

THE Portable Paper

News From HP:

- Portable Vectra CS Discontinued
- New P. Plus Recharging Instructions
- New DeskJet Plus Announced

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110%

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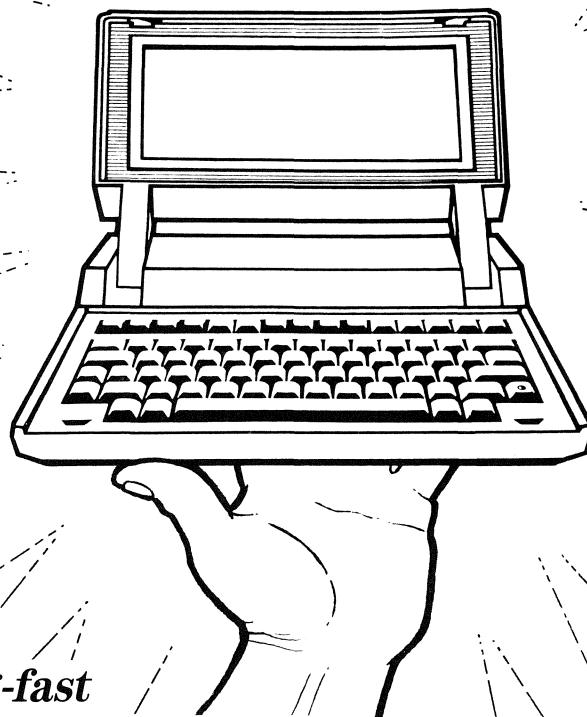
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MAXIMUM POWER FOR YOUR PORTABLE PLUS

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



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

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

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

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

YOUR SOFTWARE DRAWER WAS MEANT TO BE FULL

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

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

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

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

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

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

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

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

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

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

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

EASY TO INSTALL

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

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

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

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

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

HOW TO ORDER ROMS

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

OUR EXCLUSIVE DOUBLE GUARANTEE ON ROMS

60-DAY GUARANTEE OF SATISFACTION

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

2-YEAR GUARANTEE AGAINST DEFECTS:

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

IMPORTANT INFORMATION ABOUT OUR ROMS

We offer two kinds of ROM chips. One kind we produce ourselves; these are offered as part of our "ROM Backup Packages" (see below). The other kind are manufactured by Hewlett-Packard; we 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.
HPDuette	.....	95.
HPrint	.....	95.
Shelp	.....	55.
SideWinder	.....	55.
Shelp + SideWinder	.....	95.
Sketch	.....	95.
SuperROM	.....	49.
TermPlus	.....	95.
Turbo Pascal	.....	95.
Typing Whiz	.....	95.
Webster's Speller	.....	179.
WordPerfect	.....	295.

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 or 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).

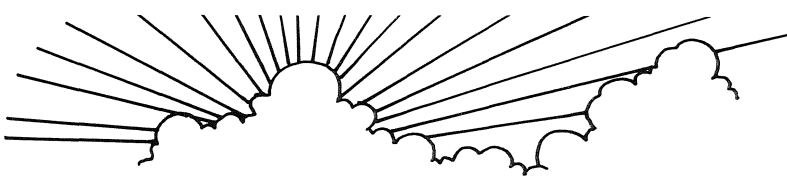
Product	Part Number	Retail Price	Subscriber Price	Type	No. of chips	Notes
WORD PROCESSORS						
WordPerfect 5	WD11NK	\$919.00	\$595.00	PS	6	384K of files includes PlusPerfect, main WP program, help files, printer drivers, etc. Does not include required 300K wp.fil file, spelling checker, or thesaurus.
The Editor II	ED12NK	224.00	94.95	PS	1	The Editor version 1 is available as part of our SuperROM chip (see "Combined ROMs," below).
Editor II Upgrade	ED15NR	58.00	58.00	PS	1	For The Editor ROM and SuperROM owners only.
MemoMaker	-	-	-	HP	-	Comes on same chip as Time Manager (see "Combined ROMs" below.)
MSWord	MS20UR	375.00	199.00	HP	1	
MultiMate	MM20UR	520.00	425.00	HP	1	
WORD PROCESSING UTILITIES						
Format110	-	-	-	PS	-	Comes as part of SuperROM (see "Combined ROMs")
FormatPlus	FP13NK	174.95	164.95	PS	1	ROM includes driver for Softword extra memory drawers.
FormatPlus Upgrade	FP14NS	58.00	58.00	PS	1	For SuperROM owners only.
HPrint	HP12NK	175.00	170.95	PS	1	
Mini PrinterTalk	-	-	-	PS	-	Comes as part of SuperROM (see "Combined ROMs")
Webster Speller	WB13NK	258.95	248.95	PS	2	
SPREADSHEETS AND UTILITIES						
Lotus 123,1A	LT12UR	495.00	295.00	HP	2	
Lotus 123,2.01	LT15UR	520.00	425.00	HP	3 ¹	
SideWinder	SW12NK	134.95	124.95	PS	1	Also available on a ROM with Shelp, and on our SuperROM chip (see "Combined ROMs" below).
DATABASE PROGRAMS						
Exec Card Manager	EC11UR	341.00	279.00	HP	1	(Lotus 1-2-3 can also be used as a database.)
COMMUNICATIONS						
PC2622	PC13UR	395.00	239.00	HP	1	VT100 and HP Terminal emulator.
Reflection	RF11UR	395.00	295.00	HP	1	Minor upgrade of PC2622
TermPlus	TE13NK	194.95	174.95	PS	1	Also included FormlIBM, Jetctrl, and other great utilities.
PRODUCTIVITY BOOSTERS						
Best of DOS Tools	DT12NK	179.00	168.95	PS	2	Contains selected utilities from Portable Utilities Disk, Vol. 1: DOS Tools ² .
FilePlus	FE14NK	164.95	154.95	PS	1	Includes SoftWord RAM Disk
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 is also available on a ROM with SideWinder, and as part of our 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	
GRAPHICS						
Sketch	SK12NK	175.00	170.95	PS	1	(Lotus 1-2-3 can also be used for graphics.)
PROGRAMMING LANGUAGES						
MSBasic	MS21UR	300.00	150.00	HP	1	This is not GWBASIC.
Turbo Pascal 3	TP13NK	194.95	184.95	PS	1	Includes RUN.COM, which can save you 10K of disk space from any program you compile with Turbo.
COMBINED ROMs						
MemoMaker/TimeMgr	MM21UR	195.00	19.00	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, Mini PrinterTalk, 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. Shelp and SideWinder are the same versions as on the individual ROMs described above.
BUNDLES						
Editor Pack +	FM17NK	823.00	599.00	PS	5	(Editor II, Webster, FormatPlus, FilePlus)
Editor Pack	FM16NK	658.00	499.00	PS	4	(Editor II, Webster, FormatPlus)

¹Two of the three ROM chips for Lotus 2.01 are required. The third contains the "Help" screens, and can be omitted.

²Utilities included in the Best of DOS Tools ROM backup Package are as follows. For program details, see Portable Utilities ad in this issue.

PACK	DUMP	TY	CYPHER	RENDIR	WHEREIS	TEE	SDL	FDAT	LABEL	DIRS	TRANSLIT
CLEAN	DIRALL	ARCE	MOVE	OFF	CHANGE	ARC520	MOVEALL	TRIM	BEEP	SQPC	SM
VDL	TMA	TJETA	FCOPY	ASK	PRNCONF	WAIT	FGREP	XCOPY	FDUMP	COPYNEW	

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



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.

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

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 \$129.00
Portable Paper subscriber price . . . \$99.95

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

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

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 52556 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 autoloading on startup. THE EDITOR II comes with over two dozen macros to get you started.
 - **No limit on file size.**
If you're an HP110 Portable user, you're no longer confined by MemoMaker's 819-line limit. You can have as large a file as internal memory allows.
 - **File merge.**
You can merge two or more files together with ease.
 - **Compressed and expanded.**
You're no longer restricted to bold and underline. You can imbed control characters in your text to tell your printer to print all or part of your text compressed, expanded, bold, underlined, or whatever else your printer can handle.
 - **Unlimited line length.**
Your files are no longer limited to 80 characters per line. This means, for example, you can print 132-character lines on your ThinkJet 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.



Hal Goldstein

Hewlett Packard is a great company. It has proven that a company can not only survive, but thrive based on an ethic of engineering excellence, integrity, and contribution to society.

In this context of my genuine admiration for HP and its people, I challenge HP to continue its leadership role in the laptop marketplace.

The discontinuance of the Portable Vectra, the most recent Portable that HP itself engineered (see Vectra Views column), confirms what HP

watchers already know. HP Sunnyvale wants to start afresh in the laptop marketplace. It inherited HP Corvallis's maverick Portable Plus and Portable Vectra and wants out as expeditiously as possible.

HP, I'm sure, desires its share in the burgeoning laptop marketplace. HP's current corporate strategy is to introduce only "industry standard" (eg IBM compatible) computer products. At the same time it wants to satisfy its traditional client-base demands for high-end, well-engineered products. The new LS/12 Laptop PC represents a strong step in that direction. It remains to be seen whether HP is going to use its own resources in the laptop marketplace or leverage off the engineering successes of other industry leaders.

HP's lack of current R&D commitment to laptop engineering is ironic and sad. The four-year-old HP-engineered Portable Plus in many ways is still technically superior, and for many users more practical than other portables in the marketplace. As the NEC UltraLite and other soon-to-be-announced RAM/ROM based machines become popular, HP will hopefully follow suit, rediscovering its own technology it pioneered with the HP110. However, it will be some time, no matter the direction HP chooses, before HP can regain its cutting edge role in the laptop marketplace.

Let's hope that HP still has the desire and internal drive to assume its role as an industry leader in laptop technology. Let's hope that HP's attempt to be more marketing-oriented and more unified in its company-wide microcomputer strategy does not impede the creative engineering excellence that has always distinguished HP.

Market research studies reveal what customers think they want in two years, based on their understanding of today's technology. If HP depends only on market research to determine its laptop strategy, then, at best, it will use its top engineering talent to produce very good "me too" machines. The old HP ethic of letting engineers loose to produce "neat" products has a lot to be said for it. At the least, people who set direction in product development strategy need to be enthusiastic users in contact with

other users.

Greatness in an individual or a business requires a commitment to a higher purpose. Survival, gaining a market share, and creating a fast profit is not enough. Survival, market share, and profit take care of themselves when a company can make a consistent, definite contribution to society as a whole. For proof just follow the history of HP and talk to its dedicated customers.

The HP110, the Portable Plus, the 71 series, and the HP150 TouchScreen were great machines, now on the edge of extinction. Although the Portable Vectra showed many signs of technical brilliance and innovation, in many ways it was out-of-date (given its weight, screen, processor speed) the day it was introduced. In my mind the Portable Vectra represented a failed marriage between marketing and engineering with no one very interested in talking with real users.

We talk to real users of HP laptops all day. You really like the practical power of the HP110 and Portable Plus. You can't understand why HP does not come out with an IBM compatible Portable Plus with a faster processor, greater memory capacity, and a more readable screen.

The LS/12 is an impressive machine. It is fast, readable, and ergonomically well-designed. It is just not one you want to lug around in an airport or use while sitting in a coach seat.

It's time that HP commits itself again to be technological leaders in the laptop marketplace

The vast majority of Portable Paper readers are Portable Plus owners, so the Portable Plus will continue to receive the majority of our editorial attention. Since the Plus and the HP110 are similar, much of that editorial content is relevant to HP110 owners, and we will continue to run HP110-only stories. As our HP Vectra LS/12 Laptop PC readership grows, our coverage will continue to expand. More and more unique hardware accessories designed for the LS/12 become available each month, and we will cover these developments. We invite LS/12 users to share their knowledge and experience through The Portable Paper in the months and years that follow.

We will officially cover the Portable Vectra through the rest of 1989 and run articles about the Portable Vectra in the 1990's as long as we have news for it. In fact, many of the products to be discussed for LS/12 users (portable Fax, serial hard drives, file compression utilities, and so on) will be most relevant to Portable Vectra users.

We will continue in the months and years ahead to be the world's hub for disseminating knowledge and product information that will make your HP Portable more productive and enjoyable.

Hal Goldstein

Letters

Light on Portable

110

P+

PV

LS/12

I am glad and thankful to inform you that your products have returned my faith in my HP equipment; it is, indeed, "New Life" for my equipment.

I want to pass on a tip which has been very useful to me: whenever I need to use my Portable Plus in a dimly lit environment, I use an "Itty Bitty" book light manufactured by Zicc. Its small size makes it completely portable and can run on either a battery pack or an AC adapter. Its light bulb is powerful enough to light up the screen, the keyboard and the neighboring desk surface. I bought mine at a bookstore for \$29.95. It's certainly a lot cheaper than a backlit unit and, more importantly, will not drain your Portable's battery. If you use alkalines, you can easily work for 15 hours non-stop.

Again, my sincere thanks for all the good you have brought into my computing. Keep up the good work.

Ricardo Posada, San Salvador

Posters on the Plus

P+

I have quickly become addicted to FilePlus and find I cannot live without it installed on my Plus. Going to the ROM version will free up some precious "A" drive space and allow me to put off my next big purchase (RAM drawer) a little longer.

By the way, you might pass on to Brian and the boys in the Equipment Exchange that I am really enjoying the used Plus. I especially appreciate the ability to run WordStar 4.0 and other IBM-like software.

I discovered that one of my wife's favorite programs, "PrintMaster Plus" will run on the Portable. This simple poster, banner, greeting card generator can be coaxed to run if configured for "no graphics adapter card" and executed with the PCRUN program provided on the '88 Subscriber disc. The Thinkjet will print the graphics if you use the PRNCONF program (also on the '88 disc) to convince it that it's an Epson. The only drawback to all this is that there is no way to preview the graphics on the screen. This makes it hard to do layout, but with a little experimentation (and wasted paper) the desired results can be achieved.

Regards to all and please continue your good work in supporting what I'm sure the world will eventually realize are the best computers ever.

Gary L. Aldrich, Major, USAF

[We'll be checking out the PrintMaster

program and will write more about it in a future issue. -Hal]

Got Any Spare Chips?

P+

We need to do some work on our Portable Plus. The machine is a 45711C, which is a 512K machine (less two chips on the "mutha board") for 256K on board. Do you have the two chips in either new or used condition needed to upgrade this thing to full board memory?

We skipped this alternative (through ignorance) when we purchased the 384K RAM drawer from you last year. We presently have a 640K total ram.

Mike Mooney, Heaven, Oklahoma

[Technically it should be possible to add 256K to all 45711C and D 256K base Portable Pluses. Similarly, it should be possible to add 384K to the later versions of the 128K 45711A and B Portable Pluses with room on the motherboard. To accomplish this task, apparently, chips need to be added to the motherboard and the system EPROM must be reprogrammed. If anybody knows the specifics of how to accomplish this, please give me a call. -Hal]

European Keyboards

110

P+

PV

LS/12

I noticed the letter from Rudolf Sommer of Switzerland in the March/April issue of *The Portable Paper* enquiring about the availability of European characters on the Vectra LS/12. As Rudolf says, the HP110 and Portable Plus provides an elegant solution for typing ö: the user presses the <extend character> key together with "u" (for umlaut) and then the "o" key. Similarly, an ä is accessed by <ext char> "u", followed by "a".

The Vectra LS/12 is, however, IBM compatible, so doesn't support HP's method using an extended character key. On an IBM-compatible PC, ö is produced by holding down the <Alt> key whilst typing 148 on the numeric key pad. The ä is accessed by <Alt> 132.

This is rather unwieldy if you are constantly accessing different extended character, so IBM developed a variety of keyboard layouts for Europe which allow the user to access the European characters by dedicated keys.

In these days of standards, Hewlett Packard meekly follows the IBM lead and if IBM has a country specific keyboard, HP will also provide one in that country. Once the LS/12 is introduced in Europe (April onwards), I imagine HP will have country specific keyboards.

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But this doesn't end the matter. Many users still need to access European characters outside of IBM's view of their requirements. For example, the only real difference between the US Keyboard and the UK Keyboard is the inclusion of the pound sterling sign. Nevertheless, we need accented characters for everyday English use.

We produce a monthly magazine (HP World) for European users of HP business computers (HP 3000s, HP Vectras, Series 800, etc.) and we feel it is only polite to use the correct European characters when printing people's names and places.

(continued on p.41)

USED HP PORTABLES AND PERIPHERALS

USED HP110 Portables
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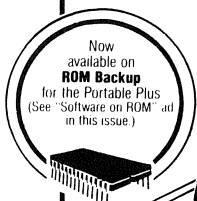
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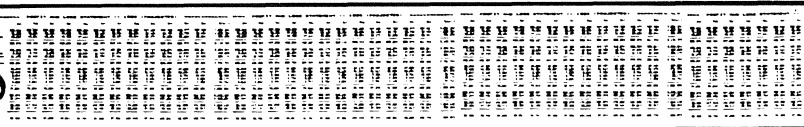
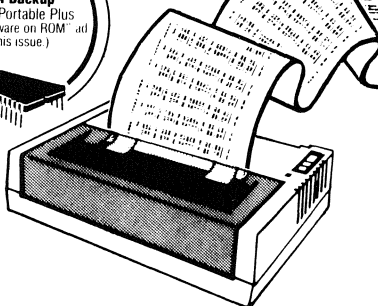
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For good buys on used—and new—HP equipment, see our 4-page brochure enclosed with this issue.

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



Now available on
ROM Backup
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

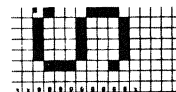
PRODUCT NO. SW11NS

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 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

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110%

Making More of Your HP Portable

by Hal Goldstein

Important: New Battery Charging Instructions for Portable Plus**P+** by Erwin Bush, HP Personal Computer Group**110**

While most users of the Portable and Portable Plus never have a problem with their batteries, there are some who seem to have continual problems. We have made some changes in the Portable Plus to try to help improve the situation, but our experience has shown that most of the continuing problems occur because of the way the user charges and/or uses the unit. Unfortunately, our user recommendations have not always kept up with the changes in the product. Recently we re-evaluated our recommendations and have come up with the following set of guidelines for users to follow in order to maximize their battery capacity and life expectancy. Points 2 and 3 of these guidelines apply only to Portable Plus users with the new Plus battery that was made available in the middle of 1987. HP110, older Portable Pluses, and HP9114's can be left charged at all times. Alternately, following all three points is a perfectly acceptable procedure for HP110, Portable Plus, and HP9114 owners.

1. Do not let your unit discharge consistently below a 60% charge level. (An occasional discharge below this level should not cause a problem.)
2. Do not charge your unit for more than 24 hours straight.
3. After charging your unit, let it discharge to the 80% level before you attempt to recharge it.

Obviously this is not a very user-friendly procedure; however, given the characteristics of the battery and charging circuits, and our past experience with customer usage, it is the most effective way to maximize battery capacity and life expectancy. For those customers who use their units primarily in an office environment, plugged into the AC Adapter, a simple implementation of this solution would be to use an appliance timer between the AC Adapter and your AC source. Set it so that power is applied during the evening hours for recharging, but is disconnected during the day to allow the unit to discharge to the 80% level. (NOTE: This solution is viable ONLY for customers who use their unit sufficiently during the day to discharge it to the 80% level, approximately 3 - 5 hours.)

The reasons why we are making these recommendations are based upon many factors; lead-acid battery characteristics, the charger design, and our past attempts at solving battery problems. For those who are interested, an explanation of these recommendations follow:

The Portable Plus (as does the Portable and Portable

Vectra CS) uses a Lead/Acid battery. Lead/Acid batteries have certain characteristics that effect battery charging/discharging:

1. They operate best when kept as close to full charge as possible.
2. If discharged consistently to a "low" level their life expectancy decreases.
3. Only a very few complete discharges (to the Low Battery Indication) can occur before battery is permanently damaged (Deep-discharge Condition.)

Most of our classic problems in both products follow from these characteristics. One problem we noticed is that some customers were not letting their unit charge sufficiently after use (10 to 12 hours). We made a change to the charging circuit of the Portable Plus in mid-1985 in order to provide a higher float voltage and allow a faster recharging.

Another problem (and ultimately the most serious) was that some people were discharging their units consistently to very low levels. Lead/Acid batteries do not perform well under those conditions. Our experience has led us to determine that discharging consistently below the 60% level will eventually reduce your battery's capacity and ultimately its life expectancy. So we recommend not to discharge your unit consistently below this level. In an effort to try and minimize this problem, we changed to a different battery (solid black case, instead of the 3 white-cell pack) in Mid-1987 which was more tolerant to deep-discharges.

Both of these changes made the product more tolerant to customer charging/discharging extremes and solved most of the problems we were seeing. We also modified our literature and began recommending that customers keep their units plugged in as much as possible. This is fine for people with a Portable, or a Portable Plus with either the old battery or a new battery with the lower float voltage. Unfortunately, those with a Portable Plus that has a new battery AND a higher float voltage MAY overcharge their battery if it is left plugged in for an extended period of time; the new battery is less tolerant to the higher float voltage. (It must be pointed out that these problems are much less frequent than those that occurred with the old battery and lower float voltage; it is a trade-off). Therefore we recommend not leaving it plugged in for an extended period of time.

Finally, the reason we do not want you to start charging it until it has discharged to the 80% level is that there would be a tendency to overcharge the battery in that situation. Therefore we do not recommend it. These procedures, although not always necessary, will work for all possible variations of the Portable and Portable Plus, and will help your battery maintain its capacity and last

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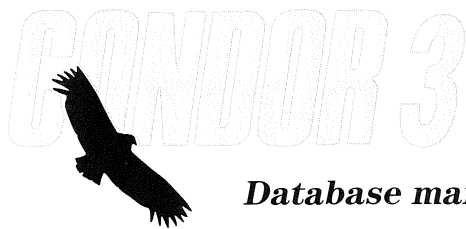
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Mail to: HP PROFESSIONAL, P.O. Box 445, Spring House, PA 19477-0445.

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



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

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.

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

for a full lifetime (up to 5 years). In addition, you should remember that there are many other possible causes for reduced battery life; in particular, leaving the modem and/or serial port power supply on (caused by incorrect exiting from a datacomm program or improperly configuring the power options; these power supplies do not automatically turn off when the unit goes to sleep in order to avoid disconnecting a Datacomm connection that may be in place). Maximizing your battery capacity and life expectancy requires some care and attention by the user. We hope these recommendations will assist you.

Faster HP DeskJet Printer Introduced With More Font Capabilities

110 HP Portable users who require LaserJet-quality printing have found the HP DeskJet an extraordinary tool given its price / performance ratio. The HP110 and Portable Plus **P+** connect to this fourteen pound printer via the serial port **PV** (see this issue's Wizardry column for discussion of the serial connection). The Portable Vectra or LS/12 **LS** can work with the DeskJet using either a parallel or serial port. What follows is the HP press release describing the new DeskJet Plus:

THE HP DESKJET PLUS PRINTER INTRODUCED MAY 1, 1989

The new DeskJet Plus has print speeds two to five times faster than the original HP DeskJet printer, and larger, improved fonts. HP's new printer still offers laser-quality output for less than \$1,000.

The original HP DeskJet printer was chosen "Printer of the

Year, 1988" by Datek, a market-research firm, and recognized by Byte magazine with a "Distinction Award" in its January 1989 issue. The HP DeskJet PLUS printer has the same features as the original, plus the new capabilities customers wanted most:

- * faster printing speeds;
- * built-in landscape printing;
- * larger fonts;
- * better font spacing; and
- * more built-in fonts.

These features, along with the printer's compact design, quiet operation and high-quality output, make the HP DeskJet PLUS printer a versatile alternative to the personal 24-wire, dot-matrix impact printer. Business professionals who want laser quality at a personal-printer price will find the HP DeskJet PLUS printer a practical move to non-impact printing.

FASTER PRINTING SPEEDS

Because paper and processor throughput have been improved, the HP DeskJet PLUS printer produces a page of text up to twice as fast, and a full page of graphics up to five times as fast as the original. Rated print speeds of both printers are the same -- 120 characters-per-second (cps) for laser quality, or about two pages a minute; 240 cps for draft quality.

A faster microprocessor on the new printer improves formatting speed, and a faster paper motor and paper

(continued on p.37)

FormatPlus

An integrated word processing command center for the Portable Plus

Now you can format your text* and run your word processor, spelling checker, and other applications from a single easy-to-use program.

* Headers, footers, lines per page, automatic page numbering, and more!

FormatPlus is two valuable programs in one. Each is a great addition to MemoMaker or The Editor.

First, FormatPlus is an easy-to-use **text formatter** that lets you create headers and footers, specify the number of lines per page, number your pages automatically, convert MemoMaker files to ASCII format, and more.

Second, it's a time-saving **Command Center** that allows you to move back and forth between your text editor, spelling checker, and other applications without having to use P.A.M..

Add FormatPlus, FilePlus, and Webster's Spelling Checker to MemoMaker or The Editor, and you'll have virtually every word processing capability you could ever need—right at your fingertips.

TEXT FORMATTING MADE EASY

In its text-formatting mode, FormatPlus gives you numerous features that are simply

unavailable with either MemoMaker or The Editor. These features make excellent use of your Portable Plus's function keys.

For example, let's say you've created a document with MemoMaker or The Editor and you want to print a header on top of each page.

All you have to do is press the function key labelled "header" in the FormatPlus main menu, then type the wording of your header. When you print your document, the header will get printed along with it.

Almost all of FormatPlus's text formatting features can be accessed in this same way using your Plus's function keys. (See list of features at the right.)

If you prefer, instead of using the function keys to specify your formatting options, you can imbed simple FormatPlus commands directly into your text (using MemoMaker or The Editor), then use FormatPlus to print your document. The commands will cause your printer to produce the desired formatting automatically.

HOW THE COMMAND CENTER WORKS

Text formatting, however, is only part of what FormatPlus offers.

In its Command Center mode, FormatPlus lets you run MemoMaker, The Editor, FilePlus, or Webster's Spelling Checker at the touch of a function key. (You can also customize the Command Center so you can run RightWriter or any other program you wish without leaving FormatPlus.)

Being able to run word processing programs from within FormatPlus is a great time-saver, because you can move back and forth between text editing, text formatting, spell-checking, etc. without having to bother with P.A.M..

For example, let's say that you've written a document using MemoMaker, and have used FormatPlus's Preview feature to see how the document will look when you print it. Suppose you discover that there's a widow line.

With FormatPlus, you simply press the function key labelled "MemoMaker." Instantly, you're in MemoMaker, where you can edit your text to compensate for the widow line. When you leave MemoMaker, you're back in FormatPlus automatically!

COMPLETE WORD-PROCESSING ENVIRONMENT

There is no better way to expand the capabilities of MemoMaker or The Editor than with FormatPlus. It turns your Portable Plus into a complete, easy-to-use word processing

FORMATPLUS AT A GLANCE

- **One-line headers and footers.** Headers and footers can be centered, or shifted left or right on the page, or shifted left and right alternately for even and odd pages respectively.
- **Automatic page numbering.**
- **User-specified line spacing, lines per page, and number of copies.**
- **Chaining and merging of documents.** You can even create a file containing nothing but merge commands, and use it to print a series of documents while your computer is unattended.
- **Change attributes within document.** You can insert simple WordStar-like "dot" commands in your text to change print attributes (e.g., normal to bold to underline) at any point in your document.
- **Save document on disk.** You can send your formatted document to a disk file. Useful if you want to print your document in the "background" (using the DOS Print command) while you're using your computer for something else.
- **Format saving.** FormatPlus lets you store frequently used formats (e.g., for half-page memos or legal-size reports). Once you've created these formats, you never have to enter them again.
- **On-screen preview** - lets you quickly see what your documents will look like before you print them.
- **Works with any printer.**
- **Accepts any ASCII files.**
- **Word processing Command Center** - lets you run MemoMaker, FilePlus, The Editor, or Webster's Spelling Checker at the press of a function key (and run other programs using simple DOS commands) without leaving FormatPlus.

WORD PROCESSING SPECIALS

If you use MemoMaker or The Editor and do any amount of writing at all, we recommend not only FormatPlus, but Webster's Spelling Checker as well. (Even if you're a good speller, Webster's will save you from those hard-to-spot typos that can cause embarrassment or worse.)

Here are our special package prices. (Note: The Editor does everything MemoMaker does, plus: search and replace, easy file merging, editing two files at once, and more. For details about The Editor and Webster's Spelling Checker with its 115,000 word dictionary, see ads elsewhere in this issue.)

If sold separately

	Suggested Retail Price	Our Price	Price of Package
Editor II Pack			
The Editor II	\$129.00	\$99.95	
FormatPlus	79.95	69.95	
Webster's Spelling Checker	79.95	69.95	
	\$288.90	\$239.85	\$195.00

PRODUCT NO.
FM15PP

MemoMaker Pack

FormatPlus	\$79.95	\$69.95	
Webster's Spelling Checker	79.95	69.95	
	\$159.90	\$139.90	\$125.00

PRODUCT NO.
FM14PP

BONUS! Buy our **FilePlus** file management program along with either of the above specials, and save \$20 on FilePlus (\$39.95 instead of \$59.95). For details, see FilePlus ad in this issue.

Word Processing ROM Bundle (Portable Plus Only)

—The following programs on ROMs and disks:

The Editor II	\$185.00	\$174.95
Webster's Spelling Checker	259.00	248.95
FormatPlus	175.00	164.95
FilePlus	165.00	154.95

\$784.00 \$743.80 **\$599.00**

PRODUCT NO.
FM17PP

(without FilePlus)

\$499.00
PRODUCT NO.
FM16PP

environment. Order FormatPlus at our risk today.

Better yet, order one of our Word Processing Specials and save. (See prices in box at left.)

FormatPlus on disk \$79.95

Portable Paper subscriber price . \$69.95

PRODUCT NO. FP11NS

ROM Backup version \$164.95

PRODUCT NO. FP12NR

PORTABLE VECTRA VIEWS

[Vectra Views contains information which specifically pertains to the Portable Vectra 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, PO Box 869, Fairfield, IA 52556, or call (515) 472-6330. You will also find a complete listing of the products discussed.]

Discontinuance Announcement for HP Portable Vectra CS PC

PV by Ron Avignone, Hewlett Packard

The Portable Vectra CS was designed to provide desktop computer functionality without sacrificing battery-powered portability. The Portable Vectra CS features a full-size keyboard with a separate numeric keypad, high-density flexible disc drives and a supertwist LCD. However, technological advances have progressed well beyond the 7.16 MHz, 80C86 compatible Portable Vectra CS. Consequently, the Portable Vectra CS and many of its accessories will be discontinued on May 1, 1989. All of the remaining accessories will be discontinued on July 1, 1989.

PRODUCTS TO BE DISCONTINUED	DESCRIPTION	DISCONTINUANCE DATE
D1001A	(model 10) Portable Vectra CS Dual Flexible Drives	5/1/89
D1009A	(model 20) Portable Vectra CS 20 MB Hard Drive Version	5/1/89
D1002A	1200 Baud Modem	5/1/89
D1003A	2400 Baud Modem	7/1/89
D1004A	Dual Serial Card	7/1/89
D1004A	Dual Serial Card OPT 001 With 1 MB EMS	7/1/89
D1004A	Dual Serial Card OPT 002 With 2 MB EMS	7/1/89
D1006A	Technical Reference Manual	5/1/89
D1007A	Softcase	5/1/89
D1008A	1 MB EMS Kit	7/1/89
D1001-60009	BT Replacement Battery Pack	5/1/89
5061-4335	Battery Charger	5/1/89

Hewlett Packard's strategy is to migrate its current customers to the HP Vectra LS/12 Laptop PC. Customers who migrate will realize immediate benefits in price/performance of this product. Driven by a 12-MHz 80L286 (low power NMOS) microprocessor, it provides the power of today's industry standard 80286 desktop PCs in a compact lightweight design.

The Portable Vectra CS will enter into a 5 year support life to begin on May 1, 1989.

Initializing LS/12 Hard Disk

LS/12 The hard disk on the HP Vectra LS/12 Laptop PC is pre-initialized at the factory. However, HP recommends highly that you re-initialize the hard disk before using the LS/12. The initialization process checks the hard disk for bad spots that could have occurred during shipment, and marks those bad spots as unusable.

Don't worry if it takes a while to re-initialize the hard disk. The "Initialize Internal Hard Disk" (Option #3 on the SETUP's main menu), is found on the LS/12 Utilities and Drivers Disk. It is a three step process: first the hard disk is scanned, then it's initialized, and finally it's analyzed. For a 40 MB hard disk, this could take as long as 2 1/2 hours, and for a 20 MB hard disk, a little over an hour.

Using ThinkJet Printer with LS/12

PV Have you ever been away from the office, using your HP Vectra LS/12 Laptop PC powered by the battery pack, and **LS/12** wished that you had a battery-operated printer? Well, HP's battery-operated ThinkJet Printer, HP Product Number 2225P, has been tested and works well with the LS/12 Laptop PC. There is just one thing to keep in mind. You **must** turn on the ThinkJet **first**, followed by the LS/12. When you are finished, turn off your LS/12 first, and then the printer. The ThinkJet will only work with the LS/12 if you turn on the equipment in this order.

Preserving The Integrity of Your Disks

by Hal Goldstein

PV Your HP Portable must be able to create, modify, and delete files on hard, floppy, or electronic disks while **LS/12** preserving absolute integrity of the data in those files. It is the MS-DOS operating system that is responsible for maintaining a directory of files. That directory tells **110** applications programs (such as Lotus or WordPerfect) **P+** where the files are on the disk.

Users naturally want to be able to use all available disk space for file storage and want to be able to grow and shrink files without impediment. In order to accomplish these ends, MS-DOS may store a given file in a number of pieces (blocks) physically scattered throughout the disk. MS-DOS maintains a directory and a FAT (File Allocation Table) which keeps track of every block of every file on the disk.

A copy of the FAT is maintained both on the disk and in memory. If a system locks up and must be rebooted or if the software is a little buggy, it is possible that the most recent FAT was not correctly copied back from memory into the physical disk directory. In other words, your directory map is no longer correct. At first the problem may not be serious. But after some normal activity of saving files, your directory may really get out of whack.

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 \$250.

PRODUCT NO. FA11NG

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

Overnight return shipping . . \$35.

Here are some possible symptoms:

1. Files mysteriously disappear.
2. A file contains the contents of another file.
3. Sometimes it takes a very long time to retrieve a file.
4. All of a sudden you cannot start (boot) your computer from your hard or floppy disk.
5. Intermittent system problems with no apparent cause.
6. You can no longer access a subdirectory full of files.
7. Disk is a lot more full than it should be.

Fortunately, your Portable comes with the CHKDSK utility that lets you automatically repair a corrupted FAT table. If you discover a corrupt FAT table at its onset, you most likely will not experience any data loss.

Here is a trick for Portable Vectra and Vectra LS/12 users that I strongly recommend. (I do not use PAM; however, that should not make a difference.) HP110 and Portable Plus PAM users can run a variation of this trick. The important point of this article for all HP Portable users is that you should use the CHKDSK command to test for file corruption often, and if possible you should automate the process.

On your Vectra, you probably have a file named AUTOEXEC.BAT. If not, create it. Add a line to the AUTOEXEC.BAT file with the following command:

chkdsk /f

(All commands contained in the AUTOEXEC.BAT file automatically get executed when you start or reboot your Vectra.)

When I start up my Portable Vectra (from my hard disk) with the **chkdsk /f** command in the AUTOEXEC.BAT file, I typically get a message like this:

Volume Port Vectra created Nov 30, 1988 1:56p

21229568 bytes total disk space
49152 bytes in 4 hidden files
149504 bytes in 66 directories
19808256 bytes in 1240 user files
1222656 bytes available on disk

654336 bytes total memory
447248 bytes free

The first five lines give me information about the number of files and directories on my hard disk. According to the message, I only have about 1 Meg out of 21 Megabytes free to store files. (Sound familiar?)

The last two lines tell me how much internal memory I have. In this case I have 447,000 bytes free out of my 640K system. (DOS and several memory resident programs consume the missing internal memory.) Note that CHKDSK did not tell me about the additional 1 MEG of EMS memory my system has.

This article is being written in WordPerfect. In order to report to you an exact example of the CHKDSK message with a corrupted FAT table, I decided to corrupt my hard disk. After saving a copy of this article to disk, I (not very brightly) decided to resave the article and in the middle of the resave, reboot the disk by pressing the

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Portable Paper subscriber price\$279.
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To run Relay Gold from Edisk, the minimum practical configuration is a 768K Portable Plus.

Ctrl Alt Del combination.

I succeeded admirably in not only corrupting my disk, but losing my file as well (the directory listing told me the file containing this article had 0 bytes). Fortunately, I originally set WordPerfect to automatically back up files at every save, so Vectra Views was saved for this issue.

Here is the CHKDSK message that appeared on my screen after the reboot (Remember the command **chkdsk /f** is in my AUTOEXEC.BAT file that gets executed every time I start my system.):

**Volume Port Vectra created Nov 30, 1988 1:56p
5 lost clusters found in 1 chains.
Convert lost chains to files (Y/N)?**

I typed **y** to fix my FAT table and clean up my directory.

A lost chain of clusters refers to incomplete information in the FAT table. At one time, that chain of clusters represented a file with its blocks (clusters) physically scattered over my hard disk. However, in the corrupted FAT table there is no file name associated with the lost chain of clusters.

CHKDSK saves the "lost converted" clusters into files named: **filexxxx.chk**. The **xxxx** stands for a four digit number beginning with **0000**. Therefore, I received the following listing when I did a **dir c:*.chk**:

```
Volume in drive C is Port Vectra
Directory of C:\
FILE0000 CHK      10240   4-04-89   6:18a
    1 File(s)    1114112 bytes free
```

If my original CHKDSK message had reported more "lost chains", I would also have found files FILE0001.CHK, FILE0002.CHK, and so forth.

Fortunately, if you catch the FAT corruption immediately, you do not have to worry about those files created by lost chains. However, if your system has been corrupted for some time, you may need to edit those files the best you can to save data.

I have given up trying to look at .CHK files, since typically I have not lost any data and the .CHK files are often difficult to decipher. In the past before I discovered this AUTOEXEC.BAT trick, when I feared lost data, I used The Norton Utilities to capture ASCII text from the CHK files. Now, right after I answer **y** to CHKDSK, I issue a **del *.chk** to delete all CHK files.

To summarize, you should issue the **chkdsk /f** command often and automate the process if possible. If you are having problems with your disk, the **chkdsk /f** command should be the first remedy you try.

Cheapest Software For The LS/12 and Portable Vectra

by Ed Keefe

PV A good follow-up article to last issue's Vectra Views "best software for the LS/12 and Portable Vectra" is the **LS/12** "cheapest best software for the LS/12 and Portable Vectra." You can in fact build up quite a sophisticated and powerful system for very little money. These programs can be obtained from local users groups or downloaded from public bulletin boards or CompuServe. Try out the software. If you like it, send the author a shareware fee.

For word processing use, try VDE or Galaxy: free or \$59. For spreadsheets, there is AsEasyAs ver 3.1 costing \$30. For database, there is PCFile.

For communications, try Telix 3.11 or Boyan 4.0 shareware. For an outliner, PCOutline costs \$90. For utilities, popup file manager Qdisk (\$40) goes great with Personalized Software's FilePlus (\$59.95). The program Stack (DOS command history and editor) is free. DiskNavigator is a file manager like FilePlus only better. Use NARC for unarcng files and Quikmenu for a shell to replace PAM for those who need a shell to access programs or batch files.

Batteries And The Vectra LS/12

by Bill Vesley

LS/12 If you're used to the batteries in the other HP portable computers, you need some re-education regarding the NiCad battery in the Vectra LS/12 Laptop PC. The main difference of critical import is the manner in which they should be charged and discharged. These batteries definitely require more user attention than lead-acid cells, but their lighter weight and constant voltage output make them desirable.

With lead-acid cells, the best strategy, as with your automobile, is to keep them as near fully-charged as possible. If they are completely drained, this drastically shortens their life. This is why they have special "deep-cycle" lead-acid batteries for applications such as marine and electric golf-cart use, where they must go for a long period before being recharged.

So if you're using an HP110, Portable Vectra CS, or



How to transfer files back and forth between 3 1/2 " HP disks and 5 1/4 " IBM disks effortlessly

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**Manzana 3 1/2 " disk drives let you share files
(WordPerfect, Lotus 1-2-3, ASCII, etc.) between
your HP computer and an IBM PC compatible
with 5 1/4 " disk drives.**

(Bonus: The drives also let you use 3 1/2 " IBM disks with a 5 1/4 " IBM compatible system)

Manzana was the first company to offer 3 1/2 " disk drives for IBM PCs (1985), and has been the industry leader ever since.

Manzana 3 1/2 " disk drives are the best choice for HP users who also have 5 1/4 " IBM compatibles, for two reasons:

1. **Quality.** Manzana drives are well made and reliable. PC Magazine (July, 1987) has said, "[Manzana's] software and packaging are first rate, and, although 3 1/2-inch disk drives are available for less from mail-order houses, the quality makes Manzana's drives worth that little bit extra."

2. **Compatibility.** We were able to locate only one other brand of IBM PC compatible drives that can read HP disks. When we checked this brand out, we found that Manzana's product quality and documentation are superior.

4-WAY CHOICE

There are four kinds of Manzana drives to choose from: You can choose either an internal or external drive, and for each of these you can choose between 720K or 1.44mb capacity.

As the names imply, an internal drive installs directly into your IBM PC or compatible, while an external drive sits on or near your PC, connected to it with cables.

INTERNAL DRIVES

An internal Manzana drive fits into a 5 1/4 " half-height drive slot, and works with an external floppy disk controller that is already built into your PC. (If you have an IBM AT with two internal floppies, call us about Manzana's "3rd Internal.")

EXTERNAL DRIVES

An external Manzana drive comes with a "MUX" card that fits into either a short or standard expansion slot inside your PC. The MUX card serves as an interface between the drive and the computer; it does not affect the use of existing, built-in drives.

External Manzana drives get their power from the host computer. (If you have an early model IBM PC, it may require a self-powered external drive. Manzana makes those too. Call us for pricing.)

EASY TO USE

When you buy a Manzana disk drive, you also get Manzana's "3Five" software. 3Five is a "device driver" that enables your PC to read and write HP single and double sided disks and 3 1/2 " IBM disks.

Manzana disk drives and software are easy to use. The software assigns a letter of the alphabet to the new

drive—M, let's say—without affecting the existing drives. Then you treat the new drive the same way you treat any other.

(For example, if you use DOS, you could copy Lotus worksheets from the M drive to a 5 1/4 " IBM disk by issuing the command: copy m:*.wks a:*.wks)

WHICH KIND TO GET?

If you only need to access HP disks or 720K IBM disks, and have an IBM AT compatible, get a 720K Manzana drive.

If you also need to access high-density, 1.44mb disks, get a 1.44mb drive.

If you have space in your computer for an additional drive, you probably should get an internal drive. It will save you money, desk space, and an expansion slot (because you won't need a MUX card).

If you don't have space inside your PC for a second internal floppy drive, or if you prefer the look and feel of an external unit, get an external drive.

Whichever kind you choose, we think you'll be impressed with Manzana quality.

To enjoy the convenience of accessing your HP formatted disks from your 5 1/4 " IBM compatible, order a Manzana disk drive today.

	Suggested Retail Price	Subscriber Price
Manzana internal disk drive, 720K	\$235.	\$219.
PRODUCT NO. MZ12NM		
Manzana internal disk drive, 1.44mb*	\$290.	\$275.
*Requires AT compatible PRODUCT NO. MZ11NM		
Manzana external disk drive, 720K	\$395.	\$369.
PRODUCT NO. MZ13NM		
Manzana external disk drive, 1.44mb*	\$475.	\$439.
*Requires AT compatible PRODUCT NO. MZ14NM		

MANZANA DISK DRIVES

	Internal	External
Height	41.3mm (1.625")	42mm (1.63")
Width	148mm (5.82")	106mm (4.17")
Length (not incl. cable)	191mm (7.5")	191mm (7.5")
Weight	1.0Kg (2.2 lbs)	1.1Kg (2.4 lbs)
Power draw from host computer	4 watts avg., 8 watts peak	4 watts avg., 8 watts peak
Signal cable	N.A.	Attached FCC shielded
Access time	100 millisecc. avg.	100 millisecc. avg.

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Numeric keypad speeds data entry on Portable Plus

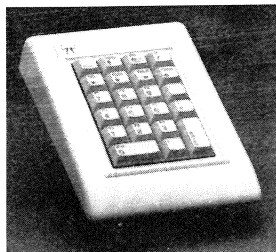
If you enter lots of numbers into your Portable Plus via Lotus 1-2-3 or other applications, the Touchstone numeric keypad is for you.

Unlike the 10-button numeric keypad on the Plus, this one doesn't disable the letter keys when you turn it on. Nor does it move the backslash from one part of the keyboard to another.

The Touchstone keypad actually has 22 keys, including an over-size zero, over-size Enter key, 4 cursor keys, 4 math functions (+, -, *, /), decimal point, and backspace.

The unit weighs about a pound, plugs into your Plus's serial port, and has a firm, responsive key action.

For fast, convenient numerical data entry, order a Touchstone keypad today.



Touchstone numeric keypad \$139.
Portable Paper subscriber price \$135.

PRODUCT NO. TS11NM

See centerfold for guarantee and ordering information.

Note: The Touchstone keypad includes a shift key which lets you control the 10 function keys, home key, page up and down, and other keys on an IBM PC. The Touchstone shift key does not work properly with the Portable Plus, but this is no problem, since the corresponding keys are easily accessible on the Portable Plus keyboard.

HP9114 disk drive, keep the unit plugged in whenever an outlet is available, and re-charge it as soon as possible after using it "on the road". (Portable Plus users, see this issue's 110% column for special new instructions from HP.) The circuits in these computers automatically turn them off when the power falls below a certain level, so there's a safeguard against draining the battery completely. The battery drain still occurs, however, if the battery is not soon recharged (lead-acid batteries will slowly discharge of their own accord anyway, even if they aren't attached to anything.)

Using this same strategy with a NiCad battery is exactly what you're *not* supposed to do. The LS/12 and ThinkJet use NiCad batteries. NiCad batteries are "deep-cycle" batteries; they must be completely discharged and then fully charged in order to work properly. These batteries actually have a better memory than the computer, although they remember the wrong things. This memory effect, also called hysteresis, means that if you recharge the battery after only a little bit of use, it "remembers" that and after a short time goes on strike, refusing to function unless it is fed. (Cat owners will be very familiar with the phenomenon.)

If you haven't been paying much attention to this matter, the best thing to do right now is to use the deep discharge function of the battery watch utility to let the battery discharge fully, and then charge it up for 8-12 hours. Then repeat the process just to make sure. When the battery is fully charged, disconnect the AC-adaptor and use the computer until the low power warning comes on. Then plug in the AC-adaptor until you are done working,

and then remove it and leave the computer on so that the battery can again fully discharge. Then charge it again until it is fully charged and repeat the process. You can use it while it is charging, but then you will have to leave the AC-adaptor connected longer for it to fully charge.

Pocket Power Inverter

by Bill Vesley

110 This is a handy little device, made by Statpower Technologies Corporation for allowing you to run most **P+** 115 volt AC devices of 100 watts or less from your 12 volt **PV** car battery by plugging into the cigarette lighter. It's a compact unit, measuring 4.5x3.5x1.3 and weighing 1 lb **LS/12** 2 oz. You can also plug in AC-adapters, and can thereby run a variety of devices requiring different DC voltages from your 12v car battery. In particular, portables and disk drives and printers can all be connected, just as long as the total power doesn't exceed 100 watts.

You can use this Statpower PC100 Pocket Power converter to recharge your Portable Vectra, LS/12, as well as the HP110, Portable Plus, HP9114, and ThinkJet. Just plug the Portable power supply (recharger) into the Statpower PC100. The Statpower PC100 in turn plugs into the cigarette lighter. (Much less expensive alternatives are available for the LS/12 and will be discussed in future issues as we get them in for testing. HP110 and Portable Plus users with infinite patience can continue to wait for Personalized Software to get a new stock of Mobile Rechargers. Cost to subscribers: \$49.95.)

Actually, the Statpower PC100 manufacturer says that electronic equipment is often rated at a higher wattage than it actually draws, so you can actually try using it up to 200 watts. In any event, it has an overload protector that automatically disconnects the unit. It worked with my power drill, rated at around 250 watts, but not real well. With the engine running, it did quite a bit better.

The unit can be used with the automobile engine running or not. If the engine is off, they recommend starting the vehicle every 2-3 hours to keep the car battery voltage from dropping below that required to start the engine. When the car battery voltage drops below 10.7 volts, the inverter will sound an alarm shortly before it shuts down. The technical specs are:

Volts In:	10.0-15.0 Volts dc
Volts Out:	115 Volts ac RMS
	+5% @11-14 vdc IN
Continuous Power	100 Watts
Peak Output	200 Watts
Output Frequency	60 Hz \pm 1%
Output Waveform	Modified Sine Wave
Efficiency	90%
No-Load Current Draw:	0.06 Amps

ORDERING INFORMATION The Statpower Pocket Power Inverter is manufactured by Statpower Technologies Corp., 170-717 Simundson Dr., Point Roberts, WA 98281. It retails for \$180 and is available to Portable Paper subscribers directly from Personalized Software for \$169.

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

HOW TO RESTORE DELETED FILES

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

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

HERE'S HOW IT WORKS

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

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

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

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

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

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

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

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

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

It's done with a powerful utility called **nu** that lets you display, change, and capture to a file any information on any disk. In complex cases you may need to

"Indispensible."
—PC Magazine

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

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

do some detective work, but **nu** will help you find whatever remains on the disk, thereby saving you from countless hours of retyping lost data.

POWERFUL FILE MANAGEMENT COMMANDS

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

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

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

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

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

*Hal Goldstein, Publisher
The Portable Paper*

just type **ff** (find file) and specify the name of the file and the directories to search through. The program does the rest.

Other useful features include the **fa** command, which lets you change file attributes (for example, to convert HP150 read-only files into erasable files), and the **fs** command, which tells you the total file size of a group of files (I often use it to find out the total disk space occupied by my Lotus worksheet "WKS" files or by all my text files from a given project).

CUSTOMIZED TO YOUR COMPUTER

Because of their great helpfulness and ease of use, THE NORTON UTILITIES are a best-seller in the IBM PC market. Personalized Software is authorized to distribute them on 3½" disk for users of the HP150, HP110 and Portable Plus. (All it takes is a few keystrokes to customize THE NORTON UTILITIES to your machine; just follow the simple customization instructions included on the disk.) Also included in our package are the standard 5¼" disk sold by Peter Norton for IBM PCs.

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



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UTILITIES**

DATA RECOVERY
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THE NORTON UTILITIES 4.0 . . \$99.95
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PRODUCT NO. NU11NS

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

STATISTICS? STATISTIX!!

Rated Editor's Choice by *PC Magazine* (March 14, 1989), STATISTIX performs 75 of the most common statistical analyses, including:

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For ordering information, see centerfold. PRODUCT NO. ST11NS

LS/12 Questions & Answers

LS/12 Here are a few commonly asked questions about the HP Vectra LS/12 Laptop PC:

Q: Can I use a mouse?

A: Yes, a mouse does operate on the LS/12. HP does not distribute a mouse, but has tested the Microsoft and Logitech Mice.

Q: What is double-scan CGA?

A: Standard CGA resolution is 640x200 in graphics mode. When using a 640x400 display (e.g. LS/12 display), double-scan CGA provides the benefit of maintaining the aspect ratio of graphics by displaying each pixel on two consecutive lines of display. Circles look like circles, not ellipses. When using a 640x400 display for text mode, double scan improves the resolution from 640x200 to 640x400.

Q: Will I be able to run Window/286?

A: Windows/286 will run on the LS/12. There will be some limitations to the display quality achieved with the CGA compatible display, but all Windows applications will run. The cursor speed and the mouse sensitivity in the Windows control box should be adjusted to match the LCD display speed.

Other Sources Of Information For The LS/12 by Hal Goldstein

LS/12 Since the HP Vectra LS/12 Laptop PC is based on the Zenith 286 SuperSport, indirect support for the unit is available from other sources. However, most publications about Zenith computers devote surprisingly little space for its 286 SuperSport. We will be reviewing these publications as time goes on and pass all pertinent information on in this column.

For those who want to delve into the Zenith world themselves, here are what appears to be the best sources.

Remark, P.O. Box 217, Benton Harbor, MI 49022, 616-982-3838. \$22.95 for 12 issues. Glossy magazine published monthly by the Heath/Zenith Users' Group, around 65 pages. Heath and Zenith news, "how to" articles. Editor: Jim Buszkiewicz.

Sextant, 716 E. Street, S.E., Washington DC, 800-341-1522. \$29.94 for 8 issues. Independent glossy magazine published 8 times per year, around 48 pages. Feature articles, "how to" articles, columns, on all Heath and Zenith computers. Advertisements focus on the Zenith and Heath community. Editor: Charles Floto.

Buss, 716 E. Street, S.E., Washington DC, 202-544-0900. \$19 for 8 issues. Independent newsletter published 16 times per year, 4 to 8 pages. Publishes news and information of interest to owners of Zenith and Heath computers. Editor: Charles Floto.

H-SCOOP, 2618 Penn Circle, Sheboygan, WI 53081, (414) 452-4172, bulletin board: (414) 452-4345. \$24 a year for 12 issues of newsletter. Featuring Zenith and Heath news as it relates to the computer industry. Editor: Henry Fale.

While researching the Zenith world, I talked to CompuServe Sysop, Joseph Katz, Editors mentioned above: Henry Fale and Charles Floto, and also to dealer and Zenith guru Tom Jorgenson of First Capital Computer, St. Peters, MO, (314) 447-8697, BBS: (314) 928-9228.

I was amused at the similarity of experiences. These individuals have taken a similar approach to mine in attempting to support just one vendor's computer offering. Zenith, like HP, has a reputation for high quality and strong user identity and loyalty. From my discussions with Tom in particular it seems that Zenith is even more frustrating than HP for third-party vendors and customers to deal with. Perhaps more on this another time.

Much More To Come

LS/12 In upcoming issues we plan to devote the majority of space in this column reviewing hardware products that will work with your Vectra LS/12 Laptop PC, and often your Portable Vectra CS. Many of these products are new and part of our delay in discussing them is caused by not having the products yet to review.

In upcoming issues look for reviews on the following products designed to work with your HP Portable: Fax machines, expansion chassis, cigarette lighter adapters, carrying cases, expanded memory, portable printers, external floppy and hard disk drives, tape back up systems, networking with portables, and much more.

The Portable aftermarket is beginning to explode. In

the months and years to come more and more people will become sold on the benefits of portable computing. With more users, more needs will surface, and more products will appear. We plan to be your centralized source of knowledge and product information for your LS/12 Laptop and Portable Vectra computers.



Products that make HP Portables smarter

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

By Hal Goldstein

128K EPROMs May Be Available For Portable Plus In July

THE SOLUTION

P+ As reported in past issues of The Portable Paper, we have been trying to figure out a way of using 128K byte EPROMs in the Portable Plus ROM drawer. Currently, only 64K byte EPROMs can be used. 128K ROMs such as Lotus, Webster, SuperROM, and ECM must be created in lots of 1000 at a time, whereas EPROMs can be burned on a one time basis.

128K EPROMs will as much as double the capacity of the ROM drawer.

We have been working with an engineering consultant who has figured out a clever solution. Basically, he designed an adapter card that will sit between commercially available 128K byte 32 pin EPROMs and the 28 pin ROM sockets found in the ROM drawer. He also designed a part so that commercially available ROM burners could burn the 32 pin EPROMs to work with the Portable Plus ROM drawer and his adapter card.

We expect to see the first 128K chips and adapters useable for the Portable Plus by June 1. If your company is interested in purchasing large quantities of these ROMs and adapters, be sure to call us right away so we can get an idea of how many adapters to create on the first run.

Naturally, since the product does not exist, something may not work out as expected. However, our consultant is very optimistic about success.

Our current thinking as to how to make these ROMs commercially available is as follows: Pricing has not been finalized, but you can expect to pay between \$135 and \$175 per backup 128K EPROM depending on our costs. A set of 128K EPROMs will cost much less per unit. We are open to your feedback on any of this.

1. We will sell 128K byte EPROMs in the same way we currently sell backup 64K byte EPROMs (eg a disk version of the software will be required).

2. We hope to offer customers the option to put any two 64K byte backup EPROMs that we currently offer on

one 128K byte backup EPROM. We may have to limit the combinations if the logistics prove too time consuming.

3. We will make 128K byte EPROMs available at a reduced price to customers who already own pairs of Personalized Software 64K EPROMs.

4. We will make available do-it-yourself EPROM burning kits as well as blank 128K EPROMs and adapters.

In my discussions with our consultant it became apparent that 128K Bytes is the upper limit for the Portable Plus ROM drawers. All 28 pin connectors in the Plus ROM socket are used with 128K EPROMs. A 29th pin would be required for 256K EPROMs.

THE MISSING LINK

I am actively looking for a systems software program to complete the solution. There is a 256K subdirectory limitation on the ROM B drive. That means, for example, neither the WordPerfect 5 main program file or the speller file (both 300K) could be burned into EPROM.

It seems to me the best solution is to write a device driver that fools the system into thinking that the 128K EPROMs are in a new drive, say the D drive. For a more technical background, see Rich Brown's contribution in the 110% column entitled "ROM Subdirectory Size Limits".

If you think you can solve the problem, give me (Hal Goldstein, 515-472-6330) a call immediately.

Statistix

P+ Statistix, made by NH Analytical Software and available from Personalized Software, was recently awarded Editor's **PV** Choice in the March 14, 1989 issue of PC Magazine. This **LS 1/2** package allows you to automate over 75 statistical methods for analyzing scientific data. The menu-driven system is definitely "no-frills", but it gets the job done. It is especially useful for bio-medical applications, because of its large selection of linear models, including various regressions and analyses of variance and covariance. Use of the package requires a fair amount of statistical know-how. For example, to obtain meaningful results from uniformly large and small data sets, they must first be transformed, since the package displays only four or at most five significant digits.

Data can be either read in from an ASCII file or entered using the Lotus-like editor. The package is somewhat fussy about the format of the data it will read in, but provides error messages if it finds something it doesn't like.

Statistix isn't the most user-friendly package one might come upon. If you make a syntax error, you must re-enter the entire string. The cursor control keys are not always supported, and it is lacking in on-screen helps. Once the package is learned, however, an analysis can be set up very quickly.

Besides the usual statistical capabilities, Statistix can also do all subset regressions, Poisson regressions, and a variety of probability functions that automatically provide p-values. It has 35 built-in functions for doing transformations.

The accompanying manual is informative and has many helpful examples. It assumes a knowledge of statistics, but no computer knowledge. Technical support is very good.

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.

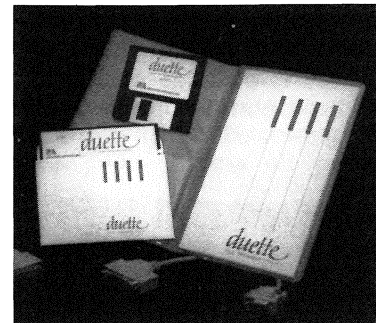
HPDuette is easy to use too. Simple menus and easy-to-understand help screens are available at all times.

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. DU11NM

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

ORDERING INFORMATION: Statistix is available from PS for \$169 for non-subscribers and \$159 for subscribers. Statistix works on the Portable Plus, the Portable Vectra, and the LS/12.

TurbPlus Integrator

P+ The TurbPlus Integrator will be ready for shipping in June. This handy program lets you hook your favorite editor and file manager up with the Turbo Pascal command line compiler to form a seamless programming environment. You can move between your editor and compiler at the touch of a couple of keys.

Turbo Pascal, version 3, has long been a favorite programming tool for owners of HP computers. Version 5.0 offers many more features and is easier to use, especially with TurbPlus Integrator in command.

The TurbPlus Integrator disk contains files that will let you adapt Turbo Pascal 5.0 to either the Portable Plus or the HP 150. All source code is provided with the program. The source code has been kept relatively simple so that you may modify TurbPlus Integrator and have it your way. You might even adapt the program for use with other computing languages.

ORDERING INFORMATION: The TurbPlus Integrator is available from PS for \$199.95 to non-subscribers and \$165 to subscribers.

Future ROM Products In The Works

P+ We are working on a number of new ROM products that we hope to introduce by next issue.

CONDOR 3

Rod Sharp, who wrote the Vol. 3, No. 6. p. 26 review on Condor 3, is working to create a Condor 3, set of 4 64K backup EPROMs. This would mean that a powerful, easy-to-use relational data base will be available on ROM for Portable Plus.

GAMES

We're seeing how many good Portable Plus games we can fit and get to work on a single 64K byte ROM. As of this writing Everett Kaser's popular TigerFox and Landmine will join a version of Go-Moku and Yahtzee written for the Portable Plus.

DATA COMPRESSION UTILITIES

In the next issue, we will discuss data compression utilities. This software can effectively as much as double the amount of precious Edisc space you have available for your files. Already available on the DOS Tools ROM is System Enhancements ARC520.

Problems and Solutions With Some Personalized Software Products

WORDPERFECT 5

P+ For some unknown reason, the Portable Plus screen does not shut itself off after five minutes of non-use when in WordPerfect 5. Here are three work-arounds:

- (1) Shell to DOS (**CTRL f1**). The Plus will then time out properly.
- (2) Use the Personalized Software Shelf product to turn off the screen in the middle of WordPerfect.

© Copyright 1988 Personalized Software

Top-rated mouse adds convenience (and fun!) for Portable Plus users



Move a mouse around on your desk and the cursor moves around the screen. It's easier than cramping your fingers on the arrow keys—especially if you move the cursor around a lot (with Lotus, say, or with your word processor). For creating freeform graphics, a mouse is a must.*

The best mouse we know of is also one of the least expensive.

EDITOR'S CHOICE

It's the LOGITECH MOUSE (model C7 from Logitech, Inc.), and it runs beautifully on the Portable Plus when coupled with a PORTABLE MOUSE SOFTWARE program developed exclusively for us by Bill Saltzstein. The LOGITECH MOUSE was rated Editor's Choice by *PC Magazine* (January 27, 1987).

3 BUTTONS—EASY TO CUSTOMIZE

The LOGITECH MOUSE offers high resolution, precision tracking, and a convenient 3-button design. (The Microsoft mouse, which

sells for \$100 more, only has two buttons.)

With our PORTABLE MOUSE SOFTWARE, you can assign a different keystroke to each of the buttons. You can also assign a different set of three keystrokes for each of your applications.

Our PORTABLE MOUSE SOFTWARE also lets you control the distance that the cursor will move for a given movement of the mouse.

TRY IT AT OUR RISK

Not sure you'll like using a mouse with your Portable? The only way to find out is to try one. Remember, you can order any product from us, use it for 60 days, and then return it for a full refund if you are not completely satisfied.

Order a Logitech or Microsoft mouse for your Portable

A WORD ABOUT THE MICROSOFT MOUSE

The Microsoft mouse has only 2 buttons, but costs \$100 more than the 3-button Logitech mouse. Nevertheless, the Microsoft mouse may be your best bet if you want the IBM PC-compatible graphics software it comes with.

If you already own a serial Microsoft mouse—or would like to buy one—there's no need to buy the Logitech Mouse as well; to use the Microsoft mouse with your Portable Plus, all you need is our Portable Mouse Software and a cable to connect the mouse to your Plus.

Plus, risk-free, today. (Don't forget to order our PORTABLE MOUSE SOFTWARE and cable too; you'll need them to run either mouse with your Portable Plus.)

Portable Plus Mouse Systems

(Logitech Mouse, Portable Mouse Software, Cable) \$219.00.
\$179.95 for Portable Paper subscribers.

For pricing of individual components and Microsoft Mouse, see "Additional Products" opposite the order form in this issue.

60-DAY MONEY BACK GUARANTEE

See order form for details.

TO ORDER

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

RECOMMENDED FOR:

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

*See ad for Sketch, the graphics program for the Portable Plus, in this issue.

© Copyright 1987 Personalized Software

At last! Graphics for the Portable and Portable Plus

by Hal Goldstein
President, Personalized Software

Paul Grimmer has done it again.

He's the author of two of our best-selling programs: SideWinder (the sideways printing program for the HP Portables) and LINK (the program that lets you transfer data back and forth between HP hand-helds and Portables, printers, and other peripherals).

Now he's developed SKETCH, a fabulous graphics program designed for both the HP110 Portable and Portable Plus.

CURSOR BECOMES DRAWING PEN

Using SKETCH couldn't be simpler: Put SKETCH in draw mode, and your cursor becomes a "pen". The pen can either be "up" or "down." When it is "down," it draws wherever you move it. When it is up, you can move it around the screen without affecting the drawing. (You set the cursor up or down simply by pressing "U" or "D.") You also can set the cursor speed, and can toggle between a faster speed and a slower

speed in an instant.)

The pen also has an "eraser": Just press "E," and when the cursor is down it will erase whatever it encounters.

DOZENS OF HANDY FEATURES

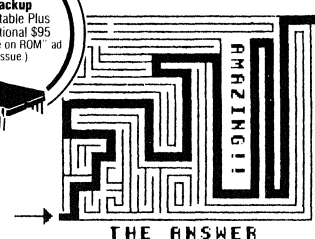
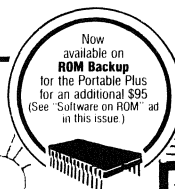
But that's just the beginning. SKETCH also lets you draw diagonals, boxes, circles, and arcs—each with a single key.

(If you have a mouse, you gain even more convenience: Move the mouse in any way you want, and the cursor follows instantly. See ad on the Logitech Mouse for the Portable Plus in this issue.)

SKETCH also lets you fill closed shapes with light or dark solid—or even invert the entire screen (light areas become dark and vice-versa)—with a single keystroke.

With SKETCH, you can create text in any of 5 different character sets and place the text anywhere in your drawing—including sideways or even upside-down.

SKETCH lets you save part or all of any drawing for future use, or you can print directly from the screen onto your ThinkJet or QuietJet pages.



THE ANSWER

You can also import graphics screens into SKETCH from Lotus or any other graphics program.

SKETCH doesn't limit the size of your drawing area to the size of your screen. The total drawing area is 70% bigger than the screen on the Portable Plus, and more than 150% bigger than the screen on the Portable. As you move the cursor past your screen's borders, SKETCH automatically shifts you into the areas that were off-screen.

Now you might be expecting that all these great features come at a high price in terms of memory space. But they don't. The entire program takes up only 44K! (As I said, Paul Grimmer of Southern Software has done it again.)

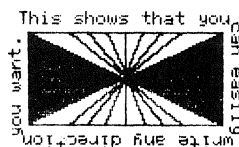
USING IS BELIEVING

No matter how fired up you might get by reading about SKETCH or looking at the few samples we've shown of what it can do, there is no substitute for actually getting your hands on this wonderful program and trying it out for yourself.

Remember, with our money-back guarantee, if you are not completely satisfied with SKETCH within 60 days, you can return it for a full refund. Why not order a copy today?

SKETCH graphics program \$80.
\$75.95 for Portable Paper subscribers.

PRODUCT NO. SK11NS



RECOMMENDED FOR:

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

© Copyright 1987 Personalized Software

(3) Keep the Portable Plus plugged in when running WordPerfect.

THE EDITOR II

110 Thanks to Dennis Keierleber for alerting us on some problems with The Editor II master disk.

P+ When The Editor II is installed into PAM, a batch file and a set of macros created by Personalized Software gets copied with The Editor II. Unfortunately, the batch files are incorrect.

PV In particular, the batch file used on the HP110 (**ed110.bat**) does not call the macro file automatically despite the promise of the manual. To fix the problem edit the file **ed110.bat**. Modify the line containing **ed110** to read:

ed110 /medmac %1

In addition, all other Editor II users who want the option to specify a file name when running The Editor II from DOS should make a minor change to the batch file. Reverse the order of the **%1** and the **/medmac** parameters. Therefore, Portable Plus users should modify **editplus.bat** so the line containing **edplus** should read:

edplus /medmac %1

Editor II ROM owners should copy **editplus.bat** from the master disk to the A drive. Then modify the line containing **edplus** as described above.

Finally, we have been getting several complaints from users who don't like the fact that The Editor II automatically starts editing a file named **ed**. Actually The Editor II normally starts the same way the original Editor began -- prompting you for a file. However, I created an automatic startup macro that starts editing a file named **ed** and turns on wordwrap. My thought was that, like MemoMaker, there ought to be a default work file. Use the **<esc> fw** command to save the file to another file name.

However, some of you (and most of our internal staff) do not like the macro. There are several solutions. One solution is delete file EDMAC (and be rid of all my macros). Another solution is to edit the first line in file EDMAC that reads:

```
<BEGDEF><ShftF2>ed<ENTER><ESC>dwe<BKS><BKS><BKS><ENDDEF>
```

The Editor by design reads the first line of its macro file and automatically executes it. EDMAC is a macro file I created that gets installed with The Editor II but can be deleted or modified.

If you delete

ed<ENTER><ESC>dwe<BKS><BKS><BKS>

from the first line then wordwrap will be left off, and you will be prompted for a file as in the original Editor. If you delete **ed<ENTER>** from the first line you will turn on word wrap. Experiment around to find what best suits you.

If you have The Editor II on ROM, you can copy EDMAC from the ROM or master disk and modify it on the A drive. The ROM first looks for EDMAC on the A drive before it looks to the ROM drive for EDMAC.

POPPENSTATS

P+ If you are having trouble reading the documentation in the Poppenstats disk, do any of the following:

- (1) Using PAM **f6 System Config** set the Plus Console Mode to **Alt**.
- (2) Using MemoMaker, save the documentation and then retrieve it.
- (3) Using The Editor, delete the opening Ctrl character and Escape sequences.

Portable Plus Backlit Screen Hopes Darken

P+ We hoped to be able to announce the availability of a backlit screen for the Portable Plus this issue. However, it seems we may not be able to obtain the parts from our potential supplier. We will keep you informed of subsequent progress.

ANSWERS PLUS

*-comments from Personalized Software's
phone sales/support staff*

Tips & Tricks

by Joseph Gerace

110 People call me every day and ask about specific problems that they may be having with their Portable 110, Portable Plus, 150 Touch Screen, Portable Vectra, or LS/12. I love **P+** computers and I'm just starting to appreciate what Hal and the rest of you all have been enjoying for years. My **PV** favorite situation is when someone calls me and complains that the Plus or some specific software doesn't do exactly what he or she had expected. At first, they may have a complaining tone in their voice, but after I ask just a few questions and determine that the **config.sys** file is not set right or that the memory allocation is not right for the particular program or something similarly easy to handle, they feel much better. I always make it a point to make sure they have the blissful experience that any finely tuned machine gives when it is doing just what it is supposed to do, what it was made to do. I love to coach people right over the phone and walk them through the solution to their problem.

I also like to teach about DOS, Lotus, and computers in general to the office staff at Personalized Software who don't already have a computer background.

Tech questions are a two way street with both of us trying to figure out the answers. Someone calls with a question, we think about it a little together, then he or she calls back saying that he learned something about the program and with the added info we are able to solve the problem together, like a team.

Personalized Software Products and Services in Brief:

SYMBOLS: **HP10** = HP110 **P+** = Portable Plus
PV = Portable Vectra **LS** = Vectra LS/12 **ISO** = HP150

WORD PROCESSING

HP10 P+ PV LS ISO

The Editor II

Many features not in MemoMaker, including search/replace, editing 2 files at once, embedded printer codes, up to 255 columns per line and block centering and macros. Also does word wrap, right justify. Easy to use. Uses less than 40 K. Versions for HP110, Plus, HP150 Vectra and IBM PC all on master disk.

P+ PV LS ISO

Word Perfect 5.0 (and 4.2)

World's best-selling word processor, customized to the Portable Plus. Dozens of advanced features, including fonts, integrated text and graphics, style sheets, document compare, 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. Portable Plus version comes with PlusPerfect, our own IBM PC emulator that allows WordPerfect to run on the Plus. Optional ROM Backup saves you up to 384K or RAM.

WORD PROCESSING UTILITIES

HP10 P+ PV LS ISO

The Formatter

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

P+ ISO

Format Plus

An integrated word processing command center for the Portable Plus. Let's you run your word processor, spelling checker, and other applications from a single easy-to-use program. Also lets you do headers, footers, lines per page, automatic page numbering and more.

HP10 P+ ISO

HPrint

Takes text (ASCII) files you've created with MemoMaker, The Editor, or other word processors and prints them on an HP Printer. Comes with italic type font for ThinkJet. Also allows bold, underline, compressed, expanded, subscripts, superscripts, headers, footers, page numbering, double space, and much more—all of which you specify from a simple menu or by means of sensible control codes. HPrint also does mail merging, and it lets you create your own graphic characters.

HP10 P+ ISO

PrinterTalk and Format110: MemoMaker Enhancers

PrinterTalk lets you change type styles in the middle of a document, change number of copies and lines per page, do automatic page numbering and much more. **Format110** lets you format headers, footers, and page numbers; chain or merge documents; compensate for "widow" and "orphan" lines and much more.

HP10 P+ PV LS ISO

RightWriter

Flags errors in grammar, style, usage and punctuation, inserting comments directly into your document. Also, produces overall critique. Works with most word processors. Also available: **RightWords** dictionary extension utility: it has 7 auxiliary dictionaries (business, computers, engineering, etc.), and also lets you add words of your own to RightWriter's built in dictionary.

P+ PV LS ISO

Webster's Spelling Checker

Rated Editor's choice by PC magazine, Webster's packs a 110,000 word dictionary into 207K of disk memory. webster's shows you incorrect spellings in context and suggests corrections, lets you preview questionable words before you edit. Exceptionally easy to use. Customized for the Plus and HP150.

HP10

The Word Plus

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

UTILITIES TO BOOST YOUR PRODUCTIVITY

P+

BacTools Disk

Contains a wide range of utilities to help you back up files from a 1 Megabyte or larger Edisk onto floppy disks. Lets you back up selected files, automate the entire backup process, and more.

HP10 P+ PV LS ISO

DOS Tools: Portable Utilities Disk, Vol 1

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

P+ PV LS ISO

FilePlus: File Management Software

Lists the files in two directories simultaneously. You can tag multiple files and perform actions (such as copy, delete, move, etc.) on all the tagged files at once, without having to use P.A.M.> or DOS.

HP10 P+ PV LS

Link HP-IL

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

HP10 P+ PV LS ISO

The Norton Utilities- Customized For The Portables

Allow you to recover deleted Portable files and organize your electronic and external disks. Peter Norton has authorized us to include an extra 3 1/2" disk (formerly only available on 5 1/4" disk). The disk includes The Norton Utilities, and instructions for running them on the Portables and the HP150. Version 4.0 and the advanced edition are now available.

HP10 P+ PV LS

1987 Portable Paper Subscriber's Disk

Includes (1) DISKPACK, a disk-packing utility whose commercial equivalent sells for \$50 (2) Time Manager's calendar utility. (3) HP Calculator program. (4) Game and Lotus templates. Clear instructions are included right on the disk.

HP10 P+ PV LS

1988 Portable Paper Subscriber's Disk

Contains (1) New utilities for Time Manger, including an expanded calendar program and an automatic mail-merge utility. (2) Some of the best public domain software and "shareware" for the Portable Vectra. (3) A password program to protect usage of the HP110 (4) TERM xmodem program for the Portable Plus. (5) Lotus templates. (6) Games. (7) New DOS Tools. (8) A file to toggle HP and Alternate mode from DOS. (9) Lots more. Clear instruction included on the disk.

HP10 P+ PV LS

1989 Portable Paper Subscriber's Disk

Features: (1) File manager utility that lets you tag files for mass copying and deleting. (2) Lightning fast file compressor utility. (3) New RAM-based Time Manager program for a Week-at-a-glance screen. (4) Compuserve Automation program. (5) A menu program easier to use than P.A.M. (6) Superfast file finder program. (7) Directory lister. (8) And much more. Clear instructions are included right on the disk.

HP10 P+ PV LS ISO

Private File

Protects your letters, documents, and data files by scrambling your file so only you can understand it.

P+

Shelp

From within almost any program, Shelp gives you immediate access to a notepad and calculator and lets you define up to 26 keyboard macros- that is, assign up to 31 character to a single keystroke. Written exclusively for the Portable Plus.

HP10 P+ PV LS

Tiger Fox

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

HP10

Time Manager

The highly acclaimed Portable Plus ROM-based **Time Manager** program in a 3 1/2" disk version for the HP110 Portable. Does not run on Portable Plus. (Available to Portable Paper Subscribers only.)

HP10 P+ ISO

Typing Whiz

Better than almost any typing tutor program on the market- designed specifically for The Portables and the HP150, Immediate numeric and graphic feedback or your progress.

FILE TRANSFER MADE EASY

PV LS

Direc-Link

A software program for high speed transfer of files between your Portable Vectra and IBM PC or compatible. Versatile (works with parallel and serial ports), easy to use (simple manual file tagging or automatic unattended file transfer), and a very affordable price.

HP10 P+ PV LS

Disk Conversion Service

We will convert your data to and from single sided, double sided, high density 3 1/2" and 5 1/4 inch formats at a reasonable cost.

P+

HPDuette

A software program that lets you transfer files back and forth at high speed between your Portable Plus and an IBM PC or compatible desktop computer- without the need for HP-IL card. Comes with proper serial cable.

HP10 P+ PV LS ISO

Manzana Disk Drive

These are high-quality drives for IBM Compatibles system to access 3 1/2" HP or IBM Formatted disks.

HP10 P+ PV LS ISO

ReadHP

This software program allows an IBM compatible computer with a 3 1/2" disk drive to read and write to HP formatted disks directly.

SPREADSHEET ENHANCERS

HP10 P+ PV LS ISO

101 Macros for Lotus 1-2-3

Useful in themselves and also learning tools for novice and experts alike. Includes: recalculating ranges, double spacing spreadsheet prior to printout, hiding notes next to data cells, addressing form letters, and printing labels automatically. customized Lotus 1A and 2.01.

HP10 P+ PV LS ISO

SideWinder

This program allows you to print your spreadsheets (or any other text file) sideways on your Thinkjet printer. This means you can print your 60 column by 53 row spreadsheet from your Portable as one long printout without cutting or pasting.

P+

Software Driver for Lotus on RAM

A utility program that allows you to run Lotus 1-2-3 and Lotus Symphony from RAM or disk rather than ROM.

STATISTICS & ACCOUNTING

HP P+ PV LS ISO

Dac-Easy Accounting

A popular (and powerful) accounting package at an amazingly low price. General Ledger, Accounts Receivable, Accounts Payable, Purchase Orders, Billing, Inventory, and Forecasting modules are all fully integrated. Easy-to-use menu-driven system. Generates numerous journals, aging reports, balance sheets, and other hardcopy printouts. Version 1.0 (runs on Portable Plus, HP150).

P+ PV LS ISO

Statistix

A comprehensive statistical package that's easy to learn and use. Runs on the HP110, Portable Plus, HP150, and IBM PC compatibles. Data can be entered from the keyboard or imported from spreadsheet or database files. Includes multiple regression, most standard parametric and non-parametric tests, p-values, plots, histograms, and much much more.

COMMUNICATIONS

HP P+ PV LS

CompuServe Starter Kit

Gets you started on the Electronic Information Service, CompuServe (which includes the HP Forum). Includes \$25 worth of free time and CompuServe's monthly magazine, Online Today.

P+

Relay Gold

The only RAM-based communications package for the Portable Plus that handles file transfer and terminal emulation (for communicating with mainframe computers). This popular IBM PC program was modified by Relay Gold engineers to run on the Portable Plus. It is easier to use and more powerful than Reflection. Lets you access electronic bulletin boards, transfer files between computers even if one of them is unattended, and much more. It even supports distributed processing. Easy to learn - even for beginners - yet powerful enough to handle the most sophisticated data transfer tasks. Version 2.0.

HP P+

Term110 and TermPlus Communications Software

Exceptionally easy to use alternatives to Terminal for the HP110 and PC2622/Reflection for the Portable Plus. Both Term110 and TermPlus allow you to send and capture ASCII information. Both offer fast XMODEM transfer of programs, Lotus worksheets, and archive files. Both offer auto-logon, dialing directories, on-line help and the ability to run other programs without severing the phone connection.

HP P+ PV LS ISO

WorldPort Portable Modems

The **WorldPort 2400** is a battery powered, highly compact (4"x2"x1"), lightweight (6.5 oz), full featured external modem that transmits data at 300, 1200, and 2400 baud. Faster than HP's internal modems, the WorldPort 2400 is fully compatible with the industry standard Hayes AT Command Set, and with both the CCIYY and Bell communications standards. The **WorldPort 1200** modem transmits at 300 and 1200 baud.

DATA BASE

HP P+ PV LS ISO

Condor 3 and Condor Jr.

Database programs customized for the HP Portables. Enter data, sort, search, manage files, and print address labels with ease. **Condor, Jr.** runs on the HP110 and

Portable Vectra, and HP150. It allows limited report writing, and is highly memory-efficient. **Condor 3** runs on the Plus, Portable Vectra, and HP150. It is a fully "relational" system, allowing you to combine data from two or more files. It includes advanced report generating capabilities, data transfer to and from Lotus1-2-3, and more.

PROJECT MANAGEMENT

HP P+ PV LS ISO

2 Project Management Packages

All 2 work on the HP110, Plus, Vectra, HP150, and IBM PC. **Milestone** is also for small to medium projects. (On Hp 110, you need to scroll to see entire Milestone screen.) **Pertmaster** is for medium to large projects (specify which machine).

PROGRAMMING

HP P+ ISO

Turbo Optimizer

Saves run time and storage space by making your Turbo Pascal programs 10-30% faster and 15-50% smaller. Works with Turbo Pascal Version 3.0. Customized to Hp110, Portable Plus, and HP150.

HP P+ PV LS ISO

Turbo Pascal 5.0 and TurbPlus Integrator

Turbo Pascal, the HP Portable programming language of choice, outstrips others in price, performance, compatibility, and memory consumption. Our TurbPlus Integrator adds value, serving as a Turbo Pascal command center for the Portable Plus. From within TurbPlus, you can call up your own text editor (for creating Turbo Pascal code), Turbo Pascal itself, the Turbo Optimizer, or whatever file management program you may have - each by means of a single keystroke.

GRAPHICS

P+ PV LS

Flowcharting II+

This program creates profession-looking flowcharts and organizational charts using 26 flowchart symbols in 95 sizes. Wide variety of text fonts for creating labels. Easy to add and delete lines without disturbing the rest of the flowchart. "Shrink Screen" feature lets you view up to 14"x11" chart on 25 line screen. (Portable Plus only.)

P+ PV LS

Logitech Mouse for the Portable Plus

A three button mouse for the Portable Plus, bundled with our propriety Portable Mouse Software and special connecting cable. Using the mouse to move the screen cursor makes using your Plus easier and more fun. The Logitech mouse was rated Editor's choice by Pc Magazine.

HP P+

Sketch

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

ACCESSORIES

HP P+

Cases for Portables and Peripherals

Roomy, rugged, high quality, highly padded cases to protect our ThinkJet, HP9114, and HP Portable when traveling.

P+

External Numeric Keypad

Allows fast numeric entry for Lotus and other applications. Attaches to Portable Plus via serial port.

HP P+

HP9114 Empowerer

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

HP P+

Mobile Recharger

Lets you recharge your HP110, Portable Plus, ThinkJet, HP9114, Hp hand-held etc. from your cars cigarette lighter.

HP P+ PV LS ISO

3 Ring Binders for Back Issues

Handsome unprinted 3-Ring binders for back issues of The Portable Paper. Specify Volume number (1-4).

INTEGRATED PACKAGE

HP P+ PV LS ISO

T/Master and T/Maker

T/Master is a fully integrated word processor,speller,relational database manager, and communications package. Also includes graph making. Runs on the Portable Plus and Portable Vectra without modification, and on HP150 with a PC emulator. **T/Maker** is an earlier version; it runs on the HP100 Portable with an external disk drive, and does not include the communication module. Both programs are more integrated than any other package. Our reviewer says "there is no other application I know of that matches the power, thoroughness, and simple elegance of T/Master.

PORTABLE VECTRA ONLY PRODUCTS

PV LS

Direc-Link

See description in File Transfer section.

PV LS

FloppyDRIVER

A software program for the Portable Vectra that makes all floppy disk access operations (loading and running programs, accessing and copying files, etc.) up to 10 times faster.

PV LS

Monitors for The Portable Vectra

Convert your Portable Vectra to a desktop computer -- and back to a portable -- in seconds. Excellent values in monochrome and high-resolution EGA color monitors from GoldStar.

HP P+ PV

HP-IL Card for Portable Vectra

Fits in Portable Vectra adapter slot. Functions exactly like IBM PC HP-IL card, allowing transfer of data to HP-IL devices like the HP9114, HP110, and Portable Plus.

MISCELLANEOUS

HP P+ PV LS ISO

FastPlus

By installing a faster processor and increasing the clock speed of your Portable Plus, you can run Lotus 1-2-3 and other applications 60% faster than before. Our trained technicians perform this upgrade and can have your Plus back to you the next day. Call for appointment.

P+

Software on ROM

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

HP P+ PV LS ISO

Used HP Portable Equipment The Portable Equipment Exchange,

a division of Personalized Software, buys and sells used HP110s, Portable Plusses, HP9114s, HP ROMs, and RAM drawers for the Plus. Because of HP quality, used HP products are a great buy. 30 -day return policy on all used equipment, plus **one-year guarantee** (parts and labor).

HP P+ PV LS ISO

Volume Discounts

Corporate buyers, users' groups, and HP dealers: Order products and subscriptions from us in quantity and save.

Products advertised or discussed in this issue

Binders	39
Condor 3	8
DeskJet Printer	8
The Editor	2
FastPlus CPU	11
The Formatter	2
FilePlus	35
FormatPlus	9,29
HPDuette	18
HP Professional	7
Manzana Drive	13
Mouse	19
Norton Utilities	15
ROM Backup	1
ReadHP	34
Relay Gold	12
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Official Personalized Software Price List

The Portable Paper

Product	Part Num.	Retail Price	Subs. Price
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The Portable Paper

1 Yr Subscription	PPN1PS	\$55.00	
2 Yr Subscription	PPN2PS	99.00	
1 Yr. Renewal	PPR1PS	55.00	
2 Yr. Renewal	PPR2PS	99.00	
1986-8, 3 Yr back issues	PP13PB	99.00	
1988 back issues	PP12PB	39.00	
Individual Back issue	PP99PB	9.20	
1987 Subscriber Disk	SB12NS	115.00	9.50
1988 Subscriber Disk	SB13NS	115.00	9.50
1989 Subscriber Disk	SB14NS	115.00	9.50
PP Binder Vol.1	PB11NM	7.00	
PP Binder Vol.2	PB12NM	7.00	
PP Binder Vol.3	PB13NM	7.00	
PP Binder Vol.4	PB14NM	7.00	
PP Binder Vol.1-4	PB15NM	25.00	

Free Catalogs

HP Portable	CATPOR	0.00	0.00
HP150	CAT150	0.00	0.00

Software and Accessories

Word Processors

The Editor II	ED11NS	129.00	99.95
Editor Pack	FM15NX	289.00	195.00
(Editor II, FormatPlus, Webster Speller)			
Editor II Disk Upgrade	ED14NS	35.00	35.00
The Editor II/Format	ED13NX	149.95	119.95
WordPerft 4.2 ss HP150	WD12NS	435.00	339.00
WordPerft 4.2 ds HP150	WD11NS	435.00	339.00
WordPerft 5.0 ds HP150	WD13NS	435.00	339.00
WordPerfect 4.2 P. Plus	WD14NS	435.00	339.00
WordPerfect 5.0 P. Plus	WD17NS	645.00	395.00
(Includes PlusPerfect)			
PlusPerfect	WD14NS	150.00	129.00

Word Processing Utilities

Format110	FM12NS	39.95	35.95
FormatPlus	FP11NS	79.95	69.95
FormatPlus Upgrade	FP14NS	35.00	35.00
MemoMaker Pack	FM14NX	159.90	125.00
(Format Plus, Webster Spelling Checker)			
Formatter	FM11NS	59.95	49.95
HPrint	HP11NS	80.00	75.95
PrinterTalk	PT11NS	49.95	44.95
PrinterTalk, Format110	PT12NS	89.90	59.95
Webster Speller	WB11NS	79.95	69.95
WordPlus spell	WP11NS	150.00	99.00
RightWords Diction Ext.	RW12NS	29.95	29.95
RightWriter	RW11NS	95.00	89.00

Database/Accounting Software

Condor 3	CR11NS	495.00	379.00
Condor Jr	CR13NS	99.95	89.95
Dac-Easy Accounting	DC11NS	150.00	129.00

Communications

WorldPort Modem 1200	WM11NM	199.00	179.00
WorldPort Modem 2400	WM12NM	359.00	319.00
WorldPort cable	WM14NM	30.00	20.00
WP 1200 Upgrade kit	WM13NM	199.00	179.00
WP Acoustic coupler	WM16NM	79.95	79.95
Kermit	KE11NS	19.00	19.00
Relay Gold (Plus)	RG11NS	295.00	279.00
TermPlus	TE12NS	99.95	79.95
Term110	TE11NS	99.95	79.95

Productivity Boosting Utilities

BacTools	BC11NS	49.95	39.95
Compuserve Starter Kit	CM11NM	39.95	35.95
DOS Tools	DT11NS	44.95	39.95
FilePlus	FE12NS	69.95	59.95
HP Duette	DU11NM	99.95	89.95
HP150 PC Emulator	PC11NS	19.95	19.95
HP9114 Empowerer	PR12NM	99.95	89.95
Norton Utilities Adv.	NU12NS	150.00	129.00
Norton Utilities	NU11NS	99.95	89.95
Private File	PF11NS	39.95	34.95

ReadHP	RD11NS	79.95	69.95
Shelp	SH11NS	55.00	49.95
Tiger Fox	TF11NS	32.95	29.95
Time Manager	SB11NS	9.50	9.50
Typing Whiz	TW11NS	49.95	39.95

Graphics

Logitech Mouse	MS14NM	119.00	99.95
Logitech Mouse			
Portable Plus System	MS15NM	219.00	179.95
P.Plus Mouse Sftwre	MS11NS	70.00	60.00
P.Plus Mouse Cable	MS13NM	30.00	20.00
Sketch	SK11NS	80.00	75.95
Sketch Halftone disk	SD11NS	9.50	9.50
Flowcharting II+	FL11NS	232.00	209.00

SpreadSheet and Statistics

101 Macros	MC11NS	69.95	62.95
Lotus 123/Symphony P.Plus			
Software Driver	LT14NS	69.95	59.95
Lotus 123, Driver	LT11NS	495.00	435.00
SideWinder and Utilities	SW13NS	79.95	69.95
SideWinder	SW11NS	69.95	59.95
Statistix	ST11NS	169.00	159.00

File Transfer

Direct Link (DL) Package	DL13NM	134.90	115.00
(Includes all DL software, serial/parallel cables)			
DL & Parallel Adaptor	DL14NM	82.00	71.95
DL & Par.Cable+Adaptor	DL15NM	102.00	91.90
HPDuette for P.Plus	DU11NM	99.95	89.95
Link Plus	LK11NS	90.00	85.95
ReadHP	RD11NS	79.95	69.95

Programming

Turbo Pascal 3 Optimizer	TP17NS	125.00	119.00
TuboPascal 5.0	TP50NS	150.00	135.00
TurbPlus Integrator	TP51NS	49.95	39.95
T.Pascal + Integrator	TP52NX	199.95	165.00
Pascal, Integrtr, EditorII	TP53NX	329.00	249.00

Project Management

PertMaster for HP110	PR11NS	695.00	499.00
PertMaster for P.Plus	PR12NS	695.00	499.00
PertMaster for HP150	PR13NS	695.00	499.00
PertMaster for Vectra	PR14NS	695.00	499.00
Milestone	ML11NS	99.95	89.95

Integrated Packages

Symphony, P.Plus Driver	SY11NS	765.00	595.00
T/Maker (HP110)	TM11NS	99.95	95.00
T/Master (Plus, Vectra)	TM12NS	159.00	149.00

Vectra Portable-Specific Products

Direct Link - see File Transfer			
HP-IL Card-P. Vectra CS	HP16NM	245.00	235.00
FloppyDriver	FD11NS	89.95	79.95

Peripherals

Manzana 1.44 Meg, 3.5"			
PC External Drive	MZ12NM	385.00	345.00
Manzana 1.44 Meg, 3.5"			
PC Internal Drive	MZ11NM	200.00	189.00
Manzana Controller	MZ13NM	95.00	89.00
Touchstone Numeric			
Keypad for P.Plus	TS11NM	139.00	135.00

Accessories

Standard Parallel Cable	PL11NM	29.95	19.95
10 3.5" disks/case	DS11NM	64.90	29.95
10 1.44Meg 3.5" disks	DS12NM	99.95	69.95
Mobile Recharger	PR11NM	59.95	49.95
FieldPro Padded			
Laptop Case	CS12NM	99.95	89.95
FieldPro Padded Case for ThinkJet or			
HP9114 Disk Drive	CS11NM	39.95	37.95

Learning Material

How to Use the HP			
Portables Video Tapes	VP11NM	150.00	119.00

Upgrade

FastPlus (CPU upgrade)	FA11NG	250.00	250.00
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Used Portable Equipment

Used HP110 and Portable Plus Computers

512K Plus With Modem	PP15UC	\$2700	\$1595
128K Plus With Modem	PP11UC	3190 ¹	995
HP110 Portable	PQ11UC	3000 ¹	595
HP110, ThinkJet, HP9114	PP40UX	4300 ¹	1175

Used Printers For HP110, Portable Plus, Vectra

HP-IL ThinkJet Printer	TJ11UC	\$ 495	\$ 295
New DeskJet Plus Printer	DJ12HC	995	795
New DeskJet Printer	DJ11HC	795	679

Used HP110/Portable Plus Disk Drives

HP9114A Disk Drive	DD11UC	\$ 795 ¹	\$ 350
HP9114B Disk Drive	DD12UC	645	395

Used HP Portable Plus Memory Drawers

New HP 1 Mg RAM Drw.	MM11NC	\$1050	\$ 795
384K HP RAM Drawer	MM12UC	935	295
128K HP RAM Drawer	MM13UC	415	150
128K HP Memory Card	MM14UC	260	125
HP ROM Software Drawer	SW11UC	165	99

Miscellaneous Used HP Portable Peripherals

HP-IL Card For IBM PC	IL11UM	165	99
HP-IL 7470A Plotter	PL11UM	1095 ¹	650
P.Plus V.Intfce+Monitor	VM12UM	750 ¹	275

¹Denotes products no longer manufactured. The "Retail Price" of these items was the price at the time of discontinuance. These items are excellent buys.

Portable Plus Software on ROM

If the product number ends with "UR", it is a used HP ROM. If it ends with "NK", it is a new Personalized Software disk plus ROM backup. The price in the "Backup Price" column is valid only for those who already own the software disk.

Product	Part Num.	Retail Price	Subs Backup Price
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Word Processors

WordPerfect 5	WD11NK	940.00	595.00 295
The Editor II	ED12NK	224.00	194.95 95
MMkr/TmMgr	MM21UR	195.00	119.00
MSWord	MS20UR	375.00	199.00
MultiMate	MM20UR	520.00	425.00
Editor Pack +	FM17NK	823.00	599.00
(Editor II, Webster, FormatPlus, FilePlus)			
Editor Pack	FM16NK	658.00	499.00
(Editor II, Webster, FormatPlus)			
Editor II ROM upgrade	ED15NR		58

Word Processing Utilities

FormatPlus	FP13NK	174.95	164.95 95
HPrint	HP12NK	175.00	170.95 95
Wbster Speller	WB13NK	258.95	248.95 179
FmtPlus ROM upgr	FM15NR		58

Spreadsheets and Utilities

Lotus 123,1A	LT12UR	495.00	295.00
Lotus 123,2.01	LT15UR	520.00	425.00

Database Program

Exec Crd Mgr	EC11UR	341.00	279.00
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Communications

PC2622	PC13UR	395.00	239.00
Reflection	RF11UR	395.00	295.00
TermPlus	TE13NK	194.95	174.95 95

Productivity Boosters

DOS Tools	DT12NK	179.00	168.95 129
FilePlus	FE14NK	164.95	154.95 95
HP Calculator	CL11NK	95.00	95.00
HP Duette	DU13NK	194.95	184.95 95
Shelp	SH12NK	110.00	104.95 55
Typing Whiz	TW12NK	144.95	134.95 95

Graphics

Sketch	SK12NK	175.00	170.95 95
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Programming Languages

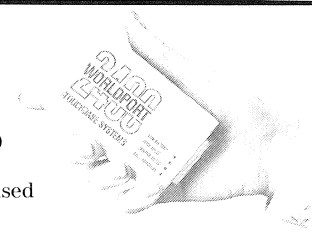
MSBasic	MS21UR	300.00	150.00
Turbo Pascal 3	TP13NK	No longer published	95

Combined ROMs

Shelp, SdWnDr	SH13NK	234.95	214.90 95
SuperROM	SU11NK	474.00	299.00 49
(Editor I, Format110, PrinterTalk, Shelp, SideWinder)			

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.



Weights 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 (with Carbon Copy PLUS software) PRODUCT NO. WM12NM	\$359.00	\$319.00
WorldPort 1200 modem (without software) PRODUCT NO. WM11NM	199.00	179.00
Cable to connect modem to HP Portables	30.00	20.00
9-volt AC adapter	7.95	FREE with modem
Acoustic coupler (300/1200 baud)	79.95	79.95
Upgrade kit: WorldPort1200—WorldPort2400 (includes Carbon Copy PLUS software) PRODUCT NO. WM13NM	199.00	179.00

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 809, Burfield, IA 52556 515 472 6330

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.

We can usually answer almost any question that comes in right on the spot. If we can't, it is even more fun to comb through past issues of the Portable Paper to look up the answer (the new index is invaluable here).

I actually learn by doing tech support. Some of you might have heard me say "Great question, I'm glad that you asked!" or "I have an opportunity to learn this too, Thank you." Well that is how I feel -- like a teenager who just put a new Hollie carburetor or Malory ignition system into a Chevy SS or Mopar 318. I get the same thrill with a really terrific stereo or a fast motorcycle.

My personal Plus has 896K of RAM of which I allocate 512K for E-disk and 384K for processing memory. I also have a full ROM drawer. I really started to like the Plus once I loaded my ROM drawer with FilePlus, Shelp, Editor II, Sidewinder, Sketch, HPDuette, Webster's, and, of course Lotus. Carrying all of these programs on chips uses no RAM memory and not carrying around any disks is a real treat. An even bigger treat is that I copied the Time Manager program files from the Memomaker/Time Manager ROM and it runs great from my A drive. As a matter of fact I run Time Manager, Term Plus, and HPCalc files from the A drive and they all run great.

Now some practical tips:

BACKUP THAT EDISK!

110 Be sure to always back up your E-disk files onto an external floppy, or if you use an HP-IL/HP-IB converter **P+** you can back up your E-disk onto a 9133 hard drive and have 15 MEGS of storage memory to play with. My dream system would be a fast desktop Vectra with FAX card, 9600 baud modem, network card, a laser printer, TOPS,

and of course, an HP-IL card in a slot to take full advantage of my Portable Plus.

FLOPPYDRIVER PROBLEM

PV I got word that the FloppyDriver for the Portable Vectra or LS/12 can sometimes corrupt the disk that you may be working with. The fix is to reboot your system without the FloppyDriver and then it corrects itself.

COMPILED VS INTERPRETED BASIC

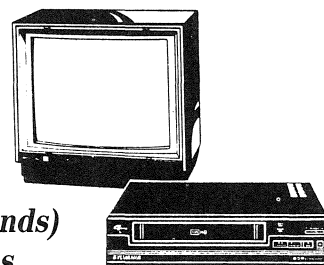
110 This next question (and the answer, I might add) comes from Dave Perrin at BEPEX, who asked me what the difference is between complied, interpreted and GW Basic (GW stands for GEE WIZ, no kidding). At the time I didn't know, but I liked the question so I told him that I'd look it up and call him back. Within a few minutes he called me back and said that his internal programmers were able to answer the question and that he was glad to pass the answer to me. The answer is that compiled Basic can run as an executable file on any DOS machine. Interpreted Basic, of which GW Basic is a subset, needs to have the interpreter present to run. The advantage is that interpreted Basic is its own editor giving fast feedback. To run compiled Basic you must use your own editor, create the file, send it through the compiler, and then run the program. The ideal development situation is to develop in the interpreter and then compile it. This is exactly the way that Hal created PrinterTalk.

Certain commands in GW Basic, like circle and line, are not compilable. The versions of Basic that run on the HP110 and Plus are very old, primitive versions of the product. There may not be an alternative for the Portable

NEW — ON VIDEOTAPE!

How to Use the HP Portables

- For new and intermediate users
- Cuts training time for new users (employees, spouse, children, friends)
- Teaches you how to get the most out of your HP110 or Portable Plus



Now you can learn how to use the full potential of your HP Portable computer directly from Hal Goldstein, president of Personalized Software and leading HP Portable expert. (Even HP engineers call him for advice on using their Portables.)

HOW TO USE THE HP PORTABLES is based on Hal's more than five years of experience using the HP Portables and publishing *The Portable Paper*.

FOR EVERY TYPE OF USER

This 5-hour set of three VHS video tapes gives all the fundamentals of using both the HP 110 Portable and the Portable Plus. HOW TO USE THE HP PORTABLES will save you countless hours of learning on your own. It will also save time and effort in training an employee, spouse, child, or friend.

HOW TO USE THE HP PORTABLES is not just for beginners, however. Intermediate HP Portable users will find many new topics and many important tips and tricks for using the HP Portables to full advantage.

Even experienced computer users who are new to the HP Portables will find the tapes to be of immense value in learning to use the many special features of these unique machines.

LEARNING MADE EASY

In this set of videotapes, Hal doesn't just tell you how to use the HP Portables. He actually shows you, step-by-step, what keys to press, while the camera shows you what appears on the computer display.

Watching Hal demonstrate everything in a logical sequence right on your TV screen is a far better way to learn than wading through the HP Portable user's manuals—especially since the tapes include many important details that are either obscure or simply not covered in the manuals.

(Once you've seen the tapes, you'll find that the user's manuals make excellent reference sources.)

HOW TO USE THE HP PORTABLES is a highly cost-effective way to learn how to use an HP Portable to full advantage. It saves time and effort in getting up to speed and it saves time and effort in training others.

Order HOW TO USE THE HP PORTABLES at our risk today.

HOW TO USE THE HP PORTABLES videotape\$150.
Portable Paper subscriber price\$119.

SPECIAL DISCOUNT

The regular price of HOW TO USE THE HP PORTABLES is \$150, or \$119 if you subscribe to *The Portable Paper*.

However, HOW TO USE THE HP PORTABLES is only \$45 if purchased along with any used HP110 or Portable Plus system from The Portable Equipment Exchange (a division of Personalized Software).

Used HP Portables make great gifts. HOW TO USE THE HP PORTABLES makes them even greater—because the tapes eliminate much of the struggle and time spent in learning how to use the machines.

See the latest Portable Equipment Exchange brochure for current prices on used Portables. Or call (515) 472-6330. We'll help you select a used HP Portable system that best meets your needs.

HOW TO USE THE HP PORTABLES videotape

Partial list of contents

Part 1: Overview

- Brief demonstration of what an HP Portable can do: word processing, spreadsheet, database management, communications, time management

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- Understanding the value of the HP Portables' RAM and ROM technology —Includes demonstration of how to install ROM chips in the Portable Plus
- Maximizing screen readability
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- Making full use of the HP Portable keyboard
- The back of the HP Portables: interfacing with other devices
- PAM, the home screen —Managing files and starting programs —Using PAM's System Config to

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Part 3: Using ROM-based software

- Tutorials on DOS, MemoMaker, Lotus 1-2-3 as a spreadsheet, Lotus 1-2-3 as a database, and data communications using the Terminal or TERM program. —These tutorials get you started and give you most of what you need to know about using these programs.

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- Webster's Spelling Checker
- The Editor (word processor)
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All this and more in an information-packed 5-hour presentation by Hal Goldstein, president of Personalized Software and leading expert on the HP Portables.

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Plus, although it may be possible to get some of Borland's products to run on the Plus in command mode (leaving out some of the bells and whistles and the menu).

ACCESSING EDITOR II THROUGH TIME MANAGER

P+ To access Editor II (which is a better word processor with more features than Memomaker) through Time Manager, here is what to do. First, copy the editplus.bat from the B:\edii sub directory to the A drive. Then rename it by typing **rename editplus.bat memomakr.bat**. Now, when you hit F3 in Time Manager for NOTES you get Editor II. The word wrap, box curser, and all other features will be enabled just as if you had accessed the Editor II from DOS or PAM.

ACCESSING A HARD DRIVE FROM THE PORTABLE PLUS
There are several ways to access a hard drive from a

Portable Plus. The two most direct ways are:

110 1) To access an external hard drive, use an HP-IL/HP-IB converter and set your external drive configuration (F6 on your Plus) to the number of external drives that you are running, including the HP hard drive. Set the address on the HP-IL/HP-IB converter to the same address number as the HP hard drive. Access the hard drive like you would access any external drive. 2) To access the hard drive in your IBM or IBM clone you need to install an HP-IL card. This allows you to take full advantage of your desktop computer for saving your Portable Plus files. Install the HP-IL card in an open slot in your desktop. Load the HP-IL files on your hard drive and add a few lines to your config.sys file (you'll get the exact directions in the HP-IL card documentation). Then, using your HP-IL cords, just plug your Portable Plus into the HP-IL card in the back of your desktop computer. Type **hplink** on your desktop

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for the HP110 and Portable Plus

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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;
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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.

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

and Voila, instant hard drive access your HP Portable.

If you want to get to the files on your Portable from your desktop computer you'll need to type **hplink** on your Portable. You can then access the drive in the desktop and the files that are in the Portable from the desktop keyboard. As an example of a command that you might use to transfer files from your Plus to your desktop hard drive, type:

copy a:\subdirectory\filename.extension c:

(Wildcards are OK.) To copy files from your Plus to the hard drive, type:

copy c:\subdirectory\filename.ext a:\subdirectory

WORDPERFECT 4.2 AND 5.0 FILES

P+ One of the most common questions that I get asked is, "Is it possible to read WordPerfect 4.2 files with WordPerfect 5.0?" The answer is "Yes!" However, you won't be able to directly read those same files back into WordPerfect 4.2 because WordPerfect 5.0 automatically upgrades the files to its own format. The file must be saved using the Text In/Out function and selecting Save WP 4.2.

The PAM.ENV File and the PATH Statement by David Seagull

(This article is in response to the letter from Dick Aal in the *Letters* column.)

HP110 and Portable Plus DOS hounds know that the PAM.ENV file can be used to change the PATH= statement. (The past issues of the Portable Paper are full of info on the PAM.ENV file; check the index). The PATH= statement tells the HP110 or Plus which drives and which subdirectories to look in for your program files.

Modifying the PATH= statement can come in very handy. For example, suppose you have a bunch of batch files in a subdirectory called "batch," one of which is

called "run.bat." If you were to type "run" from your A: prompt, you would get the message "Bad command or filename," even though the batch file was in your machine. The reason it didn't run is YOUR COMPUTER DIDN'T KNOW WHERE TO LOOK FOR IT!

By adding the subdirectory "batch" to your PATH= line, you are telling your Portable Plus to search the "batch" subdirectory every time it looks for a file. Now if you were to type "run," your computer would find the "run.bat" file in your "batch" subdirectory and run the program even though you only typed "run" and NOT the full pathname "a:\batch\run."

Pretty neat, huh?

110 How to do it? The PAM.ENV file. This is a special file because the HP110 and Portable Plus automatically looks for this file to tell it the latest PATH and PROMPT information. To create a PAM.ENV file with the correct information I had Dick type "SET>PAM.ENV," and then edit the PAM.ENV file with The Editor or MemoMaker. The last thing I had him do was to reboot, to put the changes into effect. If you don't reboot, the changes don't happen.

In the PAM.ENV file Dick saw a line that looked like this:

PATH=A:\;A:\MM\TM;B:\bin;... etc.

This line is the actual path the computer follows when it looks for a file. First it looks in A:, then in the MM/TM subdirectory, then in the B: drive, and so on. (The example above is just a partial PATH= line. To look at your PATH= line, type "SET" from DOS.)

The ROMs in your Portable Plus ROM drawer automatically add statements to the PATH= line. That way the computer knows where to look for the programs on ROM. If you were to add a ROM chip, say "The SuperROM," (an excellent idea if you haven't done so already) your computer would add a subdirectory call

"Super" on the B: or ROM drive, where it would look for the "SuperROM" programs. The statement "B:\SUPER;" would automatically be added to the PATH= line in the computer (which as I mentioned before can be viewed by typing "SET"), but NOT automatically to the PAM.ENV file.

Remember, if you are using the PAM.ENV file, the computer looks there for all PATH= information, rather than at its own internal PATH= line.

A common mistake is to forget that your PAM.ENV file needs to be updated. Then, when you add a ROM chip, it won't show up until the PAM.ENV file is updated with the new information. To update the file you need to create the PAM.ENV again by typing SET>PAM.ENV again. (You could also just delete the file and reboot, but your computer would "forget" about the special subdirectories you wanted it to search when looking for a file.)

Dick, as you recall, had a FULL ROM DRAWER. This is an important fact because each new ROM added a line to his PATH= line. He also had added A:\utils; to his PATH= line so he could store utility files in a "utils" subdirectory and have his Plus automatically find them. This meant his PATH= line was longer than 80 characters; ROMS at the end of his PATH= line weren't showing up! This lead me to PP vol 2 #6 on page 40 where there's a note saying that anything on the PATH= line longer than 80 characters would not be read. The solution offered in that issue was to use <control j> to create a line feed in the PATH= line to tell the Plus to look on the next line for more info.

Problem solved. It's amazing what can be done by using the index and reading the Paper.

GRIMMER'S

Portable Tales

A few of you may have been wondering how my company, Southern Software, can be "southern" when it is located in Alaska. Well, just to avoid having to address this dilemma, we are moving to Corpus Christi, Texas (will be there by the time you read this). Not really; we've been transferred by Conoco. Leaving Alaska is one of the most difficult things I have ever done. If you ever have the opportunity to visit the state, I highly recommend that you do it. This is the most beautiful place I have ever seen, much less lived in.

WORD PERFECT

P+ I am glad to see that Cliff (The Wizard) has gotten WP 5.0 to run on the Plus. I believe this version is the epitome of what a PC-based word processor should be (in fact, I am using it right now to compose this column). The only drawback I see to the Portable Plus version is that the graphics preview feature does not work on the Plus

screen. I have purchased the Developers Toolkit from the Word Perfect Corporation and have reviewed the graphics driver section in sufficient detail to determine that it can be done on the Plus.

My only hesitation to writing the graphics driver for the Plus is the demand that may exist for the product. If you plan to use WP 5.0 on the Plus and think graphics preview is a worthwhile addition, let Hal or myself know.

Also, just as soon as I get the pop-up completed, I plan to modify Sketch so that it can produce PC Paintbrush-compatible graphics files. In addition to lessening disc requirements for your drawings this will also allow you to import them into your Word Perfect documents.

LINK PLUS

HP110 This program has been shipping since early March. There is not currently a HP110 version (see the discussion on the Pascal libraries below) but given sufficient demand, I will produce one. Versions are available for IBM PC compatibles, HP 150 and the Portable Plus.

PV **LS/12** LINK is a program designed primarily to allow handhelds such as the HP-41, 71, and 75 to communicate with a PC. It effectively replaces most of the peripherals normally used with these handhelds, such as disc drives, printers, and video interfaces.

In a nutshell, the major enhancements I made to LINK are:

- 1) The PC now can use 6 HP-IL devices at once (2 disc drive emulators, printer, video interface and remote keyboard, DOS file and DOS device) rather than only one device at a time.
- 2) Data transfer speed is 10-40 times faster.
- 3) User interface is more "professional".
- 4) Greatly enhanced video features.

I have an informational package available if you want more details.

Upgrades from version 1 will be handled directly by us and new purchases can be had from us or Personalized Software.

PASCAL LIBRARIES

In previous columns I have discussed the hardware differences between the Portable Plus and IBM compatibles, as well as the need from a programming standpoint to remove the differences without sacrificing performance.

I have finished a complete set of routines for the Portable Plus, HP 150, and IBM compatibles that does exactly this. It is for Turbo Pascal version 5, but most of the 100+ routines for each machine are written in assembler, so they could be converted fairly easily to work with other high-level languages such as C or compiled BASIC. Over 95% of the routines are available for Turbo Pascal version 3 as well. Let me know if you are interested in an information package and a demo.

I obviously have a bias for Turbo Pascal and am totally hooked on version 5. It is especially marvelous with libraries of routines, since it only links in the necessary code and data each program that uses the libraries requires. In these days of 640k PC's with expanded memory into the megabytes and large hard disks, this is not quite as important as it is on the Portables where

RAM is precious. In a large program, each byte of code actually uses two bytes of your RAM since it occupies space on the E-disc as well as needing the RAM when it executes.

One major advantage of these libraries is that I can develop program code on my AT which is very fast, has a large hard disk, color screen, etc., yet know that the end product will run on the Plus or HP 150 just by switching libraries of routines at the top and recompiling the code. The Turbo Pascal editor ("integrated environment") is a great system in which to program, but unfortunately it does not run on the Plus or HP 150, so I have the advantage in that I can develop applications for these machines on the IBM compatibles.

In addition, Borland's new Turbo Debugger also works only on IBM compatibles, so I can debug all of my programs with what is undoubtedly the best debugging system available. (This may be of somewhat questionable use in the future since I have decided to quit putting bugs in my programs...).

LINK Plus was the first commercial program I wrote using these libraries. I estimate that development time for the Plus and HP 150 versions was reduced by over 90% by using these libraries. I really believe that as small as these markets have become, this sort of approach is the only viable technique for getting new software for these machines.

I do not have the library for the HP110 finished but it is coming within the next few months. I probably will finish it just for completeness, since it is about 80% done now. But, unless I get a push from some of you it may drag out, since I do not perceive too much demand for Portable programs at this time.

IBM PC PROGRAMS

One of the offshoots of the libraries is that code is now available that can be used by myself or other programmers in converting IBM PC programs to the Plus or 150. If you use a program on a PC compatible, odds are that it can be made to run on the Plus or 150 with a relative minimum of effort. As we have discussed previously, the major differences between these HP PC's and IBM compatibles are primarily in the screen and keyboard, and these are not impossible to work around.

You must first contact the author(s) of the program or utility and see if they will let me look at their source code (with the appropriate non-disclosure agreements if necessary) and recommend changes. This is very important, since without that we have to "reverse engineer" the program and patch it, which is difficult and tedious. With the source code, however, we could generate a Plus or 150 version for most programs in a matter of hours. An example of such a conversion is the Duette program that Personalized Software markets. It is a Turbo Pascal program originally written for IBM PC's that was converted to run on the Portable Plus. In this case, the conversion was relatively difficult, since it involved low-level tinkering with the serial ports of the machines where there are major differences. Yet the conversion was still fairly minor and did not take very long.

POP-UP

This project has not progressed as fast as I would like,

due primarily to LINK Plus and the Pascal libraries, although the libraries are an integral piece of the project. One good offshoot of these libraries is that the pop-up will run on IBM compatibles as well as the Plus, and if I can get just a bit more technical poop on the HP 150, it will run on that as well.

For the first time since the third quarter of last year I am working on this project exclusively.

The pop-up and pop-down portion of the code has been totally rewritten for Turbo Pascal version 5 and is being tested. I decided to convert from version 3 (which already worked) to version 5, so that I could do the bulk of the development on my AT with the libraries. Also, there are speed and program compactness advantages to using version 5.

I have made a significant conceptual change in the program which I believe will add to the functionality. In addition to being a pop-up, it will also be a DOS shell similar to (but hopefully infinitely better than) PAM. One of the major advantages to this approach is that you will have a "command stack" of past commands available at the DOS prompt.

How many times have you typed a command in at the prompt only to get the message "Bad command or filename" and then realize you either misspelled something or left out a character? It sure would be nice to press the up arrow key to recall this line you had just typed in and then edit the line with normal keys, such as +Char (to toggle insert/overwrite), left and right arrow keys, -Char, etc. Or what if you had typed a long line at the DOS prompt but it was five or six commands back? It sure would be nice to be able to press up arrow several times to locate it and then re-use it without having to type it in. Basically these are the things a "command stack" at the DOS prompt will provide.

P+

I have it laid out such that when you press the Menu key at the DOS prompt, you will get a window pop-up with all of the PAM applications listed so that you can "point and shoot" as in PAM if you desire. One of the things I detest about PAM is that it always checks external drives for PAM applications. This can be turned on or off in my shell.

I have played a lot with the keyboard to determine what would be a convenient set of keys to press for the "hotkey" that will activate the pop-up in another application. I don't like a three-key combination such as SHelp uses, since it requires more manual dexterity than I would like to use. The two best I have come up with are ExtChar and the Space bar or Ctrl Caps. Since Caps is right next to Ctrl and this combination is not used by any other program that I know of, it is my current best choice. If you have any strong feelings on this let me know.

From a distribution standpoint, it must be decided if the program will be held from release until all modules (notepad, calculator, phone dialer, etc.) are completed, or until some of them are done, with the others to be added later as they are completed. I am leaning toward the partial release concept since it may take quite a while (a man-year or so) to complete all of the modules, and the feedback I get is that users want it more quickly than a year from now.

One of the features of Turbo Pascal version 5 that made me switch to it is that it allows overlays. This means that although the whole program might be 100k in size,

only those parts currently needed will be in RAM at any time, and this may be only 40-50k with the rest on the E-disc (or eventually, EPROM) waiting to be called in as needed.

The only other technique I see as potentially advantageous in reducing RAM requirements is to load the whole program into RAM from the external disc drive (or EPROM) when you reboot, and not carry the program itself in E-disc. This uses less RAM but at the same time it requires you to have the external drive available each time you reset the machine.

Now that the procedure libraries are functional and I have LINK out, I am making good progress and hopefully can report some working modules by the next issue.

[Paul Grimmer, president of Southern Software, writes commercial and public domain software for the HP110 and Portable Plus. His credits include SideWinder, for sideways printing of spreadsheets to the ThinkJet printer; Sketch for free-form graphics on the Portables and ThinkJet, HPrint for fully exploiting the text, font, and graphics capabilities of the ThinkJet and QuietJet printers; and Link, which enables the transfer of data between all HP-IL devices. "On the side" he is employed as a supervising engineer for Conoco.]

You can write Paul at 12501 Clippership Dr., Anchorage, AK 99515 or send E-mail on CompuServe to: 71370,1303.]



Through the Looking Glass

by Ed Keefe

This column is yet another collection of tricks, traps, and techniques that should be of interest to both novice and advanced users of the HP Portables.

The topics include an illustration of how to use the DOS SORT program and your favorite text editor to create a To-Do list on any of the HP computers. I'll even suggest a new editor you might try on the Portable Plus.

I'll also share with you an interesting Turbo Pascal hack. The "hack" will show users of Turbo Pascal 3, 4, and 5 how to use the paramcount and paramstr() commands and I/O redirection to parse a text file.

If you like to use the HP110 or Portable Plus in MS-DOS mode, you'll find out why the computer sometimes get stuck when it tries to access a non-existent, external disk drive.

In the previous Looking Glass column, we explored some of the tricks you can do with DEBUG. In this article, we'll conclude the discussion by describing a DEBUG procedure to recover text files that have been blown away

by a system crash.

BUT FIRST....

Here are a few tips on the topic of Format Plus:

Many users of Format110 have upgraded to FormatPlus. Several people have called, or written, to express their surprise at a couple of new features of FormatPlus.

Most notably, when you choose a disk file as the "Destination" for your printed document, FormatPlus will save all the printer escape sequences in the new disk file. Format110 stripped out all such escape sequences.

The reason for this different way of handling disk output is "popular request." Apparently, many Portable Plus owners do a lot of word processing when they are away from their printer. They wanted to save their documents in disk files so that, when a printer was later connected to the computer, they could use either the MS-DOS **copy** or **print** commands to send the files to the printer. They would not need to re-load the FormatPlus program to print the documents.

To make this possible, disk files created by FormatPlus contain complete printer escape sequences, including the actual escape character. Such files should NOT be re-edited on the HP110 using MemoMakr. That version of MemoMakr strips out the escape characters while leaving the rest of the printer code in the document. Such re-edited documents will not print correctly.

Other people wrote to tell me that they had tried using the Think-Jet escape sequences for bold and underlined text. They wanted to underline a single word but discovered that the entire, printed line was underlined or boldfaced. Instead of using such escape sequences, use the appropriate menu selections to turn bold and underline on and off in MemoMakr. If you are using The Editor, use the CTRL-B and CTRL-S characters to set and extinguish the bold and underscore formats, respectively. The Editor will let you put these characters in your document, directly, by holding down the CTRL key while tapping the B (or S) keys. If you are using the Visual Display Editor (or WordStar), you can get the same effect with the CTRL-PB or CTRL-PS commands.

This simple keystroke sequence was not mentioned in the Users Manual for Format150/Plus due to an oversight.

AND, SPEAKING OF TEXT EDITORS....

There is yet another editor that will work on the Portable Plus (and the HP150). The name of the new text editor is SLED.COM.

I obtained SLED from a local, electronic bulletin board. I'm not sure what "SLED" stands for. Perhaps it is an abbreviation of Small Editor. SLED.COM is only 17K bytes in size. It will run on a standard PC and it can also be configured to run on the Portable Plus in Alternate mode. On the HP150, SLED requires the use of the PC emulator program, PC.EXE.

SLED is strictly a text editor: not a word processor. It does not have any built-in print commands and is best suited as a replacement for EDLIN. The editing commands make extensive use of the ExtChar key on the Plus. SLED lets you edit several files at once and contains some other interesting features such as indenting or outdenting blocks of text. It also has a built-in sort routine which is somewhat useful. The ExtChar-H keys shows all the

commands that are available in the program.

SLED is a shareware product. If you find that it is a useful program, the author requests that you send him a small (\$15) registration fee.

If you would like a copy of this editor to play with, and cannot find it on a local bulletin board or in the Compuserve IBMAPP forum under "Text Editors", here's what to do: Send a self-addressed stamped mailer and a blank, formatted disk to The FastAid Co. 314 SW Logan, Ankeny, IA 50021 and I will send you a copy of SLED, pre-configured for the Portable Plus and the HP-150.

Come to think of it, SLED might be a pretty good companion for FormatPlus. Hmmm!

A TO-DO LIST WITHOUT TIME MANAGER

110 One of my favorite programs on the HP110 was the Time Manager program. I used it most often to keep a prioritized list of tasks: a "to-do" list. (I have 2 RAM drawers and no ROM drawer installed.)

P+ When I upgraded to the Portable Plus, I missed the **PV** To-Do list and was forced to invent my own substitute.

LS/12 If you would like to experiment with a similar routine, read on. All it takes is The Editor (or the Visual Display Editor), the DOS SORT program, and a small batch file. The SORT program is available on the Portable Plus in the B:\BIN\ETC directory. For non- Plus users, you will need to load the program from an external disk.

This technique will not work with MemoMakr. But, if you have MemoMakr on a ROM chip, you also have Time Manager and won't need this routine anyway.

I will use The Editor II to show how to use this technique. You may have to make some modifications to the batch file to get this technique to work with another text editor. In The Editor II, set tab stops at, for example, columns 1, 10, and 20. I use the first tab stop to key in the priority for a given task. The priority is a number between 0 and 4 (0 being the highest priority.)

The second tab stop contains a code for the category of the activity. My categories include "home-mnt" (for "honey-do" kinds of tasks), "TPP" for The Portable Paper, "Class" for school related jobs and "Misc" for almost everything else. The third tab stop is where I type in a short description of the task. This all has to fit on one line. I keep this ASCII text file in my main directory as 2DO.PRN

The following batch file, called "2DO.BAT" lets me activate the To-Do list and automatically sort the file for either the priorities or categories.

```
REM 2DO.BAT
echo off
cls
if %1==/ goto ed
if %1==1/ goto Sort1
REM SORT2 on Category
echo Categorizing ..one moment
sort /+10 < 2do.prn > 2do.srt
del 2do.prn
ren 2do.srt 2do.prn
goto ed
REM SORT on priorities
:Sort1
echo Prioritizing...one moment..
sort < 2do.prn > 2do.srt
del 2do.prn
ren 2do.srt 2do.prn
:ED
edplus 2do.prn
```

With this batch file saved on disk, I can type the command, **2do**, at the DOS A:\> prompt, or on the PAM command line, and press Return. The batch file will sense that there is only the word "**2do**" on the command line and will, accordingly, jump to the :ED line in the batch file and activate The Editor II program.

If I use the command **2do 1**, the batch file will jump to the :SORT1 line. The ensuing lines will sort the **2do.prn** file and put the result in a file called **2do.srt**. The original file will be deleted and the **2do.srt** file will be renamed as the new **2do.prn** file. The batch file then jumps to the :ED line. If I use the command **2do 2** (or any other character), the batch file will sort the **2do.prn** file beginning at the tenth column. (For my **2do** file, this is the "category" column.)

With this batch file, there is no way to restore the original **2do.prn** file once it has been sorted. If you want this feature, just add another tab stop and put consecutive numbers at this spot on each line. Then add a routine to the **2do.bat** file that will let you sort on this column. Use the /+nn switch to tell the SORT program where to begin sorting a line. "nn" is the column where SORT should begin to sort.

If you are using the HP110, you have Lotus 1-2-3 in ROM. 1-2-3 can be used to maintain a similar To-Do list. You might even write some macros that will let you sort the file on priorities and categories. 1-2-3 will let you print out parts of the To-Do list and edit it very handily.

A CLEVER PASCAL TRICK

QUESTION: How would you use Turbo Pascal (ver 3.xx, 4.0 or 5.0) to take a text file and parse it so that each word in the file would be printed on a separate line?

To make the challenge more interesting, you are not allowed to use the "assign" or "reset" commands from Turbo Pascal, nor are you permitted to write your own parsing routine. "Parsing" means separating a line of text into individual parts. The character that signifies where to make the separation is called the delimiter. For a text file, the natural delimiter is the blank space between words.

ANSWER: Take advantage of I/O redirection and the paramcount and paramstr() functions in Turbo.

Here are two different versions of a small program that will parse a text file. The first one is for Turbo Pascal 3.01. The second is for Turbo 4 and 5.

```
P+
PV
LS/12
{$P1,G1,R+} {Compiler directives to allow I/O redirection}
PROGRAM parser; { Uses white space as default delimiter.}

VAR
  DummyCmdLine : string[127] absolute cseg:$80;
  i : integer;

BEGIN
  while not eof do
    BEGIN
      readln(DummyCmdLine);
      for i := 1 to paramcount do
        writeln(paramstr(i));
      END;
    END.
  END.
```

```
PROGRAM parser; { TP4,5 do not need compiler directives
                for this routine}
```

```
VAR
  i : integer;

BEGIN
  while not eof do
    BEGIN
      readln(string(ptr(prefixseg,$80)^));
      for i := 1 to paramcount do
        writeln(paramstr(i));
      END;
    END;
  END.
```

Once you have one or the other of these programs keyed in, saved as PARSE.PAS, and compiled to disk, try the following command at the DOS prompt:

parse < textfile.ext

where < is the DOS I/O redirection symbol and **textfile.ext** is the name of a text file. You could even use:

parse < parse.pas

How does it work?

Amazingly, the readln() function gets the text file, a line at a time. Note how I/O redirection lets us skip all the usual Turbo Pascal code for assigning a file variable and opening the file. With I/O redirection, if the Parse program can't find the textfile, it will just crash and the error message "File not found" will appear on the screen.

Readln() then jams the line into the memory location where Turbo Pascal normally looks for command line parameters. That allows us to use the paramcount and paramstr() functions to break the line up into separate words and "writeln()" them to the screen.

The Turbo versions 4 and 5 are a little trickier. Turbo 4 and 5 can have several places where a command line could be, depending on the number of units a program has. So we have to use the ptr() operator to fetch the 32 bit memory location of the command line and then use the technique of typecasting the pointer as a string before letting readln() jam the line into the command line's memory location.

Certainly, this explanation is not enough to clarify everything: just enough to rouse your curiosity. Now try **parse < textfile.ext | sort > newfile.srt** and, then, **type newfile.srt**.

Now let your imagination and programming talents go wild. Before you know it, you could develop an indexing routine for your text files or a simple cross-referencer for your Pascal programs.

Is this an original idea? No: I found the Turbo Pascal 3 version in an old issue of PC Magazine. The technique of using typecasting in the Turbo 4 and 5 versions, is from Neil Rubenking, via the Borland Programmers' Forum on Compuserve. Nonetheless, it still remains a clever hack, don't you think?

prompt and I issue the C: command to log on to the external disk drive. If the C: drive is not connected or not turned on or there is no disk in the drive, the message "Disk drive not ready. Abort, Retry, Ignore" appears. If I press R or I, the same error message re-appears. Sometimes, pressing A will return me to the DOS prompt: other times it will not.

There does not appear to be any good answer to the question: how do you recover, gracefully, when you're trapped in the "Abort, Retry, Ignore" loop. However, after much experimentation, I think I see the answer to "why" this happens.

This problem only arises when you're using an enhanced DOS prompt. If your prompt statement is the default DOS prompt, A> , you should be able to recover from the error by pressing A when you see the "Abort, Retry, Ignore" message.

Suppose, however, you set the DOS prompt to show which subdirectory you are in. You could do this with a command like PROMPT \$P\$G which would result in a DOS prompt that looks like this: A:\> (PAM uses a similar prompt, [A:\]).

With this prompt in effect, when you press C: and Return, your computer will log on to the C: drive. This will happen even if there is no such drive available. However, when DOS tries to find any subdirectories on the disk (which is what the \$P command parameter tells it to do) the I/O error occurs. The only recourse, when you get stuck in the I/O error loop, is to reset the computer (or connect a drive, turn it on and insert a disk.)

DEBUG TECHNIQUE TO THE RESCUE

The I/O error loop, described above, can be a minor nuisance at best. However, the day will come, if it hasn't already arrived, when you have been using The Editor II and have typed in ten pages of text. You issue the command "ESC File Command" and then "C:", hoping to find out if you have enough space on the external disk to save the ten pages. Suddenly, you remember that the disk drive is fifty miles away at the office. And you are now trapped in the I/O loop and can't return to Editor II to save the ten pages on the Edisk.

All may not be lost. You can still recover most, if not all, of your document, provided you are not using Editor II from within the PAM program. (Even then, you may still be able to recover some of your document).

The first step in the process is to go ahead and reset the computer using the CTRL-SHIFT-BREAK key stroke. Do not run any other programs at this point. Do not, above all else, reload Editor II. We want to leave the memory of the computer in the same condition that it was when we reset it. Loading other programs may overwrite part or all of the memory that is holding on to your document.

Next, jot down a couple of words, or even a phrase that you used in the document. You'll need them to find the document in the computer's memory. This works best if you can think of a word or phrase that you used in the beginning of the document, and another one from the end of the document.

Then load the DEBUG program. This is no problem if you're using the Portable Plus. DEBUG is in ROM and can be loaded simply by typing in DEBUG, at the DOS

THE EXTERNAL DRIVE TRAP

Ever since I started using the HP Portables with the external C disk drive, I have been perplexed by the following puzzle: The puzzle starts when I am at the DOS

prompt, and pressing Return. Of course, if you are using the HP 110, you will have to wait until you have access to the external drive before you can perform this bit of electronic brain surgery.

Once DEBUG has started, the decidedly unfriendly (-) prompt will appear. Now you're ready to go to work.

Here are the steps to follow. I will give them in a general fashion. You will have to adapt them for the particular document you are trying to recover.

1. Search for the unique words. (sample unique word: aardvark)

Here's how to perform the search. Issue the command:

-s ds:0000 1 ffff 'aardvark'

This will cause DEBUG to begin searching in the data segment of memory (that's what the "DS" stands for) beginning at the 0000hex memory location in this portion of memory. It will continue the search for the (L)ength of FFFFhex (64k bytes). If the search is successful, you will see a list of hexadecimal numbers where the string of characters was found.

For example, I just saved this document and pressed CTRL-SHIFT-BREAK, loaded DEBUG and issued the above command. What appeared were the two groups of hex numbers:

-0EB6:FBC1
-0EB6:FBFD

Undoubtedly, these numbers will be different for your situation.

If the list of numbers scrolls off the top of the screen, indicating that DEBUG has found multiple occurrences of the search string, you may have to re- issue the command, pause the scrolling with CTRL-S and jot down the first number in the series before it disappears. If no numbers appear, try searching for a different word or phrase. Also, be aware that the search routine, in DEBUG, is case-sensitive. It won't find "Aardvark" if you tell it to look for "aardvark".

2. Now issue the command

d 0eb6:fbc1 and press **Return**

You should see a dump of the computer's memory beginning with the word 'aardvark'. This is just to make sure that you have found some of the document. Note that the ASCII characters from your document appear on the right side of the screen.

3. Search for the beginning of the document.

This strategy uses the dump command to display earlier parts of the document. To back up, in 256 byte steps, you will need to compute the offsets. For this we will use the hex arithmetic command, in DEBUG, to find the appropriate offset number.

Here is how to use the hex arithmetic command. Type

-h fbc1 100 and press **Return**

This will give the following results:

-FCC1 FAC1

These two hex numbers are the sum and difference of FBC1h and 100h respectively.

Now issue the command:

-d 0eb6:fac1

Press **Return** and then **d** and **Return** again. You will see the 256 bytes preceding the first instance of your search string.

Continue the tedious process of subtracting 100h from the previous offset number (FAC1, then F9C1, etc.) and using the **d** (dump) command to look for the beginning of your document.

4. Once you have found the beginning of your document, jot down the offset number. This is the second hex number in the SEGMENT:OFFSET pair that appears on the left of the screen when you use the Dump command.

5. Now jump forward to the last occurrence of the search string and continue issuing the Dump command until you reach the end of the document, or as much of it as is contained in memory. Once again jot down the segment and offset.

6. Use the hex arithmetic command **h** to find the difference, in hex, between the beginning offset and ending offset of the text.

-h ending-offset beginning-offset

7. Write down the second of the two hex numbers that appear. This is the difference, in hex, between the beginning and ending of the document.

8. Now we are about to save the entire block of memory to the Edisk. But first we need to give the disk file a name. So issue the command

-n a:save.Fil and press **Return**.

Here, **n** is the command to Name a file and **A:SAVE.FIL** is as good a name as any to give this document for now.

9. Next, we need to tell DEBUG how much of the memory should be written to disk. We do this by issuing the command:

-rcx and press **Return**.

Then key in the hex number from step seven (7) above.

This command recalls the value in the CPU's "CX" register and allows it to be changed.

10. Then, tell DEBUG to write the memory to the disk file. Use the command:

-w segment:beginning-offset

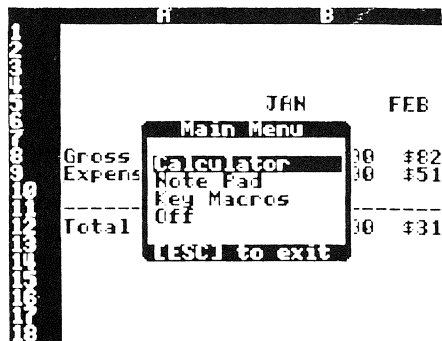
Once again, the segment is the hexadecimal number that

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):



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

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

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

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

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

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

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

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

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

Example: If you type "United States" a lot, you could assign the entire phrase to the "U" key. Just move the

cursor to "U" in the Keyboard Macros menu and type "United States."

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

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

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

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

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

PRODUCT NO. SH11NS

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

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consistently appeared on the far left of the display through all the dump commands. The beginning-offset was found by searching backward.

11. You should see the statement: 'Writing XXXX bytes' where XXXX is the difference in hex bytes between the beginning and ending of the document.

12. Finally issue the command to quit the DEBUG program

-q and press **Return**.

13. Use the **dir** command to look for the **save.fil** file on your edisk.

14. Use Editor II to clean up the file. You may find that some garbage may have crept into the document along the way.

To let you know that this process does work, I just reset the computer, without saving this article. I then went through the DEBUG technique and recovered the complete file. (Well, to be honest, I did experience some anxiety. "What if the process doesn't work...and I have to rewrite the last part of this article...")

Admittedly this is an involved process and one that you're not likely to remember. Hopefully you'll never have to use this process, but, just in case you do, here it is for handy reference.

A FINAL NOTE ON DEBUG

There is one other set of DEBUG operators that we could have explored: Assemble and Unassemble. However, my investigations lead me to believe that this part of DEBUG Ver 2.10, the version of DEBUG that is in the Portable Plus, is so full of bugs that it is not worth exploring.

My testing of the Assembler function of DEBUG 2.10 involved assembling and unassembling several DEBUG-type programs from PC Magazine. I used the A command, in DEBUG, to assemble the programs and then used the U command to unassemble the files. Comparing the input and output text files showed them to be very different. Invariably, the COM files that were produced with DEBUG 2.10 would lock up the computer.

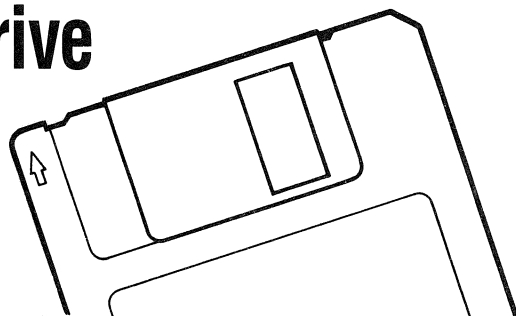
I tried the same technique with DEBUG 2.40 and found that the files were assembled and unassembled correctly and the COM files did what they were supposed to do.

In short: if you want to play with the assemble and unassemble instructions in DEBUG, don't waste time with Ver 2.10 of the program. Move over to a desktop computer that supports at least DOS 3.2 and DEBUG Ver 2.40.

If you're really interested in learning how to write small assembly programs, I'd recommend the book, "Assembly Language Primer for the IBM PC & XT", by R. LaFore, Plume/Waite, 1984. It will get you started. Beyond this, you will undoubtedly need the Technical Reference Manual for the Portable Plus. And, if you get serious about assembly programming, you will want to get a reliable assembler. Microsoft's Assembler is the standard, but Turbo Assembler and OPTASM have received very

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favorable reviews of late.

Until next time, Happy Porting.

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

THE SAVVY USER

by Thomas R. Page

SHOT IN FOOT

What the ____! I have been using this batch file for months. Why should I get a locked up machine and the following message:

"Enter AUTOEXEC Commands as instructed in the manual. Press the F6 key when done."

Oh well. Apply immediate action: Shift-CTRL-Break and reboot. Run computer for a while and then another hang up with the same message. This time I try typing some commands and press the F-6 key; nothing happens. Then I remember that the F-6 normally transmits a CTRL-Z. I press CTRL-Z and get an "Out of environment" message and my prompt back. I discover that I was now on the A:\ directory rather than the A:\work directory. A little additional sleuthing reveals that the commands I had typed went into a file named AUTOEXEC.BAT. Where did this thing come from? I don't use an autoexec.bat file. I have PAM active.

At this time I was preparing a Savvy User column and

I needed to talk to Hal about it. While I had Hal on the line I asked him about this problem. He was as perplexed as I and suggested that some rusty code in the depths of the machine might be getting triggered.

Well this ridiculous business continues for a few days but I discover I can get past it by typing CTRL-Z. It doesn't make any difference if I execute these batch files from PAM Menu entries or type the commands on the DOS or PAM command line.

Well now it is time to get serious about fixing this problem. No, no way I can have bad RAM. I will just reformat the E-disk and stop this noise. The terror of copying all the files on my E-disk to the 9114 causes me to postpone this option a day or two.

During this time I discover that the offending command in my batch file was the INSTALL command. I use INSTALL and an associated program from PC Magazine to manage TSR utilities. Well obviously INSTALL.COM has become contaminated by an electronic hiccup of some kind. Replacing it with a copy from my start-up disk should fix the problem. Don't bet the farm.

Now this is serious. It is now time to reformat the E-disk. With a burst of inspiration I realize the most efficient way to back up the E-disk is to use Duetto to transfer the files to the Toshiba T3100 on the table behind me. I turn around and make directories on the Toshiba to correspond with the directories on the Plus's E-disk. These are: PPROOT, PPBIN, PPCOMM, PPTURBO, and PPWORK.

Files are transferred to the Toshiba and I type format A:. It doesn't take long. I load DOS and begin to restore the disk. First I restore the directory system by using the DOS MD, make directory, command. These directories are: BIN, COMM, TURBO, and WORK. I then use Duetto to transfer the files from the Toshiba.

This is not too bad. It didn't take long but it didn't fix my problem. Life goes on and I cannot spend all of it hassling with a computer problem so I delay for a day the next solution: pressing the reset button in the battery compartment.

By the time I get around to pressing the reset button

I have changed a number of files on my a:\work subdirectory. To avoid answering Yes or No to each of Duette's requests to overwrite a file, I delete all files on the Toshiba's C:\PPWORK subdirectory. Since I did not change any files on the other subdirectories there was no need to back them up again.

But again, I struck out. I am convinced there is a serious RAM problem but I can't remember the keys to initiate the selftest. There is one more possibility: drop the power link and wipe out everything including time, date, and all configurations.

A call to Personalized Software gets me the selftest keys and I do a RAM test, by holding down the Shift and Extend Char keys and pressing f8 to get the selftest menu. Expecting to see the worst and hoping not to, I am almost as disappointed as thrilled to see the RAM-ok message. After a few hours of using the Plus without any problems I begin to wonder if there may be something that the RAM test could have done to repair memory.

Anyway I have limped along for a week with problems but I have been able to do work too. This has resulted in a bunch of files that need to be organized and archived. I am working through the A:\WORK subdirectory and type the directory command and see a couple of .BAT files scroll past. I don't normally keep batch files on this directory but occasionally I have an experimental file or two stashed here. I have just about finished my organizing and I type: DIR *.BAT and there it appears on the screen: INSTALL.BAT, and I instantly recognize my problem.

I have been attacked by that most deadly of all computer viruses, PLUMBUM PEDI. I had shot myself in the foot. I had extracted the INSTALL.BAT file from an archive downloaded from somewhere on CompuServe. Here is what was happening:

When a command is typed, DOS searches for it in this manner:

1. Internal Commands (resident within COMMAND.COM, the command interpreter.)
2. The current directory for a file with one of the following extensions:
 1. COM
 2. EXE
 3. BAT
3. Directories as specified by the PATH environmental variable for files with extensions specified above.

Therefore, if A:\WORK is my current directory when one of the batch files containing the INSTALL command is run, DOS would execute the INSTALL.BAT file rather than following the PATH to A:\BIN\INSTALL.COM. If another directory is current, the right INSTALL is executed.

ROMS

Let's not underestimate the power of the ports underneath the Portable that the RAM and ROM drawers plug into. Only the imagination limits the possibilities of what can be attached to a Portable in this manner. I am intrigued by a CPU upgrade, but I have some concern about additional draw on the battery. Drawers, on the other hand, are made to be easily interchanged. Hal's idea to find a larger EPROM that fits the existing drawer is good. Recent advances in custom chip-making technology may make this a real option. On the other hand I must clarify my position on compatibility between

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

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- Sort directories
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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

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the existing ROM drawer and an alternate drawer. Compatibility is the ability to transfer my existing ROM software to the new drawer. I see no reason that it has to be on the same chip. Any rework of the drawer should get an increase in the capacity of the drawer by an order of magnitude--however big that is. I think it means adding another zero at the end of a number. If you are working with decimals that is times 10 and I guess if you are working in binary that means times 2. I am becoming more fond of hex. That would mean times 16.

I am not sure that I can do without my Plus long enough to get Hal's technicians to install my ROM's, but it sure sounds like a winner. A blind spot in the center of my left eye seriously impairs my depth of field at close distances. This makes installing ROMs a challenge. It is comparable to threading 28 needles at a time.

Maybe a direct exchange plan could be worked out? A drawer with requested ROMs could be filled and delivered to the customer. The customer would install the new ROM drawer and return the old drawer to Personalized Software.

If some pins are bent, installing a ROM is even more challenging. A pair of long nosed pliers can be useful but generally nothing more than your fingers, a table top and a good eye is required to straighten a ROM's pins. One of the most likely causes of difficulty in inserting ROMs is that the two rows of pins are spread slightly. I correct this by grasping each end of the body between the thumb and forefinger of each hand and lay it on its side on a flat hard surface. Then carefully, while forcing the pins against the surface, I press forward with my thumbs on the top of the ROM to bend the pins inward.

Even if you have only one ROM to move, go down to your neighborhood professional electronics store and spend \$15 or \$20 on an IC (integrated circuit) puller. For this price you can buy one with a T-handle that will lift each side of the ROM equally and not bend pins. I have an OK model EX-2. Don't even think about another pair of tweezer-style ROM pullers. Radio Shack may not have what you want.

Here is a suggested tool kit for the Portable Plus:

\$15 ROM puller

Screwdriver for RS-232 screws

End wrench for RS-232 nuts

#6 Torx driver

Nut driver (for changing battery)

End wrench

Does anyone have any other suggestions? ⁴

HP FORUM

P+ I logged on to the HP Forum on CompuServe and discovered that a few people had downloaded the TMERG (Time Manager and Mail Merge from the 89 Subscribers' Disk) files. That pleased me. I am not especially regular on CompuServe but I check in and review the new uploads every week or two. This practice keeps me up on your latest tricks, as I often find files to download.

LS/12

Did you know that uploading to the HP Forum is free? Connect charges are suspended while files are being uploaded. I would bet that every one of you has something worth contributing. You may think that you have nothing to contribute, but I am continually amazed by the things that novices are able to show me how to do. Computers are so complicated that no one can know

all there is to know about them.

TURBO PASCAL

P+ I have been messing around with Turbo Pascal 5.0. Ed Keefe sent me a copy of his TurbPlus Integrator. I hope Hal will be able to make this available to you soon. It is not perfect, but it does an excellent job of integrating an editor (I of course use The Editor II) and the Turbo Pascal command line compiler. The best thing is that Keefe's version comes with source code, including two units HPDOS.TPU and HPCRT.TPU that replace many of the functions and procedures in the IBM standard unit, and adds some neat HP function key tricks. An HP graphics unit would be a useful addition but unfortunately is not now available.

Since the source code is included for the TurbPlus Integrator, this program is basically sold with an "Arkansas Guarantee". That means that if you buy something and it breaks you get to keep both parts. I started hacking the program to make it work like I wanted it to, and I did solve what for me was a problem or two, but at a cost. Everything I did made the program bigger.

In some instances Ed Keefe and I have a difference of philosophy about how the program should operate. I am sure that my program must be larger than necessary because at this time it has a split personality. I have been hesitant about changing Ed's program since I have a suspicion he may know something I don't. I don't want to invent a triangular wheel and think it is an improvement over the square wheel because it eliminates one bump.

KEYS

P+ As I told Ed, I am trying to develop a dialogue with my computer. I am not sure exactly how things should work. I can say one thing about working with a computer. My Portable has just the right number of keys. They fit quite well into the space available. Any more than 8 or 10 function keys is too many. I also think function key templates are obscene. Having to use one for 123 is bad enough, even though the Template for the Portable fits better than I have seen on any other computer.

Sliding bar menus are great for programs that demand intense interaction such as spreadsheets and editors. For less demanding programs, a terminal program for example, I like HP floating function keys. I have made a few discoveries about how these keys should operate. These can be summed up in a few rules:

1. Save function key labels and commands that are active when the program loads.
2. Be sure your program initializes the function keys.
3. Don't display a menu that is not operational. This rule is applicable to any menu system. See Duette for a bad example.
4. Generally if the f-key menu is not active, it is better to blank the keys rather than turn them off. Turning the keys on and off creates too much noise at the bottom of the screen.
5. The f-8 key should return to the next higher menu and exit the program. I like for the ESC key to return to the next higher menu but not exit the program.
6. At termination the saved f-keys should be restored and turned on if the current program uses f-key menus. Excess screen noise is created if the keys are turned off

and the next program turns them on.

Here is a little f-key trick I find useful. I have programmed the f-8 key to send the EXIT command to DOS. (See The Portable Paper, vol.1, no. 2, p.10 or the Portable Plus Technical Reference Manual.) If I shell out to DOS while in Ed or 123, pressing the f-8 key will return me to the program. This trick only works if Ed or 123 is loaded from DOS. Since PAM resets the f-keys this trick will not work if the programs are loaded from PAM, unless they are loaded with a batch file that configures the f-8 key. It does not work with Reflection or TermPlus.

One of the adjustments I made to my copy of the TurbPlus Integrator was to restore function keys when shelling to DOS. I then redefined the f-8 key to be sure that it would send the EXIT command and changed its label to "Exit to TurbPlus".



by The Wizard, Cliff Looyenga

110 Have you ever wondered how much faster 19,200 baud really is over 9600 on the Portable Plus? Well, I've been asked that several times, so I thought I'd do some experiments. My gut feel was that it might be a little faster, but not much. I took this as an opportunity to try out my HP Deskjet on the Portable Plus.

My Deskjet is normally connected to my serial port on my "classic" Vectra (the original 8Mhz one). Before I disconnected it I thought it would also be interesting to see how the Portable Plus compared to the Vectra for this experiment. I found a text file that was about 15500 bytes long and decided to use that for the experiment. In order to measure the time it takes to send the file to the printer I used the DOS COPY command to copy the file to the printer. Here are the results for the Vectra:

Baud	Seconds	Effective Baud Rate
9600	17.5	8850
19200	11.3	13717

A few comments about the effective baud rate. This baud rate was determined by dividing the time it took into the number of bits that were transferred. This is fairly straight forward except for calculating how many bits are transferred. One would instinctively want to multiply the number of bytes by 8 since there are 8 bits to every byte. This is true except when you are sending data serially; there are the 8 data bits, 1 start bit, and 1 stop bit making 10 bits for every byte transferred.

I searched around looking for a cable to connect the Portable Plus up to the Deskjet. The manual says I need to use an HP cable number 92221P. The only cable that looked like it might work was my modem cable number 92221M. I hooked it up and found I was out of luck. Apparently pins 2 and 3 on the RS232 interface needed to be switched. I then took my breakout box and hooked that in. A breakout box allows you to control which wires are used on an RS232 connection and allows you to

cross wires. I figured this would be a good time to figure out how many pins the Deskjet really needs for this to work. I disconnected all wires on the RS232 cable except for pins 2,3 and 7 (I did swap pins 2 and 3). I tried it again and success! It worked! Note that if you decide to make your own cable using only pins 2,3 and 7 you need to ensure that Xon/Xoff handshaking is enabled on the portable as well as on the Deskjet (on the Deskjet it's the last switch on Bank B of the dip switches. See the picture on page 8-2 in the Appendix of your deskjet manual).

Once I got the deskjet working I copied my test file to PRN. The timings are listed below:

Baud	Seconds	Effective Baud Rate
9600	17.9	8659
19200	14.5	10690

This shows that 19200 baud is about 20% faster than 9600 baud on the Portable Plus and that the Portable Plus is out-performed by the Vectra (not surprising).

In the next issue of the portable paper I want to investigate why WordPerfect doesn't support the graphics of the ThinkJet, and hopefully get it working.

[Although the Wiz did not test the HP110, Portable Vectra, or LS/12, one could extrapolate that the HP110 would perform at the same rate as the Portable Plus. The Portable Vectra should send data to the DeskJet just a little slower than the Wiz's desktop Vectra, and the LS/12, faster. Adjust the baud rate on the HP110 and Portable Plus from PAM's f5 Datacom config. Use the Mode command to change the Portable Vectra and the Vectra LS/12 baud rate. Dip switch changes need to be made on the DeskJet to change the baud rate from its 9600 default. The specifics of making these configurations is clearly presented in the DeskJet manual. - Hal]

[Cliff Looyenga provides technical support for HP PC's and HP 3000's, and in those circles he is known as "The Wizard." He has developed a number of HP110 Portable and Portable Plus utilities. Cliff's CompuServe ID # is 75106,2130].

(110% continued from p. 8)

pick-up mechanism moves a page through the printer in half the time of the original model.

SPREADSHEET FONTS

The printer comes with 10 fonts -- six portrait and four landscape. Many customers will find the internal fonts sufficient for their personal-printing needs, including landscape spreadsheet printing. The HP Deskjet PLUS printer now can print a legal-size spreadsheet or a page of simple text in landscape without adding a landscape-upgrade cartridge.

LARGER FONTS, IMPROVED LETTER SPACING

The HP Deskjet PLUS printer also prints up to 30-point (1 1/2-in.) fonts. These larger fonts are available in both cartridge and soft-font format, and give users new options

for titles, headlines and sub-heads. Four new font cartridges and two new soft-font products were developed for the HP DeskJet PLUS printer. These new font products have improved letter spacing for better-quality printed pages.

INDUSTRY-STANDARD COMPATIBILITY

THE HP-PCL printer language ensures compatibility for the HP DeskJet PLUS printer with the most popular PC software packages. The following software packages support the printer's new features: MSWord, MSWindows, WordPerfect, Lotus 1-2-3, Freelance, Wordstar, Harvard Graphics, and Multimate. An Epson FX-80 add-on printer-emulation cartridge is also available. The HP DeskJet PLUS printer works with a variety of HP, IBM and IBM-compatible computers and comes standard with Centronics parallel and RS-232-C serial interfaces.

Popular features the HP DeskJet PLUS printer shares with the original HP DeskJet printer include:

- * third-generation HP ink-jet technology -- which introduced 300 x 300 dpi plain-paper printing;
- * automatic cut-sheet feeder for up to 100 sheets of paper;
- * front-loading design for quick paper reloading;
- * accommodation of letter, legal and European A4 paper sizes, as well as manually fed No. 10 business envelopes; and
- * expandable printer memory for downloaded soft fonts.

LOWER PRICES FOR HP DESKJET PRINTER AND FONTS

The original HP DeskJet printer will remain in the product line with a reduced price of \$795. This lower price and quiet, high-quality printing make it a good alternative to dot-matrix impact printers for an office in the home.

Prices for accessory font products for the HP DeskJet printer family have been reduced by 30 percent. Font cartridge and soft products range in price from \$55 to \$95.

ORDERING INFORMATION

You can order your DeskJet printer through your local HP dealer or from Personalized Software. If you use an HP110 or Portable Plus you will also need an HP92221P serial cable (\$42). Portable Vectra and LS/12 users can use a standard parallel cable. The retail price for the DeskJet Plus and DeskJet are \$995 and \$795 respectively. You can purchase them from Personalized Software for \$795 and \$679 respectively. You can purchase the HP serial cable from Personalized Software for \$37.95 and the parallel cable for \$20.

Serial Hard Disk A Possibility For HP Portables

HP110 HP110, Portable Plus, Portable Vectra, and Vectra LS/12 laptop users would all benefit from the availability of an external hard drive that connects via the portable's serial port. The data transfer rate might be a little slower than a conventional external hard disk. However, even a

relatively slow serial hard drive for the HP110, Portable Plus, and Portable Vectra dual floppy system is better than no hard drive.

It turns out that Best Data Products in Van Nuys, CA is working on producing a portable, reasonably fast, serial hard drive. They should have a unit for beta testing in May or June. Portable Vectra and Vectra LS/12 users should have no trouble using the drive.

However, we will probably have to work closely with Best Data Products to assist them in modifying their software for the HP110 and Portable Plus. Connecting a computer to a serial hard drive requires software so that the portable knows what to do with the hard drive.

Unfortunately, the HP110 and Portable Plus serial interface is not IBM compatible. That is why conventional serial port portable-to-desktop file transfer programs such as LapLink do not work with the HP110 and Portable Plus. The HPDuette people had to modify their portable-to-desktop serial port file transfer software to make it run with the Portable Plus.

In addition, the HP110 and Portable Plus serial interfaces are not compatible with each other. Furthermore, the HP110 serial interface was never well documented. That is why HPDuette does not run with the HP110, and the chances are small that we will get the hard drive to run with the HP110.

We'll keep you informed about developments.

Replacing Batteries On Hp110 And Portable Plus Without Losing Your Files

by Bill Hassle

HP110 Here is a procedure to replace the batteries that prevents losing memory--although HP always recommends a full backup before swapping batteries. The procedure is to plug in the charger first, turn the unit off from the PAM screen (f8) and then replace the battery with the charger left plugged in. Although this procedure is not approved by Hewlett Packard, it usually retains the memory with no problems. For details on replacing the battery, see The Portable Paper, vol 2, #5, p.4.

P+ For those with a technical background who want to know internal specs, here's some details on battery voltages and current drain:

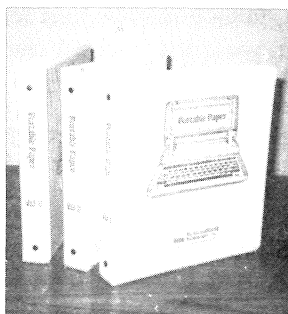
- (1) With the charger plugged in, the battery will measure about 7.6 volts and then change to about 7.2 to 7.4 after a few hours. If the battery has been heavily discharged, its charger may not reach these voltages for several hours.
- (2) The "Low Battery!" indicator will be displayed when the battery reaches 5.8 volts. This may take up to 8 minutes to show up, especially when using a battery substitute such as an external power supply.
- (3) Low battery shutdown (comatose mode) occurs at 5.6 volts. Loss of memory will occur below about 5 volts.
- (4) The Portable's sleep current is only 220 uA (0.22 mA) and is difficult to measure if the meter has more than a couple of ohms resistance. Use a precision 1 ohm resistor in series with the battery's metal plate (the brass stud isn't always connected) and the computer's power strap. This is not recommended except for trained technicians since the battery is quite powerful and can melt small metal probes if shorted. Maximum sleep current should not exceed 285 uA. If more current is detected, the unit needs repair.
- (5) When the Portable is running, the current is about

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150 mA or 180 mA if the RS/232 or modem port is turned on. There is an idle mode which occurs if the Power Save Mode is On. In this mode, the CPU is halted internally after waiting in the keyboard input loop for more than 1 second. You can hear this if you place a radio next to the Portable tuned to a weak station. Pressing a key will create some hash and then it will stop after one second.

In the Power Save idle state, the CPU draws about 80 mA or 110 mA with the RS-232/modem port turned on.

More On Dead Units

by Bill Hassle

110 Flip open your Portable and...nothing happens when you press a key? What about the contrast key? If you hold it down for 20 seconds, still no fire from the CPU? Well, all is not lost yet. Get your portable some fuel! The dead mode is actually a comatose mode and occurs when the portable hardware detects less than 5% battery charge. The hardware then turns off everything except memory and waits for someone to hook up the hose. The portables will last from one to two weeks in this mode and then, you guessed it, RAM memory is truly gone.

How did the portable lose its juice overnight? The two most common methods are:

- (1) Leaving Reflection, Terminal (or any datacomm program) running in memory and,
- (2) Specifying Power to Interface = On (Datacomm Config in PAM) for either the Serial port (RS-232) or the modem port.

Reflection turns the power on for either interface when starting up (depending on COM1 or COM2 setting) and also remembers to turn off the power when Reflection is ended. We computer users don't always remember to do this! So if you leave Reflection running, the battery will quickly run down in a few hours.

Using a serial printer or specifying that the modem be set to ON will also eat up the fuel quite quickly. The portables were designed with some very tricky circuits to keep fuel use down to a minimum. Unfortunately, RS-232 standards and requirements for modems did not consider power requirements. *These two sections use almost as much power as the computer, keyboard and screen combined!*

So, before you buy a new battery and reformat the A: disk, plug in your unit for about 5 minutes and then try pressing a key...it will probably spring back to life.

ECM Corner

by Bill Hassle

P+ One of the most powerful data base managers HP has developed is the Personal Cardfile concept, now enhanced to Executive Card Manager or ECM for short. ECM is a ROM-based program that keeps track of data collections allowing updating, sorting, selecting, and printing reports from this data. (ECM is available new from HP for \$341 or used from Personalized Software for \$279.)

ECM looks just like an index card file on the screen and access is via scrolling up and down through the titles although alternative methods do exist. One of the most exciting features is the ease with which a user can create a new cardfile. Instead of learning some cryptic database definition language, the user starts with a blank index card and just fills in the fields and titles as desired. Once the card is designed, the user then picks a name for the database and ECM does the rest.

Another nifty feature is the ability to import data from some other source using a simple BASIC-style file format. Data can be imported into an existing cardfile and will be added into the existing file. Individual records can be modified at any time including a complete deletion.

A database is not useful unless it can report the information in a form useful to the user...usually, this means a printed report. ECM has a number of powerful report format features including multiple records across the page (ideal for labels). One of the less obvious requirements for printing is the Printer Setup menu which allows the user to setup top, bottom, and left/right margins. However, the values in these choices are relative and not absolute; in other words, when the right margin reads 0 it means the margin extends to the printer width. If the right margin reads 5 then it means indent 5 columns to the LEFT of the printer width.

DUPLICATING ECM RECORDS

It is becoming common to need almost identical ECM cards for situations such as a list of names with the same company address. Here's a quick way to create duplicate cards:

ECM has a feature called Copy Cardfile under Cardfile Tasks. One of the formats is called BASIC format and is the default. The following text illustrates how the BASIC format works:

```
Sample ECM card layout -----
lastname: xxxxxxxxxxxx firstname: xxxxxxxxxxxxxxxxxxxxxx
address: xxxxxxxxxxxxxxxxxxxxxx
city: xxxxxxxxxxxx st: xx zip:xxxxx
(xxxxxx is an ECM data field)
```

The BASIC file puts double quotes around each field and separates each field with a comma. If this cardfile were transferred out then the resultant BASIC file might look like this:

"Hassell", "Bill", "321 E. Evelyn", "Mtn. View", "CA", "95050"
 "Neuman", "Al", "MAD magazine", "New York", "NY", "10001"
 "Dummy", "Mr. D.", "", "", "", ""
 etc...

All-blank fields (the Dummy example) have just two adjacent quotes.

You can use MemoMaker or TDP or EDIT/1000 or any simple text editor to create additional records for your ECM file by following the above format. Use the record-duplicate command in your favorite editor, make the changes as needed, download the file if you are using a different computer editor, and then Transfer In the resultant file. The Transfer In will add these cards to the existing file.

Rules to remember:

(1) Always have the same number of quote-pairs and commas for every record. It must match the ECM card layout.

(2) Blank fields can just be two double quotes (ie, "", etc)

(3) Backup your existing cardfile to floppy before experimenting. That way, if an error occurs, you can just replace the file rather than finding and deleting the bad records.

(4) Data that is too long for the ECM record will be truncated, while shorter data will be space-filled on the right.

For the intrepid user, ECM also offers rearranging of the fields, or supplying just a few of the many fields by using Reorder Fields. Check out the ECM manual for info on this feature.

Lost Disk Space?

by Bill Hassle

P+ Occasionally, you may see what appears to be lost disk space; that is, the disk is reported as almost full, but the **PV** sum of all the files does not add up to the amount of used space. This is usually due to having very large files **LS** in subdirectories. If you search through the disk, be sure **110** to look at subdirectories (and sub-subdirectories and so on) since files are probably hiding there. Also, the disk may be highly fragmented and the empty space is actually dozens of little chunks that are very small.

Things that take a lot of space: Lotus spreadsheets are biggies. These all end with the type-extension of **.wks** for WorkSheet (or **.wk1**). Also, ECM data files can be very large depending on the number of entries and the amount of data contained in each record. All ECM data files have the type extension **.edt**, while the index file (usually the smallest) has the type **.eix**, and the format file (a little larger) has the extension **.efm**.

Help For Reflection Commands

by Bill Hassle

P+ Did you know that online help is available for Reflection? It is hidden in that little disk in the back of the manual sent with the Reflection ROM. The file is called **reflect.hlp** and must be stored on the A: disk. Otherwise, typing the Reflection command HELP will give you an error message that the file can't be found. This file takes up about 12 Kbytes, so it isn't too large. It isn't needed to run Reflection; you can leave it in or out as desired.

Single-sided Disks

110 Personalized Software supplies many of its programs on single-sided disks so they can be read by users having **P+** either single- or double-sided drives. There has been some question about the wisdom of reading single-sided disks on double-sided drives.

Single-sided disks, as they were manufactured at one time, had lubricative coatings on one side only, so the bottom head of a double-sided disk drive would be subjected to a type of sanding action from the oxide coating on the unused side of the disk, resulting in eventual destruction of the drive.

Today, however, most of the disks sold as single-sided are in actuality double-sided ones which have passed inspection on one side only. In this case, there is no harm in running them on double-sided drives. The single-sided disks used by Personalized Software are all of this latter type.

If there is any question about the type of single-sided disk you have, the way to check is by sliding the metal protector over and checking that both sides of the inner media are shiny. As further insurance, one could immediately copy any programs from a single-sided disk to a double-sided disk, and keep the original single-sided disk as a backup, a good policy to follow in general anyway.

110 DeskJet Paper

P+ Some users report very good results using xerox-type copier paper in their DeskJet printers. It seems that the back side usually gives the best results, so it should be loaded in with the front side up.

More On Eyestrain

by Bill Vesely

110 In the last issue in the section on Vectra Views, we gave
P+ a few hints about reducing eyestrain when doing
PV prolonged computer work. Here are a few more ideas for
saving your eyeballs.

Use the computer in a darkened room, with a desk lamp for illuminating your work, and also your screen if you are using the HP110 or Plus. The pupils of the eyes can relax more if the background light is darker. A drafting-type lamp with a swing-arm is a good possibility. You can position it so that it is right above your head, which seems to be a good angle for minimizing glare as well, another cause of eyestrain. Working in front of a window is especially to be avoided, as the brightness makes it especially hard on the eyes.

It's good to look away from the screen from time to time and let the eyes focus on more distant objects. Working in a corner is therefore not a good idea, since

all the surroundings are at about the same distance. Pictures on the walls will give the eyes something pleasant to focus on and thereby make it easier to change focus periodically. If you wear glasses, there are special lenses available that are especially suited for the distance at which the screen is positioned.

ROM Subdirectory Size Limits

by Rich Brown

P+ Let me add to your answer to G. Jankowski's letter in the March/April Portable Paper. When I enter DIR B= on my Portable Plus, I get:

Directory of B=\

```
BIN          < DIR >
MSWORD      < DIR >    01-02-89    1:05a
HP82863k    < DIR >    11-01-85    10:03a
MEMO-TM     < DIR >    05-08-85    7:03a
PASCAL      < DIR >    08-22-88    6:00a
```

5 File(s) 2883584 bytes free

Where did that free 2 1/2 meg come from? The firmware in the Plus fakes the root directory for the B: drive each time DOS tries to read it. HP allowed space for 16 subdirectories in the B drive: the BIN subdirectory and up to 15 plug-ins (Technical reference manual pages 8-12). When you do a DIR, the firmware "knows" that each empty entry in the B: root directory could contain a 256K full bank ROM pair. In my case, $(16-5) \times 262144 = 2883584$. That's the number of bytes the Plus shows as "free". A plus with two software drawers and all half-bank ROMs would have 24 sets of software trying to fit in only 15 slots, so HP's limitation on the number of entries in the root directory could be a problem for some users (Tech Ref Manual pages 8-10).

Each plug-in module is electrically two "virtual modules" (Technical Reference Manual, pages 2-42). Thus, one module could be 1/2 ROM and 1/2 RAM (example: the Softword RAM/ROM card) or perhaps RAM and SCSI port. If size, power and cost were not important, a ROM plug-in could have 16 pairs of chips (at least that's the way I read it-- 8 ROM pairs in each virtual module). Of course, the firmware couldn't support them all, even if

all were full-bank ROM sets! Both HP hardware and built-in disk drivers assume ROMs and eproms will be no larger than 128K; so a pair gives you 256K. Going beyond that limit would require both a new ROM module and bypassing the B disk firmware (I think).

The addressing scheme set up for RAM modules has a 2 Mbyte limit (Tech Ref Manual page 2-45). The Edisk addressing also has a 2 Mbyte limit (Tech Ref Manual page 8-6). Thus a Plus with 512K base memory and two HP 1 Mbyte RAM cards can only be partitioned as 512K base memory/2m Edisk.

It looks like Softword has gone the last mile in filling up a Plus as much as the design allows. The C drive card is an elegant solution to the 2 meg limit built into the Plus. Perhaps the way to get past the 256K per program limit for ROMs is to follow Softword's lead and create a D drive ROM card. The system firmware would assume it was a real disk and wouldn't fake the root directory. This D drive might need to have some ROM built in with the program to build a root directory (to be run each time you install or remove chips) and some RAM to store that directory in. Of course, enough of the root directory has to be there on a new card so you can run the set-up program. This gets complex fast. The memory map of the D drive might look like this:

ROM Sector 0 < FAT < First entry of directory (setup program)

RAM Rest of directory, shows of each chip set

Eprom User chip set # 1 home burned one of

Prom User chip set # 2 . Per.Soft. medium run

ROM User chip set # 3 HP large run

A word about the Technical Reference Manual: Everything you need to know is somewhere in that book; but it's very hard to find. I had to read the thing from cover to cover twice before I began to get something out of it.

Add to the wish list: a 2400 baud international modem. 2400 baud is becoming the standard even for cheapskates now.

(Letters continued from p.4)

We find we frequently have to refer to a wall chart which shows the various characters and the <Alt> sequence to produce them. It doesn't help that MS Windows has a different set of <Alt> sequences from Executive MemoMaker.

Long live standards?

Tim Cullis

HP World magazine
7 The Brow, FRISTON
Eastbourne, East Sussex
England, BN20 0ER
Phone: (0323) 422051

Reading Portable Formatted Disks On My IBM Compatible

110 Your ReadHP program works wonderfully well on my new Compaq and really makes life easy. I can read my HP Portable (and HP150) formatted disks from my Compaq. Excellent product.

LS 12 S.R. Steinmuller, Sugarloaf Shores, Florida

EPROMs and More

P+ Several points here:

- 110** 1) I would like to say that I just don't have very much confidence in RAM memory as such. This is the third start on this letter. The first time I lost about half of it, and the second time I only wanted to add the words "Yours Truly" and I got the message "Program Disk Full". Well somehow I lost the whole darn letter.
- 2) If at all possible, I want almost all

my programs and routines on EPROMs. At the present time, I have only three empty sockets left in my ROM drawer and I want about ten ROM-based programs from Personalized Software; so it looks like sooner or later I will be wanting some sort of RAM/ROM socket drawer, hopefully with more than one megabyte of RAM memory and more than eight sockets. At present, my machine is a full factory issue 896 unit and has nowhere near enough capacity.

3) I don't know if you're aware that EduCALC Mail Store sells an Eprom programmer capable of burning 256K Eproms for \$1249.95.

4) EduCALC Mail Store sells HP-IL electronic RAM disk drive, priced from \$325.95 (128K) to \$895.95 (512K HP-IL &

RS232)

5) Could you tell me how much training or programming experience is needed in order to be able to program Eproms?

6) By the way, EduCALC Mail Store also sells 2 metre and 10 metre HP-IL cables which HP does not offer.

7) Will the HPrint program in the Portable Plus produce expanded and compressed print with the HP82905B IMPACT printer?

8) Will the Editor II produce expanded and compressed print with the HP829058 printer?

9) I would like to see Personalized Software make up a new tried and tested collection of the very best of programs and routines from DOS tools, BAC tools, FastAid etc. on ROMS for the Portable Plus computer.

Gerald Watry, Bloomington, MN

[If you have had consistent trouble with your RAM disk, there is probably something wrong with it. We have found the HP110 and Portable Plus Edisc to be very reliable.]

We have wanted for some time to create a package containing a serial port ROM burner, software of Portable Plus EPROMs, and step-by-step instructions for burning your own EPROMs. Currently, we are waiting to see whether we will be able to offer 128K byte EPROMs for the Portable Plus. Also, if anyone can recommend an EPROM burner that can utilize the serial port of the Portable Plus, to copy images from the Plus, give me a call.

We reviewed the external HP-IL RAM disk in Vol 2, No 6, P 7. We basically did not like it because of its price and the fact that the RAM disk had to be divided into separate 128K byte drives. The one we sold was returned to us.

HPrint should let you tap the features of your HP dot matrix printer. You can get the same results with The Editor II, but you would have to insert the sequences of characters beginning with the ESCAPE character required to print compressed or expanded.

We will probably at some future time create one or more ROMs with the best of any of the programs we have offered from our Subscribers disks, BacTools and other offerings. I am open for suggestions as to what should be on it.]

ThinkJet Fuse

110 Thanks for sending the HP Plain Paper ink cartridge. No one here in Florida has heard of them. Incidentally, while in Tampa at Heathkit, I obtained a Diconix Plain Paper print cartridge which works fine in the ThinkJet. Heathkit is the only outlet that handles them, to my knowledge.

The battery in my ThinkJet died recently (twice). I followed instructions on

page 40 of the July/August 1988 issue of *The Portable Paper* and replaced two of the batteries with Radio Shack #23-190 batteries. Everything was fine for a few weeks but the ThinkJet stopped again. Since Radio Shack had only two more batteries in stock, I used them to replace two more of the batteries in the battery pack. However, the ThinkJet refused to work. Investigation revealed something which was not mentioned in the article. There is a small 5 amp micro fuse between two of the batteries, covered by heat shrink tubing, which had blown. Before splitting the tubing, I had assumed that it was only a lumpy splice. Since this fuse is not locally available, I soldered the ends of the wire together and the ThinkJet has been working fine.

My concern is that the fuse served a useful purpose. If it did, where can I get a replacement?

Alexander J. Banach, Ft. Myers, FL

[We haven't been able to locate an original equipment replacement, but you can solder in a slow-blow 5 amp fuse from Radio Shack, part #270-1175. -Bill]

Editor II Ad Misleading

110 I have been using the equipment and software obtained by your company for about one month now and I am highly pleased with the way the Portable Plus operates, compared to my old HP110. The keyboard has an excellent feel to it and the display is wonderfully improved over the HP110.

I am on another overseas assignment: this time about eight weeks in Indonesia and Thailand. In my position as a leader of the mission preparing a large agricultural investment project, I rely strongly on Lotus 123 for my analytical work.

I feel that some of the earlier claims concerning the capabilities of Editor II were definitely misleading. In particular, I was lead to believe that special print instructions could easily be imbedded in texts, such as MemoMaker can easily do. Of course, this is not the case. Unfortunately, in every report that I prepare I must bold and underline frequently. Had I realized that this is not possible with Editor II, I probably would have stayed with MemoMaker. I fervently hope that the HPrint program that I recently ordered from Personalized Software (and which has arrived in England) will enable me to do this.

R. Campbell, Jakarta, Indonesia

[Upon rereading the ad, I agree it was (unintentionally) misleading. We have removed the phrase, "You're no longer restricted to bold and underline" from the "Compressed and Expanded" paragraph in the list of features.

HPrint will help. Alternatively, although not an elegant solution, you can imbed the escape sequences in your

text for bold or underline. If you assign those sequences to a macro key, it will be relatively effortless to turn bold and underline on and off. However, if you use right justification (as opposed to ragged right), you will probably have some difficulties.

To enter the escape character in The Editor II, hold down the CTRL key and type the left bracket character [. Here are the four sequences you'll need (ESC stands for the (ASCII 27) escape character):

BOLD: ESC (s1B

BOLD OFF: ESC (s0B

UNDERLINE: ESC &dD

UNDERLINE OFF: ESC &d@

-Hal]

19200 Baud DeskJet

110 In the November/December Portable Paper, there is an article in the 110 section (page 8) entitled "The DeskJet and the Portables."

P+ In the article, it is suggested that the **PV** baud rate be set at 9600. Why? I set mine **LS/12** at 19,200, & it runs a lot faster than it does at 9600. I am just about anything you can think of except knowledgeable about computers; is there something I've overlooked in regards to the use of the DeskJet at 19,200 baud?

I am a new subscriber to *The Portable Paper*. Today I received the 1986-88 back issues along with the first two issues of this year. I sat down and read the last 8 issues and then began reviewing the 1989 Subscriber's disk. I arce'd and used your CATBAT program— it's excellent! Many thanks!

Somewhere in those eight or ten issues that I read, I saw a reference to the **chkdsk/v** MS-DOS command. I tried it and redirected the output to a 123 .prn file using the MS-DOS command:

chkdsk/v > file.prn

I then used the 123 /file import text to import file.prn and then sorted the 123 file, producing a complete listing of all my files in the root and subdirectories.

Doing this is quite obviously a much less elegant method of composing a disc directory than is CATBAT, and is considerably less flexible. It does seem to be a quick and easy way to do an occasional disk, though. At 1920 bytes, it seems to be a good use of Edisk for many of us.

Thank you for your contributions to my understanding of MS-DOS and the HP Portable Plus!

Don Allan Hatch, South Norwalk, CT

[You are right about the 19,200 baud rate setting. See this issue's Wizardry column for more details. One reason that we recommended leaving the setting at 9600 baud is that some of our customers had problems changing the DeskJet dip switches. Running at 9600 baud means the DeskJet can be used with

an HP Portable without changing any DeskJet settings. -Hal]

Cheap Drives For The Plus

Here in England, and probably Europe, HP9153 drives can be picked up *very cheaply* and offer a good and cheap backup for the portables. I say backup because the rate of data transfer via the HP-IL / HP-IB Interface card is very slow at just under 100 K per minute. On the 20MB drives the Portables can only access 16MB, and care should be taken not to exceed 15MB, as earlier files could be overwritten without warning. Also, in common with the HP150, it is not possible to use the multiple volume option.

Unfortunately it does not seem possible to use the even cheaper 9142 tape drive. I tried to set up the drive using the HP150 driver with predictably disastrous results requiring a hard reset on the Portable Plus. Has anybody any better ideas?

Colin Crouther, London, England

More Stat Programs

I want to thank you for your excellent publication, *The Portable Paper*, and for the prompt delivery of the many items I ordered recently. I am just now starting to tap the unbelievable power of my HP-110, aided by the many tips disclosed within *The Portable Paper*.

I am an analytical chemist and have been contributing programs to the HP Users' Library for the HP-41C and HP-75 for several years. I am now converting many of these specialty programs for use with the HP-11 and, whenever possible, for MS-DOS systems in general. When I complete something with possibly a broad

appeal, I will send it to you for your evaluation. Perhaps you will want to add it to your product list. In the meantime, if anyone is interested they can write to me at the below address and request a product listing. I have recently completed a group of statistical programs interfacing with the VisiCalc module for the HP-75.

Bill Pinnick

Chem-micro-Metrics
1689 Scarborough Rd.
Greenville, NC 27858

DeskJet Review Should Be More Accurate

Hewlett-Packard was very careful not to say that the DeskJet is as good as a laser printer, but that its output appears to be as good. In your discussions of the DeskJet, some of your rhetoric was not so carefully chosen. Your review of the DeskJet could well have said that the DeskJet is not suitable for permanent documents because the ink dissolves in water.

Jim Doerner, St. Cloud, MN.

Problems With FORMIBM

My son is having a problem with interchanging files between his HP110 and Toshiba 3100. He bought a copy of the 1988 subscribers disk from Personalized Software. A program on the disk, FORMIBM, was supposed to allow his HP 9114 disk drive to format a 3 1/2" disk in the IBM 720K format and subsequently store files on it.

Here is the problem I'm having getting it to work: The FORMIBM program does in fact format the disk so both the HP110 and Toshiba can write to the disk and read its directory. However, files stored by either computer can be read only by that computer! Does anyone have any suggestions as to what I'm doing wrong?

Thanks for all the help.

Bob Weibel

[The only problem with the FORMIBM program that we have heard of has been with the Toshiba Portables. We have no solution.

By the way, we formatted the 1989 Subscribers Disk using FORMIBM from the HP110. That way HP110, HP Portable Plus, HP Portable Vectra, and HP LS/12 Vectra Laptop owners could read the disk without a problem. When we tried formatting it with FORMIBM on the Portable Plus, the disk could not be read by the HP110. - Hal]

HP110 Autologon

I use the HP110 CompuServe Autologon string you published in Vol 3, No. 6, p. 40, and it works fine. I do not recall ever having any difficulty logging on, either from my home or my office (with the added wrinkle of Dial 9 for outside line). I have no suggestions as to why you cannot get it to work.

Rob Sherrard [73307,1435]

[It turned out that the HP110 internal modem was bad. - Hal]

Here's a logon sequence that works:
W3E{:}"COMPUERVE"E{:}"76012,1472"
E{:}"ROSEBUD"E
T,,1579 1490
Modem
None
Even
300
None
None
7
CR
On
Off

James H. Harrington [76012,1472]

HP110/HP110+ USER GROUPS

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. **Utah**, Utah County, Donna Hoover D: 378-4421, E: 375-4812. **Washington**, Eastern Washington, Northern Idaho, Western Montana, and possibly Western Washington, Bob Sandberg, 509-466-4999. **Eastern Washington**, Stephen S. Warner, D: 509-534-1588, E: 509-535-3322. **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**, Trafalgar House, Grenville Place, Mill Hill, London, NW7 3SA England, Tim Cullis, (01) 959-4359. **HP Computer Users Association**, The Twenty One Bldg, 21 Pinner Rd., Harrow, Middlesex, England HA1 4LH 01-4275200, FAX: 01-4278252. **Japan**, I would like to help start a users' group. Michael Lazarin, 26-26-502 Moto Ujina; Minami-ku, Hiroshima 734. **Netherlands**, Mr. R.M. Franquiner, Menthenbergseweg 13, NL-6816 PR, Arnhem, The Netherlands. **Spain**, Club de usuarios HP 110, Pont Reyes S.A., A la atencion de D. Enrique Serra, Ronda Universidad, 15, 08007, Espana. **Sweden**, Stokholm, first Thurs each month 6:30 pm, call to confirm. Jens Pettersson, 08-713-1710. Telex 149 70 gentel S.

Thanks to so many of you who are willing to help organize local users groups. Users groups give an opportunity to share tips, answer questions, discuss other products, trade free software and Lotus templates, and meet other professionals. As you will notice, some areas have more than one contact person and some major areas have none. If you are in a "missing" area and would like to organize a group, contact us. If your groups combine, also tell us. We will publish this column each issue, keeping it up to date. Write: *Local Users Groups*, Box 869, Fairfield, IA 52556 515-472-6330. **California**, Southern California We meet 2nd Thur 7-9 at HP sales office, 5161 Lankershim Blvd, North Hollywood. Request PORTOVEC Notes Newsletter, Dave Mark, 818-794-4969. **San Diego** Steven L. Eyre 619-452-8530, Dan Butterfield, 619-470-3551. **San Mateo**, Santa Clara Counties, San Francisco Bay Area, BAYCHHU, HP Laptops & Handhelds, meet 2nd Sat of the month, Contact Jim Horn, 707-523-4890 eve, or Michael Felsenstein, 415-564-8279 eve. **Sunnyvale** Interex Int'l Hewlett Packard Users Group, 640 Almanor Ave, 408-738-4848. **Colorado**, Colorado Springs Dan Ritt, 303-528-8080. **Denver** call Bob Pressey, 303-777-0326. **Hawaii**, 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,

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
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- 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
WordPerfect 5.0 for the Portable Plus (includes PlusPerfect)	WD17NS	\$645	\$395
PlusPerfect	WD14NS	\$150	\$129
WordPerfect 5.0 for the Portable Plus, with ROM Backup (includes WordPerfect, PlusPerfect, Backup ROMs)	WD11NK	\$940	\$595
WordPerfect ROM Backup*	WD12NR	\$295	\$295
Wordperfect 4.2 for the Portable Plus	WD14NS	\$435	\$339
WordPerfect 5.0 for the HP150	WD13NS	\$495	\$395
WordPerfect 4.2 single-sided for HP150	WD12NS	\$435	\$339
WordPerfect 4.2 double-sided for the HP150	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

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.

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:

- 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.)
- the "Preview Document" feature (which shows special fonts and graphics as they will appear on printing) functions in a limited way.
- 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.

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 (Centronics), 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.

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

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.

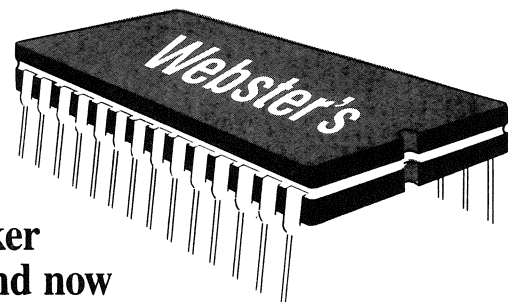
To run Version 4.2, you'll need 256K of internal memory and either a double-sided or single-sided disk drive. (Note: If your HP150 uses single-sided disks, you'll also need a hard disk drive to run Version 4.2. Neither version of WordPerfect will run on a dual-floppy single-sided HP150 system.)

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.

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.

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

BULK RATE
U.S. POSTAGE
PAID
FAIRFIELD, IA
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HP Portable users:
Sorry, WEBSTER'S won't run on the 110;
your best bet is THE WORD PLUS, another
top-rated spelling checker available from
Personalized Software.

© Copyright 1987 Personalized Software

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