

<b>Publisher's Message</b> .....	3
<b>Letters</b> .....	
Can 110 Use PRODIGY? .....	4
Wants WP.FIL on ROM .....	4
More on the New Kermit .....	4
HP110 versus the Toshiba 1600 Laptop .....	4
Using the LaserJet with new font cartridges .....	5
Beware of "Relational Databases" .....	5
RightWriter 3.1 on ROM? .....	42
PC2622 File Transfer on the Portable Plus .....	42
Portable Plus Indispensable in Fund Raising Effort .....	42
Applauds Decision to Continue <i>The Portable Paper</i> ..	42
WP.FIL on ROM; New P.Plus Graphics Program? ..	42
New Sharp needs to take a lesson from the Plus ..	42
The Time Has Come! .....	43
<b>110%</b> .....	
Printing With The HP Portable .....	6
ThinkJet Troubleshooting .....	6
ThinkJet Empowerer Solves Battery Problems .....	8
HP110 / Portable Plus Parallel Printing .....	8
HP Softfonts and Other Musings .....	10
Executing Printer Commands from DOS .....	16
Two (or More) Printers on a Plus .....	16
New Intel Chip Boon to Laptop Users .....	18

<b>News from Personalized Software</b> .....	
1991 Subscribers Disk .....	19
OutlinePlus .....	25
Interest in Portable Plus Internal Modem? .....	26
<b>Portable Vectra Views</b> .....	
Line-Length Cursor Never Gets Lost! .....	26
External 2.8MB Floppy Drive .....	
For LS/12 and Portable Vectra CS .....	28
<b>Through The Looking Glass</b> .....	
The Keefe Collection .....	30
All Previous Fastaid Offers Withdrawn .....	30
Buerg's List Program for the Portable Plus .....	30
ZIP!!!! .....	31
More Games .....	31
Unix on the Plus .....	31
Burning EPROMs for the Plus .....	32
Turbo Pascal 6.0 .....	34
Playing with the Outliner .....	34
<b>The Savvy User</b> .....	
Modem Goes Haywire .....	35
ROMBO ROM Burner .....	38
<b>My Soapbox</b> .....	
WorldPort Fax/Modem: a Progress Report .....	40
<b>User Groups</b> .....	43

# ROMBO!

**Portable Plus users:  
Now you can easily put programs  
and data on ROM yourself!**

**— up to 1.5 megabytes  
per ROM drawer!**

No more lugging a disk drive wherever you go! No more taking up precious Edisk space with frequently used programs and data! Now you can easily put almost any program - and important data - on ROM chips and store them in your Portable Plus's ROM drawer.

Once you've done so, your programs and data are available instantly, with no danger of loss and no need for an external disk drive.

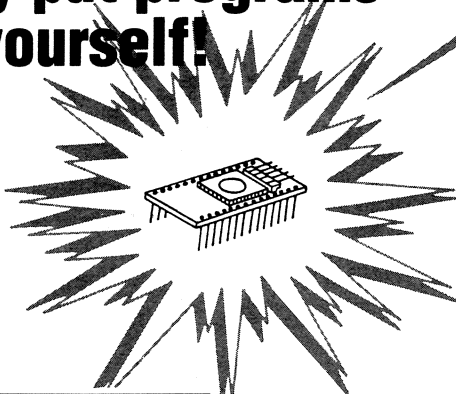
"Burning" your own ROMs is easy - even for a computer novice - with our Portable Plus ROM Burner. All you do is connect the ROM Burner to your Plus, and follow the simple instructions we provide for using the software that comes with the unit. (We even show you how to have your ROM programs automatically show up on your PAM menu!)

## ERASABLE!

If you make a mistake while burning in a ROM - or if you later wish to change the contents of your ROMs - no problem. Just use the ultraviolet eraser that comes with our ROM Burner and start over. (Our programmable ROMs are technically "EPROMs", which stands for "erasable programmable read-only memory.")

## UP TO 3 MEGABYTES ON ROM!

The ROM drawer that fits into the bottom of your Portable Plus has sockets for 12 ROMs. Each socket can hold a 128 Kbyte ROM. Even though there are more than 50 programs now available on ROM for the Portable Plus, most people only use 2-6 of the 12 sockets - which means part of the 1.5 megabytes of each drawer's available ROM capacity is going to waste.



**ONE YEAR GUARANTEE • 60-DAY TRIAL**  
**See order form for details**

Our Portable Plus ROM Burner lets you fill that unused ROM space with

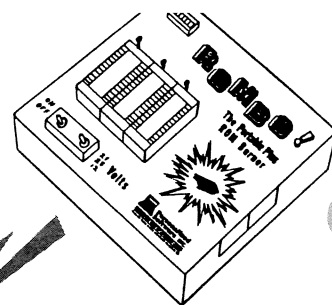
fixed data and with almost any Portable Plus program you wish - including programs that are not commercially available on ROM. This eliminates the need for an external drive and frees up valuable space on your electronic disk.

Regardless of your needs, we invite you to take advantage of this Portable Plus break-through. Put your programs and fixed data on ROM and experience the ultimate in portable computing convenience. Order our ROM Burner for the Portable Plus today.

## HERE'S WHAT YOU GET

A must for every Portable Plus user, ROMBO: our ROM Burner package includes:

- 1. Personalized Software ROM Burner for Portable Plus, with serial cable.** Burns commercially available 64 Kbyte ROMs or special Personalized Software 128 Kbyte ROMs.
- 2. Ultraviolet eraser.** Erases 64K or 128K ROMs for return. Lets you correct mistakes or change programs or data. Also useful for testing to make sure your newly burned ROMs work properly.
- 3. All necessary software,** including: two compression programs that shrink COM and EXE files so you can fit more programs on ROM.
- 4. Two Personalized Software 128 Kbyte EPROMs** (erasable programmable ROMs).
- 5. Complete user manual.** Clear, step-by-step tutorial, written for novice and experienced users alike. How to burn ROMs, how to use accompanying software, how to get ROM programs to show up on your PAM screen. Also includes suggestions on what to put into ROM, how to avoid snags, and other tips based on our years of experience in supporting the Portable Plus.



## PRICING

- **EP10NH Rombo: Personalized Software ROM Burner Package for the Portable Plus** (ROM Burner, serial cable, ultraviolet eraser, software, two 128 Kbyte EPROMs, user manual) Retail: \$695 Subscriber: \$595
- **Personalized Software 128 Kbyte erasable programmable ROMs (EPROMs) for the Portable Plus**  
EP11NR Single EPROM Retail: \$69 Subscriber: \$59  
EP12NX Set of 4 Retail: \$276 Subscriber: \$199
- **Personalized Software 128 Kbyte non-erasable programmable ROMs (PROMs) for the Portable Plus**  
(Ideal for making multiple copies of ROMs)  
EP18NR Single PROM Retail: \$64 Subscriber: \$54  
EP19NX Set of 4 Retail: \$256 Subscriber: \$179  
• **EP13NR 27C512, 12.5V, 64 Kbyte EPROM**  
Retail: \$25 Subscriber: \$22
- **EP14NS ROM Burner software and manual only**  
(Useful if you wish to burn your own 64 Kbyte EPROMs for the Portable Plus using a different ROM burner)  
Retail: \$250 Subscriber: \$195
- **SW11UC Portable Plus ROM drawer**  
Retail: \$195 Subscriber: \$99
- **EP15NE Custom ROM services**  
EPROM (includes 10 minutes testing to make sure your ROM works in Portable Plus as specified)  
Retail: \$150 Subscriber: \$135
- **EP16NE ROM consulting** (additional testing, batch file rewriting, etc.): \$75/hour
- **RENTAL** \$195 per month. Call for details.

## BREAKTHROUGH IN PORTABLE PLUS ROM TECHNOLOGY

Our Portable Plus ROM Burner is a breakthrough for Portable Plus owners. It copies programs and data onto special 128 Kbyte programmable ROMs created exclusively for us.

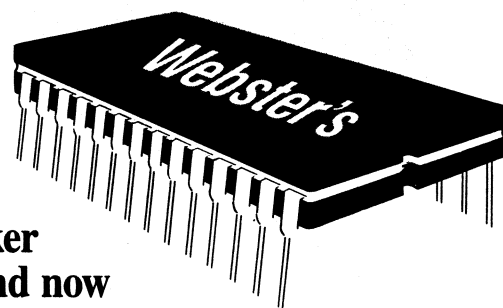
Aside from ours, the largest commercially available programmable ROMs that fit the sockets inside the Portable Plus ROM drawer are only 64 Kbytes. Our 128 Kbyte programmable ROMs give you double the storage capacity!

Moreover, unlike the procedures you have to go through with other ROM Burners, ours are easy. We supply all the software you need and a user manual that even a novice can follow with ease. Most importantly, ours is the only ROM Burner that lets you burn these ROMs directly from your Portable Plus.

**We also offer custom burning of non-erasable ROMs. With volume discount, this can cost significantly less than the price of blank EPROMs.**

**Call for a quotation.**

# 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

## Products Advertised or Discussed in This Issue

1991 Subscribers Disk	19
As-Easy-As	2, 12
BackPack Drive	27, 28
Condor	13
DrawPlus	12
Editor II, The	9
Empowerer II	8

Ethernet Adapter	27
FastPlus	17
FilePlus	35
Formatter	9
HPduette	13
HP Professional	37
HP SoftFonts	10
INTEL Chip	18
Keefe Software Collection	30
KERMIT	4
LapLink	27
LapTape	27
LaserJet	5
Like-New Plus	back cover
LIST	30
Lotus 123	18
MemoMaker	18
MJOG	12

Mobile Recharger	31
Norton Utilities	29
No-Squint II	27
Numeric Keypad	27
OutlinePlus	25, 34
Portable Powerhouse	15
Power Cube	28
PRODIGY	4
ReadHP	34
REDline	26
Reflection	42
Repairs	2
RightWriter	42
ROM Backup	20, 21
ROMBO	inside front, 10, 32, 38
Sharp 286 Laptop	42
Shelp	17
Sidewinder	11

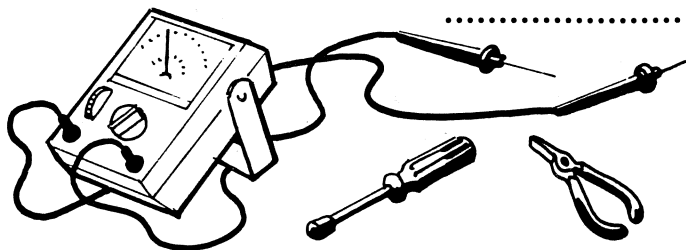
SquishPlus	7
StatPower	27
Term10/Plus	39
ThinkJet	6
Toshiba 1600	4
Turbo Pascal 6.0	34
Type Director 2.0	12
Unix	31
Used Computers	11
VERSADAPTER	10
Webster's Speller	1
Weltech 5.25 Drive	27
WordPerfect	4, 44
WorldPort Fax	27, 40
WorldPort Modem	33, 40
ZIP	31
Price List	center

**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

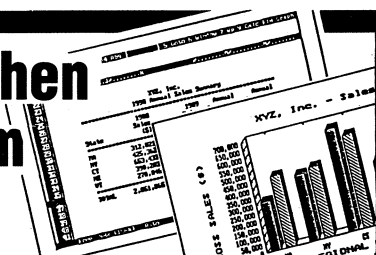
- HP110 or Portable Plus case replacement: \$175
- HP110 or Portable Plus internal modem replacement: \$195
- FastPlus upgrade (faster processor for Portable Plus): \$250
- 256K to 512K upgrade for Portable Plus: \$395
- 128K to 512K upgrade for Portable Plus: \$495
- HP9114 repair: \$65-135
- HP ThinkJet 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 a fully compatible program 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 \$625 retail 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, if all you need is 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 (get it?), and it fully lives up to its name: As-Easy-As does almost everything Lotus 2.01

does (see list at right). It even does some things Lotus can't do, like matrix operations.

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

If you already use Lotus, you have nothing new to learn. As-Easy-As works in much the same way — and it reads and writes Lotus 2.01 WK1 files and Lotus 1A WKS files, so you don't have to change your data.

To gain the advantages of Lotus 2.01 at a fraction of the price, order As-Easy-As at our risk today.

	Retail Price	Subscriber Price
<b>As-Easy-As on disk</b>	\$99.95	\$79.95
PRODUCT NO. AS11NS		

<b>As-Easy-As ROM Backup (disk + ROM)</b>	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 is available only from us.

### EASY AS 1-2-3

As-Easy-As gives you almost all the features of Lotus 1-2-3, Version 2.01, including:

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

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



# PUBLISHER'S MESSAGE



Hal Goldstein

It seemed every other manufacturer at COMDEX 90 in Las Vegas had a new notebook or laptop computer on display (with the exception of HP).

Most of these units weigh between 4.5 and 9 pounds, use a 286 or 386SX processor, and have a battery life between 1.5 and 3.5 hours. Typically, they are backlit with VGA graphics, come with a 20 to 80 Megabyte hard disk, and have room for 4 or more megabytes of RAM.

Does that mean it is time to give up your trusty HP110 or Portable Plus? It depends on your wallet and your needs. If ruggedness, long battery life, customizable ROMs, and price are important these HP Portables still lead the pack. If you

want to run certain IBM-compatible software, need more disk space or memory, or require a backlit screen and high-resolution graphics, then Compaq, Texas Instruments, Toshiba, NEC, or a slew of lesser known manufacturers might have your machine. The only hitch is that you can be sure that if you buy a system today, in six months you will be able to buy a better system for less money. The Price / Performance ratio should continue to decrease significantly for the next few years as miniaturization and battery-life breakthroughs continue at a dramatic rate. Whether to buy a new portable depends on the severity of your need.

This year I once again walked the entire COMDEX show - 21 miles of aisles, 2.2 million square feet, 1850 exhibitors, 125,000 attendees. The COMDEX microcomputer trade show demonstrates the present and portends the future with its exhibitions, conference sessions, and closed-door behind-the-scenes meetings. I come away each year with specifics about current product offerings, but also a sense of where the computer industry is heading.

I was impressed with two emerging directions for this industry. The first is "Multimedia". Computer operating systems (such as HP New Wave) are being developed so that TV, sound systems, fax, phone, pictures, printers, computers will all be integrated together in units forming world-wide networks. Whether we are two or ten years away from useful integrated systems, there is no doubt in my mind that is the direction we are headed.

Voice recognition systems is the other direction that left a strong impression. I think that in five years the computer keyboard will be an optional peripheral to many computer systems. I saw three or four demos of voice recognition systems. These systems still have a way to go before they achieve broad-based commercial public acceptance. However, I was intrigued and excited by what I saw (and heard).

Some systems have to be trained to understand a specific voice. Others have small base vocabularies but can be taught new words. My feeling is that once these systems are perfected a whole new class of users will join the computing fray. Typing will no longer be a prerequisite to computing. Even us old timers who can type 50 words a minute will prefer dictating our words of wisdom for our word processor, our lists for our database program, and our budget to our spreadsheet. We can then edit the input using voice or the keyboard.

In this issue you will once again enjoy a variety of readers' contributions -- different ways in which users make good use of their HP Portables. In addition and woven within a variety of topics, Frank Keresztes-Fischer, Ed Keefe, and Tom Page talk of their hands-on experience using ROMBO, the 128K byte ROM burner for the Portable Plus. I consider ROMBO the best and most important product Personalized Software has developed. None of the portables I saw at COMDEX have the capability of putting your choice of software in ROM. ROMBO gives the Portable Plus a new dimension -- it gives

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** Vectra LS/12

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

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

## THE PORTABLE PAPER Volume six / Number one January / February 1991

**Editor/Publisher**  
Hal Goldstein

**Managing Editor**  
Richard Hall

**Department Editors**  
Tom Page  
David Hughes  
Ed Keefe

**Contributing Editors**  
Larry Baldozier  
Richard Brown  
Joel Hedge  
Frank Keresztes-Fischer  
William Pinnick

**Copy Editor**  
Glen Frank

**Art Consultant**  
George Foster

**Circulation**  
Jim Larson  
Pam Hadjisavalos

**Executive Advisor**  
Rita Goldstein

The Portable Paper (ISSN-0886-9138) is published bimonthly by Personalized Software at 57 East Broadway Avenue, Fairfield, IA 52556. Subscription rates, one year: U.S. and U.S. possessions, \$55; Canada, Mexico add \$3 surface mail, \$6 air; other countries add \$6 surface mail, \$18 air. Please allow four to six weeks for receipt of first issue. Executive, Editorial, Circulation, and Advertising Offices: P.O. Box 869, Fairfield, IA 52556. Telephone: (515)472-6330, FAX: (515)472-1879. (c) Copyright 1991, Personalized Software, all rights reserved. No part of this publication may be reproduced without written permission. Reasonable efforts are made to provide accurate and useful information, but the reader must make his or her own investigations and decisions; the Publisher and Editorial Staff cannot assume any responsibility or liability for the use of information contained herein.

**POSTMASTER:** Please send address changes to Personalized Software, The Portable Paper, P.O. Box 869, Fairfield, IA 52556.

you, the user, the opportunity to design your own portable as if from scratch. ROMBO lets you build in whatever software you want as part of the machine. Furthermore, if your needs change, you can reconstruct (rebuild) your system at any time.

I look forward to this sixth year of The Portable Paper. All of us here at Personalized Software appreciate your continued and enthusiastic support.

*Hal Goldstein*

# Letters

## Can 110 Use PRODIGY?

**110** Is the PRODIGY service (Nationwide, Sears, & Well's Fargo sponsored) compatible with HP110? Do you know of any HP110 users currently using this service?

**P+**  
**Peter Sterba**  
544 Santa Alicia  
Rohnert Park, CA 94928

[Unfortunately, the user interface for PRODIGY demands IBM compatibility and a graphics monitor (Hercules, CGA, EGA, or VGA). That means you cannot use the PRODIGY data base service with the HP110, Portable Plus, or HP150. However, as chronicled in past issues, all HP Portable users can use Compuserve ... and Compuserve has an excellent HP forum. -- Hal.]

## Wants WP.FIL on ROM

I have been using WordPerfect on the Portable Plus a full year now and am very satisfied with the program. The addition of the preview feature makes it an excellent tool to prepare papers with complicated formatting, such as scientific papers. I really can recommend the program, however it has two drawbacks.

**P+** The first is that the automatic turn-off function doesn't work from within WP, which can result in deep discharge and damage to the Plus's battery, which may have to be replaced. The other problem is the WP.FIL file, which is bulky and occupies too much precious E-disk space. My questions are:

1. Is there any way to get the automatic turn-off function to work within WP?
2. Can you copy WP.FIL onto an EPROM with your new ROMBO ROM Burner? If you can transform the existing 4 EPROMs containing WP.EXE into 3 EPROMs including the WP.FIL file, please consider this an order. I will send back the old 64K ROMs as soon as I get the new ones.

Of course I want to renew my subscription to *The Portable Paper*. Best wishes and good luck!

**Bertil Poppen, MD**  
Department of Surgery  
Karolinska Hospital  
10401 Stockholm, Sweden

[The automatic turn-off function does not work within WordPerfect. The only solution for users with US keyboards is to purchase SHELP from us. SHELP contains an pop-up notepad and calculator and a keyboard macro facility. It also contains a system off facility that lets the user turn the Plus off from any non-graphics screen.

Note that recently a number of SHELPS were sold that warned users not use SYSTEM OFF. The only problem we have ever found with SHELP's OFF facility is in version 1 of MEMOMAKER. MemoMaker users should save their file before using SHELP OFF.

As discussed last issue, MicroTek of Germany discovered a procedure for putting WordPerfect WP.FIL on ROM. As soon as we receive that solution and we create WP.FIL ROMs we will let you know. We will send a mailing to all Portable Plus WordPerfect users, and we will write about it in *The Portable Paper*.

## More on the New Kermit

**110** Thank you for passing along the information on Kermit for the HP110 and Portable Plus to your newsletter readers. Since I sent you the Portable Plus Kermit disk in June, a couple of bugs have surfaced.

**P+** I have fixed these bugs and the revised program is on the enclosed disk. I recommend, if it is not too late, that this version goes on the subscriber disk.

The next project will be to put Kermit on ROM. So as soon as I get the credit card from my wife, I will be giving you folks a call to order a ROM drawer! With Kermit in ROM, the Portable Plus will be fully stand alone. A user without a disk drive will be able to load software and files through the modem's serial port.

I have also done a considerable rewrite of Kermit for the HP150. The program now uses keycode mode and the function keys are programmed in connect mode to make life slightly easier for the novice. Kermit 3.02 for the HP150 is around 50% faster than previous versions. The built-in Tektronix emulator can be accessed from the keyboard without going to the firmware configuration menu. In addition, the "SET BAUD" command now works. The HP150 program is also on the enclosed disk.

I hope the enclosed programs will be useful to users of HP Series 100 computers. If anyone encounters bugs, please let me know and I will endeavor to promptly fix them.

In closing, I want to let you know I appreciate your efforts to support the Portable Plus and the HP110.

**John Nyenhuis**  
824 North Chauncey  
West Lafayette, IN 47906

[Thank you so much for your efforts regarding KERMIT on the Portable Plus and HP150. As mentioned elsewhere in this issue, the various versions of KERMIT and its related documentation are too large to include on the 1991 Subscribers Disk. Therefore, to fulfill our promise, enclosed is a coupon for a free copy of KERMIT for those subscribers who will put it to use -- Hal.]

## HP110 versus the Toshiba 1600 Laptop

**110** In December, 1989 I purchased an HP110 with disk drive and printer from Personalized Software. The 110 was chosen primarily because of its compatibility with the HP150 system I purchased in 83.

**P+** I use the HP110 when I travel and in my office to write memos and work with spreadsheets. The reason that I chose the 110 is easy: I have invested approximately \$7,000 in HP software over the years.

Last month I had the unfortunate experience of having my car broken into in Boston. My 110 and printer were stolen. I have an computer insurance policy separate from my home owners policy to cover such an event. I filed a claim with the carrier and after weeks of negotiation the claim was resolved.

List evening I visited a local computer center in Burlington, Massachusetts, and looked at the Toshiba T1600 computer and Toshiba 321 printer as replacement candidates for the HP system that was stolen. I chose the Toshiba from the marketing press that I read in PC Magazine and from the fact that they are offering the latest technology and so-called system compatibility with other computers on the market.

I must say that for \$3,000 I was disappointed in the quality of the T1600. The display was better than the HP110, but not as superior as I expected for that price. The plastic case was cheaply made and would not support a minor drop onto a table. The system compatibility appears to be with IBM and not with HP or many other software manufacturers.

I also looked at the Compaq and NEC Laptops and was not impressed. Perhaps I would have been had I not experienced the effectiveness of the HP110 laptop.

After this disappointing experience, I am returning to Personalized Software and purchasing an HP Portable Plus ROM Special with an HP portable ThinkJet printer. I will not have the hard drive capability of the Toshiba, but I will have system compatibility with my HP150 and a rugged laptop that I will not be afraid to take with me when I travel.

I think that the Portable Plus is still offering many features that the current

crop of laptops are offering, but with a much more competitive price.

**Walter R. Sobie**  
**Technology Associates**  
**37 Buckboard**  
**Westford, MA 01886**

## Using the original LaserJet printer with new font cartridges

**P+** The Portable Plus and MSWord 1.1 on ROM make great companions to the Hewlett Packard Laser Jet printer. I recently ran into a problem however, that was solved with the help of the Portable Paper and staff from the Hewlett-Packard Laserjet hot line.

I recently purchased Hewlett Packard's relatively new font cartridge called the Pro Collection, part number 92286 PC, with 65 fonts of proportional and fixed spacings. It's a great addition to the LaserJet printer and operates with all Laser Jets including the original 2686A. I found two immediate problems however. The first was that in using the Pro Collection with MSWord, there is no driver (.PRD file) included in the earlier version 1.1 on ROM. This was solved by obtaining a new driver from Microsoft for the Pro Collection, but it was only available for MSWord version 5.0. The driver contained all of the font escape codes and proportional spacing tables for the many fonts included with this cartridge.

In Vol.5, No.2, Pg.12 of *The Portable Paper*, you have an article by Craig Fullman of Hewlett-Packard on modifying the new MSWord drivers to work on version 1.1. I spoke with Craig, who was very helpful, and I used his instructions. The modifications were very simple, basically consisting of deleting about half of the new .PRD file. I believe a driver for the Pro Collection is also on Craig's disk mentioned on page 12.

I found the modified driver worked perfectly with the Pro Collection, but I immediately ran into the second problem. Instead of formatting and printing a page of text in 30 seconds, it now took 5 minutes to print a one page document! One mistake and you'd start all over again. After finding Mary Ellen Hoffman on Hewlett Packard's hot line (208) 323-2551, she found that the original Laser Jet Pluses with a date code printed at the bottom of the self test of HPN3c8504240 required a firmware update to work effectively with the new font cartridges. The part number is 02686-67004 from Hewlett Packard for \$39.00. It consists of 4 ROM's and installation instructions. One can easily install the ROMs with a Phillips head screwdriver. With the

update, the printer formats and prints as fast as the paper can roll out.

This font cartridge works beautifully with Lotus 1.1 as well as MSWord. Their are numerous fixed space fonts in various point sizes, bold, and italics that work with Lotus by typing in the escape sequences in Print Options Setup. Laser Jet users have lots of flexibility with the Portable Plus. MSWord and Lotus are perfect examples.

**Ray Kawal**  
**783A Happy Valley Road**  
**Sequim, WA 98382**

*[See also Frank Keresztes-Fischer's article on using soft fonts with the Portable Plus and MSWord -- Hal.]*

## Beware of "Relational Databases"

**110** I recently procured an HP Portable Plus, and today, I received in the mail a copy of the Portable Paper. It was interesting to see the various articles and ads.

**P+** One particular ad (for Condor 3) caught my eye. The vendor for this database product asserts ...

**PV** "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."

**LS 1/2** How interesting.

Of course, this kind of hype is found everywhere, and I suppose that I shouldn't be surprised to find it in the Portable Paper. After all, why should your publication be magically immune to the whims and chutzpa of software vendors - no other publication is.

I'm not sure why, but I thought I'd write a letter to express my dismay, and share some much needed information with you and your readers.

I encourage you to print this letter in the Portable Paper - it should be educational.

Below, I will describe in accurate and concise terms just what a relational database is, and why anyone should care. Before doing this, however, I'll preface my remarks with a bit of back-ground information about myself.

I have been a practicing dataprocessing professional for the past ten years, after finishing my degree in Business Dataprocessing in 1980. This career includes business and scientific programming, systems analysis, and database administration; among other duties. This experience was gained in a number of hardware environments including mainframes, minicomputers, microcomputers of every description, and an equally diverse array of software.

These facts are mentioned so that the reader understands that I am well grounded in the "real world" and not merely some ivory tower prima dona.

What is a relational database management system, and why should anyone care? First, a relational database management system is one that conforms to the relational model. I'll discuss this in some detail later. Secondly, anyone who lays out money, sometimes a lot of money, for a product (any product) deserves to get just what was paid for. In the computer world generally, and in the personal computer world particularly, much more is spent by vendors to convince you that their products are the best than is actually spent in making their products the best. Advertising is, after all, defined as the art of "making something out of nothing", and software advertising is no exception. The claims of so many vendors that their products are "relational" is merely a case in point.

My point of view, both as a consumer of software products, and as a producer of same, is that only by being informed can we protect ourselves from the many traps and pitfalls that await the unwary.

Here is a terse dissertation on database technology generally, and the relational approach in particular.

The concept of "database" is rather vague. Many definitions are to be found, and I suppose that any of them are generally acceptable, though if you want to be quite liberal about it, a database is simply a collection of data from which some useful conclusions or inferences may be drawn. For the personal computer user a database is that data which is captured and stored in the computer and which may be manipulated and displayed upon demand. A data base management system is one or more programs that make this task relatively easy to perform.

The technology of data capture, storage, and manipulation has evolved over the years from the primitive to a rather stunning array of sophisticated tools. It is this richness of choice, I believe, that is so confusing to the novice computer user. But the novice isn't the only one reeling under this burden. Over the years, business enterprises have invested great sums of money in an effort to tame the "information beast", and it is from these efforts that the more modern and somewhat improved approaches to data management have evolved. Initially, the high cost of hardware made the intensive labor required the lesser expense. As the hardware became better and cheaper, the large number of programmers and other professionals became the larger expense and businesses looked in earnest to find approaches that would be easier to implement, and easier to maintain.

*(Letters continued on page 41.)*

110%

## Making More of Your HP Portable

by Hal Goldstein

## Printing With The HP Portable

By Hal Goldstein

Printing using the HP Portable emerged as the theme of this issue's 110% column. First we troubleshoot a bit to clear up problems printing with the ThinkJet. Then we briefly discuss the new ThinkJet Empowerer. Thirdly, we report on a way to use a parallel printer from the HP110 and Portable Plus.

In the fourth article Frank Keresztes-Fischer tells how he uses HP soft fonts with a LaserJet, Portable Plus, and MSWord. Then we report on a simple trick for how to control your printer from DOS. Finally, Richard Brown answers a past query in interesting detail of how to run more than one printer from the HP110 and Portable Plus.

## ThinkJet Troubleshooting

110  
P+  
PV  
LS  
1/2

The following is a list of the main ThinkJet failures, their causes and cures:

- **RUNNING OUT OF INK** -- This is the only acceptable way for the Print Head to stop printing. The print will rapidly (5-10 characters usually) fade into only a few random dots on the page. The number of printed pages you get with each cartridge varies with use.

SOLUTION: Replace with new Print Head Cartridge.

- **PAPER DUST CLOGS** -- Paper dust fibers land on the orifice holes, clogging some holes, and causing erratic dot trajectory. Wiping with a soft tissue is necessary every 50 to 100 pages, but a few Print Heads demand attention more often. Wiping usually restores the Print Head, but occasionally Activation may be required (See Air Ingestion below).

SOLUTION: Wiping the print head or Activation.

- **AIR INGESTION DURING TRANSIT** -- Air may be sucked into the Print Head Cartridge (PHC) during transit, which may cause one or more nozzle to fire intermittently, or cause the PHC to appear to run out of ink prematurely. The failure most often appears 1-5 lines after the beginning of printing, but may not

become apparent for many pages. The Activation Procedure will easily restore the PHC to full operation.  
SOLUTION: Print Head Activation.

1. Straighten a section of a paper clip.
2. Hold print head so the shiny print plate faces up.
3. Insert the paper clip into the hole at the bottom of the print head and push gently until a bead of ink appears on the print plate (don't over do it).
4. Remove the paper clip and wipe off the print plate with a soft tissue.

The print head is not activated and ready to print. Print head activation instructions should be included in all shipments of print heads and ThinkJet printers.

- **WRONG KIND OF PAPER USED** -- Bad looking print, ragged dot shape, or light colored print are indications that you are using the wrong kind of paper in the ThinkJet. HP P/N 92261N or 92261M paper is designed to rapidly absorb ThinkJet ink and produces better quality work. If you intend on using non-HP paper, you should use a Plain Paper InkJet Cartridge in your ThinkJet (see center price list under "Printer, Disk Supplies").

SOLUTION: Use Plain Paper Cartridge or HP Paper.

- **DIRTY INTERCONNECTS** -- Missing or intermittent dot rows, or sometimes just generally rotten print quality may indicate that your ThinkJet Interconnects are soiled with ink and/or paper dust. (Interconnects are the metallic connectors found in the back of the carriage into which you place the inkjet cartridge. The inkjet cartridge makes contact with, and receives print signals from the Interconnects.) The Print Head may also be dirty. Ink shouldn't get on the exterior of the Print Head during manufacturing, but it has in the past. Dust will always be a problem with the ThinkJet.

The manual recommends cleaning the printer Interconnect with alcohol. This will remove dirt and finger oils that may have been deposited when you touch it. An alternative is to wipe both the Interconnect and the Print Head with a clean, damp tissue.

SOLUTION: Clean Interconnects and Print Head.

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.

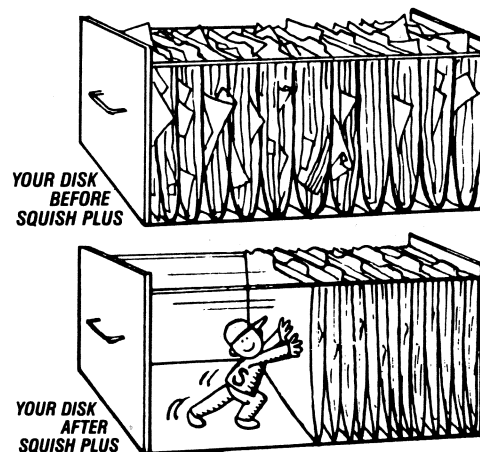
(Portable Plus users may need to increase internal [main] memory by as much as 36K. On the Portable Vectra and LS/12 Laptop, Squish Plus simply borrows 36K from the 640K of memory that's built in.)

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

## 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

## IMPORTANT MESSAGE FOR PORTABLE PLUS USERS

### 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



- **IRRETRIEVABLE CLOGS, RESISTOR FAILURES** -- Occasionally, due to manufacturing defects, resistors may burn out or something may clog one or several nozzles. Activation, wiping, and Interconnect cleaning won't correct these problems.

**SOLUTION:** Replace Print Head, service ThinkJet.

## PRINT HEAD CHECKLIST

The following procedure should solve the majority of Print Head Cartridge difficulties that you might encounter:

1. Ensure that there is sufficient ink in the cartridge by viewing the bladder. If the bladder is collapsed, replace the cartridge.
2. Ensure that the carriage latch is fully closed.
3. Ensure that you are using a recommended inkjet paper or the appropriate cartridge.
4. Wipe the face of the print head with a tissue to remove any accumulated dust. If the print head cartridge has not been used for a prolonged period, moisten the tissue with water before wiping.
5. Lightly wipe the Interconnects in the carriage using a cotton swab dipped in alcohol.
6. Activate the print head cartridge to purge any trapped air bubbles from the nozzles.
7. If the problem continues, the print head cartridge is probably defective and should be replaced.
8. If the printer is still functioning improperly, the printer probably requires service.

## AVAILABLE THROUGH PERSONALIZED SOFTWARE

Personalized Software sells ThinkJet supplies including:

Description	Part # / Price
Refurbished ThinkJet . . . . .	(TJ11UC-P1)/ \$199.00
HP92261N inkjet paper (2500 z-fold) . .	(TJ12HC-P1)/ \$69.95
HP51630a inkjet paper (500 z-fold) . . .	(TJ13HC-P1)/ \$19.95
ThinkJet ink cartridge (HP) . . . . .	(TJ14HC-P1)/ \$11.95
ThinkJet ink cartridge (plain) . . . . .	(TJ15HC-P1)/ \$11.95
ThinkJet ink cartridge (red) . . . . .	(TJ17HC-P1)/ \$13.95
ThinkJet ink cartridge (blue) . . . . .	(TJ16HC-P1)/ \$13.95
ThinkJet ink cartridge (green) . . . . .	(TJ11HC-P1)/ \$13.95
ThinkJet Empowerer II . . . . .	(EM14NH-P1)/ \$95.00
ThinkJet Battery . . . . .	(BT14HC-P1)/ \$65.00



## 110 ThinkJet Empowerer P+ Solves Battery Problems

The ThinkJet, like the HP110, Portable Plus, Portable Vectra CS, and HP9114 disk drive, only runs off the battery. That means even if you are charging the

ThinkJet, if the battery is weak or dead, you may not be able to run the ThinkJet.

Treating the ThinkJet battery correctly requires some attention. The ThinkJet works the opposite way of the other battery-powered equipment mentioned above. You should charge the ThinkJet battery only when the yellow warning like begins to flash. In other words you should let the ThinkJet battery almost completely discharge before charging it again.

The problem is that for travel or whatever reason, the ThinkJet may be unused for months. Total discharging can render the battery useless. Unfortunately, the cost of the replacement battery is relatively expensive - \$65.

We have come up with another solution: the ThinkJet Empowerer II. The ThinkJet Empowerer II allows the user to charge the ThinkJet off normal AC power. We used the Empowerer battery pack, and replace the battery with circuitry that allows an external power supply plugged into a wall socket to power the ThinkJet.

## ORDERING INFORMATION

The ThinkJet Empowerer II (Part # EM14NH) can be ordered only from Personalized Software. It retails for \$119 (\$95 for subscribers).

A new ThinkJet battery (Part # BT14HC) can also be ordered from P.S. It retails for \$65.

### Discount - Per unit ordered:

Subtract \$20 if you send battery case with order.

Subtract \$30 if you send old Empowerer with order.

For example, if a subscriber wants a ThinkJet Empowerer II it would cost him \$95. If he sent a ThinkJet battery and an old empowerer with the order he could subtract \$20 plus \$30. His total would then become \$45.

If that subscriber sends in two additional batteries he receives two \$10 gift certificates for each.



## HP110 / Portable Plus Parallel Printing

By Larry Baldozier

110

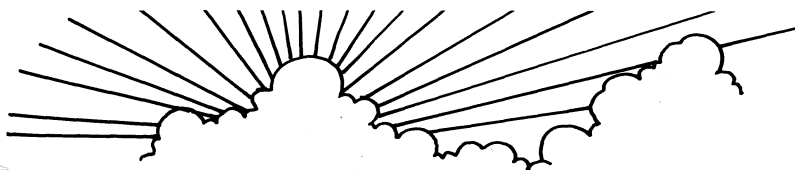
P+

In the world of computers when a piece of hardware or software works on the first try, it's pure joy! This is the experience that I felt working with the serial/parallel adapter by Versadapter.

The Versadapter is a dual-purpose adapter for connecting either a parallel output computer to a serial printer or a serial output computer to a parallel printer.

The documentation that comes with Versadapter is short and straightforward. As a test I connected the serial port of an HP Portable Plus to the parallel port of an HP LaserJet printer. I was running in less than 10 minutes.





# 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.

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

**PV** PV users: Be sure to indicate "PORTABLE VECTRA" on your order so we can send you proper disk format.

## 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 52536 515 472-6330

## 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 autoloaded 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*

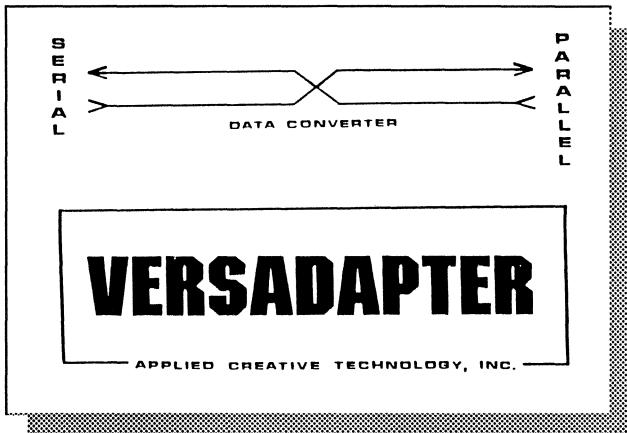
## The Formatter

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.

**PV** PV users: Be sure to indicate "PORTABLE VECTRA" on your order so we can send you the proper disk format.

The Versadapter installs BETWEEN the computer and printer. The adapter box is 3.5 x 5 inches in size and is powered by a plug-in transformer. It has a standard Centronics port on one side and a female, 25-pin serial port on the other. A Centronics-interface parallel adapter cable is included with the unit. The cables you have will vary depending upon the computer and printer you use. The HP110 and Portable Plus have female, 9-pin serial ports. Personalized Software provides serial modem cables for connecting the HP Portable to Versadapter (WM14NM at \$20 and the HP 92221M at \$42).



Versadapter box  
(illustration not scale)

## CONFIGURING THE PORTABLE PLUS

On the Portable Plus I set the following parameters in DATACOM CONFIGURATION (press **f5**) as follows:

Transmission Rate:	<b>9600</b>
Word Length (bits):	<b>8</b>
Stop Bits:	<b>1</b>
Parity:	<b>none</b>

The rest of the DATACOM CONFIGURATION settings are left as the default settings. Press **f6** to enter the SYSTEM CONFIGURATION menu and then set the PRINTER INTERFACE to **serial**.

## CONFIGURING VERSADAPTER

The SERIAL HALF of the Versadapter adapter must be configured so that it matches the communication parameters of the Portable Plus (or any computer or printer to which it will be connected). There are four switches on the underside of the adapter for this purpose. The #1 switch sets the adapter to parallel/serial or serial/parallel mode. Switches 2, 3, & 4 set the Baud rate. I set switch #1 to the **on** position (this is the position for serial to parallel mode). Switches #2, #3, & #4 were selected to **on**,

**on**, & **off** respectively to set the baud rate for 9600.

This adapter does not speed up the printing process. It does, however, allow you to use your HP Portable Plus or HP110 with a parallel printer. And it will also allow a user with only a parallel port to print to a serial device.

For some of our users the Versadapter may not only be the best choice but, dollar-wise, the only choice.

I rate the Versadapter a "10" in my book.

## ORDERING INFORMATION

VERSADAPTER is a product of Applied Creative Technology, Inc., 10495 Olympic Drive, Suite 102, Dallas, TX 77220, Phone: 800-433-5373, ex 211 (ask for John Miller).

Portable Paper subscribers can order it from Personalized Software for \$109 or directly from ACT for the retail price of \$119.

*[Larry is Personalized Software's Director of Operations. He also fills in as a service technician and technical support person -- Rich.]*



## HP Soffonts and Other Musings

By Frank Keresztes-Fischer

There is much I want to touch on in this letter, but I'll try to restrain myself.

## ROMBO IS FANTASTIC

**P+** There is only one word to describe this new capability for the Portable Plus user ... fantastic!! I have been a bit slow starting to get into the ROMBO manual, due to other commitments, but once I did ... I am glued to it. It is remarkable how you and your team, Hal, have simplified this otherwise complex task. ROMBO simply runs smoothly in the creation of custom EPROMs; the manual is clear and very informative; the hardware instructions are straightforward and the results are a new lease on my Plus's life.

Perhaps the only difficulty I experienced to date is how to organize and group my files that I wish to burn onto ROM ... for example my collection of DOS utilities. One approach might be to use SCRUNCH or LZEXE to compress the executable files and cram all of them onto a two-chip EPROM set. There is of course a lesser strategy for DOS utilities, that is to use them as fillers on other EPROMs. Perhaps some combination of the two will be my optimum course.

Prior to ROMBO I kept away from custom EPROMs because I did not see value in the 64K chip capacity. But with the 128K chip we are in a new ball game and

# 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 Equipment Exchange. Prices fluctuate, so call us for current figures.

## We sell them.

Buying used HP 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 ↘

**ONE-YEAR GUARANTEE**  
(parts and labor)  
on all used equipment!

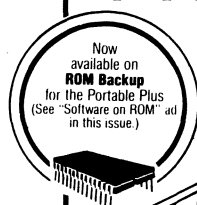
**(515) 472-6330**

**The Portable Equipment Exchange**  
—a division of Personalized Software  
P.O. Box 869 Fairfield, IA 52556

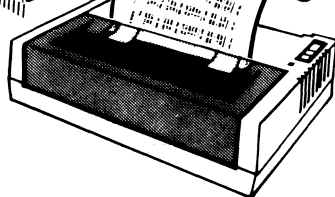
© Copyright 1987 Personalized Software

*For good buys on used—and new—HP equipment, see our 4-page brochure enclosed with this issue.*

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



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



# 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**

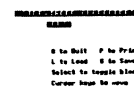
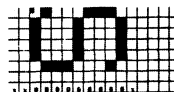
PRODUCT NO. SW11NS

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 Plus for the Portable Plus	

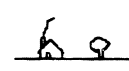
**OPTIONAL EXTRAS:** Southern Software of New Orleans, creators of SideWinder, have also created two companion utilities that work only on The HP Portables:

**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 and vertical lines, but also *diagonals* with a single key.) Sketch & Print also lets you print - and save - anything you draw on the screen.

**\$10 for both utilities when purchased with SideWinder**

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

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

\*105 rows for QuietJet Printer

© Copyright 1987 Personalized Software

Lotus and 1-2-3 are registered trademarks of Lotus Development Corp.

undoubtedly there is life beyond the current limits.

With ROMBO in hand, now I am also poking around my existing ROM files. I want to dump MemoMaker but keep TimeManager, I don't need the laundry list of printer drivers ("\*.PRD" files) with my MS Word, but want to add my own drivers, as well as MS-Spell ... and the list continues.

One of my hot ROMBO projects is to create a two-chip set for DAC-EASY. For those unfamiliar with this modular accounting application, it is an extremely fast-running full-feature package that is fully compatible with the Plus. The challenge is to coax it into the B-drive, when in fact it was designed to have its modules available in the A-drive. To make the story somewhat more exciting, not all the modules can fit into 254K, the capacity of a fullbank EPROM chip set. Thus I must put some modules, those that are likely to see less frequent usage, onto a C-drive utility disk. The trick is to have all modules cooperate with this new scheme, without losing one byte of data along the road. While I can not promise a seamless solution, my simulations of this approach have been encouraging so far.

## AS-EASY-AS SUPPORT COLUMN?

This application's adaptation to the Plus is indeed a coup that Ed Keefe helped engineer -- congratulations. It seems to do virtually everything that 123's version 2.2 does and then some. As a result I am now in the process of dumping my version 1A Lotus-123 chips. However, before I finalize my divorce from 123, I would like to suggest some discussion about the merits of starting a support column for AEA or to point us to some existing support publication ... similar to what LOTUS did in its earlier years, providing useful tips and training to the total community. The other question that comes to mind about AEA relates to add-ons and upgrades. Is there any guidance on these key issues?

## DRAW-PLUS HAS PROMISE

I had the opportunity to see an early "beta" version of Aaron Morse's sketch program that was discussed in the last issue of the Portable Paper. It is an interesting application with much promise. In discussing it with Aaron, he mentioned a number of enhancements that he is now testing to speed up several functions including pattern fill. I see DRAWPlus as a worthwhile graphics addition to the Portable Plus software library, and encouraged Aaron to pour on the coals to complete this application, full speed ahead.

## HARDWARE NEWS

The past couple of issues have been tantalizing indeed. The flash-ROM project with an A-drive enhancement; further developments affecting B-drive capacities and

directory sizes; the FAX modem connection; the hard drive project ... these are indeed sound rebuttals to HP's logic for dumping the Plus. Moreover the user community says that the Plus and the ROM/RAM concept is alive and well. Interestingly, it is quite possible that the Plus's less than complete compatibility is the very glue that holds its user community together. Of course it all would not matter if the Plus were an also ran in the arena of what constitutes a practical and value-laden laptop solution.

## MEMORY JOGGER

Recently I was going through my 1990 Subscriber Disk and finally discovered Tom Page's MJOG application ("Memory Jogger"). I think it's very neat, and would be priceless if it were implemented as a TSR, with a "paste" capability and maybe a few nick-knacks like editing the screen directly ... the latter being convenient, but unessential. Pasting a line into the active document, however, would be most desirable.

My interest for this is primarily for DAC-Easy Accounting. A help facility accessible from within that application would make running DAC much more convenient, and having hot-key access to the chart of accounts (account numbers and account names that are user-created for his/her unique accounting system), special procedures for handling certain complex transactions in a consistent manner every time it occurs, etc. Of course there may be users who might also wish to create additional help screens about interface procedures of the application.

As you might sense, there are other applications for such a pop-up "Memory Jogger." A compact kernel that calls on the menu screen that overlays the text file(s) might be a conventional approach to minimizing memory use. Incidentally, as I remember, DAC-Easy needs a minimum of 128K, and maybe less. It's certainly not a memory hog.

Perhaps Tom Page, or another gifted TP5+ wizard might consider this a worthwhile challenge of narrowly defined scope.

## HP'S TYPE DIRECTOR 2.0; THE LASERJET-II & PORTABLE PLUS

Craig Fullman inspired the rest of this article with his description of how to modify the HP JET printer drivers ("\*.PRD" files) used with MS-Word 1.0 (please see Vol.5, No.2, Pg.12).

Since early this year I've been working on several projects where I needed fonts beyond the defaults in our HP LaserJet II printer. My choice was to buy a couple of font cartridges ... or HP's Type Director (TD).

I opted for TD, and want to share how I migrated that capability over to my Plus. TD is a bitmapped font utility that must run on a PC-compatible system to create a user-selected fontset, and it needs ample hard disk space.

# 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. CR11NS

**Condor, Jr. .... \$99.00**

**\$89.95 for Portable Paper subscribers.**

PRODUCT NO. CR13NS

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.

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

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. DUI1NS

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.

### 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

However, once one creates a set of softfonts, those fonts need not be downloaded from an IBM/clone system, as I discovered. With TD one creates bit-mapped softfonts that are stored on disk, in font sizes from 4 to 200 points in 1/4 point increments, in normal presentation as well as bold, italic, and bold-italic enhancements. Moreover, 14 symbol sets make a powerful array of font tools. I purchased the "Premier Collection" with 6 type-faces, each available with most of the above-cited variety.

TD, an easy-to-use menu-driven softfont utility, is keyed to today's top word processing applications, including MS Word 5.0 (MSW5) and WordPerfect-5.x (WP5). However, since I am of the MS Word persuasion, this report highlights that experience. Yet, Plus users of WP5 or other applications will also benefit from applying the process described here, because softfonts do not care which software application calls on them to help print text; many software applications use printer drivers that manage the use of available fonts in the printer. Since most softfonts use proportional-spaced character sets, their best use will be via applications that can format a document file to take best advantage of this feature.

My font creation adventure started on a clone 386SX desktop, where I have access to MSW5, and where I loaded TD (version 2.0). After an initial period of experimentation I decided on "Univers", a san-serif, spartan typeface, as my standard. I selected a group of sizes and enhancements with a mix of symbol sets to cover my recurring needs.

I might mention that my work over the past year has focused on the launch of a new venture based on enabling technologies for certain air filtration applications, "a green issue". My output varies greatly ... business letters, camera-ready technical papers, overhead slides customized to the next audience, an evolving "book" for prospective investors, follow-up PR letters to media contacts, etc.. Obviously, this variety of uses proves that I could benefit from having a competent assistant, and that one wears many hats in an entrepreneurial mode.

## WHY NOT USE IT ON THE PLUS?

My needs for these fancy fonts forced me to the desktop, yet I wanted to return to my Portable Plus and resume my work in that familiar environment that I am used to having with me. So I converted the .PRD files, created with TD2 for MSW5, to the format that works with the MSW1 in the Plus, using Craig Fullman's procedure. As my experience proves, such a conversion is also do-able with .PRD files for bitmapped font-sets. However, at this point I needed to download my several font-sets from the 386SX desktop before I could use them from MSW1 on my Plus; as you might surmise, the LJ-II printer is a shared resource. Though this procedure worked, it was not convenient since the 386SX was often busy when I wanted use it.

This led me to explore the next step. In examining the relation between MSW5 and TD2.0 in the desktop box, I discovered that TD not only creates a printer driver file

(e.g. "LTRS.PRD"); it also creates a file that contains all the information necessary to download all the softfont supported by the LTRS.PRD driver. Every time one prints a document from MSW5, for example, the user is prompted if the fonts have been downloaded. MSW5 uses the LTRS.PRD file to achieve the download when requested. This .DAT file is a plain text file that lists the group of softfonts, plus a repeating pattern of HP printer escape sequences that causes the downloading of each individual softfont file, and also marks a softfont as "temporary" or "permanent". When I saw this simple and accessible macro approach, the thought for migrating the downloading regime to my Portable Plus system began to percolate in earnest.

Next I examined the font files that I created with TD. While the font file naming convention appears to be incomprehensible at first, it has an order and structure, such that one can quickly determine the typeface, the size, enhancement and font orientation. And mentioning "orientation", let me hasten to add that I have not yet found the key for printing portrait documents and landscape envelopes within the same .PRD file from my MSW1 on the LJ-II ... though I think it might be possible if I poke around a bit more.

My next task was to see how many font files I could store on an HP-9114 floppy diskette. This proved a simple task with a file compression utility such as Phil Katz's PKZIP. A ZIP file can store perhaps over 60 softfont files on a floppy ... the larger the font-size, the more its font file compresses. Since one might run downloading from a 9114 drive only, formatting the floppy on the 9114 with "/Z" option provides 780,000 bytes, for that extra floppy capacity; on the other hand, the IBM format is indicated if downloading of files is also intended from desktops.

## THE FIX IS IN!

The missing link to achieving my goal was a batch file for managing the downloading of my softfonts to the LaserJet's memory. For this I needed the technical reference manual from HP (\$17.00 very well spent), so that I could better harness the awesome potential of the LaserJet.

The LTRS.DAT file contains a one-line string of escape sequences from here to the next block. I copied it to LTRS.BAT file, then edited LTRS.BAT. The result is a repeating pattern of font loading instructions. Please note in the batch file elements listed below that the string "e/c" represents the "escape" character (ASCII 027).

```
xzp -pbc ltr-fnts UNR1CPCA.SFP
echo e/c*c1f1D > prn
xzp -pbc ltr-fnts UNR00DTA.SFP
echo e/c*c5f2D > prn
.
.
xzp -pbc ltr-fnts UNR1CDTA.SFP
echo e/c*c5f30D > prn
```

Now let's look at the above batch file fragments. Note the



two-line repeating pattern of the code. In the first line "xzp" is my abbreviation for PKUNZIP.EXE, the file extracting portion of the PKWARE utility; the "-pbc" options extract from the "ltr-fnts" archive the "UNR1CDTA.SFP" soft-font file, and send it to the printer "p", in binary mode "b", via the serial port "c". The second line, starting with "echo" contains two concatenated printer escape sequences; the first "e/c\*c5F" makes this a "permanent" softfont in the printer memory, meaning that it is in the memory forever, or until the power switch do us part. (A "temporary" soft-font is dumped from the printer's memory at the end of the current/next print job.) The second escape sequence "e/c\*c1D" ... "e/c\*c30D" assigns each softfont a unique serial number, e.g. 1...30 in the above example. The above two-line sequence repeats for each soft-font, that is part of this font group.

## FROM DISCOVERY TO PROLIFERATION...


**P+** By now I was looking forward to several groups of soft-fonts, running from the same or separate printer driver files. Should you develop such a font management system for yourself, it is best that each downloading sequence becomes a separate batch file. For example, in addition to LTRS.BAT in portrait orientation, you might create SLIDES.BAT (needs SLIDES.PRД) for overhead slides in landscape (note that the LaserJet prints directly on the transparency for crisper slides). And if I duplicate one of my standard fontsets in another typeface, this approach is workable without the use of duplicate printer drivers ... if only one fontset resides in the printer memory at one time.

Having such a variety of softfont loading batch files on the floppy diskette, you might consider creating a PAM.MNU file with a menu label for starting each downloading batch file. My own preferred method was to write a batch file that is the front end for the loader batch files. Each loader batch file, in turn, displays on the screen the selection, the typeface, font sizes, enhancements, and character sets; I also have added a control point if I want to proceed with loading a fontset ... or quit.

## CONCLUSIONS

Well, by now we arrived at the question of how well does all this work? First of all the implementation works very smoothly, as my experience attests over the past several months. For comparison, the downloading time via TD from the 386SX desktop via its parallel port takes about 4.5 minutes for a 510K softfont collection stored in the 40Meg Winchester drive. From the Plus, via its 9114 floppy drive, via the serial port at 19,200 baud ... the same softfont collection takes 8.5 minutes. Functionally there is no difference between the fonts via the Plus system and via the desktop.

For those Plus users who have another series HP JET printer, the methods I described here may also work to



# PORTABLE POWERHOUSE

~~(\$3000 original retail)~~

## ONLY \$495!

(\$795 with portable printer and disk drive)

**Hewlett-Packard's HP110 Portable**

**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.

At only \$495 used, our HP110s make great gifts for students, friends, and spouse. **Note:** With most other com-

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.

Every HP110 we sell is fully tested and is **guaranteed against malfunction for one full year.** All units come with a **30-day no-risk trial and free technical support.** For details or to order, call **(800) 373-6114.** Call now—offer good only while supply lasts!

**ALSO:**  
Like-new **Portable Plus: only \$1295!**  
(original retail: \$2795)  
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.



**Personalized Software INC.**

*The worldwide HP Portable experts*

P.O. Box 869, Fairfield, IA 52556 (515) 472-6330 FAX: (515) 472-1879

enhance their font control from their Plus. However, before you rush to buy a copy of Type Director ensure that the printer you'll use is supported by TD.

Also bear in mind these considerations. For example, a 12-point font in regular, bold, italic and bold-italic is not one but four font files; each bit-mapped font is a separate font file. If you select the ASCII symbol set (32 to 127), you will have a smaller font file for each font as compared to the full 255 characters with most other symbol sets; larger font sizes mean larger font files. A key consideration is the amount of memory in your LaserJet; ours has 1.5Meg, so I decided to keep my downloadable font-sets under 512KB, leaving 1Meg for document processing. You should also consider that the printer driver appears to have limits on how many downloadable fonts it can hold ... for MSW a .PRD file can hold 64 fonts, but 32 is a reasonable limit. And lastly a large printer driver, with everything included, occupies more main memory in your Plus system; thus you might consider smaller and specialized drivers.

One additional point for an MSW1 user. Whereas you may feel confined, based on the original WORD documentation from HP, in that you only have the 32...127 and a few extended characters to print, in fact you can print almost every character of the full ASCII set, 0...255, including graphics. This is simple to achieve. Start on a desktop and open an MSW file, e.g. CHAR.LST, and edit

a two-column list; the left column lists 0...255, the ASCII character numbers; in the right column key-in the respective character, e.g [Alt]180, or however these special symbols are accessed by your desktop application. Next you want to save this file and transfer it to your Plus system. Now let's assume that your softfonts selection uses the "DESKTOP" symbol set, and you want to include small bullets (solid and hollow) for punctuating a two-level list in your document. With your document loaded in MSW1, open a window, and load into it the CHARLIST file. Now look at your symbol table for the DESKTOP symbol set in the TD user manual ... I assume that you have purchased TD by now. ASCII 180 is the small solid bullet, and 182 is the small hollow bullet. Simply copy those characters to where you want them in your document ... never mind its appearance on the screen, your printer hardcopy will display the right symbol. If you plan to use routinely such enhancements to your text, simply add them to your glossary and assign them glossary names, e.g "bullet1" and "hole1" respectively. You can expand on this method to your heart's delight or your system's capacity, whichever tops out first, but bear in mind that if you decide to switch to another symbol set, the ASCII numbers that you selected for "bullet1" and "hole1" will likely print other symbols on the hardcopy ... even though the symbol displayed on the console hasn't changed. Now that you are armed with the possible, and you have the vast array of printable characters available to you ... you too can print all those dressed-up documents, from your Plus!!

As I leave this topic, I can recommend it to Plus users. The method for achieving this flexibility involves a number of simple steps, that when stitched together give a significant enhancement for the Portable Plus system. For example your fonts now can travel with you ... ready at the drop of your font-laden floppy into your 9114. Simply connect your serial port to the an HP JET series, configure the serial port handshake ... and start printing.

One reservation I should make. It has to do with the use of fonts created with HP's Type Director. As I understand it ... such fonts and fontsets have the same use restriction as licensed application software.

*[Frank Keresztes-Fischer is a regular contributor to The Portable Paper.]*



## 110 P+ PV Executing Printer Commands from DOS

The ECHO command of MS-DOS is normally used to turn the ECHO feature on and off in batch files. This allows you to suppress the screen display of batch file commands, or display specific on-screen messages during the running of a batch file.

But the ECHO command can also be used in conjunc-

tion with Ctrl-key combinations to control other devices or functions.

For example, send a formfeed to the printer from the DOS prompt by entering:

```
echo ^L >prn
```

The ^L symbol indicates that you press the **Ctrl Key** and **L** at the same time.

You can turn on the compressed print mode on Epson or compatible printers by entering:

```
echo ^O >prn
```

Typing **echo ^G** will cause your HP Portable to beep. Entering **echo ^@** in a batch file will cause it to display a blank line regardless of the DOS version. The @ is produced by pressing the F7 key, not the shifted 2 key.

You can also use echo/control-key combinations to display some of the graphic characters IBM has assigned to the first 32 ASCII codes. For example, depending on which HP Portable you are using and whether you are running from HP or Alt mode, you can enter **echo ^A** from DOS to produce the tiny, round "happy face" symbol and **echo ^X** produces an "up arrow" symbol.



## Two (or More) Printers on a Plus

*By Richard Brown*

110 P+ PV Thomas Moore wants to use two ThinkJet printers with his Portable Plus (Vol.5, No.4, Pg.42). Perhaps other readers want to do the same. This is possible without constantly shuffling HP-IL cables and without spending any extra money.

Even users who never venture out of PAM need to know one little thing about MS-DOS; not everything that looks like a file name is a file name. Every version of MS-DOS has a few special names for input/output devices. MS-DOS will not allow any of these names to refer to a file on a disk. If a command to DOS includes a device name, input or output will be re-routed from the disk to the selected device. This can be a surprise to anybody who accidentally tries to use a device name as a file name, so it's a good idea to know what the device names are. HP gives a list of "file names to avoid" on page 5-10 of the Owners Documentation. The list misses two names and wrongly includes PAM. PAM is a legitimate file name; go ahead and use it.

The device names on the HP110 and Portable Plus are:

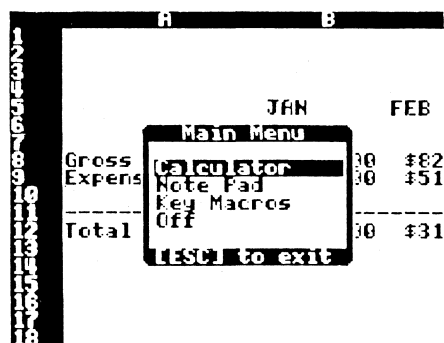
- **CON** -- The system console: the keyboard and screen, the HP110 names are similar;
- **CLOCK** -- The system clock;

# 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):



## 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

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

# 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 de-soldering 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. FALING

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

**Overnight return shipping . . \$35.**

- **NUL** -- Anything stored here goes to the same place your files go when you get "Memory Lost";
- **AUX** -- Whatever is selected as the Datacom Interface in PAM. Default is the built-in RS-232 port;
- **PRN** -- Whatever is selected as the printer in PAM. Default is the first HP-IL printer on the loop;
- 110 ■ **PLT** -- Whatever is selected as the plotter in PAM. Default is the first HP-IL plotter on the loop;
- P+ ■ **COM1** -- The built-in RS-232 port;
- PV ■ **COM2** -- The first HP-82164A HP-IL<->serial adapter on the HP-IL loop;
- LS/12 ■ **82164A** -- Same as COM2;
- **COM3** -- The built-in modem. (Memory jogger: COM1, COM2 and COM3 are in the same order as in "Datacom Config" in PAM. On the HP110 both the serial and modem are COM1);
- **LPT1** -- The first HP-IL printer on the loop;
- **LPT2** -- The second HP-IL printer on the loop.
- **LST** -- Same as LPT2;

You can see there is a device name for a second HP-IL printer. (In fact, two.) Knowing the name is the secret to using that second printer. Some programs explicitly recognize these device names, and those that don't can be "fooled" by using a device name where a file name is requested. Let's look at three programs HP sold on ROM for the Portable Plus:

## MICROSOFT WORD

MS Word prints to the PRN device by default. Typing [Esc] **Printer Options** [Shift-Tab] **LST**: changes that to the second HP-IL printer. The only choices allowed are PRN:, AUX:, and LST:, but that is enough to give a full selection of the printers available to a Plus. The colon must be typed when selecting printers in MS Word.

## LOTUS 123

The / **Worksheet Global Default Printer Interface** command has four options. The choices are equivalent to PRN, COM1, PLT, and 82164A. Neither LPT2 nor LST is available. But it is possible to tell 123 to prepare a spreadsheet for output and store the result for later printing. The / **Print File** command causes 123 to prompt for a file name. If LPT2 (or LST) is entered a meaningless message says the file already exists. 123 asks if it should cancel the request or replace the "file". Send the formatted output to the printer by typing **Replace Go Quit**.

## MEMOMAKER

MemoMaker can't fully use a second HP-IL printer. MemoMaker only prints to the PRN printer, and it will not send output to a file formatted to be printed later. The [Save Memo] function stores extra characters marking the start and end of bold and underlined text. These charac-

ters are not recognized by a ThinkJet printer. Typing [File Keys], [Save Memo], [ASCII File]; backspacing over the A:\TEMPMEMO; and typing **LST** (and 8 spaces) will send the memo to the second HP-IL printer, but all bold and underlined text prints as normal and non-underlined. It is possible to include escape sequences to control the printer in the text; this makes controlling the right margin very tricky. It is much easier to use the second HP-IL printer only for straight text in Memomaker.

## TWO AT ONCE

From the DOS prompt it is possible to print files to two printers at the same time. **Print [filename]** prompts for a device name, starts the first printer, and returns to the DOS prompt. **Copy [nextfile] LST** will send "nextfile" to the second ThinkJet. An imaginary system printing files from two 9114A disks to two ThinkJets would have a lot of HP-IL activity, but everything should end up in the right place!

Let's add an imaginary DeskJet printer to the RS-232 port. MS-DOS will not print to three printers at the same instant; no prompt appears until after the COPY to the second printer is finished. However, the next command (**copy [lastfile] com1**) may be typed before the prompt is displayed. In human terms the command will display, the transfer will take place, and the printing will start at the same instant the prompt appears.

It's still possible to add another three printers to this setup. COM2 adds a second serial printer via an HP-IL<->serial adapter. PAM can set PRN and PLT to control two separate HPIB printers via a single HP-IL<->HPIB adapter. MS-DOS, batch files, and most programs will be able to use all of these printers.

[Richard Brown is a Portable Paper subscriber from St. Paul, Minnesota.]

## New Intel Chip Boon to Laptop Users

110 P+ PV LS/12 **New Intel 386 CPU with math coprocessor functionality and on-chip support for cache memory will use less power and bring full desktop performance to the 5-6 pound portable.**

By Richard Hall

Intel Corporation is expected to release in early 1991 its new 386SX CPU and chip set designed specifically for laptop computers. The new 20MHz CPU will combine a 386SX processor with a cache and memory controller. The next generation of the chip will incorporate a math coprocessor and fit in the same socket as the first generation.

Particularly well-suited for laptops is the sleep mode

the chip will offer. The chip set draws between 4 and 12.5 watts of power and promises to increase battery life by up to 50%. Battery life has been a problem with most laptop and portable computers. The new chip set's sleep mode drains almost no power when not in use.

Many laptop vendors are excited about the new chip as a key element in the development of a notebook-sized computer that could serve as a primary computer. The Intel chip set should make it possible to build a 4" x 6" PC motherboard, further reducing the overall weight and size of a 386 laptop. Industry sources indicate that major laptop suppliers, including Compaq Computer Corp., AST Research Inc., and Zenith Data Systems, are designing systems around the new CPU.

An early 1991 release of the Intel 386SX chip set will probably translate to a summer-fall 1991 release of a laptop based on it. The new chip set will help produce a lighter, slightly more expensive 386 laptop with a battery life in the 4-5 hour range.

Change is the name of the game in the laptop business, and Intel's new CPU could help rewrite the ground rules for the 386 laptop game. The existing 386-based laptops and portables may end up costing less in the near future. And this may drastically influence the pricing of 286-based laptops.

■



*Products that make HP Portables smarter*

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

By Hal Goldstein

## 1991 Subscribers Disk

110

P+

PV

LS 7/12

Most of you received the 1991 Subscribers Disk with this issue. It always seems to take us ten times more work than what we plan to create these disks, and all sorts of last minute "gotchas" manifest themselves. However, based on your feedback, creating these disks seem to be worth the effort. As you'll see in the description below, there is plenty of software, some of which has not been mentioned before.

Ed Keefe deserves the lion's share of the credit for finding, testing, modifying, creating, and documenting many of the programs on the disk. The final act of correctly describing and archiving the Subscribers Disks software and making it easy to access for subscribers is

another major effort. Hopefully, we have structured the disk in a way that will be useable by most of you. Unfortunately, as we mention in the letter that comes with the disk, we just don't have the resources to support the disk. If there are problems, you can write Ed Keefe who will probably attempt to rectify it. But consider, if you will, that there are over 25 separate pieces of software on the disk, each created by a distinct and usually unreachable author. Consider in addition that there are three classes of HP Portable to support (HP110, Portable Plus, and PC-compatible). This might give you a sense of the difficulty involved in putting together the disk and problems involved in supporting it.

To describe the disk, I will divide the contents into categories: applications, utilities, and games. Utilities making the bulk of the disk.

## APPLICATIONS

- VDE -- If you have followed Ed Keefe's Looking Glass column, or worked with the 1990 Subscribers Disk, you will know about VDE - Video Display Editor. This wordstar-like editor has won praises from freeware / shareware reviewers throughout the country. I personally prefer The Editor mainly because of its simplicity and elegance. However, VDE has more features and users who get hooked love it. Ed has worked with the program's author so that it will work on the Portable Plus. The version on this disk contains several updates from last year's version.
- STEREO SHELL (*not shipping with disk*) -- a popular shareware file manager, is another program Ed Keefe has been raving about. However, Ed and I have not been able to resolve a last minute "gotcha" we discovered. People last year on the 1990 disk complained of not being able to get the program to run on the Plus. This time I asked Ed to be sure to pre-configure the program for the Portable Plus so that it can be ready to go "out of the box". Ed dutifully sent me a disk with a batch file that un-archives the appropriate program files and another batch file that starts the program. This solution works fine on Ed's Portable Plus but not on mine. We spent hours on the phone trying to resolve the problem, but to no avail. Hopefully, by the time Ed's "Keefe Collection" becomes available, we will have Stereo Shell working on all Portable Pluses.

That's the bad news. The good news is that LIST, one of the most well-known and useful pieces of software, now works on the Plus.

- LIST -- Vernon Buerge's LIST. Again thanks to CompuServe chatting between Ed Keefe and Vern, modifications were made to support the Portable Plus. LIST originally was written to look at files in a more rigorous way than the DOS TYPE command (e.g. backwards as well as forwards). Now you can use LIST as a file manager and to view the contents of archived files. Try it, you'll like it.

(Continued on page 25.)

# 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?

## 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.

## 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.

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.



## 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 call these simply "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 as follows:

Best of DOS Tools	\$129.
The Editor	95.
Games (Chess+4)	105.
HPDuette	95.
HPPrint	95.
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 backup copy of the software, 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 defects 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
<b>WORD PROCESSORS</b>						
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	
<b>WORD PROCESSING UTILITIES</b>						
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	
<b>SPREADSHEETS AND UTILITIES</b>						
Lotus 123,1A	LT12UR	495.00	295.00	HP	2	
Lotus 123,2.01	LT15UR	625.00	395.00 <sup>2</sup>	HP	3	3rd ROM containing help 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).
<b>DATABASE PROGRAMS</b>						
Exec Card Manager	EC11UR	395.00	225.00	HP	1	(Lotus 1-2-3 can also be used as a database.)
<b>COMMUNICATIONS</b>						
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.
<b>PRODUCTIVITY BOOSTERS / GAMES</b>						
Best of DOS Tools	DT12NK	179.00	168.95	PS	2	Selected utilities from DOS Tools <sup>1</sup>
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
Shelp	SH12NK	110.00	104.95	PS	1	Includes note extraction program. Shelp also available on a 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	
<b>GRAPHICS</b>						
Sketch	SK12NK	175.00	170.95	PS	1	(Lotus 1-2-3 can also be used for graphics.)
<b>PROGRAMMING LANGUAGES</b>						
MSBasic	MS21UR	331.00	165.00	HP	1	This is not GWBASIC.
<b>COMBINED ROMs</b>						
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	599.00	499.00	PS	2	Includes PRNCONF which puts ThinkJet into EPSON 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	

<sup>1</sup>Utilities 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 MOVEALL TRIM BEEP SOPC 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.

<sup>2</sup>IMPORTANT: All HP ROM prices given in this chart (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 refurbished Portable Plus.  
 \*\* New products or new prices.

## HP110, PORTABLE PLUS COMPUTERS

### COMPUTERS

Like-new 512K P.Plus <sup>1</sup>	PP36UC-P1	\$2795	\$995	
Refurbished 512K P. Plus	PP16UC-P1	2795	795	
Refurbished 128K P. Plus	PP12UC-P1	2590	395	
Refurbished HP-110	PQ11UC-P1	3000	495	
** HP-110 Manual/Software Kit	MA13UC-P1	64	64	
Like-new German Plus <sup>1</sup>	PP37UC-P1	2795	995	
German localiz. ROM	GE31UR-P1	150	99	(50)
Like-new Swiss/Fr. Plus <sup>1</sup>	PP34UC-P1	2795	995	
French localiz. ROM	FR31UR-P1	150	99	(50)
Like-new Swedish Plus <sup>1</sup>	PP40UC-P1	2795	995	
Like-new English Plus <sup>1</sup>	PP31UC-P1	2795	995	
Like-new Italian Plus <sup>1</sup>	PP38UC-P1	2795	995	
Italian localiz. ROM	IT31UR-P1	150	99	(50)

<sup>1</sup> All Like-new Portable Pluses come in original packaging with new battery, new manual, and our 1 year guarantee.

### SPECIAL HP110, PORTABLE PLUS BUNDLES

HP110,ThinkJet,HP9114	PP40UX-P1	\$4300	\$795	
Like-new RAM Special <sup>2</sup>	BU11UX-P1	3816	1295	
Refurbished RAM Special <sup>2</sup>	BU12UX-P1	3816	1095	
Like-new ROM Special <sup>3</sup>	BU13UX-P1	4450	1595	
Refurbished ROM Special <sup>3</sup>	BU14UX-P1	4450	1395	
Like-new Terminal Spec. <sup>4</sup>	BU15UX-P1	4360	1395	
Used Terminal Special <sup>4</sup>	BU16UX-P1	4360	1195	
256K Terminal Special <sup>4</sup>	BU17UX-P1	4591	845	

<sup>2</sup> RAM SPECIAL: 512K Port. Plus, 128K RAM drawer, Shelp, Editor II, Websters, FormatPlus, FilePlus, As-Easy-As, GamesPlus

<sup>3</sup> ROM SPECIAL: 512K Portable Plus, 128K RAM drawer, ROM drawer, GamesPlus, and ROMs: Editor II, Websters, FormatPlus, FilePlus, Shelp, As-Easy-As

<sup>4</sup> TERMINAL SPECIAL: 256K or 512K Portable Plus, 1200B int. modem, Reflection or PC2622, MemoMaker, Time Manager

## PERIPHERALS

### MODEMS

Used 1200 baud Internal	BM11UC-P1	\$600	\$250	(167)
WorldPort Modem 1200	WM11NH-P1	199	179	
WorldPort Modem 2400	WM12NH-P1	359	319	(295)
WorldPort M. 2400/MNP	WM13NH-P1	499	425	
WorldPort serial cable	WM14NM-P1	30	20	
WP 1200 Upgrade kit	WM13NG-P1	199	179	
WP Acoustic coupler	WM16NH-P1	79	79	
HP92205D Acoust. cpler	AC11NC-P1	195	135	

### PRINTERS, PLOTTER (Refurbished)

HP-IL ThinkJet Printer	TJ11UC-P1	\$495	\$199	(179)
ThinkJet (AC Powered)	TJ11UX-P1	545	249	(229)
Serial ThinkJet Printer	TJ14UC-P1	495	295	
DeskJet Printer, cable	DJ11UC-P1	837	395	(395)
DeskJet Plus, cable	DJ12UC-P1	995	450	
HP-IL 7470A Plotter	PL11UM-P1	1095	595	
PaintJet	PA12UC-P1	1395	695	
LaserJet 500 Plus	LA13UC-P1	4200	CALL	
LaserJet II	LA14UC-P1	2495	CALL	
LaserJet IID	LA12UC-P1	3795	CALL	
LaserJet IIP	LA15UC-P1	1495	CALL	

### DISK DRIVES (refurbished)

HP9114A Disk Drive	DD11UC-P1	\$795	\$199	(179)
HP9114B Disk Drive	DD12UC-P1	795	249	(199)
HP9114B (AC Powered)	DJ11UX-P1	845	299	(249)
15 MB Hard Drive	HD11UC-P1	2700	995	

(with HP-IB/HP-IL Interface, HP-IB, HP-IL cables)

### MEMORY, SOFTWARE DRAWERS (Used, P.Plus)

1 MB HP RAM Drawer	MM11NC-P1	\$1275	\$995	
384K HP RAM Drawer	MM12UC-P1	982	295	
256K HP RAM Drawer	MM19UC-P1	709	225	(199)
128K HP RAM Drawer	MM13UC-P1	436	150	(99)
128K HP Memory Card	MM14UC-P1	273	125	(99)
HP ROM Software Draw.	SW11UR-P1	195	99	(79)

### ROM BURNING (Portable Plus)

ROM Burning kit	EP10NH-P1	\$695	\$595	(495)
(ROM burner & eraser, cable, 2 128K EPROMs, software, manual)				
128K byte EPROM	EP11NR-P1	69	59	(49)
(4) 128K byte EPROMs	EP12NX-P1	276	199	(179)
128K PROM (no erase)	EP18NR-P1	64	54	(44)
Four 128K PROMs (no erase)	EP19NX-P1	256	179	(159)
64K 27C512, EPROM	EP13NR-P1	25	22	(19)
ROM burning software	EP14NS-P1	250	195	
Custom 128K burning	EP15NE-P1	150	135	
Custom burning consult.	EP16NE-P1		75 per hour	

### INTERFACE CARDS (refurbished)

HP-IL Card For IBM PC	IL11UC-P1	\$195	\$119	(99)
P.Plus Video Interface	VI14UC-P1	435	195	
P.Plus V.Intfce+Monitor	VM12UM-P1	750	275	
Composite monitor	VM11UC-P1	325	150	
HP-IL/HP-IB Interface	IL13UC-P1	395	235	
HP-IL/Serial Interface	IL12UC-P1	295	149	
** Vertheadpter	VE11HC-P1	119	109	

### INPUT DEVICES

Log.Mouse P.Plus System	MS15NM-P1	\$219	\$179	
P.Plus Mouse Sftwre	MS11NS-P1	70	60	
P.Plus Mouse Cable	MS13NM-P1	30	20	
Numeric Keypad, P.Plus	TS11NM-P1	139	135	

## THE PORTABLE PAPER

(Subscribers Disks Only Available With Subscriptions)

1991 Subscript. & Disk	PPN1PS-P1	\$55.00	(Free)	
All 1986-91 issues/disks	PL11PK-P1	159.00		
All 1986-90 issues/disks	PL14PB-P1	119.00		
Individual back issue	PP99PB-P1	9.20		
PP Binder Vol.6	PB16NM-P1	7.00		
** PP Binder Vol.1-6	PB15NM-P1	35.00		

## SOFTWARE ON ROM (P.PLUS)

If the product number ends with "UR", it is a refurbished 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
---------	----------	--------------	------------	-----------------	--------------

### Combined ROMs

Shelp, SdWndr	SH13NK-P1	\$235	\$215	(139)	95*
SuperROM	SU11NK-P1	474	299	(199)	49*

(Editor I, Format110, PrinterTalk, Shelp, SideWinder)

### Communications

Advanced Mail	AD12UR-P1	\$295	\$150	(99)	
PC2622	PC13UR-P1	395	239	(99)	
Reflection	RF11UR-P1	525	295	(139)	
TermPlus	TE13NK-P1	195	175	(99)	95*

### Graphics

Sketch	SK12NK-P1	\$175	\$171		95*
--------	-----------	-------	-------	--	-----

### Productivity Boosters / Games

DOS Tools	DT12NK-P1	\$179	\$169	129	
FilePlus	FE14NK-P1	165	155	(99)	95*
GamesPlus	GA11NK-P1	205	175	(159)	105*
HP Calculator	CL11NK-P1	95	95		
HP Duette	DU13NK-P1	195	185	(139)	95*

### Productivity Boosters / Games (continued)

Shelp	SH12NK-P1	110	105		55*
Squish Plus	SQ11NK-P1	264	235	(199)	135*
Typing Whiz	TW12NK-P1	145	135	(99)	95*

### Programming Languages

MSBasic	MS21UR-P1	\$331	\$165	(99)	
Turbo Pascal 3	TP13NK-P1		No longer published		95*

### Spreadsheets and Database

**As-Easy-As+SideWinder	AS11NK-P1	\$215	\$195	(159)	115*
Exec. Card Mgr	EC11UR-P1	395	225	(199)	
Lotus 123,1A	LT14UR-P1	495	249	(199)	
Lotus 123,2.01	LT15UR-P1	625	395		
SideWinder	SW12NK-P1	135	125	(99)	

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

## Word Processors

Editor II	ED12NK-P1	\$195	\$175	(99)	95*
MMkr/TmMgr	MM21UR-P1	245	119	(99)	
MSWord	MS20UR-P1	394	199		
MultiMate	MM20UR-P1	520	295	(199)	
WordPerfect 5.0	WD11NK-P1	940	595	(495)	295*
Writer's ROM	WR11NK-P1	599	499	(399)	170*
<i>(Includes Editor II, Webster's, FormatPlus, FilePlus, Shelp)</i>					
Writer's ROM II	WR12NK-P1	350	299	(250)	140*
<i>(Includes RightWriter and Outline Plus)</i>					

## Word Processing Utilities

FormatPlus	FP13NK-P1	\$175	\$165	(99)	95*
HPrint	HP12NK-P1	175	171		95*
OutlinePlus	OU11NK-P1	175	165		95*
RightWriter	RW11NK-P1	205	199		110*
Webster Speller	WB13NK-P1	259	249	(199)	179*

## SOFTWARE ON DISK

Product	Part Number	Retail Price	Subs. Price	Backup Price
---------	-------------	--------------	-------------	--------------

### Communications

CompuServe starter kit	CM11NS-P1	\$39.95	\$35.95	
Kermit	KE11NS-P1	19.00	19.00	
Relay Gold (Plus)	RG11NS-P1	295.00	279.00	
TermPlus	TE12NS-P1	99.95	79.95	(49)
Term110	TE11NS-P1	99.95	79.95	
YTERM	YT11UC-P1	135.00	49.95	

### Database/Accounting Software

** Condor 3	CR11NS-P1	\$495.00	\$279.00	(249)
Condor Jr	CR13NS-P1	99.95	89.95	
Dac-Easy Accounting	DC11NS-P1	150.00	129.00	
Used dBase II	DB11UC-P1	550.00	295.00	

### File Transfer

HPDuette for P.Plus	DU11NS-P1	\$99.95	\$89.95	
Link110	LK12NS-P1	90.00	85.95	
Link Plus	LK11NS-P1	90.00	85.95	
ReadHP	RD11NS-P1	79.95	69.95	

### Graphics

Log.Mouse P.Plus System	MS15NM-P1	219.00	179.95	
PrintMaster (Portable Plus)	PR11NS-P1	79.95	69.95	
Sketch	SK11NS-P1	80.00	75.95	
Sketch Halftone disk	SD11NS-P1	9.50	9.50	

### Learning Material for HP110, P.Plus

How to Use the HP				
Portables Video Tapes	VP11NM-P1	\$150.00	\$119.00	(99)

### Productivity Boosting Utilities / Games

BacTools	BC11NS-P1	\$49.95	\$39.95	
DOS Tools	DT11NS-P1	44.95	39.95	
FilePlus	FE12NS-P1	69.95	59.95	(49)
** HP110 Utilities Disk	UD11NS-P1	20.00	20.00	(Free)
** HP110 Productivity Disk	SB11NS-P1	35.00	35.00	(Free)
GamesPlus	GA11NS-P1	99.95	69.95	(49)
Norton Utilities Adv.	NU12NS-P1	150.00	129.00	(99)
Norton Utilities	NU11NS-P1	99.95	89.95	(79)
Private File	PF11NS-P1	39.95	34.95	
Shelp	SH11NS-P1	55.00	49.95	(49)
Squish Plus (Portable Plus)	SQ11NS-P1	129.00	99.95	(79)
Tiger Fox	TF11NS-P1	32.95	29.95	
** Time Manager (See HP110 Productivity Pack above.)				
Typing Whiz	TW11NS-P1	49.95	39.95	

### Programming

Compiled BASIC ( <i>USED</i> )	MS13UC-P1	\$425.00	\$225.00
FORTTRAN ( <i>USED</i> )	FO12U1-P1	395.00	250.00
MS BASIC ( <i>USED</i> )	MS11UC-P1	325.00	165.00
MS GW BASIC ( <i>USED</i> )	GW11UC-P1	425.00	250.00
Programmer's Tools ( <i>USED</i> )	PT11UC-P1	325.00	175.00
Turbo Pascal 5.5. P.Plus	TP52NX-P1	219.00	175.00
Upgrade for Plus, HP150	TP15NS-P1	69.00	69.00
<i>(must own IBM PC Turbo 5.5, honor license)</i>			
T.Pascal 3.0 Optimizer	TP17NS-P1	125.00	119.00

### Project Management

Milestone	ML11NS-P1	\$99.95	\$89.95	
-----------	-----------	---------	---------	--

### SpreadSheet and Statistics

101 Macros	MC11NS-P1	\$69.95	\$62.95	
As-Easy-As	AS11NS-P1	99.95	79.95	(59)
Lotus 123, v2.01 / Symphony				
P.Plus Software Driver	LT14NS-P1	69.95	59.95	
SideWinder and Utilities	SW13NS-P1	79.95	69.95	

SideWinder	SW11NS-P1	69.95	59.95	(49)
Statistix 2.0	ST11NS-P1	169.00	159.00	

## Word Processors

The Editor II	ED11NS-P1	\$99.95	\$79.95	(49)
Editor Pack	FM16NX-P1	259.00	195.00	
<i>(Editor II, FormatPlus, Webster Speller)</i>				
Editor II/Formatter	ED13NX-P1	119.95	99.95	
PlusPerfect	WD14NS-P1	150.00	129.00	(99)
VI (Unix-like editor)	V111NS-P1	195.00	169.00	
WordPerfect 5.0 P. Plus	WD17NS-P1	645.00	395.00	(299)
<i>(Includes PlusPerfect)</i>				

## Word Processing Utilities

Format110	FM12NS-P1	\$39.95	\$35.95	
FormatPlus	FP11NS-P1	79.95	69.95	(49)
Formatter	FM11NS-P1	59.95	49.95	
HPrint	HP11NS-P1	80.00	75.95	
MemoMaker Pack	FM14NX-P1	159.90	125.00	
<i>(Format Plus, Webster Spelling Checker)</i>				
OutlinePlus	OU11NS-P1	89.95	69.95	
PrinterTalk	PT11NS-P1	49.95	44.95	
PrinterTalk, Format110	PT12NS-P1	89.90	59.95	(49)
RightWords Dict. Ext.	RW12NS-P1	29.95	29.95	
RightWriter	RW11NS-P1	95.00	89.00	(79)
Webster's Speller	WB11NS-P1	79.95	69.95	(49)

## ACCESSORIES, SUPPLIES

### BATTERIES

HP110 Battery <sup>5</sup>	BT12HC-P1	\$39.00	\$39.00	
** HP9114 Battery	BT13HC-P1	69.00	69.00	
Portable Plus Battery <sup>5</sup>	BT11HC-P1	59.95	59.95	
* Refurb. ThinkJet Bat. <sup>6</sup>	BT12NG-P1	47.00	47.00	
** Refurb. 9114 Battery <sup>6</sup>	BT11NG-P1	37.00	37.00	
** ThinkJet Battery (new)	BT14HC-P1	65.00	65.00	
<sup>5</sup> Includes instructions, torx screwdriver, nut driver.				
<sup>6</sup> You must send us your existing battery.				

### CABLES

92221M serial modem 110,+	CA13HC-P1	\$42.00	\$42.00	
HP92221P serial print 110,+	SC13HC-P1	42.00	42.00	
HP-IL Cable, 1 Meter	HC11HC-P1	8.00	8.00	
HP-IL Cable, 1/2 Meter	HC12HC-P1	16.00	6.00	
HP-IL Cable, 5 Meters	HP11UM-P1	10.00	10.00	
** Port-Mac DB 9-pin Cable	PO11NH-P1	59.95	59.95	
** Port-Mac DIN 8-pin	PO12NH-P1	59.95	59.95	
<i>(Port-Mac Cables connect 110, P.Plus to Apple Macintosh)</i>				
Serial modem 110,Plus	WM14NM-P1	42.00	20.00	
Serial printer 110,Plus	SC13NM-P1	42.00	27.95	

### CARRYING CASES

HP vinyl 110, + (Like New)	BV11UC-P1	29.00	29.00	
HP leather 110,+ (Used)	CS11UC-P1	89.00	49.00	
HP fabric system (Used)	SC11UC-P1	110.00	59.95	
Targus leather system	TA11NM-P1	199.95	179.00	
Targus nylon system case	TA12NM-P1	99.95	89.95	

### POWER SUPPLIES, RECHARGERS

110, +, 9114, TJ charger	RC16UC-P1	\$20.00	\$20.00	
<i>(European charger)</i>				
Empowerer II, HP9114 <sup>7</sup>	ER11HC-P1	25.00	25.00	
Empowerer II, ThinkJet <sup>7</sup>	EM13NH-P1	119.00	95.00	
Mobile Recharger	EM14NH-P1	119.00	95.00	
Power Cube	PR11NM-P1	69.95	59.95	
	PR13NM-P1	89.95	79.95	
<sup>7</sup> \$75 if you send us your TJ or 9114 battery.				

### PRINTER and DISK SUPPLIES

3.5" disks (10), case	DS11NM-P1	\$44.90	\$29.95	
** DeskJet ink cartridge	CT11HC-P1	20.95	20.95	
** HP92261n inkjet 2500 z	TJ12HC-P1	69.95	69.95	
HP51630a inkjet 500 z	TJ13HC-P1	19.95	19.95	
** TJ ink cartridge (HP)	TJ14HC-P1	11.95	11.95	
** TJ ink cartridge (plain)	TJ15HC-P1	11.95	11.95	
** TJ ink cartridge (red)	TJ17HC-P1	13.95	13.95	
** TJ ink cartridge (blue)	TJ16HC-P1	13.95	13.95	
** TJ ink cartridge (green)	TJ11HC-P1	13.95	13.95	

## UPGRADES / REPAIRS

256K to 512K Plus Upgrade	256KNG-P1	\$1100	\$395	
128K to 512K Plus Upgrade	128KNG-P1	1100	395	
FastPlus (CPU Upgrade)	FA11NG-P1	250	199	(159)
HP110 keyboard repl.	KE11UC-P1	225	195	
HP110 screen repl.	LC11UC-P1	435	195	
P.Plus screen upgrade/repl.	GO11NG-P1	350	195	
P.Plus keyboard replacement	KE12UC-P1	320	250	
Repairs		CALL	CALL	

# PRICE LIST LS/12, PORTABLE VECTRA

\*\* New products or new prices.

## LS/12 SPECIFIC PRODUCTS

Product	Part Num.	Retail Price	Sub. Price
---------	-----------	--------------	------------

### LS/12 COMPUTERS

Used LS/12, 20MB Drive	LS11UM-P1	Call for \$, avail.	
Used LS/12, 40MB Drive	LS12UM-P1	Call for \$, avail.	

### LS/12 MEMORY

1 MB EMS Memory	EM11NH-P1	\$295	\$285
4 MB EMS Memory	EM12NH-P1	1195	1095

### LS/12 INTERNAL MODEMS

HPD1502a 2400 Modem	IM11HL-P1	\$449	\$369
Datatar 5, 2400/MNP	DA11HL-P1	599	539

### LS/12 DRIVES

Weltec 5.25" Drive	WE11NH-P1	\$349	\$299
LapTape tape backup	LA11NH-P1	795	695

### ADDITIONAL LS/12 PRODUCTS

** Expansion Chassis, Cable	EX11NH-P1	\$599	\$599
Numeric Keypad	NU11NH-P1	129	115
HPD1057A Battery	NB11HL-P1	299	269
HPD1058A Recharger	BC11HL-P1	109	109
80287 math coprocessor	MA11HL-P1	649	575
** LS/12 Carrying Case	BC11HL-P1	59	59

## PORTABLE VECTRA CS SPECIFIC PRODUCTS

### PORTABLE VECTRA COMPUTERS

New Portable Vectra CS 20	VE13HC-P1	\$3595	\$1795
Used Port.Vectra CS 20	VE17UC-P1	Call for \$, avail.	
Used Port.Vectra CS	VE12UC-P1	Call for \$, avail.	

### INTERNAL MODEMS

HPD1003A 2400 Baud	VE16UC-P1	Call for \$, avail.	
HPD1002A 1200 Baud	MO11UC-P1	Call for \$, avail.	

### SERIAL CARD & EMS MEMORY

** Dual serial/EMS Card	AD11HC-P1	\$250	\$198
1 MB EMS memory	EM11HC-P1	595	295

### EXTERNAL HARD DISKS

TravelDisks: hard disk, P. Vectra CS bus extender card, cable

TD-10 (10 MB) new	TD11NH-P1	\$995	\$945
TD-10 (10 MB) refurb.	TD12NH-P1	650	595
TD-20 (20 MB) new	TD13NH-P1	1095	995
TD-20 (20 MB) refurb.	TD14NH-P1	775	725
TD-30 (30 MB) new	TD15NH-P1	1195	1095
TD-30 (30 MB) refurb.	TD16NH-P1	900	835
TD-40 (40 MB) new	TD17NH-P1	1295	1195
TD-40 (40 MB) refurb.	TD18NH-P1	1100	995
TD-100 (100 MB) new	TD19NH-P1	1895	1795
TD-100 (100 MB) refurb.	TD20NH-P1	1500	1395
TD-250 (250 MB) new	TD21NH-P1	3495	3195
TD-250 (250 MB) refurb.	TD22NH-P1	CALL	CALL
Extra P.Vectra Bus Extend	TD24NH-P1	80	75
Extra cable	TD24NH-P1	110	99
Extra IBM Bus Extend card	TD25NH-P1	50	47

### OTHER VECTRA CS PRODUCTS

HP-IL Adapter Card	HP16NM-PS	\$245.00	\$235.00
HPD1007A Soft Case	CS12HC-P1	Call for \$, avail.	
HP69009 Battery	BA11HC-P1	250.00	225.00

### MONITORS FOR VECTRA CS, LS/12

Monochrome Monitor	VII2HC-P1	129	119
CGA Monitor	MO12HC-P1	399	299
EGA Monitor	MO13HC-P1	599	479

## THE PORTABLE PAPER

(Subscribers Disks Only Available With Subscriptions)

Product	Part #	Price
1991 Subscription & Disk	PPN1PS-P1	\$55.00
For Vectra CS, 1988-91 issues, disks	VE11PK-P1	109.00

For Vectra CS 1988-90 issues, disks	PP15PB-P1	79.00
For LS/12 1989-91 issues, disks	LS11PK-P1	89.00
For LS/12 1989-90 issues, disk	PP12PK-P1	59.00
Individual back issue	PP99PB-P1	9.20
PP Binder Vol.3	PB13NM-P1	7.00
PP Binder Vol.4	PB14NM-P1	7.00
PP Binder Vol.5	PB16NM-P1	7.00

## REFURBISHED PRINTERS for the LS/12, P.VECTRA CS

Product	Part Num.	Retail Price	Sub. Price
New Diconix - parallel	DT11NH-P1	\$519	\$399
New Diconix - serial	DT12NH-P1	539	415
Serial HP2225D ThinkJet	TJ14UC-P1	495	295
Parallel HP2225C ThinkJet	TJ11U1-P1	495	295
DeskJet Printer, cable	DJ11UC-P1	795	395
DeskJet Plus	DJ12UC-P1	995	450
PaintJet	PA12UC-P1	1395	695
LaserJet 500 Plus	LA13UC-P1	4200	CALL
LaserJet IID	LA12UC-P1	3795	CALL
Rugged Writer	RU11UC-P1	1695	CALL

## PERIPHERALS for the LS/12, P.VECTRA CS

### PORTABLE MODEMS, FAX

WorldPort FAX/Modem	WF11NH-P1	\$699	\$599
WorldPort Modem 1200	WM11NH-P1	199	179
WorldPort Modem 2400	WM12NH-P1	359	319
WorldPort M. 2400/MNP	WM13NH-P1	499	425
WorldPort serial cable	WM14NM-P1	30	20
WP 1200 Upgrade kit	WM13NG-P1	199	179
WP Acoustic coupler	WM16NH-P1	79	79

### EXTERNAL DRIVES, TAPE BACKUP

Backpack			
5.25", 1.2MB Floppy Drv	BP11HC-P1	\$349	\$329
**3.5", 2.8MB Floppy Drv	BP12HC-P1	\$425	\$395
Weltec Serial 20MB Hrdisk	WE12NH-P1	\$1099	\$899
Valitek Serial and Parallel Port Tape backup units			
60 MB Valitek	VA11NH-P1	1695	1495
160 MB Valitek	VA12NH-P1	2395	1995

### OTHER LS/12, VECTRA PERIPHERALS

EtherNet Adapter	ET11NH-P1	\$695	\$629
Logitech Mouse	MS14NM-P1	119	99
Statpower PC100+ Inverter	ST11NH-P1	179	169

## SOFTWARE for the LS/12, PORTABLE VECTRA

The Editor II	ED11NS-P1	\$99.95	\$79.95
Condor 3 for IBM	CR11HM-P1	495.00	379.00
LapLink	LA11NS-P1	139.95	119.00
NoSquint II	NO11NS-P1	49.95	45.95
Squish Plus	SQ12NS-P1	99.95	89.95
** REDline	RE11HC-P1	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-P1	\$10.95	\$10.95
TJ inkjet paper cartridge	TJ14HC-P1	10.95	10.95
HP92261n inkjet 2500 z	TJ12HC-P1	64.95	59.95
HP51630a inkjet 500 z	TJ13HC-P1	19.95	19.95
DeskJet ink cartridge	CT11HC-P1	19.95	19.95

### FLOPPY DISKS

10 3.5" disks and case	DS11NM-P1	\$44.90	\$29.95
10 3.5" 1.44M disks, case	DS12NM-P1	69.95	59.95

### CARRYING CASES

Targus leather system	TA11NM-P1	\$199.95	\$179.00
Targus nylon system case	TA12NM-P1	99.95	89.95

### CABLES

Standard Parallel Cable	PL11NM-P1	\$29.95	\$24.95
P.Vectra 25-pin serial prn	SE12HC-P1	\$29.95	\$24.95
9-pin AT serial prn cable	SE11HC-P1	\$29.95	\$24.95

# ADDITIONAL COMPUTERS

(CALL FOR INFORMATION  
AND PRICES)

## REFURBISHED HP150 COMPUTERS, DRIVES, PERIPHERALS, ACCESSORIES, SOFTWARE:

- Free HP150 Catalog CAT150-P1 0.00 0.00

## TOSHIBA LAPTOPS (Call for prices)

### NOTEBOOK PCs

- T1000** -- 80C88 4.77MHz 6.4 lb laptop with 512K RAM (expandable to 1.2MB) and a built-in 720K 3.5" floppy drive, CGA-compatible 80x25 LCD display with RGB/monochrome monitor port, 5 hour battery.
- T1000SE** -- 80C86 9.54MHz 5.9 lb laptop with 1MB RAM (expandable to 3MB), a built-in 1.44MB floppy drive, 80x25 LCD display, CGA compatible, 2 hour removable battery.
- T1000XE** -- 80C86 9.54MHz 6.2 lb laptop with 1MB or RAM (expandable to 3MB), internal 20MB hard drive (external disk drive optional), 80x25 LCD display, CGA compatible, 2 hour removable battery pack.
- T1200XE** -- 80C286 12MHz 7.2 lb laptop with 1MB RAM (expandable to 5MB), 20MB internal hard drive, built-in 1.44MB 3.5" disk drive, 80x25 LCD display, CGA compatible with CGA/RGB monitor port.

### BATTERY-POWERED PCs

- T1200HB** -- 80C86 9.54MHz 11.4 lb portable with 1MB RAM, 20MB internal hard drive, built-in 720K 3.5" disk drive, 80x25 LCD display, CGA compatible with RGB and monochrome monitor ports.
- T1600** -- 80C286 6/12MHz 12.9 lb portable with 1MB RAM (expandable to 5MB), 20MB or 40MB internal hard drives, built-in 1.44MB 3.5" disk drive, EGA quality LCD display with EGA color monitor port.
- T3100SX** -- 80C386 16MHz 14.9 lb portable with 1MB RAM (expandable to 13MB), 40MB/80MB hard drive, built-in 1.44MB 3.5" disk drive, high-res. display, VGA compatible display system with VGA monitor port. Up to 3 hours battery life.

### AC POWERED PCs

- T3100e** -- 80286 6/12MHz 13.2 lb portable with 1MB RAM (expandable to 5MB), 40MB hard drive, 1.44MB, 3.5" disk drive, high-res. display, and a CGA/RGB color monitor port.
- T3200** -- 80286 6/12MHz 19 lb portable with 1MB RAM (expandable to 4MB), 40MB hard drive, 1.44MB 3.5" floppy drive, high-res. display, EGA/CGA color monitor port.
- T3200SX** -- 80386 16MHz 17 lb portable with 1MB RAM (expandable to 13MB), 40/120MB hard drive, 1.44MB 3.5" floppy drive, high-res. display, VGA monitor port.
- T5100** -- 80386 16MHz 14.6 lb portable with 2MB RAM (expandable to 4MB), 100 MB hard drive, 1.44MB 3.5" floppy drive, high-res. display, EGA/CGA monitor port.
- T5200** -- 80386 20MHz 18.7 lb portable with 2MB RAM (expandable to 14MB), 40MB or 100MB hard drives, 1.44MB 3.5" floppy drive, high-res. display, VGA monitor port.
- T8500 (desktop)** -- 80386 25MHz 22 lb with 2MB RAM (expandable to 14MB), 100MB-200MB hard drive, 1.44MB 3.5" floppy drive, VGA display adapter.

**!! NEW !!**

**REFURBISHED HP LaserJets**

**LaserJet II  
LaserJet IID LaserJet IIP**

**CALL TODAY FOR PRICE**

(Continued from page 19.)

## UTILITIES

**110** We have included a number of utilities and most work on the HP110, Portable Plus, and Vectras.

- P+**
- PV** ■ LZEXE and SCRNCH -- these two file compression programs have been chronicled in past issues. They decrease the size of EXE and COM files (program files), yet the compressed files remain executable. Ed Keefe passed most of the files on this disk through LZEXE, which is why they are so compact.
- LS/12** ■ PAC250 -- is another popular file archiving / compression program that you can use as an alternative to ARC, LHARC, and ZIP.

This is the year of file listing (DIR) utilities. Use UDIR, DIR2, DIRX, or DIRC to look at your directories of files in every useful way imaginable.

- UDIR -- lets you find out how many days since a file was created and much, much, much more;
- DIR2 -- lets you view twice as many files with a sorted on-the-screen directory listing in two columns;
- DIRX -- lets you look at two directories taken together sorted alphabetically;
- DIRC -- lets you catalog the contents of your floppies.

Other utilities on the 1991 Subscribers Disk help you manage files, label floppy disks, and calculate:

- F-D -- is a 15K file manager that lets you go through a list of files one by one to view, copy, print, or delete.
- VIEW -- is a 1K file viewer that lets you look at the contents of a file forwards or backwards.
- DIRKILL -- Ever want to delete an entire subdirectory (and all the subdirectories within it) in one command?
- DSKLBL -- Many users have requested a method for labeling a FORMIBM formatted disk (FORMIBM from 1988 Subscribers Disk).
- N2C -- send the printer or screen an escape sequence so you can control the printer output.
- FCX -- Ed Keefe's latest, updated fastcalc program. Ever want a quick painless sum, product, quotient, remainder, or difference? Type FCX and give it two numbers. You will not only immediately get the results mentioned above, but also exponentiation and logical operations (in hex as well as decimal).
- ADD -- is another arithmetic utility that lets you compute the sum of a column of numbers located within an ASCII file - no matter its length.
- CVT -- is the last utility on the arithmetic front. Programmers will appreciate CVT's ability to convert

numbers between decimal, binary, and hex formats instantly.

- SRCH-REP and SRCH -- MemoMaker users and other souls in need of search and replace capability will like these two utilities. SRCH-REP was written for HP110 and Portable Plus users and makes use of function keys and on-screen MemoMaker-like labels. Use SRCH-REP to search for text within your document and replace it with other text. SRCH, &2 as you might expect, just lets you search.

## GAMES

- TETPLUS -- Ed Keefe was able to get this version of the popular Russian TETRIS game to work on the Plus. It is the basic program of falling blocks without frills, but challenging and addicting just the same.
- CARD GAMES -- Ed Keefe also modified card game simulations to get them to work on the Plus. I think the best is POKER SOLITAIRE, where you try to create the ten best poker hands possible out of the rows and columns of a 5 by 5 matrix. Also included is a poker slot machine type game; that childhood favorite, Go Fish, and a version of Concentration.

Finally, as we suspected last issue, there was not enough room for KERMIT on the 1991 disk. KERMIT is a communications program useful especially in academic communities for transferring files from a PC to a mainframe. If you don't think you need it, you probably don't. However, we will make good our promise. If you are a Portable Paper subscriber and want KERMIT, mail in the slip of paper that came with your Subscribers Disk, and we will send you Kermit for all HP Portables and the HP150 at no charge.

If you want the source code for some of the programs, send a self-addressed, stamped envelope, along with a formatted 3.5" disk, to Ed Keefe, c/o The FastAid Co., 314 S.W. Logan, Ankeny, IA 50021.

All in all there is plenty on the 1991 Subscribers Disk for both the novice user and the expert to use enjoy.

■

## OutlinePlus

- P+** For those of you who ordered OutlinePlus, we apologize for shipping OutlinePlus late. However, you will find OutlinePlus worth the wait -- especially if you use The Editor or Lotus 1-2-3. David Tolliver, the program's author, upon feedback from Tom Page, Ed Keefe, and myself, rewrote the user interface. David created a Lotus-like two-line-at-the-top menu structure. The Editor users will especially appreciate OutlinePlus's similarity in actual commands as well as menu structure. For example, ESC File Save in both Editor and OutlinePlus saves the document and exits the program back to PAM or DOS.

OutlinePlus is a great tool for organizing thoughts and planning on the Portable Plus. Its output can be read into The Editor, MemoMaker or other word processors.

## Interest in Portable Plus Internal Modem?

Is there any interest in an internal 2400 baud MNP modem for the Portable Plus? At the recent COMDEX I talked to a number of modem manufacturers. I asked them what was the minimum number of internal 2400 modems for the Portable Plus I would need to order to make the design effort worthwhile. About 500 units seemed the minimum. The units could be designed as MNP level 5 units and even with FAX Send, or FAX Send and Receive capability.

If your company would like to order over 100 units, give me a call, and we will see if we get enough overall interest.



*[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.]*

## Line-Length Cursor Never Gets Lost!

By Richard Hall

The software program is called REDline, and it highlights the line your cursor is on in red or any color you choose

(including different shades of gray on monochrome displays). REDline makes it very easy to find a cursor, especially on portables or laptops with hard-to-read LCD displays (like the Portable Vectra CS).

REDline is a simple TSR program consisting of one file: REDLINE.EXE. Copy this file to your hard disk (or bootup disk) and install it from DOS by typing the command **redline**. The screen-length highlight bar will appear on your screen.

REDline can be customized to work with almost any PC-compatible's display. You simply install it with a "switch" in the command line. For example, when you install REDline on the LS/12 or Portable Vectra CS, you would use **redline /L** as your installation command. The **/L** configures REDline for portables, laptops, or desktops with monochrome CGA, EGA, or VGA displays. Additional installation options allow you to install REDline on systems with color monitors and Hercules systems.

## IMPRESSIONS

REDline makes it easier to find the cursor on the Portable Vectra CS's LCD display, and anything that can do that has got my vote. After you have installed Redline you may want to change the appearance of the highlight bar and cursor within it.

Press **Shift-Alt** together and hold them down for a couple of seconds: the Color Selection Menu will appear. Use the ARROW and RETURN keys to select different colors (or shades of gray for monochrome displays) for the highlight bar and text displayed within it.

When I first installed REDline, the highlighted line flickered in a most annoying manner. I was about ready to write off the whole thing when I realized that I had No-Squint, another TSR cursor program, installed. The two programs were fighting each other and creating havoc with the display. I removed No-Squint's install command from my AUTOEXEC.BAT file, replaced it with one for REDline, and rebooted. The problem disappeared and REDline worked perfectly.

If you want REDline on all the time, you can place the startup command in your AUTOEXEC.BAT file. However, remember that REDline is a memory-resident program and takes up about 16K of RAM when in use. If you don't need it, don't include the startup command in the AUTOEXEC.BAT file. After you have installed it, you can remove it from RAM by typing **redline /x** from DOS.

Another nice REDline feature, particularly useful for those with color monitors and running more than one application, is that you can select the color of the highlighted bar and the color of the text within it from the command line. This lets you customize the highlight bar to work well with colors you've chosen to display the application. You can create a batch file to start up the application that includes a REDline command line.



# 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 la11nh**  
Retail: \$139; Subscriber: \$119



## Access any Ethernet network with your Vectra!

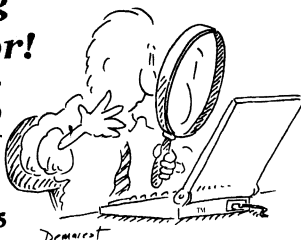
**Xircom Pocket Ethernet Adapter** attaches to your Vectra (or any PC compatible) parallel printer port. It lets you connect to any Ethernet LAN, supporting Novell NetWare versions 2.0a and higher. It's 5 oz: the size of an audiocassette case. **Ethernet Adapter, LS/12,PV et11nh**  
Retail: \$695; Subscriber: \$629



## No more squinting to find your cursor!

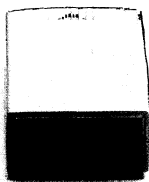
Why search for a faint underline? Make Vectra cursor BIG and BOLD with **NoSquint II** and see the cursor clearly without strain.

**NoSquint II PV, LS/12 no11nh**  
Retail: \$49.95; Subscriber: \$45.95



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

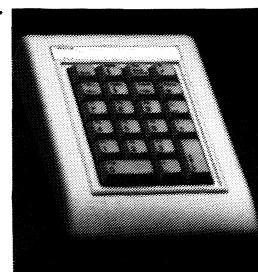
Tallgrass Technologies top-quality tape backup unit backs up LS/12 #20 or 40 Meg hard disk. Connects via LS/12 floppy disk connector in back. HP lab tested and approved. **LapTape Backup Unit, LS/12 la11nh**  
Retail: \$795; Subscriber: \$695



## 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.

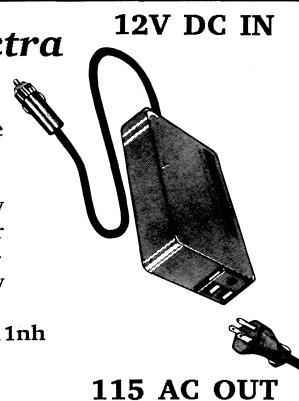
**Numeric Keypad, LS/12 nu11nh**  
Retail: \$129; Subscriber: \$115



## 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



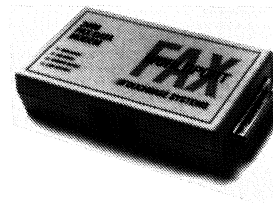
12V DC IN

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.

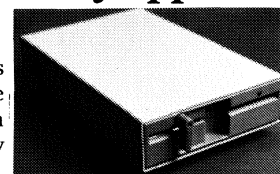
**WorldPort 2496 PV,LS/12 wf11nh**  
Retail: \$699; Subscriber: \$599



## 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

For example, I use the following to startup WordPerfect.

```
cd\wp51
redline 30 /f /v
wp
redline /x
```

**PV** The first line of this batch file changes the subdirectory to WP51, the location of my WordPerfect files. The second line installs REDline with a light blue highlight bar (3), black text letters within the bar (0), a large, flashing block cursor within the highlight bar (/f), to operate on a VGA monitor (/v). The third command line starts up WordPerfect. The last line uninstalls REDline (/x) -- I don't like to use REDline in DOS.

DynaCorp, the makers of REDline, gave me a few additional tips in case you run into trouble:

1. Check to see if you have ANSISYS installed as a driver or if you are using the ANSI.COM file. REDline may not function properly when these files are used.
2. Check to see if another program has captured control of the keyboard. This can inhibit REDline controls.
3. Check to see if your program uses a graphic mode display. REDline does not function within such programs. If your program can be switched to text mode, REDline can be used.
4. When REDline is installed with other resident programs, it may be necessary, on occasion, to re-arrange the order in which they are installed (in the AUTOEXEC.BAT file) to prevent program conflict.

Installation information, troubleshooting tips, and more can be found in REDline documentation.

We recommend the program, particularly if you have a PC-compatible laptop/portable with a hard-to-read display.

## ORDERING INFORMATION

REDline is a product of DynaCorp of Houston, Texas, and retails for \$49.95. For further information call DynaCorp directly at 800-777-8320 or from P.S. for same price.



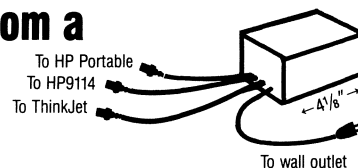
## External 2.8MB Floppy Drive For LS/12 and Portable Vectra CS

By Joel Hedge

**PV** I was talking to one of your salesman a couple of days ago. During our conversation I brought up the subject of my new Backpack 2.8 MB External Drive (by MicroSolutions) that hooks up to the parallel port of my HP LS/12 laptop. The drive does this without interfering with the print function that also goes through the LS/12's parallel port.

In summary, the 2.8 MB drive works beautifully with the LS/12. The only thing it won't do is background

## 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

formatting, i.e format a disk while the computer is performing another function. This is because the parallel port does not have an interrupt assigned. Now for the good things:

1. One disk holds 2.8 MB of information but each of these special disks costs \$10.00;
2. The disk drive is downwardly compatible for the 1.4MB and the 720K disks;
3. Formatting a 1.4MB disk is 40% faster than normal.

I tested my new drive by copying my whole Harvard Graphics 2.3 directory onto a 2.8 MB disk and then running it from the 2.8 MB floppy. Although it did not run as fast as it did from the hard disk, it was impressive to be able to run this memory intensive application from a floppy disk and still have plenty of room on the disk for storing files.

Norton Utilities or P.C. Tools do not support these drives yet. I talked with Norton last week and they just found out about these new drives. The only thing I am worried about is file defragmentation. I will write a future article if you choose to carry the drives.

You should be aware that the Backpack models for the 2.8MB, 1.4MB, and 1.2MB drives will work with the LS/12 since no controller board is needed inside the computer. The other models will probably work if one has an External Expansion Chassis.

## ORDERING INFORMATION

BackPack was developed by MicroSolutions Computer Products of DeKalb, Illinois. The 2.8MB 3.5" version retails for \$425. The 1.2MB, 5.25" version retails for \$349. Individual 2.8MB 3.5" floppy disks retail for \$9.95.

Subscribers to *The Portable Paper* can purchase the 1.2MB version from Personalized Software for \$329 or the 2.8MB version for \$395. Please call 515-472-6330 or use the Order Form in the center of *The Portable Paper*.



# 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.



**THE NORTON UTILITIES**

DATA RECOVERY  
DISK MANAGEMENT

**THE NORTON UTILITIES 4.0 . . \$99.95**  
Portable Paper Subscriber Price . . \$89.95  
PRODUCT NO. NU11NS

**THE NORTON UTILITIES  
ADVANCED EDITION . . . . . \$150.00**  
(includes Version 4.0)  
Portable Paper Subscriber Price . . \$129.00  
PRODUCT NO. NU12NS

## RECOMMENDED FOR:

HP110 Portable	•	Portable Vectra	•
Portable Plus	•	HP150	•
IBM PC and compatibles			•



# Through the Looking Glass

By Ed Keefe

## THE KEEFE COLLECTION

**110** In the process of collating, writing, and testing programs for the 1991 Subscribers Disk, I wound up with almost three disks full of worthwhile programs.

**P+** I've been looking at freeware and shareware for the better part of four years. Much of it is junk. Some of it is excellent. When I find a winner, you usually read about it in the Looking Glass column. However, to find a winner I usually have to wade through the bugs and crashes of a couple dozen other so-so programs.

**PV** It reminds me of the story of the little kid who had a big smile on his face while digging through a huge pile of horse manure. When his father asked him why he looked so happy, the reply was "I know there's gotta be a pony in this pile of horse hockey, somewhere. And I'm gonna find it."

And, wonder of wonders, when I went back to my pile of programs, I was able to put together over two megabytes of compressed files that would be good ponies in someone's software stable.

The reason these programs did not make it onto the Subscribers Disk is that most of them do not have widespread appeal. Many of the files would appeal only to programmers. Other files would only appeal to adventure game players.

At Hal Goldstein's request, I have agreed to put these programs on two or three disks, and make them available to Portable Paper readers. Hal has agreed to do the mailing and handling of these disks for a nominal fee.

## ALL PREVIOUS FASTAID OFFERS WITHDRAWN

With this announcement of the Keefe Collection, I am withdrawing any previous offer of collected shareware and freeware from The FastAid Co. This will give me time to update all the software and repackage it in a suitable fashion. Most of the programs on the disks are ones that I myself have used at one time or another. They served a purpose once, even though I may no longer use them.

Many programs come from local and commercial BBSs.

If nothing else, the Keefe Collection will save you a bundle in download time and testing. I anticipate that the collection will be available sometime in March, 1991.

Why put it off till March? Well, for one thing, I want to wait for the arrival of the new PKZip and PKUnzip programs from Phil Katz. Hopefully the shareware version of these programs will work on the Portable Plus. Phil Katz will also offer a menu-driven version of the programs. However, that is supposed to be a commercial product, and will only work on 100% PC compatible machines.

PKware's version of the LZEXE file compressor has already been announced. However, it is a commercial product (\$47). It will compress both .COM and .EXE files. The decompression times for these files range from two to five seconds.

By March there will probably be a new version of the Video Display Editor. Along with VDE will come my own collection of macros for that popular word processor.

One group of VDE macros will let you write text in medium-sized block letters. Another set of macros will let you put fancy borders on the top and bottom of your documents. That should help liven up an otherwise dull fax transmission. A final set of macros lets VDE look and feel almost like WordPerfect, complete with a mock help screen. I call this one WP-Lite.

By the way, did you know that VDE can prepare documents that can be directly imported into WordPerfect, WordStar, MS-Word or XYWrite? You can also move documents the other way—into VDE. For more information on this feature, look at the VDE documentation for the /P, /W, /M, /X command switches. You will find the current version of VDE, ready-to-run on the Plus, on the 1991 Subscribers Disk.

## BUERG'S LIST PROGRAM FOR THE PORTABLE PLUS

**110** Also, by March, we should be able to provide you with a copy of Vernon Buerg's famous LIST program modified for the Portable Plus.

**P+** Most computer users are familiar with LIST. It is one of the most widely used file viewers for the IBM class of computer. I use it on my desktop computer all the time.

**PV** Over the years LIST has grown from a simple file viewer into a shell program that can drive your favorite editor, or any other program, at the touch of a key or the click of a mouse.

The latest revision of the LIST program (LIST 7.5f) almost works on the Portable Plus. There are a few glitches that must be eliminated before we can call the program ready for prime-time use on the Plus.

Vernon Buerg has graciously accepted our request to see if he can make his program Plus-ready. So far he's gone through seven iterations of the code. Each time the program shows improvement. This is a program that deserves

## 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.

© Copyright 1989 Personalized Software

to be put on a future Super ROM of DOS utilities. Stay tuned! *[Editor's Note: We are including a working version of LIST on the 1991 Subscribers Disk. It works pretty well, but for some reason the COPY FILE command does not work. If LIST improves, we'll put it on the Keefe Collection.]*

110

P+

### ZIP!!!!

PV

12

Another program that deserves to work on the Portable Plus is ZIP.COM. This program (by Eric Meyer, author of VDE) has nothing to do with file compression. It just zips files from one computer to another at rates of up to 115,200 bits per second. That's fast! The amazing thing is that ZIP.COM does it all in less than seven (7) kilobytes of code.

I don't have the necessary null-modem cable to test out the behavior of ZIP.COM on the Plus. Hopefully I'll be able to get around to doing this by March.

Even if ZIP.COM does not work on the Plus, I'll pass it along for those who want a small file transfer program for their Vectra, LS/12 or NEC Ultralite computers.

## MORE GAMES

Among the other files slated for the Keefe Collection are a couple of adventure games: one of them is the addictive NetHack game. This game has been known to cause otherwise bright college students to drop several grade points *[and Managing Editors to miss deadlines]* while trying to wend their way through the puzzle. If you enjoy the frustration of Tetris, you'll love FRAC: a three-dimensional version of Tetris.

And, when you finally get tired of falling blocks, you can move up to DOTS and try to best the computer at that challenge. Unfortunately, FRAC and DOTS do not work on the Portable Plus or 110. You'll need a 100% IBM-PC compatible computer and an EGA monitor. They both use high resolution graphics displays and are quite impressive. However, NetHack works on the Plus.

There are also a couple of different file compression programs. One such program is like the old SQZ and USQZ programs that compressed files but did not put them in a special file. Another compressor purports to outdo LHARC for tightness of compression.

## A VERY BASIC QUESTION

110

P+

Does anyone among the Portable Paper readership need a fairly good BASIC compiler program? The reason I ask is that I've found such a program. It's called APBasic. It's shareware and costs about \$40.

I played with APBasic on my desktop computer and found the program to be acceptable. It's sort of like a small version of Turbo BASIC.

I gave the program to the BASIC instructor in our Computer Science Department. He used APBasic to compile a couple of large programs he had originally written in BASICA. He claimed that after he made a couple of changes to the code (such as replacing all instances of the word REM with apostrophes), he was able to compile his programs without any problems. He said that APBasic compiled faster than Turbo BASIC and produced a smaller .EXE file.

Then I gave APBasic to a dozen students who are studying BASIC. The students found several glitches in the APBasic editor. Thank goodness for beginners! Without their ability to find every bug in a program, we programmers could continue to delude ourselves that we are really hot stuff.

Anyway, if you need an inexpensive BASIC compiler and are willing to write your code using another editor and then load it into APBasic for compilation, then you will want to give APBasic a try.

The kicker is that APBasic almost works on the Portable Plus. The colors in the APBasic Integrated Development Environment (IDE) are all wrong for the Portable Plus. Text does not show up on the screen. The command to clear the screen doesn't work properly either. To try out APBasic, you will need a desktop computer with a color monitor. APBasic will probably appear in the Keefe Collection.

If I receive at least six messages that say "I've got to have this program for my Portable Plus", I'll try contacting the authors of APBasic to see if they'll agree to make the necessary patches to their code.

## UNIX ON THE PLUS

P+

Also by March, I will be getting up to speed with the UNIX operating system. I assume that by then everyone will want to know more about UNIX, right? So, you'll more than likely find a couple of programs in the Keefe Collection that will emulate a UNIX shell on the Portable Plus and IBM compatible computers.

I had already sent for a rather complete UNIX emulator

from MIX Software. It's a commercial package that costs \$20. When the package arrived, I was surprised to find that the suite of programs that mimic the UNIX Korn shell came to over 600 Kbytes of compressed code. That seemed like overkill, especially for the Portable Plus.

Then I came across a small, Berkley shell emulator. The program was written, in 1985, by a University of Iowa student. It works well on the Portable Plus and gives me the ability to play with a history command-stack, aliases, and forking a shell. I've even found a copy of the classic VI editor: one that works on the Portable Plus. I also have a copy of the EMACS editor for the Plus and it does a super job. If I had this copy of EMACS two years ago, I might not have given VDE a moment's notice.

### ON BURNING EPROMS FOR THE PLUS

**P+** After a lengthy delay, my ROMBO Kit has finally arrived. The kit really looks professional. In one sense, I was glad for the delay. It gave me a chance to study the ROMBO Manual, write the UDIR program, and plan ahead.

As is mentioned in the ROMBO Manual, the toughest part of the EPROM burning process is the selection of the appropriate software to put on an EPROM. I had planned to burn three pairs of EPROMs for a total of 768K bytes. That left me with some tough decisions. What to put on EPROMs and what to discard. Equally tough: where to put the software and how to squeeze the most software onto an EPROM.

It helped that I had access to a computer with a hard disk. I copied all the possible candidates for ROMMING to the hard disk. Then, with the help of Stereo Shell and UDIR, I was able to determine which programs would fit on which EPROMs. This took almost an entire week to do, and re-do, and then re-do again. **THE MORAL:** take time to choose which software will go on the EPROMs and don't try to fill up every last byte of an EPROM with programs. Remember to leave some room for future program expansion. This is especially necessary with freeware or shareware which tends to grow larger with each new edition.

Above all else, follow the directions in the ROMBO Manual. The directions are as close to perfection as you'll ever see in this business. However, there are some things the Manual doesn't mention. Here are a few more tips:

1. **INSERTING EPROM IN ZERO FORCE SOCKET** -- Hold on to the little lever that locks the EPROM in place. The lever snaps closed with a sharp click. Even though this sudden snap may not harm the EPROM, easing the lever into position will help prevent frayed nerves.
2. **DON'T WORRY, BE HAPPY** -- Expect to be slightly nervous when burning your first EPROM. That's acceptable. Trust the directions in the ROMBO Manual. They will see you through the experience.

3. **DELICATE DECALS** -- Try not to scratch any of the decals on the ROMBO box. The decals probably should have been covered with a clear lacquer finish. In their present state, the decals tend to be rather fragile and easily damaged.

4. **COVER EPROM WINDOW** -- After burning an EPROM, if you must leave it exposed to light for any length of time, use half of a floppy disk, write-protect, adhesive tab to cover the clear window on the EPROM.

The write-protect tabs usually come with 5.25 inch floppies. The ones that I have are made of black, plastic material. I would not recommend using tabs that are silver colored. If you don't have any such tabs, black electric tape should work just as well.

5. **LABEL EPROMS** -- Make up printed labels of the contents of each ROM and paste the labels in the ROMBO book on the same page as the diagram for the ROM drawer. Label the pictures of the EPROMS, in the diagram, with the name of the EPROM and the directory by which the EPROM is called. I did this because I figured I'd forget which EPROM contained which programs.

6. **GROUND YOURSELF FIRST** -- Many technicians, who work with micro circuitry, wear a wrist band that has a snap on it. Each time they sit down at a work bench, they fasten a grounding wire to the wrist band. That way they eliminate the danger of shocking the chips they touch.

If you can't find such a wrist band and grounding wire, you can make a grounding wire out of ordinary zip cord wire. Just strip back enough insulation from the wire, at one end, to wrap it around your wrist. Strip the insulation from the wire at the other end of the zip cord and twist the wires together. Wrap that end around a water pipe or attach it to the center, grounding screw on an electrical socket face plate. It isn't elegant, but it gets the job done.

7. **INCREASE P.PLUS ENVIRONMENT** -- Here is a tip that involves patching COMMAND.COM to give you more environment space on the Portable Plus. Environment Space is used by DOS to store the PATH and PROMPT commands.

You'll need this tip if you consistently get the message that the computer is "out of environment space." This usually happens when the DOS PATH statement becomes excessively long, as it might with a full ROM drawer. The tip comes from a previous Looking Glass column. Follow these steps:

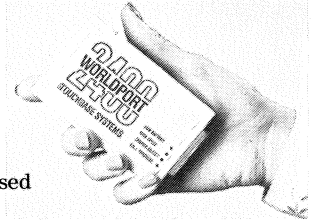
- a. Copy COMMAND.COM from B:\BIN to the root directory of the A:\ drive.

Type the command: **copy b:\bin\com\*. \* a:\**



# 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.

#### DOUBLE GUARANTEE

In addition to our standard 60-day money-back guarantee, the

WorldPort 2400 comes with a 2-year manufacturer's warranty covering defects in materials and workmanship.

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
		WM13NH
WorldPort 1200 modem	199.00	179.00
(without software)		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	199.00	179.00
(includes Carbon Copy PLUS software)		WM13NM

#### 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 (if exp. date, signature) to:  
Personalized Software  
P.O. Box 889, Fairfield, IA 52556-515 172 6300

- b. Issue the command: **debug command.com**.  
You should see the DEBUG prompt (a dash - ).

P+

- c. Type the following command (using the space bar where you see underlines and 0 = zeros; not Oh's):

**S\_100\_L\_1000\_BB\_0A\_00**

Press the **Return** key. This command will search for the location, in COMMAND.COM, where DOS discovers how much environment space to give you. On the Portable Plus, this environment space is 160 bytes (A0 in hex).

- d. NOTE DOWN THE OFFSET LOCATIONS – On the computer screen, you should see a couple of hex numbers separated by a colon. These represent the segment and OFFSET LOCATIONS, in memory, where the number A0 hex has been found. The numbers might look like 0BF7:0DF2. They will probably be different for your machine. Jot down the offset (0DF2 or whatever it is in your computer.)

- e. Issue the following command. (Remember that underbars stand for spaces. Substitute your offset number for the one shown.)

**E\_0DF2\_BB\_3E\_00**

Press the **Return** key.

This will give the Portable Plus the maximum amount of environment space it can have with MS-DOS 2.11 : all of 992 bytes (3E0 hex).

- f. Type the command **W** and press **Return**, and, finally, type **Q** and press **Return**.
- g. Test the patch. Once you have made the patch to COMMAND.COM, test it out by putting the following line in your CONFIG.SYS file:

**shell=a:\command.com a:\ /p**

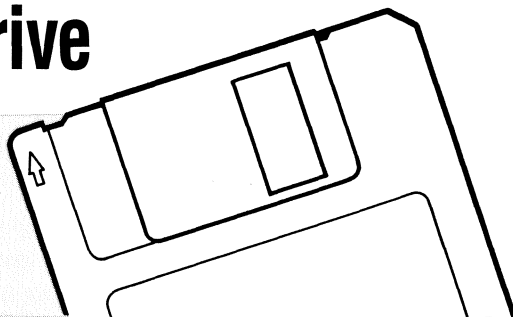
Note that the space before the **/p** is critical.

- h. Reset the computer. This will force the computer to behave like a DOS computer. To use PAM, you will

WorldPort 2400 and WorldPort 1200 are trademarks of Touchbase Systems, Inc. Hayes is a trademark of Hayes Microcomputer Products, Inc. Carbon Copy PLUS is a trademark of Meridian Technology, Inc.

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

**Volume  
Pricing  
Available**



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.

**ReadHP**, a "device driver" program developed by Personalized Software, solves the problem.

ReadHP installs in an IBM PC or compatible in minutes, and is a cinch to use: You simply place a 3½" HP disk (single or double sided) in the PC's disk drive, and press a few keys. Voila! The PC can read and write to the disk directly—without losing the ability to read and write to IBM disks.

Want to share your WordPerfect, Lotus, or other files between your HP Portable/HP150 and an IBM compatible with a 3½" disk drive? It's simple: Order ReadHP today.

**ReadHP** ..... \$79.95

**Portable Paper subscriber price** ..... \$69.95

PRODUCT NO. RD11NS

## 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 52556-315 472-6330

## RECOMMENDED FOR:

HP110 Portable	•
Portable Plus	•
Portable Vectra	•
HP150	•
IBM PC and compat.	•

**P+** now have to type the command PAM at the DOS prompt. If your patch doesn't work, or if you made a mistake in the CONFIG.SYS file, the computer may hang. To recover from such a crash reset the Portable Plus by pressing and holding the **Contrast Key** for 15 seconds. The screen will darken and finally blink off. Then hold down the **Ctrl-Ext-Shift** keys and press the **Contrast Key**. This will force a restart with the B: drive as the default drive. PAM will show up in the display. From there, you can delete the CONFIG.SYS file and try the modification again.

- Burn COMMAND.COM on EPROM. Once you're sure that COMMAND.COM is correctly patched, you're ready to burn it on EPROM. For example, you could put it in a directory called B:\UT.
- Modify CONFIG.SYS. When you've done that, be sure and modify CONFIG.SYS with the line:

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

## ALMOST FINISHED

Having burned my EPROMs, I now have what amounts to a new computer. All my favorite utilities, along with Turbo Pascal and Turbo Assembler, are built into the Portable Plus. There is no more need to drag along a disk drive.

My only regret is that I didn't wait another week to burn the EPROMs.

One week after burning six EPROMs, Stereo Shell, UDIR, and Turbo Pascal moved up to a new versions. That means I'll have the added experience of extracting the EPROMs from the Portable Plus' ROM drawer, erasing and reburning them.

## NEW VERSION OF TURBO PASCAL 6.0

I'm not sure what will go on EPROM for the latest version of Turbo Pascal. There are a lot of extra .TPU files in Turbo Pascal 6.0. They are geared toward letting programmers create mouseable pop-ups, pull-downs, radio buttons, and dialogue boxes.

I'm still awaiting the arrival of the Pascal RunTime Library source code. Only then will I know how much work it will be to convert the standard CRT.TPU so that Turbo Pascal 6.0 will run on the Plus. If I can make the necessary patches, we should be able to create programs with mouseable interfaces almost overnight. We'll see.

## PLAYING WITH OUTLINER

The latest version of David Toliver's OutlinePlus arrived last week. It is very impressive.

This latest edition of the program sports a sliding light-bar menu. It has much of the look and feel of The Editor.

The program has a very good "engine." It will produce automatically indented and numbered paragraphs without fail. The only thing that needs to be done before releasing the program is to tweak the command keys. With a menu system in place, the program looks very professional and is much easier to use.

## A FINAL WORD

Apparently I, like a lot of other readers, misinterpreted Hal Goldstein's editorial remarks in the Sept/Oct issue of The Portable Paper. I thought Hal was going to pull the plug on The Portable Paper at the end of 1991. This is NOT SO

(thank goodness). *The Portable Paper* will continue, on a year-to-year basis, as long as there are readers who want the best source of information about the Portable Plus and the HP110. I figure we're good for another five years at that rate.

I keep looking for a laptop computer that rivals the Portable Plus. So far I have not found one. In my opinion, the Portable Plus and the HP110 were designed ten years ahead of their time. That means we have at least another five years before the rest of the computing world catches up with us. Perhaps, by that time, Hewlett Packard will have, once again, jumped back into the laptop fray. Gosh, that would mean we will have 10 more years to play with another HP portable.

[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

## MODEM GOES HAYWIRE

**110** What follows is a transcript of a conversation I recently had with my modem. The modem's remarks are flush left. My responses are indented. English translations are shown in parenthesis.

Line?	("Yo stupid! Plug in the telephone line")
OK	("I'll take care of that")
Line?	("Well! Is it a working line?")
OK	("Works plugged into the telephone.")
Line?	("Try another line")
ERROR	("I will check jack on modem--its easier")
Line?	("Try another line")
ERROR	("Look it's late. I need to go to bed. I will try at the office tomorrow.")
Line?	("Yo stupid! Plug in the telephone line")

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

Also works on the  
HP150.

- 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.

FilePlus will save you time and effort, boost your productivity, and increase your enjoyment of your Portable Plus. Once you try FilePlus, you won't want to be without it.

Order FilePlus at our risk today!

FilePlus ..... \$69.95

Portable Paper Subscriber's Price ..... \$59.95

ORDER NO. FE11NS

### 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 (i.e., exp. date, signature) to:

**Personalized Software**

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

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

ERROR ("What? All my telephone lines can't be bad. You must be bad. Probably dropped you too many times. Maybe some of your sensitive CMOS circuits couldn't take it. I guess I could plug you into another computer and prove it and then replace you with a 2400 baud modem.")

110 Before I could get around to checking the old WorldPort  
P+ 1200 on another computer, I called Hal to discuss the OutlinePlus program. After I gave him my comments on the Beta version, I asked about a 2400 baud modem. Hal indicated he had the WorldPort modems in stock. Since I really wanted to upgrade I ordered a 2400 baud MNP model.

MNP is a modem-to-modem protocol that can significantly increase the rate of data throughput and accuracy. Of course it only works between modems that support MNP. CompuServe supports MNP.

After a few days the man from UPS delivered the new modem and I plugged it in and tried calling another computer.

Line? ("Yo stupid! Plug in the telephone line")  
OK ("I'll check all the connections.")  
Line? ("Yo stupid! ....")  
ERROR ("Could this new battery be dead? I'll plug in the external power supply. The light comes on. The modem must be on.")  
Line?  
ERROR ("This is serious. I might even need to look at the manual.")  
Line? ("Yo stupid! ....")  
ERROR ("What's this, 'Line?' is not a WorldPort result code.")  
Line? ("Yo ....")  
ERROR ("Let me check configurations. What's this? Port 2, the internal modem is the active port. No way. I use a command file to automatically select ports.")  
Line? ("Gee, are you hard headed? 'Line?' is an internal modem result code. If you don't believe me plug the line into the internal modem and see what happens.")  
OK  
CONNECT

I didn't have a modem problem after all. I had a software problem. Just before this problem started I was on a kick to simplify my system and I removed SEARCH.COM, a data path utility, from the batch file used to load reflection. SEARCH made it possible to execute Reflection command files from any subdirectory without pathing to the command file. Since time had proved no need to execute command files from the Reflection command line, I could see no reason to fool with all the mechanics of a TSR

program to make easy something I did not do. Unfortunately I forgot about a little port configuring command file used as a subroutine in my startup command file. The solution was simple. Modify startup command files to call the subroutine with a path.

I would like to report that with this modification everything worked just fine. Actually it would have if I had not wanted to take advantage of the MNP protocol available with my new modem. Activating MNP requires the following command be sent to the modem:

**at\v1\n3j0\q1**

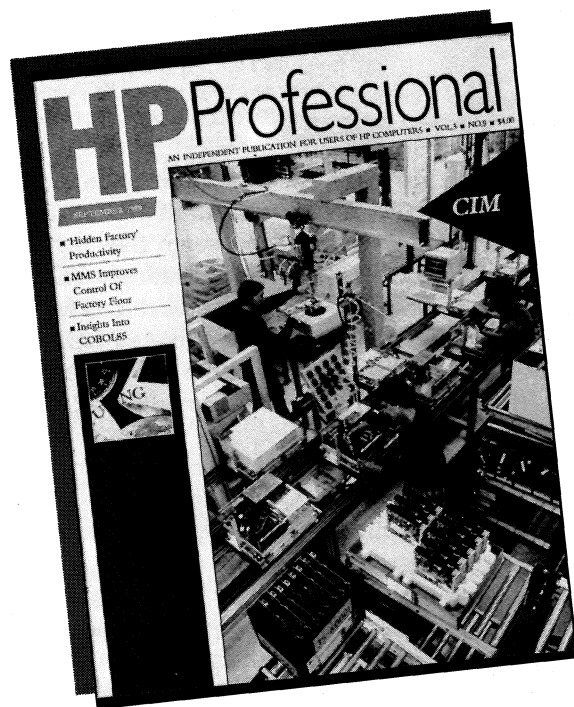
It was easy enough to modify my command file to send these commands to the modem but when I tried to execute it the modem reported "ERROR". I checked and rechecked but I could find nothing wrong with what I was doing so I gave up and tried sending the command to the modem manually. No problem – the modem's MNP light came on and I was able to establish an MNP link with the local CompuServe node. But try as I might I could not make it work if I used a command file to send commands to the modem. After a little experimenting I became convinced that Reflection command files are incapable of transmitting a backslash, "\" and that I needed to find a work-around. Typing modem commands is just too much trouble.

Fortunately working around this problem is fairly easy and I would have been going strong except I discovered a few more ways to keep things from working. No matter what anyone tells you, it is not very likely that communications failures are caused by viruses. Although it sometimes seems like the only possible solution, calling The Exorcist is not usually necessary. What is necessary is getting ALL communications parameters set properly. The first step in getting communications parameters set correctly is to go to the PAM Datacom Config menu (press **f5**) and be sure that the serial port is configured as follows:

Parameter	Serial
Transmission Rate (BPS)	<b>9600</b>
Word Length (bits)	<b>7</b>
Stop bits	<b>1</b>
Parity	<b>Even</b>
XON/XOFF Pacing	<b>On</b>
CTS Line	<b>Ignore</b>
DSR Line	<b>Ignore</b>
DCD Line	<b>Ignore</b>
Power to Interface	<b>Off</b>

The above configuration is easy to set – it's the default. Pressing **f5** will set everything as above. Actually the really critical parameters are the last four. Obviously power to the serial port should be turned off to conserve both the computer's battery and the modem's battery. The WorldPort will turn on when the serial port is activated provided the DSR (Data Set Ready) line parameter is set as indicated (Ignore).

# FREE SUBSCRIPTION OFFER



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.

**It's Informative.  
It's Monthly.  
It's Read by over 35,000  
Professionals Like You.  
It's FREE!**

Read HP Professional for information and insights on the latest hardware, software, trends and developments.

**Start your free subscription today . . .**

Send us the coupon below. You'll receive a subscription application in the mail. Fill out and mail the application to qualify for your free subscription.

**HP Professional** HPN **SUBSCRIPTION APPLICATION REQUEST**

**YES,** I'd like a FREE subscription to HP Professional. Send a subscription application to:

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone (    ) \_\_\_\_\_

Mail to: HP Professional, P.O. Box 616, Horsham, PA 19044-0616.  
Or call Lori Ulbrich at (215) 957-1500, or FAX (215) 957-1050.

I did not intend to test these parameters, but I accidentally got all the line parameters set to the alternate choice and I could not get the WorldPort to turn on. I don't claim to understand the philosophy of the RS-232 interface, but I do know these lines can be used to control the flow of data between data communications equipment (DCE) such as a modem, and data terminal equipment (DTE) such as a computer, terminal, or printer. The 2400 baud WorldPort is turned on by the presence of a DTR (data terminal ready) signal on the serial interface. The WorldPort does not turn on instantaneously—it takes a fraction of a second. During this fraction of a second it cannot supply the DSR signal and if the computer is configured to observe DSR, it will remove DTR and the WorldPort will turn off before it gets turned on.

Although the WorldPort 2400 MNP is a 2400 baud modem, during MNP connections it can achieve data transfer rates in excess of 2400 baud. The manual indicates that rates as high as 4800 baud are achievable if line conditions are favorable. Also the WorldPort is capable of adjusting to the speed of the modem to which it is connecting. Because of the high data transfer rates possible, it is necessary that the interface between the modem and the computer operate at a speed in excess of 2400 baud. The manual recommends 4800 or 9600 baud. The automatic baud rate adjustment makes it possible to keep the data transfer rate between the modem and computer constant. I set my serial port at 9600 baud. This automatic baud rate adjustment is activated only if an appropriate setup string is sent to the modem and this gets us back to the problem of sending backslashes to the modem.

DOS I/O redirection makes it possible to send data to the serial port using the DOS echo command. This makes it possible to include a modem setup command in the batch file used to load Reflection. Since the serial port is normally turned off to conserve battery power, the serial port must be turned on before sending the modem setup string. Sergio Biguzzi wrote a small utility, SERON.COM, that does this. It is contained in MISCPL.ARC which may be downloaded from the Portable library of the HP Forum on CompuServe. A simple batch file to load Reflection with MNP activated would include these lines:

```
seron
pause
echo at\v1\n3\j0\q1>com1
reflect1 /v [config file] [cmd file]
```

The pause command is required to give the modem time to turn on before sending the setup string. The need to press a key can be eliminated by replacing the pause command with WAITASEC or some other utility program that will momentarily pause execution of the batch file.

Using the technique described here I was able to successfully log on to CompuServe and download several files using Xmodem. At times I would notice the MNP light on the modem blinking and blocks transferred counter

clicking at an apparently faster than normal rate. I would assume that the modems were achieving data transfer rates in excess of 2400 baud.

The WorldPort 2400 MNP is a smart machine and can, if this technique is used, negotiate a connection with almost any modem including non-MNP modems and modems operating at lower baud rates. I was able to connect to an associate's computer which had only a standard 2400 baud modem without any trouble other than it taking a little time for the modems to get together. Unfortunately I was unable to upload a file to him using Xmodem protocol.

I reconfigured my system to 2400 baud and the WorldPort to a standard 2400 baud modem and called my friend back and had no trouble transferring files in both directions. I don't know what, when wrong with the first try. Since I am now well past deadline this exciting tale will be continued in the next issue.

## ROMBO ROM BURNER

This product has really changed the organization of my Plus. I have been able to burn ROMs to hold all my favorite programs, utilities, and batch files that I have had to store on valuable RAM disk. Creating a ROM is easy — just install ROMBO on your Plus, load and follow the on-screen directions. But, before you install ROMBO be sure you have configured your Portable according to the directions in the ROMBO instruction manual. Unless you do this ROMBO may not work. Of course it won't hurt to read the rest of the book. It is well written and includes many good tips on creating ROMs.

The LZEXE utility on the ROMBO disk is impressive. It will compress executable files as much as 30% to 50%. The resulting programs, unlike programs compressed with most other file compression programs, load almost as fast as the original program. LZEXE must be run on a compatible but Portable programs processed with it work just fine. LZEXE only compresses EXE files but it includes a utility, COMTOEXE, to convert COM files to EXE files.

SCRUNCH, another program compression utility, is on the ROMBO disk. This program runs on the Portable but programs processed with SCRUNCH show a significant slowness in loading.

Although I do not recommend treating often-loaded programs, The EDITOR and PKZIP for example, with any of these program compression utilities, there are two old techniques for shrinking programs that may actually increase execution speed. These are the Spacemaker utility from the P.S DOS Tools disk and the DOS utility EXE2BIN. These programs convert EXE files to COM files and often reduce the program size significantly. If you want to get a little wild, combining several of these program processing techniques may produce even greater space savings. For example: use Spacemaker to convert EXE file to COM file, then process COM file with COMTOEXE, and finally process with LZEXE.

The ROMBO ROMs are impressive. They are much



# At last! EASY TO USE COMMUNICATIONS SOFTWARE

## for the HP110 and Portable Plus

HP110 users: Tired of struggling with the built-in Terminal program?

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.

Most importantly, both programs make efficient, logical use of function keys and menus to make the job of transferring files and programs *easy*.

You won't appreciate *how* easy until you try Term110 or TermPlus for yourself. We invite you to do so today at our risk.

**Term110 (for HP110) or  
TermPlus (for Portable Plus) .....\$99.95**  
(Specify which program when you order)  
**Portable Paper subscriber price .....\$79.95**

RECOMMENDED FOR:	Term110	TermPlus
HP110 Portable	•	
Portable Plus		•
Portable Vectra		
HP150		
IBM PC and compat.		
Available on ROM Backup for the Portable Plus*		

### 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

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

**P+** sturdier and easier to insert than standard ROMs. I have a blind spot in the center of my left eye that makes jobs like threading a needle very difficult. Inserting a ROM with its 28 pins is generally a most frustrating task since the pins never seem to align exactly and I cannot judge the necessary corrections. The pins on the ROMBO ROMs are stiffer than pins on standard ROMs and align perfectly the first time since they are much less likely to get bent.

By the way, a 128K byte ROM contains 131,072, not 128,000 bytes. This is because computers are based on the binary number system, not the decimal system. One kilobyte is 2 to the 10th power which converts to 1024 in the decimal system.

I replaced Duette, Super ROM, and the two DOS tools ROMs. Most of the programs on these ROMs were transferred to a ROMBO ROM or replaced with a later version of the program. Although I have not pulled my Memo-TM ROM, I put a copy of Time Manager on one of my new ROMs. This frees one slot for future expansion and since I am now using Turbo Pascal 5.0, I have the space occupied by the Turbo Pascal ROM available for expansion.

TM is not copy protected and seems to be able to find its supporting files, TMMMSG.MSG and TM.HLP, if they are on TM boot directory, the current directory, or a directory in the path. I am not sure the technique TM uses to search for these files. I tried running TM from the E-disk of a Plus not equipped with a MEMO-TM ROM or even a ROM drawer and had no problem running the program.

By carefully juggling files and filling in with small programs I was able to use nearly all of the space on my new ROMs. In fact out of four ROMs, I only have 3K unused. I even put my PKZIP configuration file on a ROM. I don't expect to change my PKZIP defaults but if I need to I will simply create a new configuration file on my A drive and change the location statement in the PAM.ENV file. My new ROMs include several seldom-used programs such

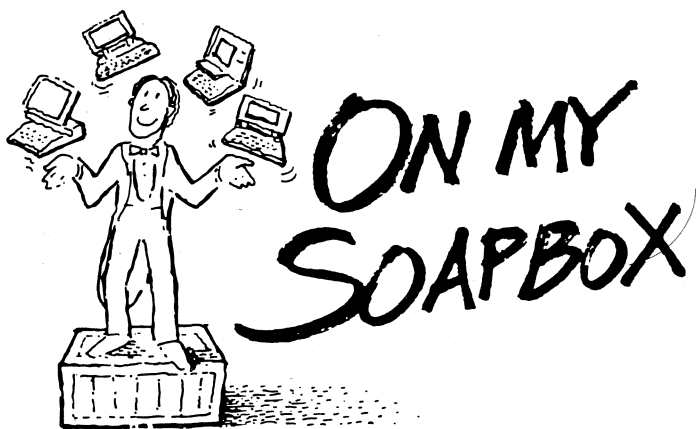
as SideWinder and FormatPlus, but they do not contain any never-used programs.

I only created 128K half-bank ROMs. The 30 files per subdirectory limitation made it necessary to split my files through four subdirectories. It makes no sense and wastes space to create additional subdirectories on a ROM although it can be done and I can even think of situations where it might be useful. Also these additional subdirectories would increase the length of the path statement and waste perfectly good environment. Since I could think of no meaningful subdirectory names of any length, I simply named my ROMs A, B, C, and D.

Since I like to precisely control what appears in my PAM Menu and therefore prefer to create it on the A drive, I included only one PAM.MNU file on my ROMs. This entry identified as "Owner's Name" executes a batch file that displays my name address, telephone and CompuServe ID numbers.

I would like to report that I got everything exactly right and every program I ROMmed works perfectly, but I didn't. Some of my file groupings don't exactly make sense but this is not a real problem. I do have at least one program on ROM that will not work properly. It is a Batcom compiled batch file used to load the Time Manager program and it contains an incorrect path in the line used to execute Time Manager. The temporary work-around is to correct the program and put it on the A drive.

ROMBO ROMs are EPROMs which can be erased. The ROMBO kit contains a device for erasing ROMs. After I have verified that everything is working properly I will erase the ROM and install the corrected programs.



By David Hughes

## WORLDPORT FAX/MODEM: A PROGRESS REPORT

**P+** As reported in the last issue of *The Portable Paper*, I have been working with the folks at Touchbase Systems about getting their 2496 fax/modem to work with the Portable Plus. This little device is a dream, and turns any laptop computer into a high speed, 9600 bps fax machine, with a friendly 2400 bps modem.

The news I have for you is mixed. Touchbase Systems offers a programmer's toolkit which lets you define the fax protocol and interface requirements for the fax/modem. With this toolkit, it possible to integrate 2496 fax support into existing communications programs. In other words, we

have plenty of great hardware (The WorldPort 2496 and the Portable Plus), and the technical information required to marry the two products.

The mixed news is that Touchbase Systems is not able to modify the command line versions of their software at this time. In addition, staffing for these kinds of projects is limited, and should support be added for the Portable Plus, it would come later in 1991. Most developers for the Portable Plus are aficionados and advanced users who devote their efforts to new developments on a part time basis.

I have looked into a number of communications programs (including TermPlus) as potential candidates for WorldPort 2496 fax support. Most communications programs for the HP Portable Plus are simple, polled terminals and required a significant re-write to successfully accomplish the task at 9600 bps. Most of the changes are internal and performance-oriented, and will not be visible to the user. If one of these small programs could be modified (to a target size of about 35-40K) it would be a full featured communications program with fax support — ideal for the Portable Plus.

I will keep you posted as news and support for this product develops.

*[David is a service engineer for computer power systems at KW Control Systems, of Middletown, New York, and a long-time contributor to The Portable Paper.]*

(Letters continued from page 5.)

**110** The first of these was the hierarchical database approach. In this scheme, the data were structured as tree-like arrangements (hierarchies) composed of rigid parent-child relationships. As an example, one customer might, over time, make many purchases. Thus, somewhere within the database were pointers that linked each customer with zero, one, or many purchases.

While fairly simple to implement, this approach was difficult and expensive to change. Be aware that the hierarchical approach provided "views" of the data that extended over numerous files — as in the definition quoted from the advertisement above.

Generally, any product worthy of being called "database" will provide multi-file access, and the hierarchical approach was an early effort in this direction. Many hierarchical databases are currently in use. While rigid, they do provide for rapid processing of large

amounts of data.

It was realized, however, that the hierarchical approach left too many problems unsolved. From renewed effort came the network (plex) approach. This scheme allowed pointers that were less rigid, that is, a "child" could have more than one "parent". Many "data sets" consisting of a simple two-level hierarchy could be overlapped to map out all the relationships perceived among the data.

Like the hierarchical approach, the network or plex approach permitted multi-file access to the data.

The network approach was an improvement over the hierarchical approach, but still did not resolve all the cost and performance issues faced by companies trying to efficiently manage large amounts of data.

In 1969, E. F. Codd published his seminal work on the relational model entitled: "A Relational Model Of Data for Large Shared Data Banks". In this work, Dr. Codd proposed a practical method of applying set theory and the theory of relations (mathematical theories) to the

management of data.

What made this proposal that much different from previous methods? The relational approach threw out the old book then totally rewrote it. The paradigm of data management shifted completely. A new vocabulary was required to describe this new scheme of things and to reduce confusion and conflict with older terms and concepts. The following description of the relational model is, for the most part, simply a review of a new lexicon of terms used to describe a new vision of data and data management.

The essential structure of the relational model is the relation. A relation is a two dimensional table of data values that change over time. Often, you will hear of a relation referred to as a table.

Not only is the relation the essential structure of the relational approach, it is the only structure. A relational database is nothing more than one or more relations. There are no links or pointers that link data residing in one relation with data residing in other relations.

The principle confusion that arises

from the term "relation" is one of semantics. The uninformed, not realizing it, want to treat the noun "relation" as a verb "relate". In the relational model, data are not "related" to other data; rather, data are "associated".

A poor but perhaps instructive metaphor is this... I am "related" to my mother and father and sister. Because we are "related" we share the same family name. That is, we reside in the same relation. We frequently associate with our neighbors, the Smith family, but we are not related to them. As a database user, you may choose to associate the data of one relation with the data within another relation, but you cannot "relate" the data. Their "relationships" are established by which relationships are established by which relationships they are found in.

How are data associated in the relational scheme? When a query or other similar operation is performed. In the hierarchical or plex approach, the "relationships" are defined (carved in stone) when the database is designed. All possible "relationships" must be seen in advance. Contrast this with the relational approach wherein no links or pointers are permitted at all. There is simply no mechanism for doing so. Instead, the user frames the associations desired within the query or operation to be performed. Below is an example:

Consider a small relational database consisting of two relations: DEPT (department) and EMP (employees)... Using Structured Query Language (SQL - pronounced 'sequel') let's look at the two tables and then selectively "join" some of the data of each.

```
SELECT DEPTNO, DNAME, JOB, ENAME
FROM EMP;
```

DEPTNO	DNAME	JOB	ENAME
10	ACCOUNTING	MANAGER	CLARK
10	ACCOUNTING	CLERK	MILLER
10	ACCOUNTING	CLERK	KING
20	RESEARCH	MANAGER	JONES
20	RESEARCH	ANALYST	SCOTT
20	RESEARCH	ANALYST	FORD
20	RESEARCH	CLERK	SMITH

From this example, you can see that the SELECT statement specified those columns of the relation that we wanted to see, and the FROM clause specified which relation to retrieve them from.

Here is the other relation...

```
SELECT DEPTNO, DNAME, LOC
FROM DEPT;
```

DEPTNO	DNAME	LOC
10	ACCOUNTING	DENVER
20	RESEARCH	HOUSTON

To associate data from the EMP and DEPT relations, we will perform a relational "join"...

```
SELECT ENAME, LOC
FROM DEPT, EMP
WHERE DEPT.DNAME = EMP.DNAME
```

ENAME	LOC
CLARK	DENVER
MILLER	DENVER
KING	DENVER
JONES	HOUSTON
SCOTT	HOUSTON
FORD	HOUSTON
SMITH	HOUSTON

In the above example, with a simple English-like command, we were able to see a list of all employees and where they worked. This SELECT clause specified that we wished to see only the employee's name and where he or she worked; the FROM clause specified that the data were to be taken from the DEPT and EMP relations only; & the WHERE clause specified the conditions of the association, namely that the DBMS was to match department names from the two relations.

As you can see, no previously defined "relationships" or "links" were required to join the data of the DEPT relation with the data of the EMP relation into a meaningful and informative report. This join, by the way, is also a relation, and can be saved as part of the database and used in the future.

This brief example overlooks much that is important in the relational model, but should serve to illustrate that significant differences exist between the relational approach and previous data manipulation methods.

Numerous legitimate sources of information exist for those who wish to educate themselves further. Advertising is the poorest source of such information. College texts are the best. Here are some examples...

*An Introduction to Database Systems*, 5th Ed, C.J. Date Addison Wesley - 1989

*Managing The Database Environment*, James Martin Prentice-Hall, 1983

*An End-User's Guide to Data Base*, James Martin Prentice-Hall, 1981

The larger issue here is not the "relational issue", but the issue of greed and ignorance. Many computer users do not wish to earn a degree in computer science, they wish only to make effective use of the hardware and software tools at hand. Unfortunately, vendors of hardware and software have the upper hand in such matters and too often will (out of ignorance or greed) stoop to unscrupulous methods to separate you from your money. If you bought a "relational" data base (or whatever), you deserve to get what you paid for - but I can't help but believe that those who do their "homework" are a bit more deserving than those who don't: let the buyer beware!

Feel free to publish this letter if you see fit. I would enjoy seeing public discussion of these and other issues - I think they would be of interest to your readers.

**Doug Glenn**  
**Dataprocessing Consultant**  
**2100 Fair Park Avenue, # 305**  
**Los Angeles, CA 90041**

*[Thank you for your informative and lucid discussion of this most important topic. The evolution of storage and retrieval technologies will continue to grow in importance in the 90's. Your discussion provides an excellent background for this topic.]*

*I do take issue with your condemnation of advertiser's use of the word "Relational". Technically you are, I am sure, correct in that Condor is not a "relational" database in the strict academic sense.*

*However, meanings of words change and evolve (or devolve) with time. In the world of commercial microcomputer offerings two categories of data bases have become commonly used, "Flat-File" and "Relational". A "Flat-File" data base (such as Lotus 1-2-3, ECM, and Time Manager) allows the user to put data in fields in one file. For example, in all three programs it is a simple matter to store name, address, and phone number in one file. You can then, for example, extract all the names and their phone numbers of people living in California.*

*If, however, you wish to associate names with purchases from your company, things get more difficult in a flat file system. Instead you would opt for a "relational" system. In a relational system you would keep a name and address file as well as a purchases file. In the*

purchases file you would include a name as well as date, product purchased, price, and so forth. A product like CONDOR allows the user than to "relate" the two files. In other words, you could find the phone numbers of the 100 customers with the most purchases.

To summarize, your discussion of "relational" deals more with the internal physical and logical structure of the data base and with techniques for accessing that information. The commonly accepted lay definition of relational refers simply to the fact that two files of information can be accessed in a single query via a common field. --Hall

## RightWriter 3.1 on ROM?

**P+** Thank you very much for *The Portable Paper*, a very informative newsletter which I enjoy to read.

In Vol.5, No. 6 you mentioned that RightWriter 2.1 is on ROM. In May of 1989 RightSoft Inc. released RightWriter 3.1 with many new and important features. When will you be able to supply RightWriter 3.1 on ROM?

**Niels Holm**  
**Danmarks Banknote**  
**Printing Works**  
**Havengade**  
**DK-1093 Copenhagen K Denmark**

[My understanding from your discussion with one of our salespeople is that the latest version of RightWriter can be made to work with the Portable Plus by turning off the menu system. We hope to test RightWriter and try to put it on ROM in the next few months. Such a solution may be expensive and require three or four ROMs -- Hall]

## PC2622 File Transfer on the Portable Plus

**P+** Quite suddenly, about two months ago, my file transfer procedure on my Portable Plus using PC2622 (Reflection) ceased to function correctly.

The procedure I use is to log into the mail service using a well-tryed string which has been in use for several years. Then, when I get to the point where I want to upload a file (say to E Mail or to the FAX service provided by British Telecom Gold) I call up the command line, type the following command, and press Return:

`transmit a:\filename`

The computer, which has done this properly without fail for years, just transmits the first line of the file and then hangs.

I have to wait until the "Time Out" message appears and then either type in the message by hand or just quit the system.

I have just had my modem (an external one in the UK) serviced to make sure that it was not the problem. The PC2622 manual seems to be particularly opaque on this type of problem, but I have tried changing the host prompt character as well as other parameters in various combinations in the configuration tables (probably missing the vital combination though). I have also rebooted the HP Plus after disconnecting the battery and letting the charge in the capacitors leak away so that any quirk in the electronic memory would be eliminated. All of this has not helped me overcome the problem of the one-line hang up. The technocrats at British Telecom have also tried to assist, but so far without success! Can you help?

I think that your paper is excellent and I hope that you can find a formula that allows you to continue. PSION in the UK have brought out a computer, the MC600, which embodies much of the HP concept with updated techniques and full PC compatibility.

**Peter G Hardie-Bick**  
**Ethymonics Limited**  
**Management Consultants**  
**14 High Street**  
**Chislehurst, Kent BR7 5AQ England**

## Portable Plus Indispensable in Fund Raising Effort

**P+** About a month ago I received my equipment from you: an HP Portable Plus, a ThinkJet Printer, and an External Disk Drive. In addition I received a word processor, communications package, and most important for us, the Executive Card Manager database.

My wife and I are about to set out on a coast-to-coast fund raising tour to raise a total of \$22 million in investments and donations. Naturally, this demands a lot from our equipment: it must be portable; we must be able to run everything from it; it should be straight forward to use.

It took me about two days to get up and running, and we've been running all of our business from your system ever since (even at home where we have access to a PC-compatible desktop). After only a month of use the HP Portable has become an indispensable and intuitive part of the way we work. I am confident of being able to run everything we will need to do on the road from it.

Thank you for the wonderful support and equipment you are providing.

**Avner and Yael Costeff**  
**Executive Directors**  
**Creating Ideal Communities**  
**for Soviet Jews**  
**P.O. Box 1570**  
**Fairfield, IA 51556**

## Applauds Decision to Continue Publishing The Portable Paper

**110** Being somewhat familiar with marketing methods and economic conditions in the computer industry, I wish to applaud you and your decision to push on with *The Portable Paper*.

**LS 7/2** I have no idea what your personal situation is, but this decision must surely have been a difficult one. Regardless, you, your fine staff, and your patient family are to be commended on what I consider to be a job well done. And best wishes to you for continued success in the future.

**Rod Richard**  
**Rt.1, box 324**  
**Yorktown IN 47396**

## WP.FIL on ROM; New P.Plus Graphics Program?

**P+** Thank you for taking the time to talk to me on the phone today. I was the customer who was looking for a printer driver for an Okidata Microline 84 printer. After you suggested I call WordPerfect Corporation again, I did so and they said they would gladly send me a disk with that printer driver on it.

Also during our discussion, you mentioned two items that are of considerable interest to me. These are:

- the possibility that the WordPerfect WP.FIL file may become a ROM-based file in the future, and;
- a new graphics program for the Portable Plus that may come out in the near future.

If you would keep me posted on the status of these two items, I would be most grateful. Thank you again for your assistance.

**Jim Knapp**  
**KIDKNAPP Computer Services**  
**42 Penny Lane**  
**Ithaca, NY 14850**

[Again, we will keep our readership informed of development through these pages. My guess is that a WordPerfect solution will be available in early Spring. I have no idea when and if DrawPlus will be available - Hall]

## New Sharp needs to take a lesson from the Plus

Enclosed is my subscription renewal for 1991, along with some comments I sent to a distributor of the new Sharp 286 laptop. [The Sharp is one of the new lightweight (4.5 - 7 lb), PC-compatible 286 laptops with 20-40 MB hard drives -- Editor.] ...

I suggested that Sharp dump the 20 MB hard disk and add a bunch of ROM sockets. This would serve to lighten the weight further, eliminate a source of mechanical breakdowns, and eliminate startup wait times for applications.

An important point here is that people who buy laptops use their machines for the same few specific applications, whatever they are. Generally, they use a harddisk for backup only, and the occasional loading of the odd application.

The programs they use most often and for which they bought the laptop, will almost always be present on their machines and the ideal location is in RAM. Trade the hard disk for ROMs containing the users' desired applications and their applications will always be accessible without taking up RAM space.

In addition, there is almost no worry about destroying a RAM disk machine if it is dropped or manhandled during transportation (a probability when travelling in a foreign country). Sharp should have no problem extending the warranty period on such a machine. (Note: The HP Portable Plus can withstand a drop from 30" onto concrete!)

In addition, the weight savings from eliminating the hard disk could be applied to boosting battery size.

#### My ideal laptop:

- as much RAM as possible;
- as much ROM as possible;
- minimum of 10 hours of battery life;
- external 3.5" floppy drive with its own battery;
- fastest internal modem/fax possible, with safety power off;
- screen readable in normal light with backlighting for when I want it;
- serial & parallel ports;
- ergonomic design; make no compromise with esthetics: the keyboard should be comfortable to rest on and large enough to maintain the standard key locations (cursor arrows,

escape, tab, ctrl, etc.). Function keys in line across the top.

#### FUTURE OF THE PORTABLE PAPER

Because my machine was stolen, and I don't want to wait around for someone to build my ideal laptop, I'll probably settle (yes, settle) for a used Portable Plus (as soon as I get the money). But even if I don't rejoin the club, there will still be a need for a central contact point for the existing users. There will be a need for someone to maintain a database of HP Portable owners, of compatible hardware and useable software.

Sadly, I don't see this type of service providing anyone with a reasonable income. Maybe as a source of extra income for someone with a little extra time on their hands. Or maybe as a chargeable add-on to CompuServe, or some such. In fact, as a last resort, this information could be donated to CompuServe for the users to interact with.

In any case, there is a service that will be needed for a few more years, but there might not be anyone with the time to provide it. I feel the end of an era coming, and I'm truly sorry to see Hewlett-Packard passed by with all of us devotees leaving the 'things of our childhood' behind as we eventually upgrade to 386 laptops.

Good luck to you, and indeed to all of us, in the coming years.

**Michael A. Jackson**

**P.O. Box 500**

**Renaissance, CA 95962**

#### The Time Has Come!

You have supported me through the years since I panicked after realizing HP had abandoned my WONDERFUL 110. I am forever grateful for you, and all the folks who have contributed to *The Portable Paper*. You have helped me make my trusty HP the backbone of my office management.

I am a Theater Consultant: I design theater buildings. Until recently I performed my engineering work on Lotus. In addition I have written and utilized many times over nearly a hundred engineering programs. The most complex have required nine to twelve hours of run time. For example, one program computed light levels at 100 different points from 100 different light sources. Other less involved programs calculate the number of seats of mixed widths that can be placed into a row. To make a long story short, my HP110 has been an invaluable aid in my practice; it has done a yoeman's service.

With the addition in my office of ACAD, PARADOX3, and QUATRO-PRO, most of my engineering, accounting, and database work have moved over to my IBM AT clone and the 110 has been relegated to menial office tastes. That's not to say that the ol' HP has become useless, but it does say that further development of its systems have all but ceased. Oh, it still communicates with my Lanier LT3 word machine and Hugo (my AT), so it can update regularly and continue to be useful for schedule, phone lists, history, and a host of interesting little tasks I keep on it. And it still has the preferred space on the left of my desk. But my good ol' HP is much less active than in the past.

This brings me to the point of all this. I regret to inform you that I will not renew my subscription to *The Portable Paper* -- sad but true. I did, however, want to express my gratitude for your existence these past years.

We would have been lost without you! Thanks!

**Jim Read**

**136 Wopowog Road  
East Hampton, CT 06424**

## 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-6816PR, Arnhem, The Netherlands. Spain, Club de usuarios HP 110, Pont Reyes S.A., A la atencion de D. Enrique Serra, Ronda Universidad, 15, 08007, Espana. Sweden, Stockholm, first Thurs each month 6:30 pm, call to confirm. Jens Pettersson, 08-713-1710. Telex 149 70 gentel S.

# WordPerfect 5.0 (and 4.2) for

***You don't need an IBM PC to run the world's best-selling word processor. Now you can use industry-standard WordPerfect on your HP150 or Portable Plus!***  
***P.S. We even have a Portable Plus version that's partly on ROM!***

WordPerfect. It's the world's best-selling word processor for the IBM PC. Most reviewers feel it's the best word processor on the market.

WordPerfect not only performs all the usual functions you would expect from a full-featured word processor, such as:

- search and replace
- cut and paste
- automatic page numbering
- headers and footers
- bold, underline, compressed, expanded, italic
- superscripts and subscripts
- automatic hyphenation
- right justification
- undeleting of deleted text
- and more,

but it also offers a carload of advanced features—such as:

- Text in Columns
- Footnotes, Tables of Contents, and Indexes
- 115,000-word Speller
- Thesaurus
- Mail-Merging
- And built-in Math functions for creating a mini spreadsheet anywhere in your document.

Best of all, **you can run the complete WordPerfect on your Portable Plus or HP150 Touchscreen.** (Depending on the kind of Portable Plus or HP150 you have, you can use either WordPerfect 4.2 or the new 5.0.)

To learn more about the world's most advanced word processor—and how to use it on your HP computer—read the information on these two pages. Better still, try our Portable Plus or HP150 version of WordPerfect for yourself *at our risk*.

Order WordPerfect today, and put it through its paces.

Use it to format documents in a fraction of the time it took you before.

Use it to track down spelling errors and typos in a flash.

Use it for footnotes, mail merging, database sorting, or any of its other advanced features.

Use it for your daily correspondence or for generating the most complex reports you can think of, complete with numerical tabulations and text in columns.

If, within 60 days, you feel that WordPerfect isn't everything we say it is—or if you are dissatisfied with WordPerfect *for any other reason*—simply return it and we'll send you a full refund.

	Product Number	Retail Price	Subscriber Price
<b>WordPerfect 5.0 for the Portable Plus (includes PlusPerfect)</b>	WD17NS	\$645	\$395
<b>PlusPerfect</b>	WD14NS	\$150	\$129
<b>WordPerfect 5.0 for the Portable Plus, with ROM Backup (includes WordPerfect, PlusPerfect, Backup ROMs)</b>	WD11NK	\$940	\$595
<b>WordPerfect ROM Backup*</b>	WD12NR	\$295	\$295
<b>WordPerfect 4.2 for the Portable Plus</b>	WD14NS	\$435	\$339
<b>WordPerfect 5.0 for the HP150</b>	WD13NS	\$495	\$395
<b>WordPerfect 4.2 single-sided for HP150</b>	WD12NS	\$435	\$339
<b>WordPerfect 4.2 double-sided for the HP150</b>	WD11NS	\$435	\$339

**WordPerfect Upgrade Kit (Upgrades Personalized Software Portable Plus or HP150 version 4.2 to 5.0) . . . . .**  
 . . . . . Call us for pricing and other details.

\* Requires proof of purchase of WordPerfect 5.0 and PlusPerfect, and written confirmation that you will honor the WordPerfect license agreement.

## Here's What You Get

Here's what you receive when you order the Portable Plus or HP150 version of WordPerfect (published exclusively by us). Note: See box below to determine whether you should buy WordPerfect 4.2 or 5.0.

### 1. Complete WordPerfect software and Users Manual

The entire IBM PC version of WordPerfect (on 3½" disks) and the standard WordPerfect users manual.

### 2. Special utility programs

Our versions of WordPerfect 4.2 and 5.0 both come with an IBM PC emulator program that allows WordPerfect to run on your HP computer. (The Portable Plus version of this emulator is called PlusPerfect.) Our disks also include "batch" files that allow you to run WordPerfect automatically.

### 3. (Optional) ROM Backup for Portable Plus

6 ROM chips containing PlusPerfect and a significant portion of WordPerfect 5.0. (You can use 4 or 6 of these ROMs, depending on the amount of space available in your ROM drawer.)

Although you'll still need to store a 300K WordPerfect file on your disk and set main memory to 376K, this ROM Backup saves you up to 384K of RAM.

To purchase the ROM Backup, you must already own (or order) WordPerfect 5.0 and PlusPerfect on disk.

### 4. Instruction booklet

In addition to the comprehensive WordPerfect users manual, we supply our own instruction booklet. It tells you, step-by-step, how to get started, what to ignore in the users manual, and how to use WordPerfect on your HP computer.

### 5. Keyboard template

We also include a convenient 4-color keyboard template that we've designed specifically for the unique keyboard layout of your Portable Plus or HP150. The template shows you, at a glance, which keys to press to execute each of WordPerfect's functions.

## 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



# the Portable Plus and HP150

## Frequently Asked Questions

(If you have additional questions, don't hesitate to call us!)

### Q. Are the Portable Plus and HP150 versions of WordPerfect identical to the IBM PC version?

A. WordPerfect 5.0 and 4.2 are identical on all three machines, except:

- a.) the on-line tutorial does not run on the Portable Plus or HP150. (However, the "learning" section of the users manual covers the same material as the tutorial.)
- b.) the "Preview Document" feature (which shows special fonts and graphics as they will appear on printing) functions in a limited way.
- c.) Some extra, unessential utilities that come with WordPerfect do not run on the HP150 or Portable Plus.

With both 5.0 and 4.2, if you already know how to use WordPerfect on an IBM PC, you can use the HP version right out of the box.

### Q. Can I transfer WordPerfect files back and forth between different versions of WordPerfect and between my HP computer and an IBM PC?

A. Yes to both.

WordPerfect 5.0 has a built-in transfer utility that makes sharing files between versions of 4.2 and 5.0 easy.

Moreover, WordPerfect produces identical files on an IBM PC, Portable Plus, and HP150. The only difficulty that may arise in transferring files between these machines is that HP and IBM computers use different formats. If you don't already have the ability to accomplish the transfer, you can either use our Disk Conversion Service or a variety of hardware or software solutions, depending on your system. For details, see "File Transfer Made Easy," in our product listings in this issue.

## WordPerfect 4.2 or 5.0—Which Should You Buy?

To determine which version of WordPerfect to buy—4.2 or the new 5.0—follow these steps:

### Step 1. Assess your needs.

Please see the column, "WordPerfect's Newest Version" (at top right) to learn about the features that are unique to Version 5.0. If you need these features, then 5.0 is the version for you, provided your machine can run it (see below).

### Step 2. Check your memory size.

#### Portable Plus:

To comfortably run Version 5.0, you'll need a

### Q. Where can I get assistance in using WordPerfect on my HP150 or Portable Plus?

A. If you have a problem related to the HP150 or Portable Plus—or if you're not sure where the problem lies—call us. If you have a question about how to use a WordPerfect feature, call WordPerfect Corporation. They are famous for the calibre of their customer support, and you can call them toll-free.

### Q. Will the HP version of WordPerfect work with my printer?

A. Our instruction booklet tells you how to run WordPerfect with all printers that work with your Portable Plus or HP150, including serial, parallel (Centronix), HP-IB, and HP-IL.

## WordPerfect in Brief

Here are some of the advanced features that have made WordPerfect the world's number-one selling word processor. (These features are common to WordPerfect 4.2 and 5.0).

### Speller

WordPerfect's built-in spell-checker is fast, thorough, and easy to use. The main dictionary contains 115,000 words, and you can add words of your own to one or more auxiliary dictionaries. The Speller also counts the number of words in a document or in any block of text.

### File merging and mail merging

With WordPerfect, it's easy to produce personalized form letters (mail merging), and to assemble reports, proposals, and contracts from pre-written components.

### Thesaurus

WordPerfect's Thesaurus helps you find the right word when you need it. Synonyms are grouped by noun, verb, and adjective, and at the touch of a key, you can look at second and third levels of alternatives.

### Columns

WordPerfect's Columns feature is ideal for writing a newsletter, glossary, script, or any text that requires columnar format. Up to 24 columns can be formatted in either newspaper style (snaking) or parallel style (side-by-side). The columns appear on the screen exactly as they will print on the page.

### Footnotes and endnotes

WordPerfect streamlines the task of creating and editing footnotes and endnotes. Just enter information at the appropriate spot, and WordPerfect takes care of numbering and formatting—including allowing just the right amount of space at the bottom of the page. If you later add or delete a note, WordPerfect will automatically renumber the others.

### Table of contents

Mark portions of your text, specify a format, and WordPerfect will automatically generate a Table of Contents and an Index for your document.

### Math

WordPerfect lets you use 4-function math for calculations across columns and for subtotals, totals, and grand totals down columns, anywhere in your document. Whenever you change a number, WordPerfect updates the totals. It's like having a mini spreadsheet at your fingertips—without leaving WordPerfect.

### Sort

You can sort lines, paragraphs—even external database records—from within WordPerfect. You can apply logical rules to the sort: It's easy, for example, to generate an alphabetized list of all customers in California who have purchased more than \$100 worth of merchandise within the last 6 months.

## WordPerfect's Newest Version

Here are the main features that have been added to WordPerfect in upgrading it from Version 4.2 to 5.0:

### Fonts and printing

WordPerfect 5.0 lets you set margins, tabs, etc. using inches, centimeters, and points. Fonts may be freely mixed and changed without affecting margins, tabs, or column definitions.

### Integrated text and graphics

WordPerfect 5.0 lets you insert graphic images from most graphics programs directly into your text. You can enlarge, reduce, move, and rotate most images to your specifications.

### Styles

You can combine text and codes to create a specific "style," or format, that you can then use over and over again (for chapter headings, subheadings, etc.).

### Document compare

WordPerfect 5.0 will compare the on-screen document to an existing document on disk. Text that has been added will be "red-lined" (marked with a vertical bar in the left margin), and text that has been deleted will be shown in "strike-out."

### Keyboard redefinition and macros

WordPerfect 5.0 lets you store any sequence of keystrokes so that those keystrokes will be executed upon the press of a single key. This "macro" feature allows easy entry of repeated text and commands. One way to use macros is to change the key assignments for WordPerfect's features. There is no limit to the number of different keyboard layouts you can thus define.

machine with at least 896K of RAM (e.g., a 512K Portable Plus with a 384K RAM drawer, or a 128K Portable Plus with two 384K RAM drawers).

With an 896K machine and our ROM version, you can run WordPerfect without an HP9114 disk drive. Otherwise, with an 896K Portable Plus, you need to load WordPerfect from the HP9114. Once you load WordPerfect, you no longer need the HP9114 to run WordPerfect.

To comfortably run Version 4.2, you'll need a machine with 640K of RAM.

You can run either version of WordPerfect with just 512K of RAM if you're willing to do a lot of disk access from your HP9114.

Note: You might consider purchasing a 1 Megabyte RAM drawer for your Portable Plus. This would let you bring the superb WordPerfect speller module wherever you go without having to load it in from an external disk drive. And with a megabyte of extra RAM, you'd have lots of room left over for text files.

### HP150:

To run Version 5.0, you'll need 512K of memory and a double-sided disk drive.

To run Version 4.2, you'll need 256K of internal memory and either a double-sided or single-sided disk drive. (Note: If your HP150 uses single-sided disks, you'll also need a hard disk drive to run Version 4.2. Neither version of WordPerfect will run on a dual-floppy single-

sided HP150 system.)

### Our recommendations:

In general: Choose WordPerfect 4.2 if: (a) your machine demands it, or (b) you're already using 4.2 on other machines and don't intend to upgrade, or (c) you wish to save some money and don't need the new features in WordPerfect 5.0.

On the other hand, if you want those new features and your machine can handle it, WordPerfect 5.0 is the one you should get. If you use a Portable Plus, you'll tie up the least amount of RAM if you purchase our ROM Backup version of WordPerfect 5.0.

Call (800) 373-6114

# Like-new 512K Portable Plus Only \$995!

PROD. NO. PP36UC

**Used \$795**

PROD. NO. PP16UC



*Each like-new Portable Plus comes in its original packaging with new battery, new manuals, and our one-year guarantee.*

## PORTABLE PLUS RAM SPECIAL

- Like-new 512K Portable Plus
- 128K RAM drawer
- 7 great programs: The Editor II (easy-to-use word processor)
  - Webster's Spelling Checker
  - FormatPlus (integrated word processing command center)
  - FilePlus file manager • Shelp (pop-up notepad, calculator, and keyboard macros)
  - As-Easy-As (Lotus 2.0 work-alike) • GamesPlus (11 great games on one disk)

**Entire system - only \$1295!**

PRODUCT NO. BU11UX

## PORTABLE PLUS ROM SPECIAL

- Like-new 512K Portable Plus
- 128K RAM drawer • ROM drawer
- 6 great programs on ROM Backup (disk and ROM):
  - The Editor II
  - Webster's Spelling Checker
  - FormatPlus
  - FilePlus
  - Shelp
  - As-Easy-As (Lotus 2.0 work-alike)
- GamesPlus on disk

**Entire system - only \$1595!**

PRODUCT NO. BU13UX

## PORTABLE PLUS TERMINAL SPECIAL

*Ideal for HP3000, VAX, and mainframe users*

- Like-new 512K Portable Plus
- 1200 baud internal modem
- ROM drawer • Reflection/PC2622 (terminal emulation communications software) on ROM • MemoMaker (word processor) and Time Manager on ROM

**Entire system - only \$1395!**

PRODUCT NO. BU15UX

**Save an additional \$550!** Substitute a used 128K Portable Plus configured with a 128K RAM drawer (256K total).

Your price: only **\$845!!**

PRODUCT NO. BU17UX

**SAVE \$200** Substitute a refurbished 512K Portable Plus and subtract \$200 from any of these 512K systems. Same 60-day trial! Same 1-year guarantee!

RAM SPECIAL with used 512K Plus PROD. NO. BU12UX \$1095

ROM SPECIAL with used 512K Plus PROD. NO. BU14UX \$1395

TERMINAL SPECIAL with used 512K Plus PROD. NO. BU16UX \$1195

**Special! 128K Portable Plus PROD. NO. PP12UC only \$395!**

**Free technical support on every product we sell!**

Personalized Software  
P.O. Box 869  
Fairfield, Iowa 52556

BULK RATE  
U.S. POSTAGE  
PAID  
FAIRFIELD, IOWA  
PERMIT NO. 218

**EUROPEAN CUSTOMERS: We have a number of language-specific keyboards and European battery chargers for the Portable Plus.**

NOTE: You may substitute any like-new European Portable Plus in any of the bundled systems offered in this catalog.

German Portable Plus (512K)	PROD. NO. PP37UC	\$995
Swiss/French Portable Plus (512K)	PROD. NO. PP34UC	\$995
Swedish Portable Plus (512K)	PROD. NO. PP40UC	\$995
English Portable Plus (512K)	PROD. NO. PP31UC	\$995
Italian Portable Plus (512K)	PROD. NO. PP38UC	\$995

Italian localization ROM  
German localization ROM  
French localization ROM