210 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
```

```
4B0B:0220 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:0230 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:0240 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:0250 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:0260 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:0270 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
-D
4B0B:0280 00 00 00 01 B 48 1B 4A-61 3A 5C 74 6D 2E 63 6F .....H.Ja:\tm.co
4B0B:0290 6D 00 00 00 00 00 00-00 00 00 00 00 62 3A m.....b:
4B0B:02A0 5C 6D 65 6D 6F 2D 74 6D-5C 74 6D 2E 63 6F 6D 00 vmemo-tm\tm.com.
4B0B:02B0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02C0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02D0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02E0 55 8B EC 8B 76 04 8B 46-06 2E A3 BC 02 1E 06 55 U.I.v.F.#<...U
4B0B:02F0 0E 07 BF A0 01 B9 54 00-FC F3 A4 8B 76 08 BF 04 ..?.9T.js$.v.?.
-E 0288 62 3a 5c 64 5c 74 6d 65 78 65 2e 63 6f 6d
-E 029E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
-D 0280
4B0B:0280 00 00 00 01 B 48 1B 4A-62 3A 5C 64 5C 74 6D 65 .....H.Jb:\dtime
4B0B:0290 78 65 2E 63 6F 6D 00 00-00 00 00 00 00 00 00 xe.com.....
4B0B:02A0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02B0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02C0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02D0 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
4B0B:02E0 55 8B EC 8B 76 04 8B 46-06 2E A3 BC 02 1E 06 55 U.I.v.F.#<...U
4B0B:02F0 0E 07 BF A0 01 B9 54 00-FC F3 A4 8B 76 08 BF 04 ..?.9T.js$.v.?.
-W
Writing 90EC bytes
-Q
```

[Tom works for a natural gas pipeline company in Houston, Texas, and was one of the first to use PC's in the natural gas industry. His excellent contributions to The Portable Paper have proved beyond a shadow of a doubt that he is truly "The Savvy User."]

(Letters continued from page 4.)

110

P+

PV

LS

12

```
echo off
if %2x==x goto syn
set xx=%1
:beg
if %2x==x goto end
for %p in (%2) do %xx% %p
shift
goto beg
:syn
echo -
echo syntax: REP {filename} {1st parameter}
[2nd...nth parameters]
echo -
echo A program, such as VIEW or TYPE, which takes
echo only one filename as a parameter, will be
echo executed repeatedly with each of the parameters
echo one at a time, until parameters are exhausted.
echo Parameters may contain "''.
::end
```

Of course the ECHO lines are not required but are handy if you haven't used EP.BAT for a while and forget the syntax or use.

T\$.COM

The reason for using T\$.COM and how it is used is not fully explained on the disk.

When using the @RAND in 1-2-3, each time 1-2-3, Version 1A is loaded it resets the pseudo-random numbers generated so they will always start with the series: .147506; .414100; .690568; .895124; .006453, etc. While you can randomize the point in the series where the first number will be selected by pressing [CALC] a number of times, this may not be random as there is a human tendency for the same person to repeat the same number of key strokes each time he/she does it. To eliminate bias, the SECONDS & HUNDREDTHS part of TIME is used to select the series starting point. The following spreadsheet, RAND.WKS, will do this automatically and then load the worksheet where random numbers are used. T\$.COM must be executed each time before calling 1-2-3. The /FR and /WE commands do not reset the random numbers series to the beginning. Over a thousand different series may occur with the formula included.

```
01 \0 {goto}HRS~/finTIME~
02 {right}{right}/c~SEC~
03 {goto}REP~/mod{SEC*100,1097}
04 +12{calc}{home}'~cRAN~A11A
05 REP
06 ~/x1ENTER {d:}Filename: ~FNAME~/fr
07 FNAME
08 ~
09 RAN @RAND
10 HRS
11 SEC
12
```

Name the ranges using /RNLRa1.a10~ and then save as RAND. When loaded RAND will start automatically and ask for the name of the worksheet to be loaded that uses @RAND.

CVT.COM

CVT.COM is a very handy conversion program, particularly when used with the 'range' input, as it allows you to readily check the high-order character's appearance on the screen. However, the display has three quote marks preceding the characters and one of the characters displays twice, which is confusing. Also, the character portion of the display can not be

redirected to the printer because of the use of INT 10 to write the characters. To correct this so that just the two characters display between a pair of parentheses and so that the entire output can be redirected to a file or the printer, the following modification needs to replace bytes 337 through 35a in the program:

```

xxxx:0337 B222    MOV     DL,22
xxxx:0339 B402    MOV     AH,02
xxxx:033B CD21    INT      21
xxxx:033D 89FA    MOV     DX,DI
xxxx:033F CD21    INT      21
xxxx:0341 86D6    XCHG    DH,DL
xxxx:0343 CD21    INT      21
xxxx:0345 B222    MOV     DL,22
xxxx:0347 CD21    INT      21
xxxx:0349 C3      RET
xxxx:034A through 35a
          90      NOP

```

SRCH-REP.COM

SRCH-REP.COM does not work properly on the HP150 because the 150 doesn't have ANSI.SYS which SRCH-REP.COM uses unnecessarily. A simple modification to the program makes SRCH-REP.COM usable on both the HP150 and the HP110.

```

DEBUG BYTE 44c0 44c1 44c2
ORIGINAL    5b   30   4a
MODIFIED    4a   20   08

```

Thomas M. Morgan
699 White Cap Drive
Ventura, CA 93003

[Tom Morgan contributed a number of programs found on the 1991 Subscribers Disk and the Keefe Kollection described in this issue's Looking Glass column. Thank you, Tom — Hal.]

Liked '91 Subscribers Disk

First-off, I thank the folks who worked on the 1991 Subscribers Disk. So far I haven't found anything wrong with any of the programs that I have tried (I did not try any of the file compression programs). However, the UTILS is simply GREAT!

Secondly, I found an error in the documentation for the SKT program, revision 4.1, (by Dave Redmond, dated 12/7/86, it is in the 1988 Subscribers Disk).

Part of the program worked according to the instructions, but I could not move the cursor up and down through the list of applications in the STK.STK file.

The first line in the paragraph entitled "Repeating Previous Commands" reads as follows: "To repeat a previous command enter '/. A 'frame' ..."

The first line should read: "To repeat a previous command, KEY / RETURN. A 'frame' ..."

I can then step up and down through the list. When the cursor is on the application you want, KEY RETURN.

The STK.STK file can be easily called up into Memomaker and edited or added to as long as you don't exceed the list of lines, each headed by a ? (question mark).

Gerald S. Watry
4210 W. 108th St.
Bloomington, MN 55437

Thanks for the memory

I have seen the message 'out of environment space' come up far too many times in the past, and have attempted to reserve enough space in advance by using the DUMMY statements in the PAM.ENV file as per some past issues. On occasion, I still ran into a snag.

Thanks to Ed Keefe (Vol.6, No.1, Pg.32) for sorting through various iterations of fixes and describing a patch to COMMAND.COM that is simple to follow, and gives me DOS 3.0 environment control and all the space I need. It will cost me some RAM space for now, unless I get around to getting a ROMBO of my own. May I suggest that you include this

'backup' copy of COMMAND.COM in some future utility ROM offering that everyone could benefit?

And to respond to a request elsewhere in Ed's Jan/Feb article; yes, I would be delighted to run APBasic (BASIC compiler) on my Portable Plus!

LOVE THAT LIST!

Once again, the subscription cost to the Portable Paper can best be viewed as an investment in deriving maximum utility from the HP portables. I will further explore the 1991 Subscribers Disk in the weeks ahead, but for now I'm enjoying the LIST program. I have only scratched the surface of its potential, but I can highly recommend it already.

DISC TO DISK

I can't recall seeing any mention in past issues regarding the specifics in corresponding with Personalized Software in an electronic format. I'm generating this disc using MemoMaker in an ASCII file, since it probably is the most generic form to read or edit. Or is it? It would be even easier for me if the Paper had a dial-up computer to transfer files over the phone line, as International mail can be hard on floppies, and they are subject to Customs inspection at the border as well.

Thanks for the 1991 disk, and the great articles.

Norm Lang
10688 Glenwood Crest, East
Surrey, BC V3R-0B4, CANADA

[Our favorite way to receive articles or letters is in ASCII format on disk, or via CompuServe (send CompuServe message to Hal Goldstein, # 72257,714) — Hal.]

HP110/HP110+ USER GROUPS

Honolulu Rodney Y. Fukuya if interested, 808-945-3111. 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. Maine, Yarmouth, Every last Tues 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. 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. Western Washington, Portable Plus, 150 and Vectra users meet first Thurs 7-9 pm, HP sales office, Bellevue, Pete Ross, 206-342-8875. Portable, 40 & 50 Series: 7-9pm second Wed., U.Wash. computer center, Seattle, Bob Moore, 206-543-7879. 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 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. Central America, I would be happy to form a users group, either Spanish or English, Apartado Postal 1587, Tegucigalpa, Honduras. England, HP Computer Users Association LTD, Cunningham House, Bessborough Road, Harrow, HA1 3DX, United Kingdom, 01-423-3313. Japan, I would like to help start a users' group. Michael Lazarin, 26-26-502 Moto Ujina; Minami-ku, Hiroshima 734 Netherlands, Mr. R.M. Franquiner, Menthenbergseweg 13, NL-6816 PR, Arnhem, The Netherlands. Spain, Club de usuarios HP 110, Pont Reyes S.A., A la atención de D. Enrique Serra, Ronda Universidad, 15, 08007, Espana. Sweden, Stokholm, first Thurs each month 6:30 pm, call to confirm. Jens Pettersson, 08-713-1710. Telex 149 70 gentel S.

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

HOW TO RESTORE DELETED FILES

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!

HERE'S HOW IT WORKS

How can a deleted file get unerased? 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?

VERSION 4.0 OR ADVANCED EDITION —WHICH ONE SHOULD YOU BUY?

If you have an HP110, The Advanced Edition does not work. If you have a Portable Plus or HP150, The Advanced Edition of The Norton Utilities includes all of Version 4.0, plus many additional features. Among these are:

1. Speed Disk: Packs the files on a floppy, electronic, or hard disk more efficiently. This reduces disk head wear and significantly reduces the time it takes to save or retrieve a file.

2. Advanced "NU" Program: Undeletes blocks of text from disks that have become "corrupted" (unreadable by DOS). Also lets you access and modify the DOS directory and F.A.T. table.

3. Format/recover: Restores all the files on a hard disk if you have accidentally reformatted it. (Note: this feature does not work on the HP150 or Portable Plus.)

Our recommendation: If you have a hard disk, or want to be able to manipulate directories, or need to access ASCII data from non-HP formatted disks, use the Advanced Edition.

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

"Indispensible."
—PC Magazine

"You'll bless this disk."
—Peter McWilliams
(The Personal Computer Book)

"Don't compute without it."
—The New York Times

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.

POWERFUL FILE MANAGEMENT COMMANDS

In my opinion, *the ability to recover lost files alone makes THE NORTON UTILITIES well worth the price*. But there's even more to the package: THE NORTON UTILITIES are also an excellent *disk management system*. Here are some examples of what you can do:

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

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

Or let's say you can't remember which subdirectory you put a given file into. Instead of hunting for the file manually,

"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."

*Hal Goldstein, Publisher
The Portable Paper*

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 convert HP150 read-only files into erasable files), 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).

CUSTOMIZED TO YOUR COMPUTER

Because of their great helpfulness and ease of use, THE NORTON UTILITIES are a best-seller in the IBM PC market. Personalized Software is authorized to distribute them on 3½" disk for users of the HP150, HP110 and Portable Plus. (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 5¼" disk sold by Peter Norton for IBM PCs.

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



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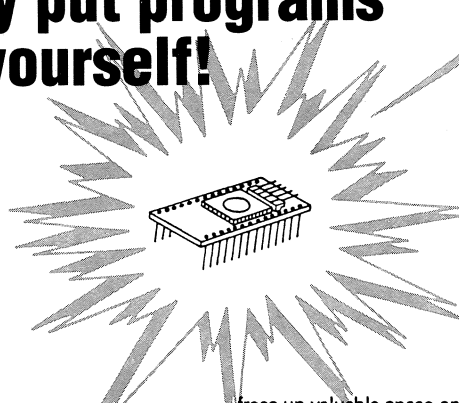
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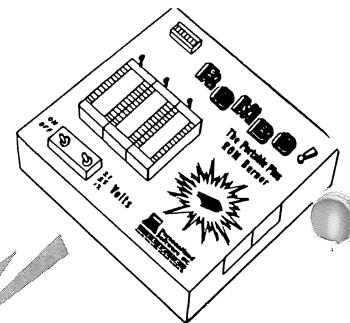
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