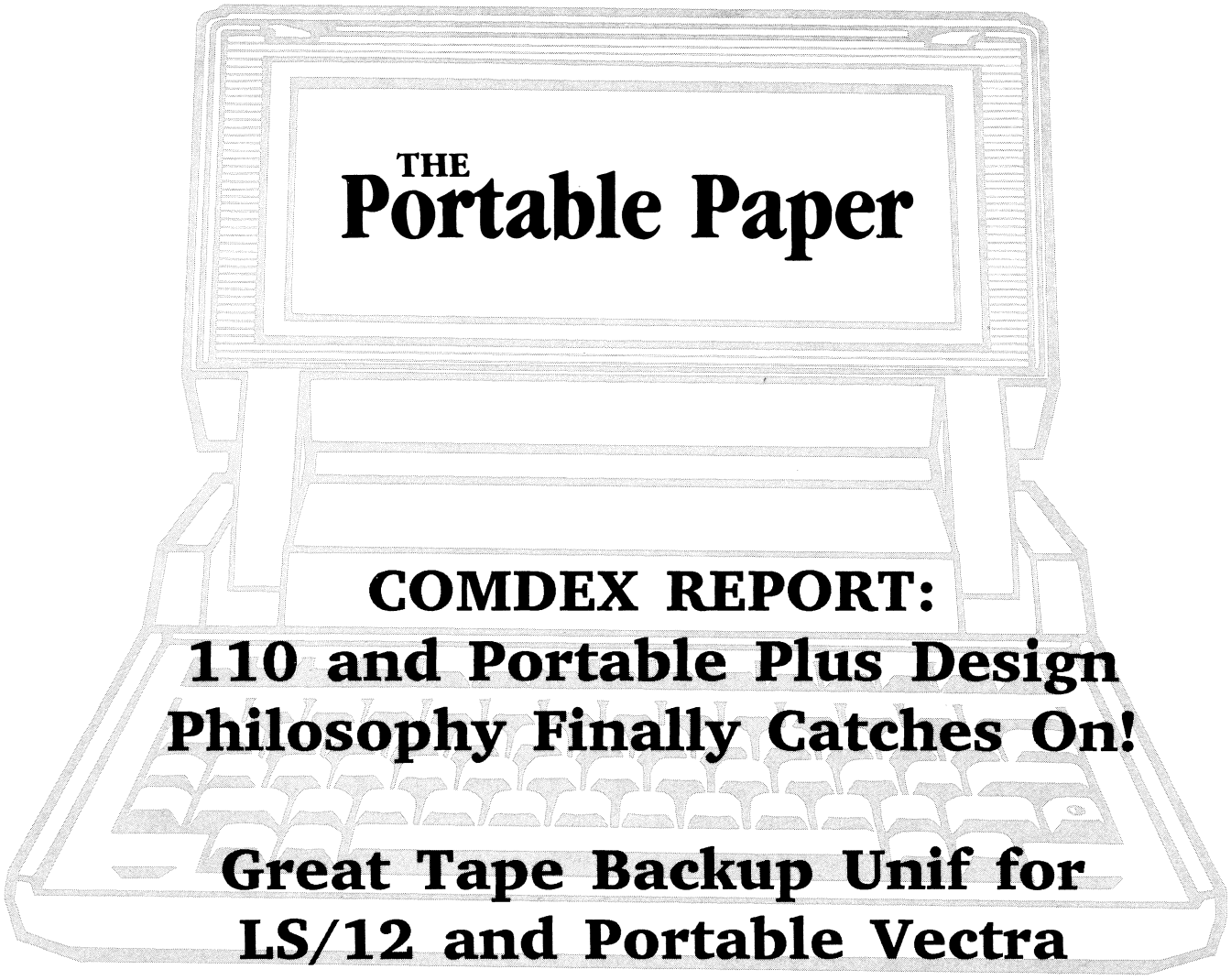
Vol. 5, No. 1 The HP Portable/Portable Plus/Portable Vectra Users Newsletter January / February 1990



THE Portable Paper

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Personalized Software Products and Services in Brief:

SYMBOLS: 110 = HP110 P+ = Portable Plus PV = Portable Vectra

WORD PROCESSING

110 P+ PV LS 150
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. 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.

110 P+ PV LS 150
VI
UNIX-style editor.

P+ PV LS 150
Word Perfect 5.0 (and 4.2)
World's best-selling word processor, customized to P.Plus. Dozens of advanced features, including fonts, integrated text and graphics, style sheets, document compare, text in columns, footnotes, tables of contents, indexes, 115,000 word speller, thesaurus, mail-merging, built-in math functions. P.Plus version comes with PlusPerfect, our own IBM PC emulator that allows WordPerfect to run on the Plus. Optional ROM Backup saves 384K of RAM.

WORD PROCESSING UTILITIES

110 P+ PV LS 150
The Formatter
Sophisticated text formatter for large reports, program documentation, etc. Multiline headers, footers, page numbers,table of contents, glossary capabilities, more. Works on MemoMaker, The Editor files. (Manual in draft form: no technical support available.)

P+ 150
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.

110 P+ 150
HPrint
Prints text (MemoMaker, ASCII) files 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, mail merging, and it lets you create your own graphic characters.

110 P+ 150
PrinterTalk and Format110: MemoMaker Enhancers
PrinterTalk lets you change type styles in middle of document, number of copies, and lines per page; do automatic page numbering, more. **Format110** lets you format headers, footers, and page numbers; chain or merge documents; compensate for "widow" and "orphan" lines and much more.

110 P+ PV LS 150
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 150
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.

110
The Word Plus
Excellent spelling checker with a choice of two dictionaries- 45,000 words and 35,000 words - plus ability to input additional words of your own. Also does word counts. Great for HP110.

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.

110 P+ PV LS 150
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 150
FilePlus: File Management
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.

110 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!

110 P+ PV LS 150
The Norton Utilities
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.

110 P+ PV LS 150
1987-90 Subscribers Disks
1987 includes: (1) DISKPACK, a disk-packing utility, commercial equivalent sells for $ 50 (2) Time Manager calendar utility. (3) HP Calculator program. (4) Game, Lotus templates
1988 includes (1) Time Manger mail-merge utility. (2) Great public domain software for Vectra. (3) password protect program (4) Xmodem program for P.Plus. (5) Lotus templates. (6) Games. (7) DOS Tools. (8) HP to Alternate mode toggler, (9) Lots more.
1989 includes: (1) File manager utility that lets you tag files for mass copying and deleting. (2) File compressor (3) New RAM-based Time Manager with Week-at-a-glance screen. (4) Compuserve Automation program. (5) A menu program easier to use than PAM (6) Fast file finder (7) Directory lister (8) More.
1990 includes: (1) Best file compression / archiver, (2) Wordstar work-alike editor, (3) LS/12 DOS extender, (3) Quick unerase util, (4) Space saving & DOS utils, (5) Great Russian game, (6) Text search util (7) Much more
Available only with Portable Paper subscription

LS
PassPort
Designed for LS/12 & Zenith SuperSport gives you instant pop-up control of CPU speed, backlighting, cursor adjustment, battery, modem, hard disk, alarm, palette, clock, display.

P+ PV LS
PrintMaster
Allows you to use your HP Portable and ThinkJet to produce logos, invitatations, banners, and other graphics. Customized for Port. Plus.

110 P+ PV LS 150
Private File
Protects letters,documents, data files by scrambling your file. Your password unscrambles.

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 for Portable Plus.

P+ PV LS
Squish Plus
Automatic file compression program that as much as much as doubles available disk space. If you know how to save and retrieve files from your application, you know how to use Squish Plus. Available on ROM.

110 P+ PV LS
Tiger Fox
A great video game of changing mazes and double pursuit designed for the Portables.

110
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.)

110 P+ 150
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
LapLink
A software program for high speed transfer of files between your Vectra CS or LS/12 and IBM PC or compatible. Versatile (works with parallel and serial ports), easy to use (simple manual or automatice file tagging.

110 P+ PV LS 150
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+ PV LS
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.

110 P+ PV LS 150
ReadHP
This software program allows an IBM compatible computer with a 3 1/2" disk drive to read and write to HP formatted disks.

COMMUNICATIONS

110 P+ PV LS 150
CompuServe Starter Kit
Starts you on 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 2.0
Only P.Plus RAM-based communications package that handles both file transfer and terminal emulation. This popular IBM PC program, modified for the P.Plus, is easier, more powerful than Reflection. Lets you access electronic bulletin boards, allows for unattended file transfer, supports distributed processing, more. Beginners find it easy to learn, yet can handle the most sophisticated data transfer tasks.

110 P+
Term110, TermPlus
Exceptionally easy-to-use alternatives to HP110 Terminal and P.Plus PC2622/Reflection. 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, ability to run other programs while phone still connected.

110 P+ PV LS 150
WorldPort Portable Modems
The **WorldPort 2400**, **WorldPort 2400 / MNP** and the **WorldPort 1200** are battery powered, highly compact (4"x2"x1"), lightweight (6.5 oz), full featured external modems that transmits data at 300, 1200, and 2400 baud. Fully compatible with industry standard Hayes AT Command Set, and with both CCIYY and Bell standards.

SPREADSHEET ENHANCERS

110 P+ PV LS 150

101 Macros for Lotus 1-2-3
Useful in themselves and as 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.

110 P+ PV LS 150

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

P+

Lotus 123 in RAM Driver
Utility allows you to run Lotus 1-2-3 or Symphony from RAM or disk rather than ROM.

PROJECT MNGMENT

110 P+ PV LS 150

2 Project Management Packages
Milestone is for small to medium projects - bit awkward on HP110). **Pertmaster:** larger projects - specify which machine.

DATABASE, STATISTICS & ACCOUNTING

110 P+ PV LS 150

Condor 3 and Condor Jr.
Easy-to-use database programs customized for the HP Portables. Enter data, sort, search, manage files, and print address labels with ease. Condor, Jr. for the HP110 allows limited report writing, and is highly memory-efficient. **Condor 3** for Plus, Vectras, and HP150 is a fully "relational" system, allowing you to combine data from two or more files. It includes advanced report generating capabilities, data transfer with Lotus 1-2-3, and more.

P+ 150

Dac-Easy Accounting V 1.0
Popular, powerful, yet inexpensive accounting package. General Ledger, Accounts Receivable, Accounts Payable, Purchase Orders, Billing, Inventory, Forecasting modules are all fully integrated. Easy-to-use menu-driven system. Generates numerous journals, aging reports, balance sheets, and more. Supplies limited.

P+ PV LS 150

Statistix
Easy to learn and use comprehensive statistical package. 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 more.

PROGRAMMING

110 P+ PV LS 150

Turbo Pascal 5.5
IBM PC version of compiler (with OOP) adapted for Plus, HP150. Includes our TurbPlus Integrator that lets you easily go between your text editor and the Turbo Pascal compiler.

110 P+

Turbo Optimizer For v3.0
Saves run time and storage space by making your Turbo Pascal 3.0 programs 10-30% faster and 15-50% smaller. For Version 3.0 only.

GRAPHICS

P+ PV LS

Flowcharting II+
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.

P+ PV LS

Logitech Mouse for Port. Plus
3 button mouse bundled with our propriety Portable Plus Mouse Software and cable. Using the mouse to move the screen cursor makes using your Plus easier and more fun. Logitech was rated Editor's choice by PC Magazine.

110 P+

Sketch
Lets you draw free-form using cursor keys. Also draw lines, boxes, circles by pressing a single key. Entire screen can be printed on ThinkJet at virtually any enlargement.

ACCESSORIES

110 P+ LS

Targus & Fieldpro Cases
Roomy, rugged, high quality, highly padded cases to protect HP Portable, portable printer or disk drive when traveling.

P+

External Numeric Keypad
Allows fast numeric entry from Lotus & other applications. Attaches to Plus via serial port.

110 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.

110 P+

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

110 P+

Power Cube
Powers and recharges up to three HP devices (HP110, Portable Plus, ThinkJet, HP9114, HP hand-held, etc. from a single wall outlet.

110 P+ PV LS

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

INTEGRATED PACKAGE

110 P+ PV LS 150

T/Master and T/Maker
T/Master: fully integrated word processor,speller,relational database,graphics,communications package. T/Maker: earlier version, runs on HP110 without communications.

VECTRA CS AND LS/12 PRODUCTS

PV LS

LapLink
Transfers files to PC. See "File Transfer Made Easy" at top of previous page.

PV LS

FloppyDRIVER
Software speeds floppy disk access operations (loading, running programs, copying files, etc.)

110 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.

PV LS

EtherNet Adapter
Pocket EtherNet Adapter directly connects to the parallel printer port of the LS/12, Portable Vectra CS, or any IBM compatible; and allows you to connect to an Ethernet or IEEE 802.3 LAN. The adapter supports Novell NetWare versions 2.0a and higher, is the size of audio cassette tape holder, weighs 5 oz. Vol 4:4:18.

LS

Expansion Chassis
LS/12 AC Expansion Chassis (from Zenith) supports up to 3 XT compatible cards (for EGA or VGA graphics, addition I/O ports, EMS memory, networking, etc.). Requires qualified technician to install 68-pin connector in LS/12.

110 P+ PV LS 150

Kodak Diconix 150 Plus Printer
Battery powered inkjet printer; hardback dictionary sized. Draft mode: 180 chars/sec, 96 dots/inch. Quality mode: 36 chars/sec, 192 dots/inch. Panel or software controlled fonts include: pica, elite, draft, nlq, quality, condensed, super/subscript, underline, italic, emphasized, proportional, enlarged / condensed,double strike, double-wide. Vol 4:4:9.

LS

LapTape Tape Backup Unit
Tallgrass Technologies tape backup unit for backing up LS/12 20 or 40 Meg hard disk. Connects via floppy disk connector. Vol 4:4:24

PV LS

NoSquint
Turns hard-to-read underline cursor into easy-to-read block cursor. Vol 4:4:24.

LS

Numeric Keypad
Zenith numeric keypad for adding machine-style numeric entry plugs into LS/12 right side

110 P+ PV LS 150

StatPower Pocket Power Invertor
Plug your LS/12 or Portable Vectra CS recharger into this 1 lb, 4.5" x 3.5" x 1.3" unit. Plug the StatPower unit into your car's cigarette lighter and recharge your battery. Vol 4:3:14.

PV

Traveldisk Portable Hard Drives
External, 10 to 250 MB, rugged, portable hard drives. Uses bus extender card designed for P.Vectra CS. Can use same drive with PC.

LS

Weltech 5 1/4 Inch Disk Drive
5 1/4" disk drive that plugs right into the LS/12 external drive port. Vol 4:4:19.

PV LS

Weltech PhD Serial Hard Drive
20 MB battery charged hard drive that connects to serial port. Vol 4:5.

PV LS

WorldPort 2496 Fax & Modem
Battery powered, portable fax and 2400 baud modem connects to serial port. CCITT. Vol 4:5.

P.PLUS UPGRADES

P+

FastPlus
By installing 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 the upgrade and can have Plus back to you the next day. Call for appointment.

P+

256K to 512K P.Plus Upgrade
If you have model numbers 45711C or D, we'll add 256K to your unit. Call for appointment.

Software on ROM
Best-selling programs available on P.Plus ROM chips via our ROM Back-up service. Saves valuable electronic disk space, minimizes need for disk drive.

Used HP Portable Equipment
HP110s, P.Plus's, HP9114s, ROMs, RAM drawers. HP quality makes used HP products a great buy. 30-day return policy plus one-year guarantee (parts and labor).

Video: How to Use 110, P.Plus
5-hour, 3 VHS videotapes. Contains fundamentals of using HP110, Portable Plus. Saves countless hours learning or training others. For novices and intermediate users.

Products advertised or discussed in this issue

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Ethernet Adapter 25
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FilePlus 33
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WordPerfect 5.0 ... 40, Inside Back Cover
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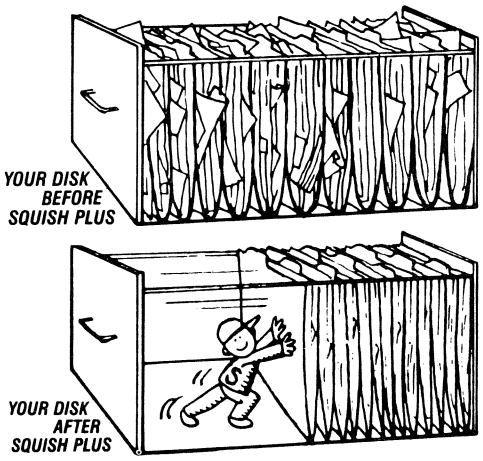
PRICE LIST ..... Center Spread

New software breakthrough!

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



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

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

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

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

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

COULDN'T BE EASIER!

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

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

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

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

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

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

ANY DRAWBACKS?

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

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

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

WHAT ABOUT DISK SPACE FOR THE PROGRAM ITSELF?

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

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

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

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

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

60-DAY MONEY BACK GUARANTEE
See order form for details.

TO ORDER

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

IMPORTANT MESSAGE FOR PORTABLE PLUS USERS

Special Portable Plus version

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

Buy Squish Plus on ROM!

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

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

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

CALL NOW!

515-472-6330

PUBLISHER'S MESSAGE

FOR HANDY REFERENCE: Items *directly* relevant to the three HP Portables are denoted in this issue as follows:
110 110 Portable P+ Portable Plus PV Portable Vectra LS/12 Vectra LS/12
When items are *partly* or *indirectly* relevant they are denoted as:
[110] 110 Portable [P+] Portable Plus [PV] Portable Vectra [LS/12] Vectra LS/12

Hal Goldstein

Welcome to year number five of *The Portable Paper* . We hope you don't mind the change in paper. Unfortunately paper costs have escalated - doubling since we started *The Portable Paper*. HP Portables will soon not be sold any more. Therefore, we no longer have a source for new customers, and we want to keep non-essential costs down. But don't worry, the quality of the information and presentation will remain up to standards. As you will see in this issue, we continue to get fascinating and useful information from you, our readership. This input forms the heart and soul of our publication.

It looks like the HP110 and Portable Plus users of the world were right. We championed the virtues of portable computers using RAM- and ROM-based storage rather than traditional mechanical storage media. What none of us could understand was why this superior idea for laptop computing was so slow to catch on. Why were vendors so hesitant to follow HP's lead . . . and why did HP not follow its own lead? This year at COMDEX, the mammoth microcomputer show, I finally saw a number of vendors showing off RAM- and ROM-based MS-DOS portable computers. I discuss the highlights in this issue.

Welcome to new regular columnist David Hughes. David has been contributing articles since the first year of The Portable Paper. He wrote the popular TermPlus communications program for the Portable Plus. As a user of the HP110, Portable Plus, Portable Vectra, and LS/12, David is in a great position to get "On His Soap Box".

LETTERS

Needs MS-Word Printer Driver for DeskJet

P+ Please could you tell me if it is possible to obtain a MS-Word printer driver for HP Deskjet that can run on the Portable PLUS?

The Laserjet drivers like HPLASCR.PRD or HPLASPR.PRD do not allow improvement of the full capabilities of an HP 22706B Prestige Elite font module (characters size). I only need a driver for this module, not for the others.

The MS-DOS Deskjet printer drivers for further versions of Microsoft Word seem to be too large to work on the Portable Plus, and cause the **not enough memory** message to appear when I attempt to give a driver file name by the **Printer Option** printer command.

As I understand, only version 1.10 of Microsoft Word is available on the Portable Plus (ROM HP 45549K). Is that true?

I should be pleased to read your comments about this item.

Pierre-Andre Allemann, Switzerland

[MS Word 1.1 was the only ROM version for the Portable Plus that HP ever published. The problem with the printer driver has existed for some time. If anyone has a solution send it in -- Hal.]

Likes PS's Prompt Service

LS/12 I would like to express my appreciation for the prompt service I have received from your company since subscribing to the Portable Paper.

This compares starkly to Hewlett Packard's response to my order for a subscription to the HP Communicator. I have not heard anything since the order was sent six weeks ago. It is amazing how some big and reputable companies are actually thriving on, and profiting from the support given by companies like yours.

By the way, is there an interface available from your company that will allow me to connect my HP Thinkjet printer with HP-IL port to my newly purchased Vectra LS/12 Laptop, which has no HP-IL port?

Benny S.P. Chiu Beijing, China

[HP no longer publishes the Communicator and is refunding subscription fees. There is no way that I know to connect an LS/12 Laptop with an HP-IL port. When we connected the LS/12 to the Zenith expansion chassis, we could not get the HP-IL card to perform properly. If readers have had other experiences, please write. - Hal]

Thanks for Hospitality

110 P+ PV LS/12 First I want to thank you for your hospitality during my September 29 visit to your company in Fairfield, IA. I was very pleased with Brian Teitzman and the entire company, I think I met just about everyone. The attitude and excitement on everyone's face was refreshing, to say the least.

By the way, this letter was printed on the DeskJet I bought from you. It's working great and I'm thrilled.

Michael J. Campbell Dayton, OH

[We always enjoy visitors (I think we've had 5 of them since I started the company 4 years ago). If anyone wants to drop by, we are located prominently in the Fairfield, Iowa town square, 57 East Broadway, and would be pleased to have you drop by. - Hal]

Thanks for Invaluable Service

110 P+ PV LS/12 I am thankful to Personalized Software sales rep Dee Stauffer for rendering invaluable service to me in the support of my personal computing needs. I have

placed perhaps six phone calls to him and my calls were returned promptly and I was always informed of options that would make the best use of my 150. I will continue to look to you for my HP needs.

James King
Louisville, KY

Dust Clogging Plus's Keyboard

PV LS/12 110 P+

During the last three years I have acquired three Portable Plus computers. My eldest son, a senior here at Midland, uses one. My second eldest son is using another one which I acquired at the beginning of last summer through a classified ad. I use the last in conjunction with a desktop HP Vectra. The Pluses fit our needs well.

I am writing, however, to ask for your help and advice. We live in a dusty, rural town. I teach, for instance, in a three-walled classroom, the fourth wall has not been built and will not be.

Three months after I bought my portable from HP, I sent it back to Corvallis. I dealt with Lew Barton, a helpful customer support engineer. My keyboard had become nearly unusable. The keys would stick and repeat and some were difficult to depress. Lew not only replaced the keyboard, he sent over a soft plastic cover, which he had been given by a vendor who must have hoped that HP would distribute them. HP did not pick up the distribution and Lew couldn't locate the source.

I have tried to be careful about dust, but I'm having problems again and I suspect it is the culprit. I dismantled the computer, removed the keyboard, vacuumed and freoned it (there goes the ozone layer), and tried blowing everything clean with compressed air. I only achieved partial success. The keys have not regained the easy movement of the keyboard when it was new.

Do you clean portable keyboards or sell replacements? If so, which and how much? What do you suggest?

Sherman Herrick
Los Olivos, CA

[Anybody with any suggestions? - Hal]

Can Portable Vectra Handle Lotus 123 3.0

PV

I have a Portable Vectra with the hard disk (Model CS20), to which I have added 1,000K Bytes to the original 640K of RAM memory, and a numeric co-processor.

Lotus 123 is the main application I use. Can I upgrade to Release 3?
Will my computer be able to handle it?

Jose Bromberg
Mexico, D.F.

[I would imagine so, but it might run a little slow. Lotus 3 requires a hard disk, extra memory, and a 286 or 386 processor is recommended. The Portable Vectra sports a fast 8086-type processor. If anyone has any experience using Lotus 3 on the Portable Vectra, please write us. - Hal]

Proper Cable for HP Duette on Plus

110 P+ PV LS/12

I recently purchased the ROM version of Duette for my Plus. Duette comes complete with a multi-head cable, useful in addressing various field conditions. However, in some situations I would prefer to carry only a simple nine- to 25-pin HP cable (referred to in Vol.2, No.6 Pg.30).

Up till now I had assumed the cable referred to was 92221M (Serial Modem), but, on a recent field trip I was unable to get the software to work using the 92221M. The PP article was unclear on the point; is the proper cable 92221M or 92221P?

Thanks for your reply.

J. Pechac
Cleveland, OH

PS: The used Portable Plus I purchased from you has equalled or exceeded my every expectation. And I am only 20% or so into the unit's myriad of software!

[The HP92221P which HP sells for $42 will work. We also sell an equivalent cable that will do the job at $27.95 for subscribers - our part SC13NM. - Hal]

Wants to Run Quicken on the 150 and the Plus

P+

I currently own an HP150 and an HP Portable Plus. I would like to be able to run version 2 of Quicken on either machine. Do you know of any way that can be accomplished? If not, is there any other software similar to Quicken that I could use?

Eileen O. Chisholm
Wilmington, MA

[Sorry but Quicken doesn't work on either machine and there's nothing that I know that will. If there's anyone out there that knows of anything, please let us know -- Hal.]

Running Wordstar PRCHANGE on HP 150

First, I want to applaud an article that appeared in the November/December issue of "The Portable Paper". The article entitled, "Frustrations -- And Resolutions", by Dr. Ralph Watson, again illustrated that the HP 150 and HP110 are indeed alive and well, able to run many popular software packages that can interchange data in an integrated fashion. With MS-DOS 3.2, the 3.5-inch format, and programs like Personalized Software's Read HP, which allows IBM PC's to read and write to HP 150 and Portable formatted disks, the HP 150, IBM and compatible PC's can thrive together, protecting investments in hardware and software. The city for which I work owns 30 HP 150's, 13 HP Vectra's, and a couple of IBM PC's. We've been able to do some of what Dr. Watson has done: run similar versions of WordStar, Lotus, and Condor on all machines, thereby providing for easy data exchange and minimizing training and support requirements. dBXL appears to be another excellent choice for database

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management software.

I would like to offer one addition to Dr. Watson's article. It did appear that PRCHANGE, which creates printer definition files, would not run on an HP 150 and needed to be run on an IBM compatible. However, Chuck Christenson reported on CompuServe that it will work on an HP 150 using a command line switch. The command should be issued as follows: **PC PRCHANGE /B.**

Chuck has helped many of us get newer versions of WordStar to run on the HP 150. Thanks to people like him and Ralph Watson, and companies like Personalized Software, we can productively extend the lives of solid hardware.

Clint Pires
St. Louis Park, MN

Needs Help Finding Missing 123 File

P+ Have you or any of your readers run into a problem I've encountered with my HP Portable Plus?

After working with Lotus 1-2-3 release 2.01, I ran a macro involving printing to a print file named YTD.PRN. The macro assumed that this was a new file, but I had, in fact, forgotten to erase the previous month's YTD.PRN file. After entering the print file name, the macro made no sense because the "Cancel Replace" instruction was not anticipated in the macro. I got a beep sound indicating that the particular range name could not be identified.

After changing to the Users System (DOS), I found the existence of the previous YTD.PRN file and deleted it. I then went back to Lotus 1-2-3 and reran the macro successfully.

I immediately issued a File Save instruction and within two seconds got the "Cannot Create File" error message at the bottom of the screen.

Having encountered this phenomenon before, I did a hard reset and called Lotus 123 back to the screen and tried to retrieve the ANALYSIS.WK1 file on which I had been working. I then got the "Part of File is Missing" error message at the bottom of the screen. When I went to DOS and issued the **DIR C:** instruction, I found that the ANALYSIS.WK1 file was still listed but that it was occupying 0 bytes.

I am sure that the file still exists on that disk, but that the addressing instructions to it have some how been "bollixed up." Is there anyway I can retrieve that file?

I have run into this exact situation before. It always happens when I invoke DOS and get an error beep, although usually I invoke DOS before getting the beep. For example, when printing long files from Sidewinder, I often wind up getting a beep and then finding the "Cannot Create a File" message when I issue a save instruction. When I check I find that the old file, while listed, occupies 0 bytes in the directory listing.

I have contacted Hewlett Packard on this but they have been unable to solve the problem. On my last call, they indicated that this was likely a software, not a hardware problem. I think it relates to the hardware since it happens with both Sidewinder and Lotus 123.

I'd appreciate any light you can shed on this.

John Morrison
Toledo, OH

[Any takers out there? - Hal]

Needs Battery for the HP 110

110 I recently hauled my old HP 110 out of storage in the garage (to compare against P+ HP's Vectra LS/12). I found that the unit still works on main power but doesn't seem to hold a charge on the battery - to the extent that when you put the main power back on it has to reformat the electronic disc before proceeding.

I had the idea of giving the system to my ten year old daughter who loves writing stories on our computers, but I would need to get a fresh battery first. I haven't asked HP for a quote because it would almost certainly be prohibitively expensive.

Do you have these kind of spares for the original HP 110? And if so, how much are they?

Tim Cullis
England

[We have HP110 (and Portable Plus) batteries in inventory. The HP110 battery costs $29; the Portable Plus battery is priced at $49.95. -- Hal]

PSION Computer

Please find enclosed a brochure for a new Psion portable computer soon to be released in the United Kingdom (and presumably in the United States) which I recently saw and used at a PC exhibition in London.

I thought you might find it interesting, as it struck me as being what the Portable Plus could have developed into.

Morris Rooms
Wokingham, Berkshire

[I agree. Please see the discussion of the Psion in my COMDEX article in this issue. -- Hal]

Needs Turbo Upgrade

110 About one-and-a-half years ago I had purchased the Turbo Pascal Package from P+ Personalized Software (Turbo Pascal 3.0, Turbo Tutor, Turbo Programs for the PV Portable). I am now considering upgrading to version 5.5, customized for the Portable Plus. Do I have to pay the full price of $175 or could I get it for the upgrade price of $69?

LS/12

After three years of using my Portable Plus under difficult and often very dusty environmental conditions, I started having problems with the keyboard. A rather large number of keys tended to get stuck, coming back to the original position only after the respective character appeared 5 to 20 times on the screen.

I had to pull the keycaps off (with the tool supplied by HP to pull ROMs out of their socket) and clean the mechanism. This worked well with most of the keys, however, with some of them, the little white plastic piece which connects the keycap with black keyboard base got broken.

I asked my company in Germany to supply me with the some spare white plastic connectors (as well as some spare springs, because one fell down on the carpet and could not be found again). I got the reply from our HP-dealer that I would need to get a new keyboard installed at a cost of $400 for an American keyboard, not including labor. (The German keyboard would be $100 less - but I need the American one).

I made a temporary repair using little wires with which I can produce the equivalent of pressing a key. Is there any way that you could supply me with the required spare parts to repair my keyboard, or do I really have to exchange the complete keyboard?

Klaus Jacobi
Yemen

[To upgrade from earlier versions of Turbo Pascal, call Borland in the United States at (800) 331-0877 or (408) 438-8400 and arrange for them to send you the standard version of 5.5. Then send us positive proof of purchase and order our part number TP15NS for $69 to receive all of our supplemental disks and manual.

Maybe a reader has a solution to your keyboard problem. -- Hal.]

Using the Kodak Diconix 150 Plus Ink Jet Printer with the Portable Plus

P+ This portable printer will produce letter-quality print, accept cut sheet or continuous-form paper, and accept 110 ThinkJet ink cartridges. However, its limitations should be discussed right up-front:

1. When used with HP MemoMaker, page length is limited to 55 lines;

(Continued on page 43.)

SPECIAL FEATURE:

Comdex Report

Six years after HP introduced the HP110, manufacturers and the marketplace are finally accepting the advantages of RAM and ROM-based machines. Advances in battery life and in EPROM technology make these HP110 and Portable Plus-like machines even more appealing.

By Hal Goldstein

110 P+ PV LS/12

I made my fourth trek to the Mecca of microcomputer worshippers worldwide - the annual Fall COMDEX in Las Vegas. The November, 1989 COMDEX Las Vegas microcomputer trade show occupied just under one million square feet of exhibit space. Over 120,000 attendees could, if they had endurance, see computer exhibits in 1,750 booths hosted by representatives from 22 countries at 10 separate exhibition centers and hotels. When you got tired of walking you could rest by attending any of the over 50 sessions given by more than 200 industry leaders discussing microcomputing in the 1990's.

I went with an eye for products and trends of interest to HP Portable users. In this article I'll report on some of the technological advances in portable computers. In particular I'll report on several new "notebook" and "pocket" sized computers that use the HP110 and Portable Plus RAM and ROM disk philosophy in their design. In subsequent issues I'll discuss other products I saw at the show which are directly relevant to HP110, Portable Plus, Portable Vectra, and LS/12 users.

THE HP BOOTH

The saddest thing for me at the show personally and professionally was my visit to the HP booth. No portable of any kind could be seen. Three and four years ago, HP was one of the few booths exhibiting portable computers. This time most of the major manufacturers had portable computers to display, and many other vendors used portables to demonstrate their own products.

In past years I would return to the HP booth again and again. I would renew friendships from my former stint as an HP engineer, and I would make and renew professional contacts related to my work as editor and publisher of The Portable Paper. However, it has been over five years since working at HP, and there are few HP employees concerning themselves at all with HP portables. The HP booth no longer felt like home to me.

That is not to say that HP was not showing exciting computer products at its booth. What caught my eye was the new LaserJet IIP, a 80486 machine, and New Wave. The size, power, and price of the LaserJet IIP make it a most impressive machine and a product of interest to many HP Portable users. If you use your portable at home quite a bit, have a little extra room at your work table, have $1000 to $1500 to spend, and want a fast, laser quality, LaserJet II compatible machine, then you should seriously consider a LaserJet IIP. It connects via the serial port of the HP110 and Portable Plus, or via the parallel port of the LS/12 or Portable Vectra CS. The LaserJet IIP is reviewed in more detail in the 110% column of this issue.

I did not spend much time looking at the 486 machine. As many of you know, the Intel 80486 represents the next generation of microprocessors. The HP110, Portable Plus, and Portable Vectra CS use as the basic computer element an 8086-like processor. The LS/12 uses the following generation 80286 microprocessor. The current 80386 machines, because of greater capacity and potential, should become the workhorse -- the most popular machine -- of the early 1990's.

What was interesting to me was that HP, by introducing one of the first 80486 machines, is trying to gain microcomputer industry leadership and respect (and market share) by catering to the high-end microcomputer user. The potential power of the HP 486 machine and the clarity and resolution of its color display is impressive.

To serve that high-end market, HP has developed a new user interface. HP pioneered PAM as a DOS shell/"friendly" user interface back in 1983 with the introduction of the HP150 Touchscreen and the HP110. Each of the HP portables comes with an implementation of PAM.

To compare PAM with New Wave is like comparing the capacity and power of an HP110 to a 486 machine. New Wave is a sophisticated Macintosh-like (at least according to Apple) graphical user interface. You use a mouse and click icons, but that is only the beginning. If you are running software modified to run under New Wave, you are doing your work in a powerful, integrated environment that allows you to conceive of your work in a more productive, natural way.

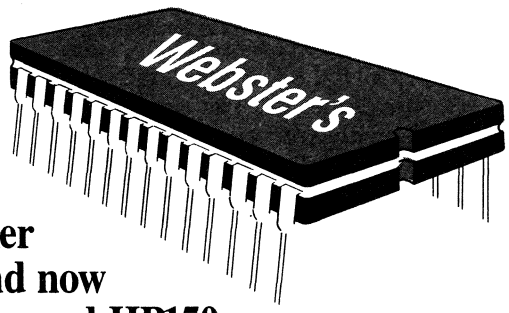
New Wave requires lots of memory and processor power and is well suited for 386 and 486 machines. It has received excellent reviews in various publications. However, it remains to be seen if HP is once again too far ahead of its time, or whether this interface will capture the imagination of developers and users.

MARKET RESEARCH

I attended a session on portable computers. According to a Dataquest market researcher, the desktop PC market will increase 12% per year over the next three years. The portable computer market will increase 30% a year. The "notebook" portable computer marketplace (of which the NEC UltraLite is the leading entry) will increase 40% per year during that same 3-year time period. The HP110 and Portable Plus are probably just a little too heavy and thick to be considered notebook computers, although they certainly pointed the way in that direction.

The researcher divided portable computers into four categories: luggables, laptops, notebooks, and pocket. Luggables are for the professional who needs full power (386 chip, expendability, high resolution monitor) wherever he is. The mobile user (i.e. sales professionals) can give up a little of that power in exchange for less weight (9 to 15 pounds). The traveler uses his notebook or

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
- 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 ("spellling" becomes "spelling," etc.).

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

RECOMMENDED FOR:			
HP110 Portable		Portable Vectra	•
Portable Plus	•	HP150	•
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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.
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Attention HP110 Users:

Order WordPlus for your

Spell-checking needs!

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.*

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pocket computer as a second satellite computer. Here weight, battery life, keyboard and screen become the most important issues. I'll be talking about several notebook and pocket computers in this article. Although they're smaller and not as rugged as the 110 and Portable Plus, you'll see a number of similarities between the new machines and the HP portables.

THE POQET PC

I went to the show looking forward to seeing the Poqet PC. The Poqet PC has received a great deal of publicity and recently won one of PC Magazine's 1989 awards for technical excellence. I thought the Poqet PC would be a direct rival to the HP Portable. After seeing it and talking to the Poqet PC representatives, I concluded that the Poqet PC is impressive, but will probably cater to a different market than the HP110 and Portable Plus.

Poqet computer is a U.S. based company founded in January, 1988 by industry experts from a number of different companies (with a large contingency from Texas Instruments). They received needed capital and component availability assurance by selling 38% of their stock to Japanese Fujitsu. The section of the Fujitsu booth devoted to the Poqet PC continually drew crowds larger than any other booth I saw in the show.

HP110 and Portable Plus users will be familiar with the design philosophy of The Poqet PC. The idea was to build a computer with no moving parts to minimize weight and maximize reliability and battery life. Like the HP Portables, the Poqet PC engineers replaced rotating magnetic hard and floppy drives with solid state, integrated circuit (IC) memory cards -- like the HP110 and Portable Plus they built a personal computer with no internal moving parts.

The Poqet PC comes with 2 slots for plug-in ROM and RAM cards. These are credit card-type slots. The Portable Plus slots make room for a RAM drawer of up to 2 megabytes and a ROM drawer with 12 sockets for different ROMs. Poqet, on the other hand, will initially offer a 512K non-volatile RAM card, and states that 2 MB cards will be available sometime in 1990. Products like Lotus 123 and WordPerfect Executive will be available in ROM cards.

The most impressive result of Poqet's engineering effort is that the Poqet PC can maintain up to 100 hours of continuous usage on two standard AA-sized alkaline batteries! No more carrying a charger/AC adapter around. The Pocket PC will hold the contents of its memory for 5 minutes while you replace the batteries.

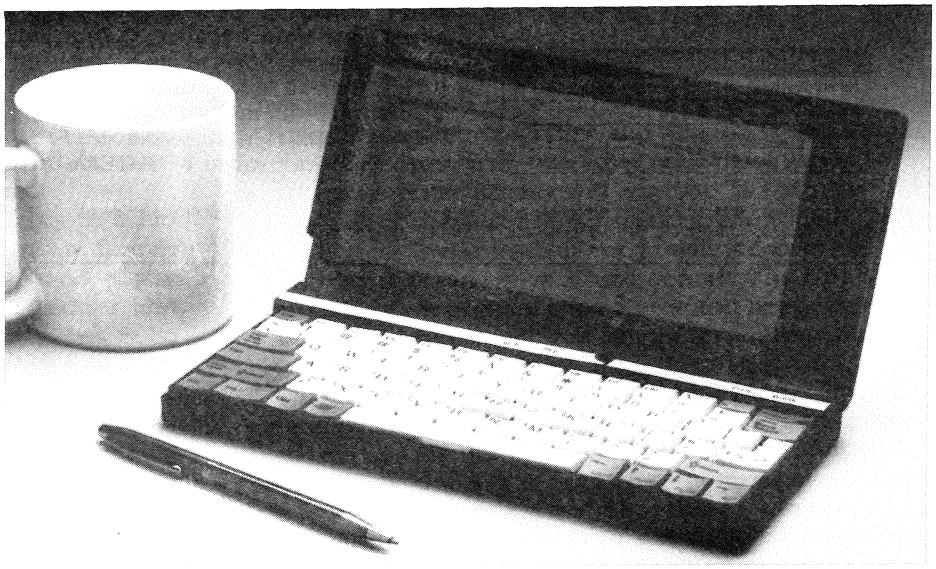
HP110 and Portable Plus users will be familiar with two "innovative" features. The machine automatically shuts itself off every five minutes. When you hit any key you find yourself back where you left off. (I miss that feature when using a NEC UltraLite. To conserve battery life, you must shut the computer off and then wait for it to go through its initialization routine when you turn the system back on.)

Secondly, as with the HP110 and Portable Plus, you can, in effect, partition your memory between Edisc and internal memory. On a base 512K system, you can create a 256K RAM disk and save 256K for internal memory. Since the system never really shuts off, the RAM disk is always alive to save files to. In addition, like the 110, the Poqet PC comes with built-in software for word processing, calculation, time management, and file transfer.

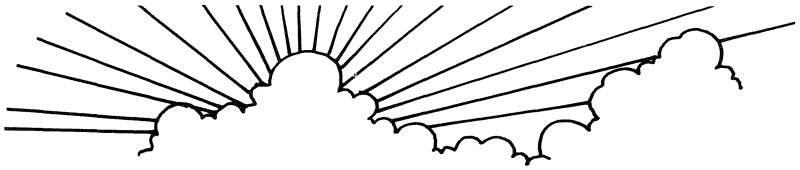
SPECIFICATIONS

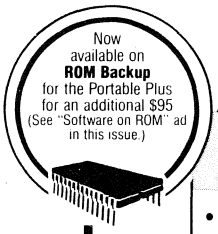
Here are the Poqet's specs:

- Size: 8.75" x 4.3" x .925;
- Weight: 1 lb;
- Microprocessor: CMOS, 80C88 running up to 7 MHZ;
- RAM: 512K system RAM ;
- ROM: 640K;
- Expansion: 2 slots for user- installed RAM or ROM memory cards;
- Compatibility: DOS 3.3, runs most MS-DOS application software;
- Built-in applications: DOS, GWBasic, calculator, simple editor, scheduler, address book, communications program, file transfer and management;
- Power: Two AA alkaline batteries lasting up to 100 hours or 2-3 months of normal use;
- Display: Double supertwist LCD, standard 80 characters by 25 lines, 640x200 pixel resolution, CGA and MDA, contrast control, adjustable viewing angle, auto shutdown after four minutes;
- Keyboard: Functionality of PC/AT-enhanced keyboard including 12 function keys and embedded numeric keypad; 77 keys in typewriter-style (QWERTY) layout;
- Expansion port: I/O expansion bus for PC/XT-like peripheral expansion and data transfer, built-in RS232C serial communications;
- Peripherals: PoqetFloppy drive supports 3.5-inch, 1.44 MB disks and operates on four AA batteries; Poqet parallel and serial cables.



The Poqet PC





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)**

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

By Hal Goldstein

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

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

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

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

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

1. THE EDITOR II's Lotus-like menus make it incredibly easy to use.
2. THE EDITOR II creates ASCII files, which means you can send your files to and from almost any other program or computer without special formats or codes.
3. THE EDITOR II will automatically back up your files to protect you against mistakes: When you save a file, THE EDITOR II saves not just the current version, but the previous one as well.
4. THE EDITOR II takes up less than 40K of memory.
5. THE EDITOR II loads and saves files and executes commands exceptionally fast.
6. THE EDITOR II comes with a well-written reference manual and a step-by-step tutorial.

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

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

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

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See order form for details.

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

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THE EDITOR and THE FORMATTER together—
Only $119.95 total (Portable Paper subscribers only)

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.

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 occurences either selectively or globally.
- **Edit two files at once.**
  THE EDITOR II will display two separate portions of text at the same time, one above the other. You can view and edit two parts of the same file—or even two different files—simultaneously.
- **Backspace delete.**
  You can erase the last character with a single keystroke.
- **Block and line centering.**
  THE EDITOR II lets you center blocks and lines of text with a few simple keystrokes.
- **Powerful macros.**
  Store any sequence of keystrokes and play it back at the touch of a single key. Macros can be edited, deleted, stored in files—even autoloaded on startup. THE EDITOR II comes with over two dozen macros to get you started.
- **No limit on file size.**
  If you're an HP110 Portable user, you're no longer confined by MemoMaker's 819-line limit. You can have as large a file as internal memory allows.
- **File merge.**
  You can merge two or more files together with ease.
- **Compressed and expanded.**
  You can imbed control characters in your text to tell your printer to print all or part of your text compressed, expanded, bold, underlined, or whatever else your printer can handle.
- **Unlimited line length.**
  Your files are no longer limited to 80 characters per line. This means, for example, you can print 132-character lines on your ThinkJet in compressed mode.
- **Lines per page.**
  You can specify the number of lines per page, using the control codes required by your printer.
- **Easy in, easy out.**
  You can exit from THE EDITOR II, run another program, then type a one-word command and be back in THE EDITOR II exactly where you left off. This includes exiting DOS—which means you can delete, copy, and rename files while running THE EDITOR II.
- **Right justification and automatic paragraph indent.**
  A simple command right-justifies your text and automatically indents your paragraphs however many spaces you wish.
- **Undelete.**
  A simple command will undelete the last line or block of text deleted.
- **Upper/lower case conversion.**
  Another simple command lets you change between upper case and lower case without having to retype anything.

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

Hal Goldstein

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

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SOME IMPRESSIONS

The size, weight, and battery life are the most impressive things about the Poqet PC. You can easily put your Poqet PC into a suit coat pocket or into a purse. Poqet will start shipping in quantity in January. It will be then when users decide whether the Poqet PC is an essential component for the traveler or whether it is a $2000 toy. Here are some of the questions that still remain to be answered:

1. How usable is the keyboard? The keyboard is as wide as this page and less than 1/3 the height. The keys are tightly spaced, and I found the Poqet PC awkward to type on. However, various Poqet representatives assured me that the keyboard takes less then an hour to get used to and lengthy work can be comfortably done on it.

2. How readable is the screen? I personally did not have any trouble reading the screen. However, the screen and its characters are small, and how the non-backlit screen will fare under various lighting conditions remains to be seen. The screen will seem very familiar to HP110 and Portable Plus users.

3. How PC-compatible will the Poqet PC be? The Poqet PC has only 512K of internal memory, so those programs requiring more internal memory will not run. Furthermore, there is limited internal storage. Part of the 512K internal memory can be partitioned as a RAM (silicon hard) disk. Will that, along with additional ROM or RAM cards, provide enough space to hold needed applications?

Some of the ROM application programs such as Lotus 1-2-3 are designed to run out of ROM rather than take much of the precious 512K internal memory. The only disadvantage of that approach is compatibility. For example, will Lotus add-ons run from the ROM-executable Poqet version of 1-2-3? Portable Plus users are familiar with this problem.

POQET PC VS. THE HP110 AND PORTABLE PLUS

The Poqet is small and has an amazing battery life, but the HP110 and Portable Plus have a better keyboard and larger screen. The Portable Plus has a greater memory capacity than the Poqet. The HP110 and Portable Plus are simply more substantial machines. If you use the HP110 or Portable Plus for any significant amount of time per sitting, the HP Portable will definitely be more comfortable to use. On the other hand, if you travel a lot, always want your portable handy, and work in short spurts, consider seriously the Poqet PC.

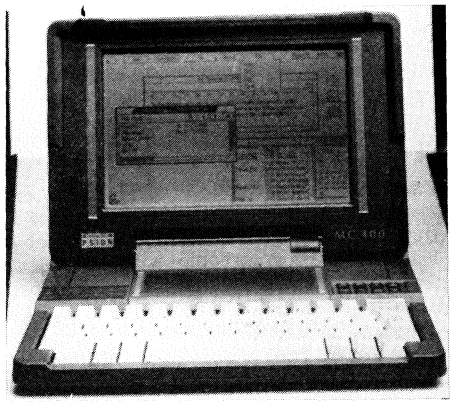
THE PSION

To me the most exciting of the new portables I saw at the show (and a legitimate successor to the HP Portable Plus) was the PSION line of notebook-sized portable computers. If, when PSION starts shipping in the first quarter of 1990, they produce a reliable product in line with their specifications, and if they can muster the marketing resources and dealer network to support their product -- two big ifs -- they'll have real winners. PSION is an English company that has produced hand-held RAM/ROM-based products for a number of years.

FLASH MEMORY

The PSION portables take advantage of a technological breakthrough, Intel Corporation's Flash Memory that many Portable Plus users would kill for.

Flash Memory combines the best characteristics of a the Edisc and a ROM chip. It is technically an EPROM (Erasable Programmable Read-Only Memory). Flash Memory, however, can be reprogrammed electronically rather than with ultraviolet light. From a user's point of view, Flash Memory functions just like an electronic disk. You can store and modify programs or data in Flash Memory the same as on a normal floppy disk, hard disk, or Edisc. However, because it is ROM, the file is actually etched in the Flash Memory. Therefore, NO BATTERY IS REQUIRED TO MAINTAIN THE PROGRAM OR DATA!



Psion Computer

The other major advantage of Flash Memory is that upgrades to software on ROM cards will no longer be a problem. In the case of the Portable Plus, ROM versions of Lotus 1A could have easily been turned into Lotus 2.01 when HP released it. Flash Memory would mean that versions of software and even the operating system could be upgraded in a timely and easy manner.

Currently, 512K byte Flash Memory is available for the PSION at a cost slightly less than the non-volatile RAM used in the HP RAM drawer. The Intel rep told me that prices will come down and capacity will go up dramatically in the next few years. We could expect to see a 2 MB Flash Memory (about the physical size of a credit card) by the end of 1990. By 1992 we should see an 8 MB Flash Memory from Intel.

According to the Intel representative, it should be theoretically possible to create Flash Memory Portable Plus 64K EPROMs. If anyone has the ability to explore this avenue, they should contact me.

THE PSION PORTABLES

PSION announced three portables using Flash Memory technology: an IBM compatible DOS 3.2 machine and two non-compatible machines. All three computers run on 8, AA alkaline batteries. The DOS machine gets 30 hours of battery life, the others 60 and 75. All three portables weigh 4.3 pounds, and are 1.9" x 12.4" x 8.9".

The screen uses a special black and white LCD technology and supports CGA and is 640 x 200 pixels. They

Shelp

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

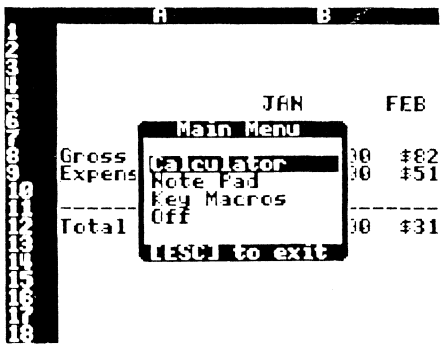
Now available on **ROM Backup** for the Portable Plus (See "Software on ROM" ad in this issue.)

"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

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):



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

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

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

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

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

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

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

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

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

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

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

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

PRODUCT NO. SH11NS

Shelp . . . . . $55 ***($49.95 for Portable Paper subscribers)***

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

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

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use an 80C86 CMOS microprocessor which runs at 7.68 Mhz. Each computer comes with serial and parallel ports and optional MNP5 modem.

The MSDOS machine comes with 768K of internal memory, a 1 MB silicon hard drive, 256K of built-in Flash Memory for the operating system, and 4 slots for Flash Memory. LapLink is built in.

In many ways the non-IBM compatible machines are even more impressive. These machines use MS-DOS file data structures so files can be transferred to DOS machines. They come with built-in software, a graphical interface, touch capability, and an optional voice processor. The software includes a word processor, a database, diary and time manager, a scientific calculator, and terminal emulation software. The graphical interface and touchpad work together with the built-in software. The touchpad is located on the keyboard above the function keys. The cursor moves on the screen according to where you place your finger on the touchpad.

Finally, the optional voice module works in conjunction with the built-in microphone and speaker to provide speech recording and playback facilities. It enables speech to be edited (cut and paste, etc.) -- making it more useful than conventional dictation machines. Voice compression techniques allow 8 minutes of speech to be stored in 64K bytes of memory.

THE TOSHIBA T1000SE

The new Toshiba T1000SE will be the direction that many HP110 and Portable Plus users might want to migrate to if they must have true IBM compatibility. Like the NEC UltraLite it sports a 9.54 MHz 80C86 microprocessor. It comes with 1 MB RAM expandable to 3MB. Any memory over 640K can be used as a battery-backed silicon hard disk. The T1000SE comes with a built-in 3.5 inch floppy drive and a backlit screen. The display is 640 x 400 pixels and is CGA compatible.

The Toshiba comes with DOS in ROM. The keyboard is full-travel. The battery is replaceable but no information on battery life was given. The Toshiba T1000SE retails for $1699; however, by the time you add the internal modem and extra memory, a system can easily retail for over $3000.

It comes with a 9-pin serial port and selectable 25-pin parallel printer or external 5.25" disk drive port. It is 12.4" x 10.6" x 1.78" and weighs 6 pounds. A modem and file transfer software are optional.

THE PORTABLE CELLULAR WORKSTATION

Certainly the most comprehensive system I saw was the Portable Cellular Workstation from Secure Technologies in Herndon, VA. The model I saw folded into a 24 pound durable exterior shell that looks like a brief case. The machine itself is a PC-compatible with 640K RAM, 20 MB hard disk, and 3.5" floppy. Built into the system is a cellular telephone which can be used for voice or data, a cellular modem/fax, and a high quality inkjet printer. A scanner (to send hard copy faxes) and models sporting a 286 and 386 processor are on the way. Company officials say they are working on 15-pound models.

CYBERSPACE 286cx SPECIFICATIONS

110 P+ PV LS/12

One of the problems inherent in miniaturization of computers is limitation imposed by the human physiology. The keyboard must be big enough to type on and the screen big enough to see. The Cyperspace Corporation of Norcross, GA solved the screen problem uniquely. The Cyberspace 286cx keyboard-sized laptop comes with headgear that you wear like glasses. A hologram-like image of your computer screen appears to float in front of you when wearing the headgear.

HOW THE HP PORTABLES COMPARE

110 P+ PV LS/12

The first thing that should be mentioned is that the Toshiba, the PSION, and the Poqet cannot be expected to ship in quantity until the second quarter of next year. The HP Portables have all been in the marketplace for years and have proven themselves.

The LS/12 and Portable Vectra CS use conventional hard disks and floppy disks. They are heavier, less portable, more powerful, more substantial machines with more capacity than any of the machines reviewed in this article.

We can more meaningfully compare the HP110 / HP Portable Plus with the machines discussed above. Both HP computers are more rugged than the machines reviewed here and have a much longer battery life than the Toshiba. The HP110 comes with more powerful built-in software than the Poqet PC. The other DOS machines do not come with applications software.

The Portable Plus with a 1 Megabyte RAM drawer and a 12 socket ROM drawer stands up well in terms of internal storage capacity.

Although the HP portables are DOS machines, they are not true IBM PC compatibles like their counterparts. If backlighting is important, choose the Toshiba, and if longer battery life counts, choose the Poqet or Psion. Many users will appreciate Toshiba's built-in 3 1/2" drive, but that makes the Toshiba more vulnerable to damage while transporting it. HP users are familiar with the HP9114-like drives that Psion and Poqet offer as optional accessories. If weight is the ultimate determinant, choose PSION or Poqet.

If you are considering another IBM compatible designed like the HP110 and Portable Plus, making use of RAM and ROM drives, you must, of course, consider the UltraLite. See Vol.4, No.1, Pg.25, Vol.4, No.4, Pg.39, and Vol.4, No.6, Pg.17 for more thorough discussions. The basic weakness of the UltraLite, its 1.75 hour battery life, has recently been addressed. NEC now offers replaceable battery packs for the UltraLite.

The speed of the machines are comparable. They all use an 8086-like processor. The Toshiba and UltraLite are the fastest. The Poqet and HP Portables (without the CPU upgrade) are the slowest.

There is a lot to like about all the machines. Inherent in miniaturization is compromise. You just have to decide which features are most important to you, and choose from there. If you have the finances and the need, and you are sold on portability and this technology, you might very well own several of these machines. □

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. DU11NS

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

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

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

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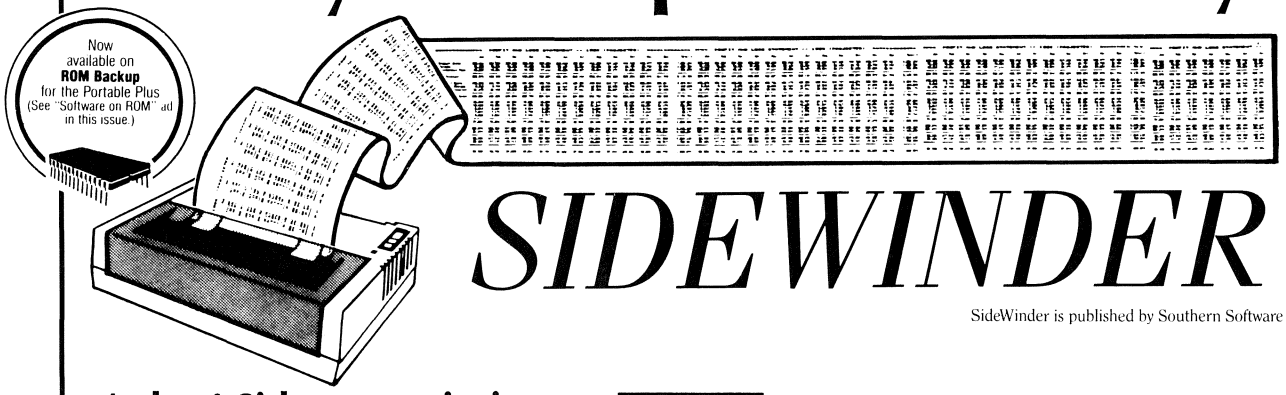
No more cutting and pasting- Now you can print it sideways!



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.)

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

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.

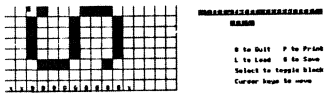
SideWinder $69.95
$59.95 for Portable Paper subscribers

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.

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

Hewlett Packard LaserJet IIP

Smallest of the HP LaserJet II series, this full-feature laser printer combines quality printing and low price.

By Richard Hall

110 P+ PV LS/12

A substantial percentage of subscribers to *The Portable Paper*, and our new newsletter, *The UltraLite Connection*, use HP LaserJet printers. Both newsletters are typeset on a LaserJet and we are quite satisfied with its durability and performance. A LaserJet printer, even the new 22 lb IIP, is certainly not a portable printer.

However, a LaserJet, especially the smaller IIP, might be just the thing for those who use an LS/12, Portable Vectra, Portable Plus or 110 regularly at home, and want the same high-quality printing available from the office laser printer.

Hewlett Packard's LaserJet IIP is a quiet and small machine that produces high-quality printing at an affordable price. It lists for $1,495 but is expected to have a less expensive street price. That would make it as affordable as a high-quality 24-pin dot matrix printer. The HP DeskJet, new or used, is still a less expensive alternative, but prints slower and is not quite as rugged as the LaserJet.

The IIP is a diminutive version of HP's series II printer. Where the LaserJet II is around 40 lbs., the IIP weighs in at 22. Where the IID takes up four cubic feet of space, the IIP tucks into less than two. (The actual dimensions for the IIP are 8.25 x 13.75 x 27.5 inches.) The standard II retails for $2,695 where the tiny IIP lists for $1,495.

The LaserJet IIP uses a new print engine - the Canon P110. The IIP prints slower than the larger LaserJets but offers the same 300 dpi print quality.

The IIP takes one font cartridge in a side slot and comes with 512K (expandable to 4.5MB) of internal memory for graphics or downloaded fonts. Like the II, it can rotate portrait fonts for landscape printing.

The LaserJet IIP comes with printer drivers for most popular applications, and series II or IID printer drivers can be used if a IIP driver isn't available.

TRADEOFFS

The longevity of the IIP's toner/drum cartridges compares reasonably well to those in the larger LaserJets. The IIP is rated for 3,500 pages where the II can print 4,000 pages on a cartridge. However, the IIP prints slower than its larger cousins (4 as opposed to 8 pages per minute) and its rated maximum monthly print volume is 6,000 pages, as opposed to 12,000 for the II.

The IIP uses a multipurpose bin that accepts different paper sizes as well as envelopes. However, it can hold no more than 50 sheets at a time and has no straight-through paper feed for heavier stock. HP does not recommend using anything greater than 28 lb. stock.

CONNECTING THE IIP

The new LaserJet connects easily to the LS/12 or Portable Vectra's parallel port using a standard parallel cable.

Connect the 110 or Portable Plus to the LaserJet using an HP9221P cable (or its equivalent). From PAM enter **f6 System Config**. Set PRINTER INTERFACE to **Serial** using the **f3 Next Choice** key. (The DATACOM INTERFACE should be set to **Modem**.)

Now **exit** and from PAM enter **f5 Datacom Config**. (By the way, the name of the f5 key should properly be Serial Config). Under the Serial column set the BAUD RATE (transmission rate) to **9600**, WORD LENGTH (bits) to **8**, STOP BITS to **1** and PARITY to **None**. This should do it. If you experience any problems, make sure your cable connections are good.

RECOMMENDATIONS

The HP LaserJet IIP received PC Magazine's Editor's Choice Award (Nov. 14, 1989, page 152). The only drawbacks associated with it are its shorter duty cycle and a lack of a straight-through paper feed. If you print more than 277 pages per working day you'll want to consider a larger LaserJet.

All things considered, we think the LaserJet IIP is an excellent value.

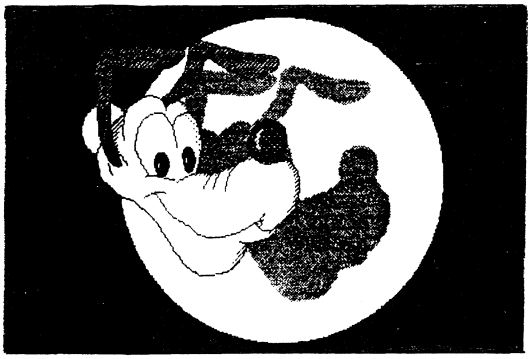
ORDERING INFORMATION

The LaserJet IIP was developed by Hewlett Packard Company of Cupertino, California. The retail price is $1,495.

Price to Portable Paper subscribers, when ordered through Personalized Software, is $1,195.

Personalized Software will provide instructions for connecting to a 110 or Portable Plus and the appropriate connecting cable free of charge, so please specify which HP portable you have when you order. □

Things You've Always Wanted To Do With SKETCH...



but didn't know you could!

By Rob Scebold, Philippines

When I first got my copy of Southern Software's SKETCH program, I already knew I was going to like it. But it wasn't until I started playing/working with it (is there a difference?) that I began to see its true potential. Combining SKETCH's easy-to-use features and a few special techniques lets you create some pretty impressive ThinkJet graphics - as far as 96 dpi will allow you to go! Here are some tricks to try next time you load SK.COM.

GRAPHIC TRANSFER USING GRIDS
(for the would-be artist who can't draw.)

For those of you who work with wood this technique will sound familiar. A grid is used as a guide when you are free-hand drawing a full-size template from a smaller size model. Only here the transfer is to your computer's screen, not a piece of paper.

First, find your model. Simple line drawings are the easiest to transfer. I used a page from my son's coloring book for this example. Next, using a pencil and ruler draw a grid over your model and number each grid line. Keep your grid lines as widely spaced as practical. This will save you from tedious work later.

Now, create a grid of the same proportions on your computer screen. Be sure to crosshatch one point on your grid to use consistently as your memory point when saving your work. It will be your index point later. Save the grid to a file. You are now ready to use the cursor keys or a mouse to draw the image - one grid square at a time. Save your work frequently. Try it! You will be amazed at the results! To get rid of the grid, push the space bar to produce an inverse video image of your drawing. Then, with the cursor on your index point, overlay your grid file and watch your grid vanish! Hit space bar again to re-invert your screen and you are left with most of your picture intact - sans grid. The missing bits are all the dots that intersected your grid. They will have to be re-inserted by hand. (See why you want a simple grid?)

REVERSE MASKING TO ADD SHADING

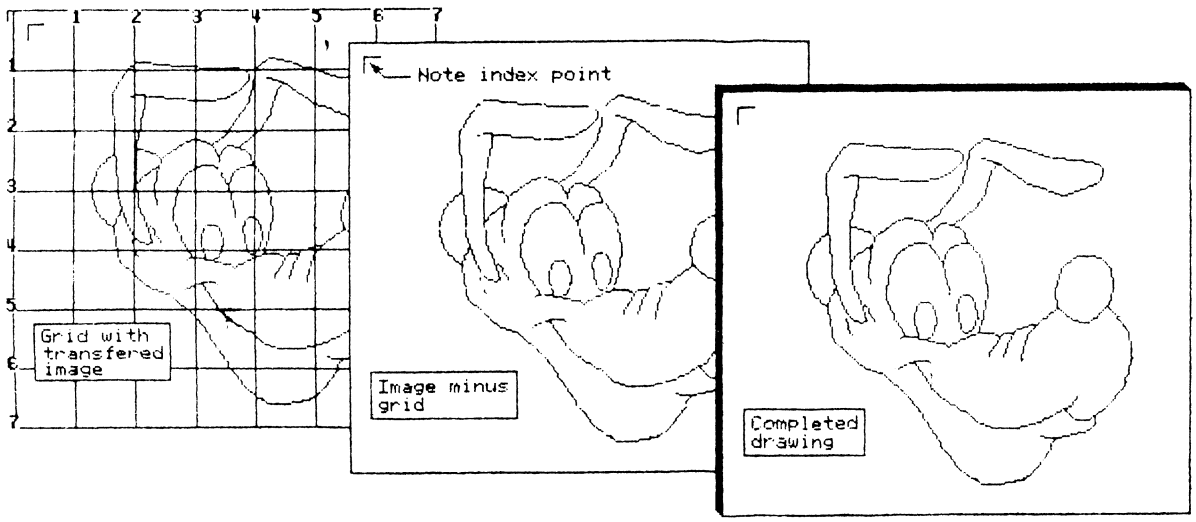
To give your drawing some depth, try shading in some areas. By reverse masking you can precisely define what gets shaded in and what doesn't. I call this 'reverse masking' because you 'mask' the part you want to shade in, not the rest of the picture.

(Hats off to Rick Finnell for his article on half-tones, Portable Paper, Vol. 3, No. 4, Pg. 28. His graphic creation (page 29) was my inspiration to go beyond solid-black/white-no-in-between drawings. Refer to his discussion on creating grey overlays before continuing here.)

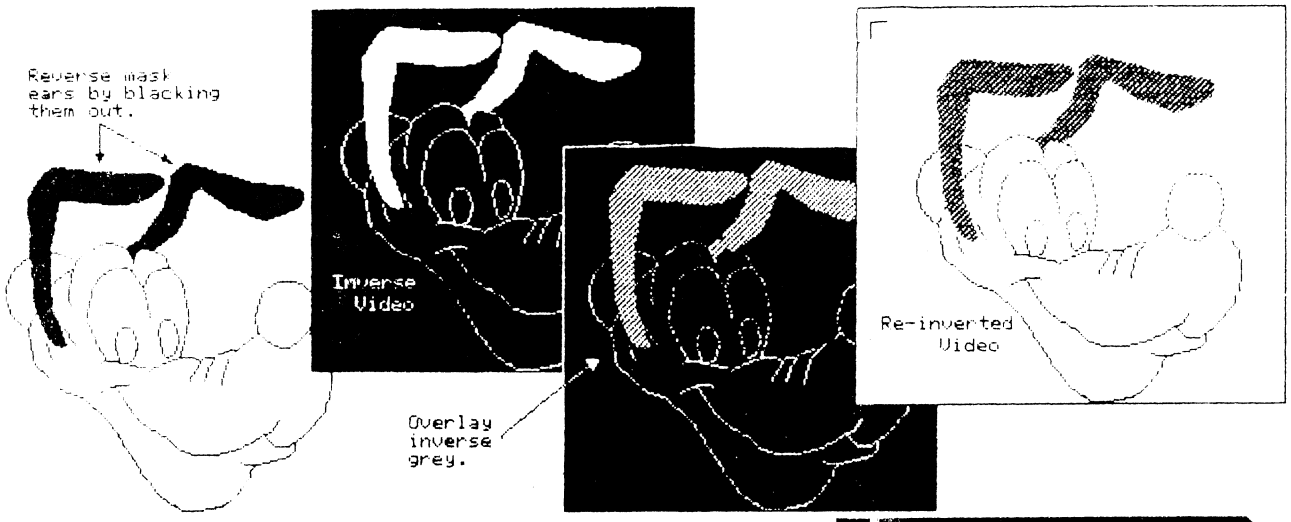
After saving your completed line drawing to a file, define areas you want to shade by blacking them out. Then invert the video and overlay the inverse video of the grey you want. Re-invert the video and there you have it! Your shading is right where you wanted it. To restore lines that may have been broken in the process, just overlay your original line drawing. (Remember to align your images using your index point.)

To use several shades of grey in one drawing, make a separate file for each shading - thus separating 'colors'. Stack all these files together to finish your composite image.

Graphic Transfer Using Grids



Reverse Masking Technique To Add Shading

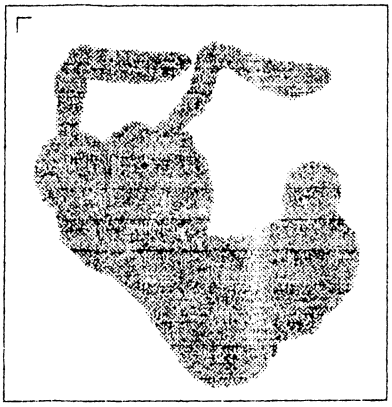


SHADOW EFFECT

The shadow effect can be used to make your graphics stand out on the page or seem as if floating.

Creating a 'shadow' is a simple variation on a theme. Black out your whole image to make a silhouette. (Save this to a file for use in the next technique.) Then just follow the steps for shading. The result is one big shaded area the shape of your picture. You can save this shadow now to use on its own or with your original drawing. To make your drawing float, 'paste' it over its own shadow at an offset using the next technique.

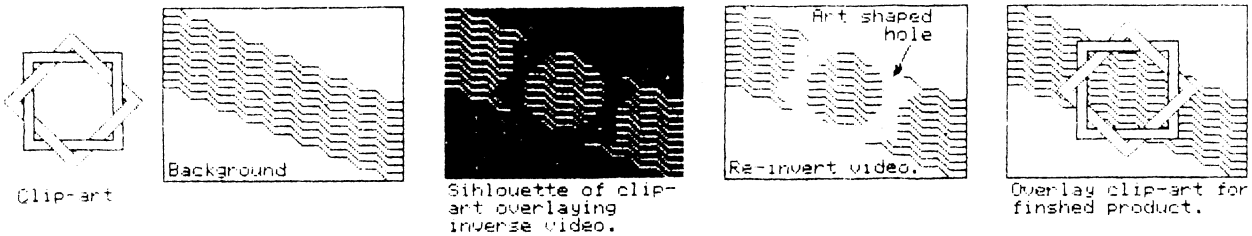
Shadow Effect



CLIP AND PASTE TECHNIQUE

What if you want to treat your graphics like clip-art and 'paste' them onto some sort of background? If your pictures are all rectangular you simply overwrite the background with a clip-art file. But when your clip-art has a more complex shape it's not so easy. Overwriting will wipe out parts of the background that should stay visible. Overlaying will allow the background to show through the clip-art.

Clip and Paste Techniques



The solution is to 'clip' a hole in the background the same shape as your clip-art, then insert the clip-art. First create your background. Invert the video. Now position the silhouette of your clip-art over the inverted background. (Use the Overlay and Undo-Enabled features to experiment on the screen.) Re-invert the video and notice the hole you clipped-out. Overlay your art and the paste-up is complete!

CONCLUSION

Using SKETCH's features and a few simple techniques can add a bit of savvy to your graphics. The tricks outlined above depend heavily on SKETCH's Overlay and Inverse Video features, as well as on maintenance of an index point. You can create your picture in any number of parts. With careful alignment you can stack these parts together to make a composite whole. Your imagination is the limit! Have fun.

ORDERING INFORMATION

Sketch is available through Personalized Software and retails for $80. Subscriber price is $75.95. □

Getting Print Graph on Lotus 2.01 to Work Properly with the ThinkJet

by Larry Baldozier

Mr. John Chapman of Manitoba, Canada wrote us:

"I use the Portable Plus Lotus 2.01 ROM. I recently tried the PRINTGRAPH program and cannot get the graph to print out properly on the page, or the GRAPH key to work. I am using a 2225B ThinkJet printer.

"The graph prints too far to the right on a full-size graph, and the right-side details of the graph are missing on a half-size graph. I have to use the Lotus 2.01 translate program to put the spreadsheet into Lotus 1A, and then use my HP110 and its PRINTGRAPH program to get all graphs to come out correctly."

ANSWER:

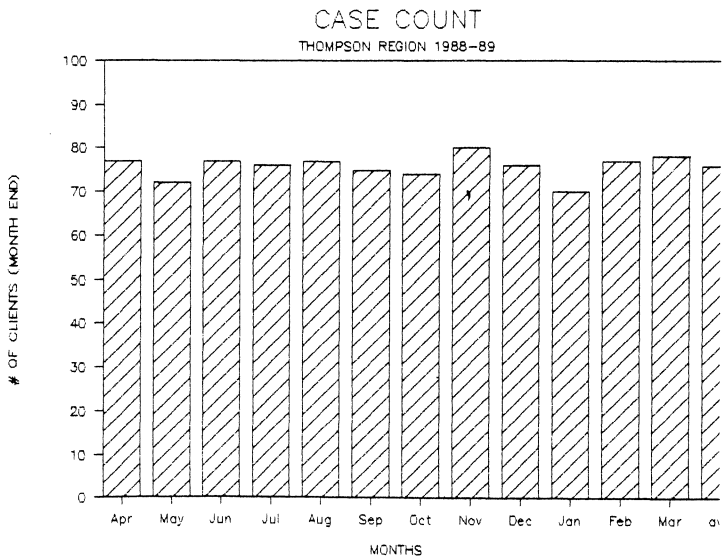
The GRAPH key does not seem to work on the HP Portable Plus. If anyone has found a solution to this problem, please let us know.

The problem with using the PRINTGRAPH program with a ThinkJet printer can be fixed.

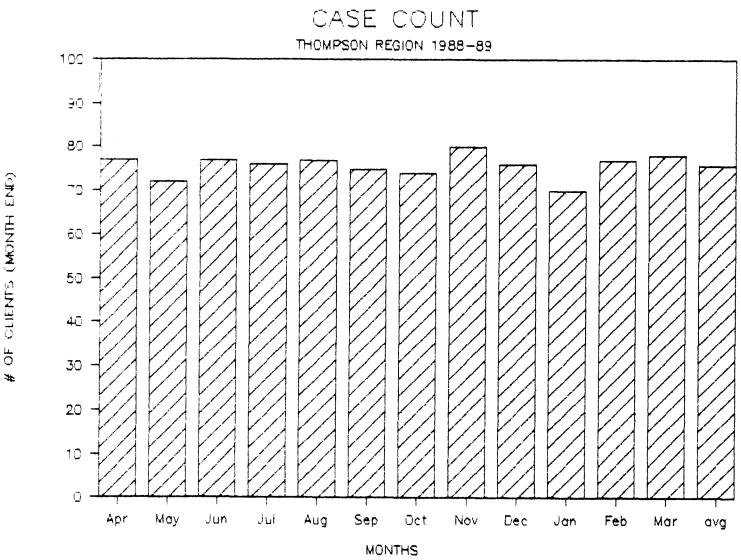
On page 63 of the Lotus 1-2-3 **Getting Started** manual, it states this about ThinkJet printers: "Because of the area in which the Thinkjet prints on a page, the left margin is set at .1 in 1-2-3 rather than the .750 setting that other printers use."

This information is misleading. The .1 setting will shift the paper too far to the right. The only way that I could get the graphs to print out properly using a ThinkJet printer is to set the left margin at .000. This means after selecting the proper image size (Full or Half), you will then need to select the manual setting and set the left margin for .000.

Try it. It works! □



Graph too far to left



Graph with left margin set at .000

WHEREXY Lets the 110 Mimic the PC's WHEREX and WHEREY Functions

By Bill Pinnick

110 P+

As an encouragement to see more grass-roots programming in *The Portable Paper* I contribute WHEREXY. I wrote this program with Turbo Pascal to mimic the PC's WHEREX and WHEREY functions (telling the coordinates of the current display) on my 110.

WHEREXY

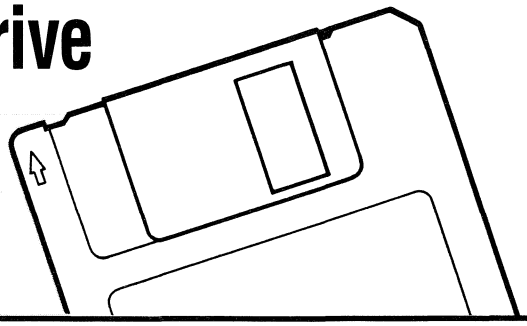
```
procedure WhereXY(var Row,Col: integer);
            {HP-110 equivalent of IBM WhereX}
            {and WhereY commands.}


function WhereX : integer;


var
  ColStr     : string[2];
  Line       : string[20];
  BuffChar   : char;
  I, Code      : integer;
  Column     : integer;


begin
  line:='';
  write(chr(27),'a');   {Send location request to}
                        {HP-110 console.}
       for I:= 1 to 7 do begin   {See what the}
                        {computer returns.}
          read(kbd,BuffChar);
               line := line + BuffChar;
          end;
  ColStr := line[6] + line[7];
  val(ColStr,Column,code);
  WhereX := Column;
end;


function WhereY : integer;


var
  RowStr       : string[2];
  Line       : string[20];
  BuffChar   : char;
  I, Code      : integer;
  Row        : integer;


begin
  line:='';
  write(chr(27),'a');   {Send location request to}
                        {HP-110 console.}
       for I:= 1 to 7 do begin   {See what the}
          {computer returns.}
          read(kbd,BuffChar);
          line := line + BuffChar;
       end;
  RowStr := line[3] + line[4];
  val(RowStr,Row,code);
  WhereY := Row;
end;

BEGIN
  Col := WhereX;   {You may want to add 1 to}
       {match the gotoxy value}
  Row := WhereY;  {for both the Column and}
       {Row values.}
end;
```

(Continued next page.)

Now you can use HP Portable or HP150 disks

(single or double sided)

in a 3½" IBM compatible disk drive



Volume Pricing Available

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

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

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

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

ReadHP **$79.95**
Portable Paper subscriber price **$69.95**
PRODUCT NO. RD11NS

60-DAY MONEY BACK GUARANTEE
See order form for details.

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

RECOMMENDED FOR:	
HP110 Portable	●
Portable Plus	●
Portable Vectra	●
HP150	●
IBM PC and compat.	●

To get it to work on the Portable Plus, you may need to change the code sent to query the display as indicated in the comments. I'd check it out myself, but I don't have a Plus - yet! Below is a test program for WhereXY.

DEMO OF WHEREXY INCLUDE FILE

```
program TestXY;
        {Demonstration of the HP-110}
        {WhereXY include file}

 {$I WhereXY.pas}

 var x,y : integer;

 begin
   clrscr;
   gotoxy(4,4);
   WhereXY(X,Y);
   writeln('(',X,',',Y,')');
   gotoxy(70,12);
   WhereXY(X,Y);
   writeln('(',X,',',Y,')');
   gotoxy(1,10);
   WhereXY(X,Y);
   writeln('(',X,',',Y,')');
   gotoxy(60,1);
   WhereXY(X,Y);
   writeln('(',X,',',Y,')');
 end.
```

Note: the HP-110 screen starts with column **0** and line **0**, but the Pascal **gotoxy** begins with column **1** and row **1**. You may want to "adjust" the values returned by WhereXY as indicated above just to achieve consistency. □

[Bill uses the 110 in his work as a chemist at Chem-micro-Metrics of Greenville, North Carolina.]

110 P+ PV LS/12

Traveling the World with Your Portable

What use is a portable unless you travel with it? But using your portable in some parts of the world can test your creativity and tolerance of bureaucracy. Will they let you in with your portable? Will they let you out with it? Is there service and software available in that country? And for modem users, how reliable is the country's telephone service? Here's a summary of an article published in the July, 1989 edition of PC Computing.

If you have anything to add on this subject, drop us a note.

City	Phone Service	Computer Service	Software Availability	Customs Requirements
Bombay	1	1	2	Be sure and declare laptop.
Budapest	1	0	Black market	Leave with what you came in with.
Cairo	3	1	1	No problems.
Cannes	3	2[a,b]	1	No problems.
Caribbean	1	1[a]	1	No problems.
Edinburgh	2	2[b]	1	"Yes, officer, I've had this for six months."
Leningrad	2	0	Black market	Leave with what you came in with.
Nairobi	2	2[a]	2	No problems.
Reykjavik	2	2[ab]	2	No problems.
Santiago	1	2[b]	2	Carry official looking authorization.
Shanghai	1	0	0	"For my personal use officer." Leave with what you came in with.
Tel Aviv	2	2	2	No problems.

Legend

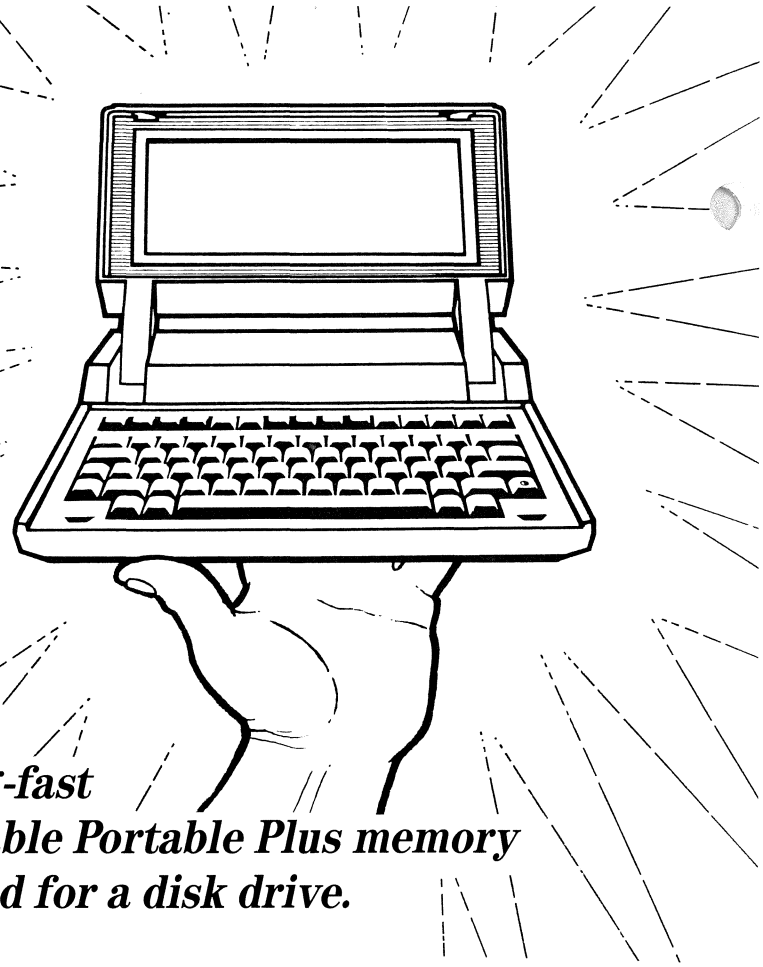
Excellent	3
Sufficient	2
Problematic	1
Non-existent	0
Compaq Computers	[a]
Zenith Computes	[b]

Comments

It seems like Zenith and Compaq are best represented around the world in terms of sales and service. Apple has a strong presence in France. Good batteries, diskettes, software, etc. are hard to find in the third-world and Eastern-block nations. You may have to seek black-market sources. Watch out for cheap, local batteries that may leak.

Going through customs is generally no problem around the world. It always helps to have an official-looking letter from your company stating that your computer is for personal or business use. Some of the more restrictive customs departments will check to see that you leave with what you came in with.

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 (**R**ead-**O**nly **M**emory) 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.

OUR EXCLUSIVE DOUBLE GUARANTEE ON ROMS

60-DAY GUARANTEE OF SATISFACTION

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

2-YEAR GUARANTEE AGAINST DEFECTS:

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

EASY TO INSTALL

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

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

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

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

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

HOW TO ORDER ROMS

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

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.**
Squish Plus	**135.**
SuperROM	**49.**
TermPlus	**95.**
Turbo Pascal 3	**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, in our catalog, or refer to articles in past issues. In this chart, "Type" refers to either HP **(used HP ROM)** or PS (Personalized Software ROM Backup Package -price includes both ROM and disk versions). **CALL FOR AVAILABILITY OF USED HP ROMS.**

Product	Part Number	Retail Price	Subscriber Price	Type	No. of chips	Notes
WORD PROCESSORS						
WordPerfect 5	WD11NK	$919.00	$595.00	PS	6	384K of files includes PlusPerfect, main WP program, help files, printer drivers, etc. Does not include required 300K wp.fil file, spelling checker, or thesaurus.
The Editor II	ED12NK	224.00	194.95	PS	1	The Editor version 1 is available as part of our SuperROM chip (see "Combined ROMs," below).
MemoMaker	-	-	-	HP	-	Comes on same chip as Time Manager (see "Combined ROMs" below.)
MSWord	MS20UR	394.00	199.00	HP	1	
MultiMate	MM20UR	520.00	295.00	HP	1	
WORD PROCESSING UTILITIES						
Format110	-	-	-	PS	-	Comes as part of SuperROM (see "Combined ROMs")
FormatPlus	FP13NK	174.95	164.95	PS	1	
HPrint	HP12NK	175.00	170.95	PS	1	
Mini PrinterTalk	-	-	-	PS	-	Comes as part of SuperROM (see "Combined ROMs")
Webster Speller	WB13NK	258.95	248.95	PS	2	
SPREADSHEETS AND UTILITIES						
Lotus 123,1A	LT12UR	495.00	295.00	HP	2	
Lotus 123,2.01	LT15UR	625.00	395.00[2]	HP	3	3rd ROM containing help doesn't have to be installed.
Lotus 123,2.01	LT11HR	625.00	499.00[2]	HP	3	Pricing of NEW HP ROM if used ROM not available.
SideWinder	SW12NK	134.95	124.95	PS	1	Also available on a ROM with Shelp, and on our SuperROM chip (see "Combined ROMs" below).
DATABASE PROGRAMS						
Exec Card Manager	EC11UR	395.00	225.00	HP	1	(Lotus 1-2-3 can also be used as a database.)
COMMUNICATIONS						
PC2622	PC13UR	395.00	239.00	HP	1	VT100 and HP Terminal emulator.
Reflection	RF11UR	525.00	295.00	HP	1	Minor upgrade of PC2622
TermPlus	TE13NK	194.95	174.95	PS	1	Includes FormIBM, Jetctrl, and other great utilities.
PRODUCTIVITY BOOSTERS						
Best of DOS Tools	DT12NK	179.00	168.95	PS	2	Selected utilities from DOS Tools[1]
FilePlus	FE14NK	164.95	154.95	PS	1	
HP Calculator	CL11NK	95.00	95.00	PS	1	From our 1987 Subscriber Disk
HP Duette	DU13NK	194.95	184.95	PS	1	Contains Portable Plus half of software
Shelp	SH12NK	110.00	104.95	PS	1	Includes note extraction program. Shelp also available on a ROM with SideWinder, and as part of SuperROM chip (see "Combined ROMs" below).
Time Manager				HP		Comes on same ROM as MemoMaker (see "combined ROMs" below).
Typing Whiz	TW12NK	144.95	134.95	PS	1	
Squish Plus: ***NEW***	SQ11NK	264.00	234.95	PS	2	
GRAPHICS						
Sketch	SK12NK	175.00	170.95	PS	1	(Lotus 1-2-3 can also be used for graphics.)
PROGRAMMING LANGUAGES						
MSBasic	MS21UR	331.00	165.00	HP	1	This is not GWBASIC.
COMBINED ROMs						
MemoMaker/TimeMgr	MM21UR	245.00	119.00	HP	1	
Shelp,SideWinder	SH13NK	234.95	214.90	PS	1	Also includes SideWinder enhancement utility.
SuperROM (5 programs on one chip):The Editor, Format110, 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)

[1]Utilities included in the Best of DOS Tools ROM backup Package are as follows. For program details, see catalog.

PACK	DUMP	TY	CYPHER	RENDIR	WHEREIS	TEE	SDL	FDATE	LABEL	DIRS	TRANSLIT	
CLEAN	DIRALL	ARCE	MOVE	OFF	CHANGE	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, we've already paid your user fee.

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

Official Personalized Software Price List

(Every attempt is made to keep pricing stable. However, prices subject to change without notice.)

Product	Part Num.	Retail Price	Subscr. Price
THE PORTABLE PAPER			
1990 Subscription & Disk	PPN1PS	$55.00	
HP Portable Resource Package			
for HP110 & Portable Plus:	PL11PK	154.00	
(includes 1990 subscription & disk, 1986-89 back issues & disks)			
for Vectra CS:	VE11PK	89.00	
(includes 1990 subscription & disk, 1988-89 back issues & disks)			
for LS/12:	LS11PK	69.00	
(includes 1990 subscription & disk, 1989 back issues & disk)			
Back issues			
for HP110 & Portable Plus:	PP14PB	99.00	
(includes 1986-89 back issues & disks)			
for Vectra CS:	PP15PB	59.00	
(includes 1988-89 back issues & disks)			
for LS/12:	PP12PB	39.00	
(includes 1989 back issues & disk)			
Individual Back issue	PP99PB	9.20	
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	
HP150	CAT150	0.00	
SOFTWARE AND ACCESSORIES			
Word Processors			
The Editor II	ED11NS	129.00	99.95
Editor Pack	FM16NX	289.00	195.00
(Editor II, FormatPlus, Webster Speller)			
Editor II Disk Upgrade	ED14NG	35.00	35.00
The Editor II/Formatter	ED13NX	149.95	119.95
VI (Unix-like editor)	VI11NS	195.00	169.00
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	495.00	395.00
WordPerfect 4.2 P. Plus	WD18NS	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	FP14NG	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
RightWords Dictionary Ext.	RW12NS	29.95	29.95
RightWriter	RW11NS	95.00	89.00
Webster Speller	WB11NS	79.95	69.95
WordPlus Speller	WP11NS	150.00	99.00
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	WM11NH	199.00	179.00
WorldPort Modem 2400	WM12NH	359.00	319.00
WorldPort Modem 2400/MNP	WM13NH	499.00	425.00
WorldPort cable	WM14NM	30.00	20.00
WP 1200 Upgrade kit	WM13NG	199.00	179.00
WP Acoustic coupler	WM16NH	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
CompuServe starter kit	CM11NS	39.95	35.95
Productivity Boosting Utilites			
BacTools	BC11NS	49.95	39.95
DOS Tools	DT11NS	44.95	39.95
FilePlus	FE12NS	69.95	59.95
HP Duette	DU11NS	99.95	89.95
HP150 PC Emulator	PC11NS	19.95	19.95
HP9114 Empowerer	PR12NM	99.95	89.95
Norton Uitilities Adv.	NU12NS	150.00	129.00
Norton Utilitiess	NU11NS	99.95	89.95
PrintMaster (P.Plus)	PR11NS	79.95	69.95
Private File	PF11NS	39.95	34.95
ReadHP	RD11NS	79.95	69.95
Shelp	SH11NS	55.00	49.95
Squish Plus (P.Plus)	SQ11NS	129.00	99.95
Squish Plus (Vectra)	SQ12NS	99.95	89.95
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 P.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	229.00	199.00
SpreadSheet and Statistics			
101 Macros	MC11NS	69.95	62.95
Lotus 123, v2.01 / Symphony			
P.Plus Software Driver	LT14NS	69.95	59.95
SideWinder and Utilities	SW13NS	79.95	69.95
SideWinder	SW11NS	69.95	59.95
Statistix 2.0	ST11NS	169.00	159.00
File Transfer			
HPDuette for P.Plus	DU11NS	99.95	89.95
LapLink	LA11NS	139.95	119.00
Link110	LK12NS	90.00	85.95
Link Plus	LK11NS	90.00	85.95
Link150	LK13NS	90.00	85.95
ReadHP	RD11NS	79.95	69.95
Programming			
Turbo Pascal 3.0 Optimizer	TP17NS	125.00	119.00
Turbo Pascal 5.5:			
for P.Vectra, LS/12, IBM PC	TP55NS	150.00	135.00
for Portable Plus, HP150	TP52NX	219.00	175.00
Upgrade for P.Plus, HP150 (must own IBM PC Turbo 5.5)	TP15NS	69.00	69.00
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			
T/Maker (HP110)	TM11NS	99.95	95.00
T/Master (Plus, Vectra)	TM12NS	299.00	279.00

LS/12, Portable Vectra Products

Diconix printer - parallel	DT11NH	519.00	399.00
Diconix printer - serial	DT12NH	539.00	415.00
EtherNet Adapter	ET11NH	695.00	629.00
Expansion Chassis (LS/12)	EX11NH	499.00	449.00
FloppyDriver	FD11NS	89.95	79.95
HP-IL Card-P. Vectra CS	HP16NM	245.00	235.00
LapLink	LA11NS	139.95	119.00
LapTape (LS/12)	LA11NH	795.00	695.00
NoSquint	NO11NS	39.95	37.95
Numeric Keypad (LS/12)	NU11NH	129.00	115.00
PassPort (LS/12)	PA11NS	79.95	74.95
Squish Plus	SQ12NS	99.95	89.95
Statpower PC100+ Inverter	ST11NH	179.00	169.00
TravelDisk			CALL
(10MB to 250MB New or Used Hard Disks for P.Vectra)			
Weltec 5.25" Drive (LS/12)	WE11NH	349.00	299.00
Weltec Serial Hard Disk (PhD)	WE12NH	1099.00	899.00
WorldPort Fax 2496	WF11NH	699.00	599.00

Peripherals & Accessories

10 3.5" disks/case	DS11NM	64.90	29.95
10 1.44Meg 3.5" disks	DS12NM	99.95	69.95
FieldPro Padded Laptop Case	CS12NM	99.95	89.95
FieldPro Padded Case for ThinkJet or HP9114 Disk Drive	CS11NM	39.95	37.95
Mobile Recharger	PR11NM	69.95	59.95
Numeric Keypad for P.Plus	TS11NM	139.00	135.00
Power Cube	PR13NM	89.95	79.95
Targus Leather Case	TA11NM	199.95	179.00
Targus Nylon Case	TA12NM	99.95	89.95

Learning Material

How to Use the HP Portables Video Tapes	VP11NM	150.00	119.00

Upgrade

FastPlus (CPU upgrade)	FA11NG	250.00	250.00
256K to 512K Plus Upgrade	256KNG	475.00	475.00

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	Sub Price	Backup Price
Word Processors				
WordPerfect 5	WD11NK	940.00	595.00	295
The Editor II	ED12NK	224.00	194.95	95
MMkr/TmMgr	MM21UR	245.00	119.00	
MSWord	MS20UR	394.00	199.00	
MultiMate	MM20UR	520.00	295.00	
Editor Pack + (Editor II, Webster, FormatPlus, FilePlus)	FM17NK	823.00	599.00	
Editor Pack (Editor II, Webster, FormatPlus)	FM16NK	658.00	499.00	
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
Spreadsheets and Database				
Lotus 123,1A	LT12UR	495.00	295.00	
Lotus 123,2.01	LT15UR	625.00	395.00	
New ROM: Lotus 123, 2.01	LT11HR	625.00	499.00	
Exec Crd Mgr	EC11UR	395.00	225.00	
SideWinder	SW12NK	134.95	124.95	
Communications				
PC2622	PC13UR	395.00	239.00	
Reflection	RF11UR	525.00	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
Squish Plus	SQ11NK	264.00	234.95	135
Typing Whiz	TW12NK	144.95	134.95	95
Graphics				
Sketch	SK12NK	175.00	170.95	95
Programming Languages				
MSBasic	MS21UR	331.00	165.00	
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)				

USED PORTABLE EQUIPMENT

IMPORTANT NOTE TO USED EQUIPMENT BUYERS: Call for availability before placing order (especially Lotus 2.01). If used product unavailable, we'll get you new item at discount.

Used HP110 and Portable Plus Computers

Like-new 512K Plus[2,3]	PP36UC	$2795[1]	$1295
Used 512K Plus[2]	PP15UC	2795[1]	$ 895
128K Plus[2]	PP11UC	2590[1]	495
Int.modem with Plus purchase	BM11UC	600	167
Internal Modem	BM11UC	600	399
HP110 Portable[2]	PQ11UC	3000[1]	495
HP110,ThinkJet,HP9114[2]	PP40UX	4300[1]	795

Used Printers For HP110, Portable Plus, Vectra

HP-IL ThinkJet Printer	TJ11UC	$ 495	$ 199
New DeskJet Plus Printer	DJ12HC	995	795
Used DeskJet Printer, cable	DJ11UC	795	495
New DeskJet Printer	DJ11HC	795	639

Used HP110/Portable Plus Disk Drives

HP9114A Disk Drive	DD11UC	$ 795[1]	$ 199
HP9114B Disk Drive	DD12UC	795	299

Used HP Portable Plus Memory Drawers

HP 1 Mg RAM Drawer	MM11NC	$1275	$ 995
384K HP RAM Drawer	MM12UC	982[1]	295
128K HP RAM Drawer	MM13UC	436[1]	150
128K HP Memory Card	MM14UC	273[1]	125
HP ROM Software Drawer	SW11UC	195	99

Miscellaneous Used HP Portable Peripherals

HP-IL Card For IBM PC	IL11UM	195	119
HP-IL 7470A Plotter	PL11UM	1095[1]	650
P.Plus V.Intfce+Monitor	VM12UM	750[1]	275

NEW BATTERIES, INK CARTRIDGES AND CABLE

Standard Parallel Cable	PL11NM	29.95	24.95
Serial printer cable (110,Plus)	SC13NM	42.00	27.95
HP92221P ser.prn cab 110,P+	SC13HC	42.00	42.00
Portable Plus Battery	BT11HC	49.95	49.95
ThinkJet Battery	BT14HC	47.00	47.00
HP110 Battery	BT12HC	29.00	29.00
HP9114 Battery	BT13HC	65.00	65.00
HP-IL Cable, 1 Meter	HC11HC	8.00	8.00
ThinkJet plain paper cartridge	TJ15HC	10.95	10.95
ThinkJet inkjet paper cartridge	TJ14HC	10.95	10.95
HP92261N inkjet 2500 zfold	TJ12HC	64.95	59.95

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

[2]Many items on this price list are discounted further with the purchase of an HP110 or a like-new or used Portable Plus. Call, or write for special 4-page Portable Plus brochure.

[3]All like-new Portable Pluses come in original packaging with new battery and new manuals.

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

We Like the VALITEK Tape Backup System

PV LS/12

I was intrigued by VALITEK's parallel/serial tape backup system (PST-60) ever since I saw it at a Portable Computer trade show in September.

The VALITEK tape drive sat on my desk for about two and one half months before I got around to testing it. I was prompted both by my hard disk problems and guilt (the unit was on loan from the manufacturer who every once in a while politely called and asked about our progress). Quite frankly, I have never used a tape backup system myself. I anticipated the headaches associated with wasting a day getting the darned thing and its software to run properly on the Portable Vectra and LS/12. Was I in for a pleasant surprise!

The whole process couldn't have been easier. VALITEK supplied both a cassette tape and a cable so I didn't have to go scrounging. The manual was simple and straightforward, but the PST-60 came very close to my criteria for a good piece of hardware -- I almost didn't even have to use the manual. I plugged the cable into the parallel port on my Portable Vectra and the other end into the VALITEK unit. I could have also connected the VALITEK with the same cable via the serial port. If I wanted to use the LS/12 or Portable Vectra 9 pin serial port, I would have needed a 9 pin to 25 pin converter (available for $8 at Radio Shack). Similarly, I would have needed a 25 pin male/male converter from Radio Shack to use the Portable Vectra 25 pin port. (The Portable Vectra comes with a 25 pin female port rather than the 25 pin male port found on most PC's.)

I plugged the unit in and copied the software supplied by VALITEK on a standard floppy disk over to my hard drive. I typed **main** and the backup software program began. PAM-like boxes appeared offering me a choice of **help**, **setup**, **backup**, **restore**, **system test**, and **verify tape**. I really appreciated the last two choices. I immediately ran both these options and found out that I had properly connected my unit to my Vectra and that my tape was good.

I ventured further and chose **backup**. A very full screen presented itself with lots of choices. I pressed **help** and it told me what I wanted to know: Press **F3** and back up the whole hard disk. I pressed **F3**, and 13 minutes, 6 seconds later I had backed up 15,571,980 bytes from my hard disk on to the 60MB cassette tape.

To test the VALITEK further I decided I would restore three randomly selected files from the cassette tape to a subdirectory on my hard disk. I easily accomplished the task without looking at the manual. However, the PST-60 apparently had to traverse the whole tape, because it took 3 minutes and 10 seconds to restore 3 files that totalled only 336 bytes.

I like the unit so much I think we'll keep it. Personalized Software already owns a tape backup unit to back up our accounting information. However, we need a separate controller card for each PC that we want to back up. With the PST-60, I can back up my Portable Vectra at home and my LS/12 at work. I can then turn the unit over to Richard Hall, Managing Editor of *The Portable Paper* , who will no longer have any excuse for not backing up his Desktop Vectra. Similarly, the unit will be available for anyone in the company who needs it and wants hassle-free, relatively quick, backup capability.

ADVANTAGES AND DISADVANTAGES

What attracted me about the PST-60 was that it could be easily shared among many computers and could be used both by the LS/12 and the Portable Vectra CS. The PST uses a similar philosophy as the PhD, Weltec's 20MB serial hard drive. All the hardware (the controller and the drive) resides in the tape backup unit. The PST-60 connects to the LS/12 and Portable Vectra CS using either the serial or parallel port.

The advantage to this approach is twofold. First of all, some laptop users (particularly the Portable Vectra CS) have no way of holding a controller card for the tape drive unit. Since all the hardware is in the PST's box, and since the PST supports data transfer via standard parallel and serial ports, any PC compatible portable computer will be able to use this tape backup unit.

Secondly, any PC can use the unit without additional hardware. Just move the unit physically and plug it in via the parallel or serial port, and voila, the PC has a tape backup unit.

To our surprise there is little speed loss. At a rate of 864K bytes per minute Serial transfer is a little slow. Parallel transfer is faster at 4,500 K per minute. We originally thought that a standard PC tape backup unit using a controller card would be significantly faster. However, we found that PST-60 backed up our accounting data from an 80286 machine very quickly. Mark Lankarge, a VALITEK design engineer, tells us that benchmarks they've performed indicate that the PST works at least as well (through parallel ports) on 80286's and 80386's as the same machine using a standard controller card tape backup units. The PST works a little slower on the 8086.

But who wants to be around when you are backing up a system anyway? Just start it before leaving for lunch or

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

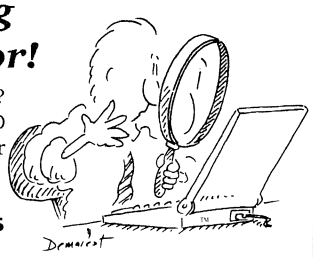
Transfer your files to another PC without hassle!

Highly rated **LapLink** software offers high-speed file transfer between your Vectra and another IBM PC compatible using **LapLink**'s special cable. Versatile (works with parallel and serial ports) and easy to use (simple manual or automatic file tagging).
LapLink for *PV, LS/12* **la11ns**
Retail: $139; Subscriber: $119

Access any Ethernet network with your Vectra!

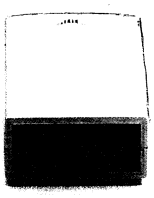
Xircom Pocket Ethernet Adapter attaches to your Vectra (or any PC compatible) parallel printer port. It lets you connect to any Ethernet LAN, supporting Novell NetWare versions 2.0a and higher. It's 5 oz: the size of an audiocassette case.
Ethernet Adapter, *LS/12,PV* **et11nh**
Retail: $695; Subscriber: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

No more squinting to find your cursor!



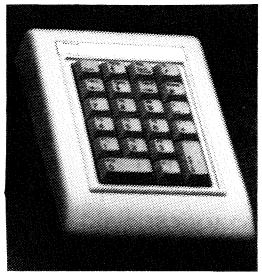
Why search for a faint underline? Make Vectra cursor BIG and BOLD with **NoSquint** and see the cursor clearly without strain.
No-Squint *PV, LS/12* **no11ns**
Retail:$39.95;Subscriber:$37.95

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



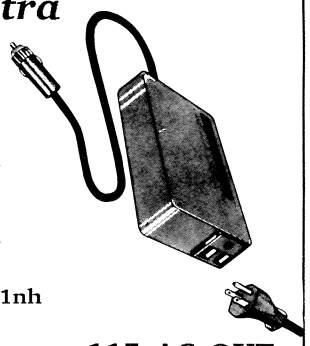
Tallgrass Technologies top-quality tape backup unit backs up LS/12 #20 or 40 Meg hard disk. Connects via LS/12 floppy disk connector in back. HP lab tested and approved.
LapTape Backup Unit, *LS/12* **la11nh**
Retail: $795; Subscriber: $695

Fast numeric entry for your LS/12!



The **Zenith Numeric Keypad** plugs into the right side of your LS/12. Calculator-style numeric keypad simplifies spreadsheet and database numeric entry tasks.
Numeric Keypad, *LS/12* **nu11nh**
Retail: $129; Subscriber: $115

Recharge your Vectra while driving!

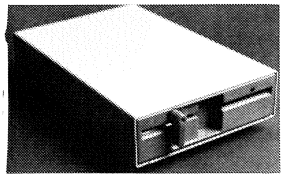


Plug your Vectra recharger into the 4.5" x 3.5" x 1.3", **1 lb, PC100+ StatPower Pocket Power Inverter**. Recharge your Vectra battery by connecting the PC100+ to your car's cigarette lighter. The PC100+ provides instant 115V power from any 12V source.
StatPower PC100+ *PV, LS/12* **st11nh**
Retail: $179; Subscriber: $169

Fax your files anywhere, anytime!

Now you can have both a 9600 bps Group III facsimile and a full-featured 2400 bps modem in one completely portable, pocket-sized unit! Share the **WorldPort 2496** among different PC's, or use it just for your work and travels. Connects to Vectra serial port and can operate from its own battery or from AC power.
WorldPort 2496 *PV,LS/12* **wf11nh**
Retail: $699; Subscriber: $599

Access files from 5.25" floppies using your LS/12



Weltech 5.25" disk drive plugs right into the LS/12 external drive port in back of LS/12. Can read from and write to 360K and 1.2M floppy disks.
Weltech 5.25" drive*LS/12* **we11nh**
Retail: $349. Subscriber: $299

going home and who cares whether it takes seven minutes or an hour.

SERIAL/PARALLEL PORT COMPATIBILITY

Mark also mentioned that he's encountered some parallel port compatibility problems. It seems some portables varied their parallel port design from the IBM bidirectional standard. The PST-60 is designed to work with the bidirectional standard and has problems with the non-standard machines. VALITEK is working on correcting this problem. However, the unit works properly on the LS/12 and Portable Vectra.

The PST-60 comes with menu-driven software to provide visual, on-screen tagging of single files or directories; wild card tagging; and file tagging by date modified, archive, hidden, and system file attributes. Batch files can be created for frequently performed backups.

The PST-60 stores backup data on 60 megabyte CT-600H data cassettes (160MB version is soon to be available). One cassette is included with the PST-60 and additional cassettes can be purchased through most computer stores. Radio Shack sells a 60 meg data cassette, stock # 26-246, for $37.95. Mark tells me that you can get them for $15-$20 if you shop around.

The PST-60 comes with all necessary software, one 60MB cassette tape, a user's manual, a cable, and one year manufacturers parts and labor warranty. The cable should plug right into a standard 25-pin serial or parallel port on your machine.

ORDERING INFORMATION

The PST-60 Parallel/Serial Tape Backup was developed by VALITEK,Inc., Mountain Farms Mall, Hadley, MA 01035. Phone number is 413-586-7804. The PST-60 retails for $1,495.

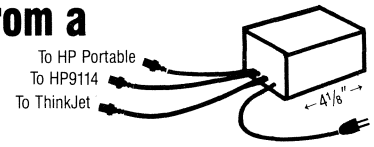
Portable Paper subscribers should call for pricing. □

Thank you Norton, Gazelle Systems, and MagicSoft

PV LS/12 My LS/12 had been causing me grief for the last two months -- after losing a whole day's work a couple of times I was ready to put it out to pasture. My system would on occasion hang when trying to save or print a file from WordPerfect. Sometime when I would try to exit WordPerfect, my LS/12 would die. When I would try to reboot, I sometimes got the "hard disk failure" message (as well as temporary heart failure thinking of the files not backed up). After a few minutes I was always able to boot the system. Whenever I would run the DOS CHKDSK command, I would get the message **Probably non-DOS disk, Continue (y/n)**. I would type **y** and get the normal CHKDSK report. The problems were intermittent so I kept working on my system, hoping that they would go away, and knowing that I better do something about them (i.e. backup my system by the hour, get a new system, or pay a small fortune having HP repair my LS/12).

I considered connecting my Weltec 5.25" external drive to the LS/12 and setting it up in the center of our office space. That way it could at least be put to some use: any one of my co-workers could use it to transfer files between 5.25 and 3.5 inch disks and not waste time tying up the other few machines in the office containing both disk sizes.

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



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

The Power Cube/Recharger from Personalized Software.

The Power Cube has four power cords. Three are HP cords that plug into your HP Portable, ThinkJet, HP9114 disk drive(s), or HP hand-held (HP41, 71, 75, series 80, etc.). The fourth is a conventional AC cord that plugs into the wall and powers the other three.

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

Order a Power Cube/Recharger today.

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

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It's no surprise that I became very interested in backup solutions once again. All users should know that no matter how reliable a hard disk seems, there is a reasonable chance one day it will die (remember Murphy's Law). Portable users whose machines invariably get knocked around must be especially careful. (In past issues I have made several suggestions. In particular see Vol.3, No.5, Pg.14, on using the XCOPY command that comes as part of DOS. LS/12 users should see the LapTape article, Vol.4, No.4, Pg.24.)

FIXING MY LS/12 HARD DISK

PV LS/12 One of the nice perks about editing this newsletter is that software vendors are only too happy to send me an evaluation copy of their software. They hope I will use their product, like it, and write about it.

Given the sorry state of my LS/12 (I had not yet tried the VALITEK Tape Backup mentioned above), I was on the lookout for a simple, easy-to-use, backup program. These days "easy-to-use" and "don't-really-have-to-read-the-manual," are my most important criteria for a piece of software. As time goes on, I seem to have less time and patience then ever to learn new software. I just want to stick the disk in, type **install**, have the program come up, and go to work. There are programs out there that have intuitive user interfaces and online help systems to make this possible. I have a pile of software that manufacturers were good enough to send me (such as Lotus Agenda and Magellan). It just sits here, even though I know I probably would love the software. I just can't seem to find the time to roll up my sleeves.

Given this frame of mind, I wandered through the aisles at COMDEX. I spotted Gazelle systems. I use their QDOS II software (and our own FILEPLUS) as a DOS shell to speed up maintenance operations such as copying, moving, and deleting files. (See Vol.3, No.2, Pg.17). QDOS II was so simple that I never had to use the manual. Unfortunately, other programs have surpassed its capabilities. I use FILEPLUS when I need to look at two directories at once. QDOS II does not offer this feature.

BACK-IT AND OPTUNE

I spoke with the Gazelle folks and they gave me evaluation copies of two products that offered hope for my LS/12 situation: OPTUNE and BACKIT. Both programs met my criteria for usable software. They installed automatically and I was able to use both programs without consulting the manuals.

BACKIT backs up hard disks: it worked like a charm. I swiped a couple of boxes of high density disks from our inventory and succeeded in backing up my LS/12 hard disk with little effort. I then restored that information on a newly acquired Portable Vectra CS 20 that I will be using at home.

The purpose of OPTUNE is to tune up, fix, and optimize a hard disk. OPTUNE packs a hard disk, making it run more efficiently, and offers to perform a new low-level format so that the hard disk runs more efficiently (using a different Interleave factor). It is also supposed to clear up hard disk problems. I ran OPTUNE on both the LS/12 and Portable Vectra CS. According to OPTUNE the Portable Vectra CS hard disk is already formatted to run at maximum efficiency. OPTUNE suggested a change in the LS/12 hard disk format (interleave 1:1) to increase its speed 4%.

I ran OPTUNE toward the end of my work day to try to fix the LS/12 hard disk. When I left, OPTUNE had been running for 10 minutes and said it was half done. When I returned in the morning it was still working on the LS/12. It had been stuck at 94% complete for over 15 hours.

I called the Gazelle technical support number, and the support rep told me that the NORTON DISK DOCTOR from the Advanced Edition of THE NORTON UTILITIES 4.5 would fix the situation.

ENTER NORTON UTILITIES

We have been selling and extolling the virtues of the Norton Utilities ever since we found out that version 3.1 would run on the HP110 (Vol.1, No.2, Pg.16). I still use a number of the Norton Utilities regularly. I use the **File Find** command to find a file that is lost in one of my hard disk subdirectories. I use **Text Search** to locate a file when all I remember is a key word or phrase in the file. I use **Directory Sort** to sort my directories by date (or size, extension, or name). That way I can easily find a letter that I know I wrote in September by simply doing a **dir** and pressing **ctrl s** to temporarily stop the scrolling when I hit the September files. (I hit any key to resume scrolling and **ctrl c** to stop the listing.)

If I mistakenly delete a file, there is always the Norton **Quick Unerase** to bring the file back to life. The main **Norton Utility** program lets me change the contents of text within an executable (.EXE or .COM) file, so, for example, I can make a help screen more comprehensible. It also lets me find text that I inadvertently overwrote by letting me explore the contents of deleted space on my disk.

We sell the Norton Utilities 4.0 for the Portable Plus and include version 3.1 for HP110 users in that same package. These versions are smaller, with less fancy interfaces, and are better suited for the HP110 and Portable Plus.

I obtained a copy of Advanced Norton 4.5. A quick glance at the manual told me I had only to type **NDD** (NORTON DISK DOCTOR) to fix my disk. The DOCTOR asked me if I couldn't boot the hard disk or if I was getting "bizarre" results. I answered, yes, and it told me that it would proceed to clean up my system information. It then asked me if I wanted to check the whole system for bad sectors. I said, sure. Did I want a report sent to the printer? Why not? The report told me under the heading "SYSTEM AREA STATUS" that "Media Descriptor Byte is Invalid. Status: Corrected." . . . My kind of program.

I did a CHKDSK and for the first time in months I didn't receive a message telling me that my hard drive was probably not a DOS disk. My LS/12 hasn't frozen on me since.

MODEM BLUES

I have complained previously in *The Portable Paper* about using the Portable Vectra CS and the Portable Plus internal modem in conjunction with the phone lines in Fairfield, Iowa. I often get garbled EMAIL when calling Des Moines or Kansas City CompuServe. I have had so many frustrating experiences that I tend to avoid CompuServe and other bulletin boards if I can. Whenever possible, I use the WorldPort modems with the HP Portable systems, since they seem to be more resistant to telephone noise.

A reader of our sister publication, *The UltraLite Connection* wrote in to tell us about MTE from MagicSoft. He said:

"I highly recommend the MTE communications program from MagicSoft, Inc. This program incorporates in software the MNP error correction protocol up to Level 5 and includes both data packet optimization and data compression. I regularly use this program to communicate with CRAY host computers at 2400 baud. Error correcting is a must when dialing long distances to remote hosts. MTE works with the UltraLite's built-in modem which is Connected as COM2. A separate Add-Ons package from MagicSoft contains a simple, full screen editor."

H. Michels
Senior Theoretical Physicist
East Hartford, CT

After reading his comments, I contacted MagicSoft, who kindly sent me an evaluation copy of MTE. MTE is a simple communications program offering various kinds of terminal emulation including CompuServe Vidtex. It can be used to log onto systems using MNP5 protocol. I tried it with my Portable Vectra CS 2400 baud modem, and, for the first time ever at 2400 baud I was able to conduct a complete CompuServe session without garble.

I wish I could use MTE with other communications software, but I'll still gladly switch to MTE in exchange for error free transmission.

Here are some of the specifications of MTE provided by MagicSoft.

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

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

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

Mobile Recharger $69.95
Portable Paper subscriber price.....$59.95
PRODUCT NO. PR11NM

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

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FEATURES
Regular features included in MTE 2.1 include the following:

- Selectable user interface: Lotus-style menus or Alt keys;
- Supports MNP, levels 2, 4, & 5;
- Compatible with CCITT V.42 modems;
- Color ANSI (VT-100) terminal emulation;
- Full-featured dialing directory with auto logons;
- Auto redial;
- Multiple file transfer protocols;
- Mini Host mode;
- User-selectable keyboard macros;
- Advanced user capabilities;
- User-selectable colors;
- Works with the UltraLite and most Hayes compatible modems;
- Requires less than 128K of memory;
- Runs on IBM PC's and compatibles;

Buying an additional MNP modem is an expensive solution to the problem of reliability of transfer. MTE gives you both, in a software program that works with the LS/12 or Portable Vectra's existing modem. MTE lets the LS/12 or Portable Vectra connect with any MNP modem, a V.42 modem, or another modem using a copy of MEC. MTE can also be used to call non-MNP modems. Unfortunately, MTE doesn't work on the Portable Plus or the HP110.

PRODUCTS DISCUSSED IN LAST ARTICLE

The Norton Utilities Advanced Edition, Version 4.5 is a product of Peter Norton Computing, Inc. 100 Wilshire Boulevard, 9th Floor, Santa Monica, CA 90401. Customer service telephone number is 213-319-2010. Retail price is $150.

Back-it and OPTune are products of Gazelle Systems, 42 N. University Avenue, Suite 10, Provo, Utah 84601. Phone number is 800-233-0383 or 801-377-1288. Retail price of Back-it is $99.95. Retail price of OPTune is $129.95.

MTE 2.1 was developed by MagicSoft, Inc. of Lombart, Illinois and retails for $79.

SUBSCRIBERS DISCOUNT

The above products are available through the manufacturers and retail software stores, or you can buy them through us at a 15% discount. □

Portable Vectra CS COM Conflict

by Larry Baldozier

PV Many Portable Vectra users will want to install an internal modem and the dual serial/EMS card into their system. However, if you do not change the factory defaults, both the modem and the 9 pin serial port will be configured as COM1. That means you probably will not be successful using either the modem or the serial port. The solution is to configure the 9 pin serial port as COM3.

The instruction manuals, although written quite clearly, can cause some confusion when installing both cards into the same machine. The modem can be set for COM1 or COM2 and uses COM1 as the default. COM1 uses the interrupt **IRQ3** (I/O address 3F8-3FF). If you elect to use COM2, the interrupt will be **IRQ4** (I/O address 2F8-2FF). (You don't have to understand the meaning of these terms; however, the practical implications will be clear when you look at the manual.)

The 9 pin serial port comes configured as COM1 and the interrupt is IRQ4 (I/O address 3F8-3FF). The 25 pin serial port is designated as COM2 and the interrupt is IRQ3 (I/O address 2F8-2FF).

What we do at Personalized Software when setting up systems is to leave the modem on COM1. We then reassign the 9 pin serial port from COM1 to COM3. We do this by changing a jumper on the serial card to assign this port as the COM3 port, as illustrated in the manual.

We now have the modem as COM1, the 25 pin port as COM2, and the 9 pin port as COM3. □

HPCache Can Lock Up Your Vectra

LS/12 HP provides a disk cache program with all of its Vectra hard disk systems to speed up data access. The file, HPCACHE.SYS, is located on the LS/12 Setup Disk. When implemented, the cache program sets aside some of the system RAM space for temporary storage of data, this "cache memory" can be retrieved more quickly than from the slower hard disk.

A problem can arise if you employ the user-configurable time-out option. This option powers-down the hard disk motor periodically to conserve energy, and if the system tries to write to a powered-down hard disk, it will lock up. You can avoid the problem in one of two ways:

1. Configure your hard disk's motor to never spin down. The down side of this is that it decreases your battery life.

At last!
EASY TO USE
COMMUNICATIONS SOFTWARE

for the HP110 and Portable Plus

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

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

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

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

TermPlus was developed by Portable Paper contributer David Hughes from an earlier prototype. It runs on the Portable Plus.

Both programs allow you to:

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

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

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

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

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

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

60-DAY MONEY BACK GUARANTEE
See order form for details.

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

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

2. Invoke HPCache without its default "Advanced Hard Disk Support" option by using the **\h** parameter. The Advanced Hard Disk Support option has an error recovery code that doesn't handle the time-out correctly and locks up the system. □

Battery Watch II with Self-Adjusting NiCad Battery Monitoring

PV

Traveling Software has announced a new version of its popular battery monitoring program for laptops. Battery Watch I comes with the LS/12 as a free utility. Battery Watch II will work with the LS/12.

Battery Watch II includes a "Smart Tracker" feature which takes into consideration the age of the user's rechargeable battery to determine an accurate estimate of its retention capabilities.

Battery Watch II can also detect when an AC adapter is connected, calculate the appropriate rate of battery charging, and reflect the change on its pop-up "fuel" gauge. This same gauge will automatically pop up an alarm display showing how much of the battery's capacity has been used, minutes-to-empty at three user-set levels, and the state of the charger and modem. Version 2.0 now offers an OPTIONS screen for easy editing of power consumption values, alarm times, device timeouts, and the choice of hot key to invoke the Battery Watch display.

Battery Watch II also features a DEEP DISCHARGE function to drain the battery as completely as possible before recharging. This counters the "memory" effect inherent in Ni-Cad batteries. (Ni-Cad's repeatedly recharged after only limited periods of use will eventually "remember" that shorter period as its capacity.)

Battery Watch II comes on a 3.5-inch disk and includes a user's manual. It occupies only 6-16 KB of RAM (depending on the laptop model and whether or not the count-down version is in use).

ORDERING INFORMATION

Battery Watch II was developed by Traveling Software of Bothell, Washington and retails for $49.95. □

Laptop Modem with MNP5 and TPO for the LS/12

LS/12

Datastar 5 is a 2400 bps modem with MNP5. MNP (Microcom Networking Protocol) is an industry standard error control and data compression protocol that "insures 100% error-free transmission," and appears to double the speed of transmission (see the MTE article above). Datastar 5 also features TOP (true power off) to extend battery life and is compatible with AT and Extended AT commands sets.

SPECIFICATIONS

Compatibility	Bell 103, 212A: CCITT V.22, V.22bis, V.32;
Data Rate	300,1200,2400,4800 bps;
Operation	Full or half duplex, asynchronous; auto answer/auto dial;
Buffer	40 character command buffer;
Audio Monitor	Call progress monitoring through system speaker;
Line	RJ11C jack with low distortion interface;

An LS/12 version of Datastar 5 is available through Quay Computer Corporation. For more information you can

write them at 216 Matheson Blvd. East, Mississauga, Ontario, Canada, L4Z 1X1, or you can call them at 416-890-1956. □

Zenith Data Systems Sold to French Company

110 P+ PV LS/12 Zenith Electronics will sell Zenith Data Systems (ZDS, the manufacturer of HP's LS/12) to a French company in order to pay off it's $500 million debt. Groupe Bull, owned primarily by the French government, will acquire ZDS, Heath Company (maker of HeathKits), 70 Heath/Zenith computer stores, and the component manufacturing operations. These acquisitions were responsible for the majority of Zenith's sales in 1989.

Groupe Bull markets PC's, among other things, and ZDS will be building them from now on. One wonders whether HP was in the bidding for Zenith or whether the outcome had anything to do with HP's decision to discontinue the LS/12. □

NEWS FROM

Personalized Software INC.

Products that make HP Portables smarter

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

Major Purchase of HP Portable Inventory

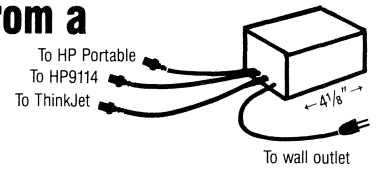
110 P+ PV LS/12 As most of you know from our advertisements, we recently made a major purchase of like-new HP Portable Plus equipment. Included in the purchase are a number of European units: that is, units with German, Swiss-German, Swiss-French, Swedish, U.K. and Italian keyboards and associated chargers. These units come in the original packaging with new battery, case, and manual. However, technically they are used. This means that we, rather than HP, will honor the 1 year warranty.

We have quite a few Portable Pluses and accessories (ROM drawers, modems, RAM drawers in stock). They are selling well, and we have no idea how long they will last. We could have them for a year or they could go quite quickly if a company makes a major purchase.

These Portable Pluses represent a great value when compared with other similar products (see COMDEX review in this issue). They will last for years and provide you with a truly portable solution to your word processing, spreadsheet, and data communications needs.

In order to make a Portable Plus system even more affordable, we offer a special price on Portable RAM drawers, ROMs, and software. These prices are only applicable with the purchase of an HP110 or Portable Plus

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



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

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

Order a Power Cube/Recharger today.

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

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and are listed in the brochure that we sent with this issue. □

Mobile Recharger Shipping Again

110 P+ After about a year and a half, we finally located the parts and a new manufacturer of our HP110 and Portable Plus Mobile Recharger. The Mobile Recharger was designed specifically for the Portable Plus, HP110, ThinkJet, and any of the HP41 and HP75 series. Just plug your HP Portable or peripheral into the Mobile Recharger and plug the Recharger into your car's cigarette lighter --- and you are now recharging your HP Portable device.

The retail of the Mobile Recharger is $69.95 and subscribers may obtain the unit for $59.95. □

Power Cube Shipping Again

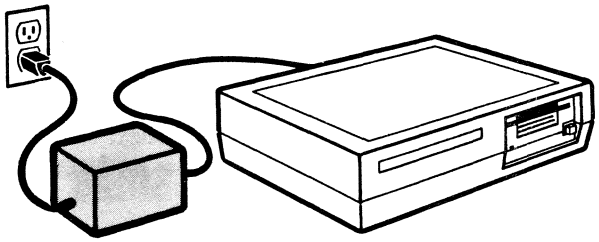
110 P+ The same manufacturer that produces the HP9114 empowerer and the Mobile Recharger is creating the Power Cube for us once again. As you may recall, the Power Cube uses one conventional AC cord that plugs into a normal U.S. wall socket. It has three (rather than four of the original model) HP cords that charge your HP portable product. So, for example, you can plug in and recharge an HP110 or Portable Plus, an HP9114, and a ThinkJet and use only one AC wall outlet.

The Power Cube retails for $89.95 with a $79.95 subscriber price. □

New HP150 Catalog

If you are an HP150 owner and have not received the new HP150 catalog (with a no-dinosaur symbol on the front), please contact us. The catalog contains a complete listing of new Personalized Software and used HP products for the HP150. □

THE HP9114 EMPOWERER



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

THE PROBLEM:

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

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

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

WE HAVE THE SOLUTION:

The official HP suggestion is to buy another battery pack and keep both plugged in. When one loses power, replace it with the other. This seems clumsy to us. What if you want to do several hours of disk intensive work? **At Personalized Software we have a better solution—the HP9114 Empowerer.**

The Empowerer is special power supply that will allow your HP9114 disk drive to run forever. Just remove the battery pack, and plug The Empowerer into the open slot and into your wall outlet. It's that easy!

RECOMMENDED FOR:	
HP110 Portable	●
Portable Plus	●
Portable Vectra	
HP150	
IBM PC and compat.	

To run your HP9114 to your heart's content, order your HP9114 Empowerer today.

HP9114 Empowerer $99.95

$89.95 for Portable Paper subscribers.

PRODUCT NO. PR12NM

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

*H*ow many times have you wished you had a second external disk drive? The Portable Equipment Exchange, a division of Personalized Software, is selling HP9114A units including power supply at a substantial discount. See enclosed four-page brochure for details.

WordPlus May Be Obsolete, T/Master Price Goes Back Up, New Statistix and WordPerfect Versions, Manzana off Price List, Getting Low on Dac-Easy

110 P+ Oasis systems, distributers of WordPlus, a popular $99 (list $150) spelling checker for the HP110, just informed us that they are out of stock and will no longer sell WordPlus. We are negotiating with them for the rights to reproduce their manual and sell the product with our HP110 disks. We will leave WordPlus on the price list. However, we can't guarantee shipment until we know for sure.

T/Master, the integrated packaging for the Portable Plus containing a word processing, data base, spreadsheet, graphics, desktop publishing, and communications module, reassumes its $299 price tag ($279 for subscribers), and is still a great deal. See Vol.2, No.4, Pg.26 for David Hughes enthusiastic review of the product.

Statistix, a statistics package that runs quite nicely on the HP Portable Plus, announced a new version, 3.0. We are going to continue selling 2.0, for disk space and internal logistical reasons. Similarly WordPerfect 5.1 is now shipping. However, we will continue to sell 5.0 and 4.2. As discussed in "My Soap Box", page xx in this issue, WordPerfect 5.1 is simply too large for the Portable Plus.

The Manzana 3.5 inch disk drives are being removed from our price list. These are high quality drives that work with IBM compatibles and come with software that reads HP disks. However, there are so many options depending on whether a customer wanted an external or internal drive, whether it was an AT or XT clone, whether it was a Vectra or other specific vendor machines, that it became too confusing both for us and our customers and impossible to maintain inventory. Furthermore, our ReadHP product allows IBM PC compatible users with any 3.5 inch drive to access HP Portable or HP150 formatted disks. 3.5 inch disk drives are now plentiful and can be obtained through your local dealer or through a mail order house.

Dac-Easy 1.0's for the Portable Plus is almost gone, less than 10 are left. Dac-Easy is an easy-to-use, memory efficient accounting package that runs well on the Portable Plus (See Vol.3, No.5, Pg.10 and Vol.3, No.6, Pg.6). Unless we can locate more of that particular version of Dac-Easy, and we're afraid will have to discontinue it when we run out. □

We May Discontinue Low-Volume Products in the Future

We have maintained a complete line of products for the HP Portables. We do so as a service to our portable customers (and, as such, we think it is good business). However, when our accountant looks at our sales and see that we may have only sold two to five of these products a year, he tells me that overhead and inventory costs mean that we actually lose money carrying these items.

I have mixed feelings, but I want to at least warn you of this possibility and tell you which products our on the endangered species list. When we run out of inventory, we may not reorder. If you have strong feelings on this issue, tell us.

Here is a product list with a brief description and the review date in parenthesis of the most endangered products in no particular order:

- Relay Gold -- is a Portable Plus full-featured RAM-based communications product, see Vol.3, No.6, Pg.9;
- PrintMaster -- provides fancy ThinkJet fonts and graphics, see Vol.4, No.3, Pg.4 and Vol.4, No.4, Pg.13;
- Flow Charting II -- constructs flow charts, see Vol.2, No.3, Pg.3 and Vol.2, No.4, Pg.33;
- 101 Macros -- Lotus 123 enhancer, see Vol.2, No.1, Pg.15;
- Statistix -- statitics package, see Vol.2, No.5, Pg.4 and Vol.4, No.3, Pg.17;
- Turbo Pascal 3.0 -- programming language;
- Optimizer -- optimizes Turbo Pascal 3 code, see Vol.3, No.3, Pg.16 and Vol.4, No.2, Pg.41;
- PertMaster -- project manager, see Vol.1, No.6, Pg.18;
- T/Maker and T/Master --integrated packages for Plus and HP110, see Vol.2, No.1, Pg.22 and Vol.2, No.2, Pg.24;
- PassPort -- LS/12 configuration control, see Vol.4, No.6, Pg.14;
- Floppy Driver -- speeds up Vectra floppy drive access;
- Field Pro -- padded cases (cases for ThinkJet and HP9114, see Vol.2, No.3, Pg.34. □

THE SAVVY USER

by Thomas Page

Lotus 123 Tricks

DRAWING A RECTANGLE

110 P+ PV LS/12

If you can calculate the XY coordinates, 123 can plot almost any shape using graph type XY. It is allowable to have more than one Y value for each X value. 123 will simply connect the points in the order they are defined. To plot a rectangle, define the XY coordinates of its quarters. The following coordinates define a specific type of rectangle called a square. The fifth set of coordinates returns the line (curve in math speak) to its origin.

X	Y
1	3
3	3
3	1
1	1
1	3

To make the square look alright on a Portable, select the **/GOS** (graph, options, scale) command and select manual scaling for both the X and Y axes. Set the lower limit for both axes at **0**, the upper limit of X at **10** and the upper limit of Y at **4**. Adding the following coordinates to those above, will draw a respectable cube.

X	Y
1.5	3.75
3.5	3.75
3.5	1.75
3	1
3	3
3.5	3.75

Is this useful? When I first drew the cube I thought it was cute but useless, but it didn't take long to find a use for this general technique. For a graph needing more than 1-2-3's allowance of lines this technique allows reusing a line several times. Also it can be used to draw non-standard grid lines on a graph. I have used it to draw a hyperbolic graph on paper and to put a monthly grid on a daily time series graph.

EXECUTING PROGRAMS WITH A 123 MACRO

My solution to this problem requires loading 123 with a batch file and using 123 to write another batch that is executed when 123 is exited. For not such good reasons CLYDE.BAT was the name I gave the batch file for loading 123. CLYDE.BAT could be smaller. I added a useful housekeeping command or two.

```
echo off
cls
if exist auto123.wk1 ren auto123.wk1 autosav.wk1
ren clyde.wk1 auto123.wk1
if exist do.prn del do.prn
if exist do.bat del do.bat
123
ren auto123.wk1 clyde.wk1
if exist autosav.wk1 ren autosav.wk1 auto123.wk1
if exist do.prn ren do.prn do.bat
if exist do.bat do
```

Below is the 123 macro. I have not converted my macros from Release 1A to Release 2 macro language, so I use the

shorter **/XM** command to call a menu at the range named MENU. The word **Memomaker** is in the upper left corner of the range named MENU. Commands to be placed in the DO.BAT file are in the respective named print ranges that appear following the **R** on the third-from-the-last line of the macro. These commands are shown immediately below the associated 123 macro entries. The last command is always CLYDE, to complete the loop back to 123.

In other words, when you run this macro you will be given the options to choose MemoMaker or Time Manager. A batch file named DO.PRN gets created containing the command to call MemoMaker or Time Manager from DOS. (The PFDO command created DO.PRN.) After MemoMaker or Time Manager gets executed, Clyde is restarted to restart 123.

/XMmenu~

Memomaker	**Timemgr**
Run Memomaker	**Run TimeMgr**
/FS~R~	**/FS~R~**
/PFdo~CAOOUQ	**/PFdo~CAOOUQ**
Rmemomaker~	**Rtm~**
GQ	**GQ**
/QY	**/QY**
echo off	**echo off**
cls	**cls**
memomakr	**tm**
clyde	**clyde**

To make the macro easier to read and to facilitate debugging, I have placed the macro code on several lines.

I continued to expand and add features to CLYDE. The complete CLYDE incorporates file compression using PKZIP and links 123 and Print Graph in a loop, making it easy to go from one program to the other. This should reduce the frustration that many users experience when they have to return to the spreadsheet to adjust a graph they are in the middle of plotting.

I have placed my full version of CLYDE.ZIP on the HP forum of CompuServe for you to download.

Release 2.2 of 123 (not available on the Plus) makes executing another program from within the spreadsheet very easy. A new keyword, **{system}**, has been added to the macro language. In addition to shelling to DOS this keyword allows passing the name of a program to DOS for execution. For example, the macro code to run ED.EXE would be **{system} ed**. □

Little Models

110 P+ PV LS/12

One of a computer's greatest abilities is its ability to quickly perform complicated calculations. As a result we often overlook the computers ability to perform simple calculations many times quickly. For example:

$$\text{average cost} = \frac{\text{fixed cost}}{\text{units}} + \text{unit variable cost}$$

This simple equation can be calculated hundreds of times and a series of graphs can be developed using a small 123 worksheet. Plugging in the proper variables may change your opinion about economies of scale. Normally

Also works on the HP150.

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

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

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

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

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

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

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

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

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

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

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

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

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

7. Show attributes (Read-Only, Hidden, Archive)
FilePlus displays the attributes of all the files in a directory so you can view them at a glance or change them in a flash.

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

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

Order FilePlus at our risk today!

FilePlus **$69.95**
Portable Paper Subscriber's Price **$59.95**

ORDER NO. FE11NS

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

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there is an inverse relationship between investment and unit fixed cost, since automation is often invested in to replace labor. Fixed costs may include some operation and maintenance expenses, but are mostly interest and depreciation, which are a direct function of investment. The following values, if inserted in the average equation, will produce a representative set of average cost curves. Calculate at 100-unit intervals from 200 to 2500 units.

	(A)	(B)	(C)
Fixed Cost	2000	3000	5000
Unit Variable Cost	2	1.5	1.2
Maximum Units	1000	1500	2400

To avoid misleading results write the equation to return **@NA** when number of units exceed maximum units:

@if(Units<=MaxUnits,FixedCost/Units,@NA)+UnitVarCost

This equation is a simple hyperbole. The hyperbole occurs in business arithmetic more often than the compound interest equation. If your local gas or electric utility charges a service charge, the average unit costs for these services will follow the same type curve. If you are a commercial or industrial user and pay demand rates, the unit cost of service is very hyperbolic. This type of calculation shows the value of reducing utility demand. During power failures, smart store operators pull the switches on air conditioning and refrigeration units and then bring them back on line one at time after power is restored. Because they have very high starting loads, compressors in air conditioning and refrigeration equipment draw several times as much power when starting as when running. The light company's meters continually measure demand, and if demand is not controlled, higher light bills will be incurred for up to a year. Normally after a demand is set, it is billed for at least a year unless an even higher demand is set. Using automated equipment to sequence start up of electrical equipment and control demand placed on the utility, is probably very cost effective.

All the options mentioned in the above discussion can be evaluated with relatively simple hyperbolic equations. If you think in accounting statements rather than equations, reduce your schedules to three or four lines of the most significant variables and then stretch these out on a single row, and copy it down the spreadsheet 10 or 100 times. Now try writing equations to vary items in the table you have just created, and to graph these various relations. □

Don't Use a Computer

Although the entire phenomenon cannot be blamed on them, computers undoubtedly contribute to our society's current fetish for trying to economically quantify and justify every decision, whether business or political. Some economists are even doing surveys to determine the value of pollution and assign dollar values to wild creatures such as squirrels, mocking birds, and trout. Surveys on the most quantifiable of subjects can be skewed by the way questions are worded. Knowing this, what credibility can be placed on a survey attempting to quantify the unquantifiable? Fortunately, no one has asked me how much I would pay to clean up Galveston Bay. Pollution and wanton destruction of wildlife are unacceptable. Unfortunately, some pollution and wildlife destruction is an inevitable consequence of human life, but we are obligated to control pollution and preserve the environment. The decision as to pollution control devices and techniques should be evaluated in the context of engineering feasibility and obtainable results rather than dubious economics.

In Texas we are currently having a flap over distribution of funds to school districts. The State Supreme Court has found the present method unconstitutional. I am sure that before the issue is resolved someone on one side or another will try to determine the cost of illiteracy. Such an effort might help identify costs associated with illiteracy, but would the results be really useful? The solutions to some problems transcend empirical evaluation and must be based in a framework of moral, social, and political sensibilities.

On a more down-to-earth note, what is the worth of evaluating the magnitude of a value if its sign cannot be determined? This probably happens more than we would want to admit. □

Oh! My Aching Arm

A few months ago I noticed my left arm felt numb and seemed to be weak. This was frightening, as this is a symptom of heart disease. It can also result from carrying a Portable over the left shoulder. I quit slinging my Plus over my shoulder and after a few weeks the numbness went away.

Now when waiting for the bus I lean the Plus against my leg. This is not as secure as strapped on, but at least I can feel it fall over when I forget to pick it up. This experience proves that a computer that weighs over 10 pounds is not portable. □

Norton Utilities

Sometime ago I decided to forego the advantages, if any, of later versions of certain Norton Utilities in exchange for disk space gained by using the smallest program available. Normal operation required the following programs on my A drive:

Name	Size KB	Date Created	Description
FF.COM	4736	1-21-85	(find file in any directory)
DS.COM	6400	1-21-85	(sort directory in any order)
QU.COM	9956	11-15-85	(quick unerase of deleted file)

I decided to take a further look at these programs and see if I still agreed with my original decision. At this time PKZFIND.EXE, because of its ability to search zips, had replaced FF.COM (FileFind) as my disk search utility. This plus updating the later version of QU (Quick Unerase)

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

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

Hal Goldstein, Publisher
The Portable Paper

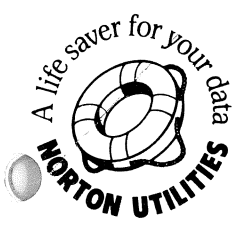
HOW TO RESTORE DELETED FILES

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?

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

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

"Indispensible."
—PC Magazine

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

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

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

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

CUSTOMIZED TO YOUR COMPUTER

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

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

THE NORTON UTILITIES
DATA RECOVERY
DISK MANAGEMENT

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

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

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

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:

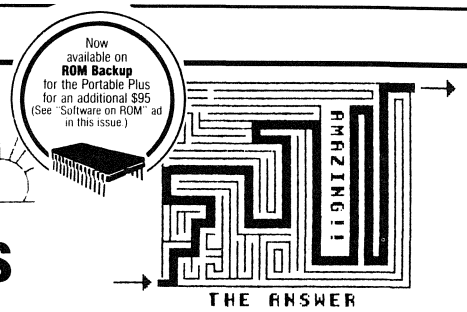
1. Speed Disk: Packs the files on a floppy, electronic, or hard disk more efficiently. This reduces disk head wear and significantly reduces the time it takes to save or retrieve a file.

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.

At last! Graphics for the Portable and Portable Plus

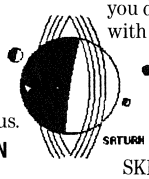


by Hal Goldstein
President, Personalized Software

Paul Grimmer has done it again.

He's the author of two of our best-selling programs: SideWinder (the sideways printng 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).

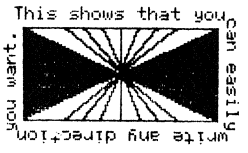
Now he's developed SKETCH, a fabulous graphics program designed for both the HP110 Portable and Portable Plus.



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.

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

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

SKETCH doesn't limit the size of your dreawing 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

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and DS (DirSort) put the following files on my disk:

Name	Size KB	Date Created	Description
PKZFIND	7648	10-20-89	(finds files, searches .ZIP's)
DS.BAT	96	9-25-89	(config. file for DSE)
DSE.EXE	25618	3-01-87	(newer, larger version of DS)
QU.EXE	14554	3-01-87	(newer version of QU)

QU gained significantly but DS (named DSE in the above list) is nearly four times as large as the Version 3.00 program I was using. For this the help screen was replaced by a very workable point, shoot and peck menu. Fortunately this Advanced Version 4.0 utility, when given proper command line arguments, executes almost as quickly, and is more effective than the earlier program. DS.BAT configures the computer to alternate mode before executing DSE.EXE, thus allowing the menu to operate correctly and retain the traditional DS command. The executable file, DS.EXE, was renamed DSE.EXE to force execution of the batch file.

I quickly discovered two options significantly increasing the functionality of DS. Inverse sorts are supported and if the menu is used, files can be placed in a preferred non-alphabetic order. This later option can be used to move often-used programs closer to the top of the directory so they will execute sooner. This is not worth much on the E-disk, but on the painfully slow 9114 real increases in speed are implemented.

I moved PAM.MNU and C.BAT to the first and second positions in the directory of my utility disk with PGRAPH.-COM and its related files following. The remainder of the directory was arranged somewhat in the order of the rate at which the files will be accessed. In other words, files are arranged on the disk in declining order, generally with respect to how often each program is executed. Since I use PGRAPH more than any other application on the floppy, its files are placed near the beginning of the directory. Since I never expect to install HPCALC on my E-disk, I have its files at the end of the directory. The effective speedup created by moving C.BAT from last to second position was most satisfying.

I have not bothered to quantify the speedup--I would have to undo what I have done and measure the difference in time required to execute C.BAT. To get a feel of the results, see how long it takes to execute the DIR command. This is about how much an application's execution is speeded if DOS does not have to search the disk for a file.

Normally, rather than mess with C.BAT, I type C:PGRAPH. If I expect to need the spreadsheet to adjust the graph, I will execute the CLYDE program with the **G** or **g** options to link a 1-2-3 spreadsheet and PGRAPH in a loop, so that leaving one program loads the other. No matter what option I use to execute PGRAPH, my work is speeded up since I only have to wait for DOS to read enough of the floppy disk's directory to find the files for my most used application.

Even if you don't use a C.BAT menu file on you floppy disks, putting PAM.MNU and your most often used files at

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.

the top of the directory will significantly speed up your C drive. These techniques work for all computers and can even speed up a RAM disk.

The larger QU program provides a useful enhancement. It allows specifying the name of a file to erase. This avoids having to go through the entire list of erased files. This is minor but it makes the program much nicer.

NORTON UTILITIES -- VERSION 4.5

The directory Sort program in this version is 36,304 bytes. WOW! What does it do for this price? I don't know. I was not interested. This is just too big. Is there not a limit to what we will put on any size computer? QU weighs in at 18,686 bytes. Actually I think these larger programs have a more sophisticated help facility. □

BATCOM (BATch file COMpiler)

I first heard of this program in John Dvoark's column in the November 28, 1989 issue of PC Magazine. I could not wait to try it. I grabbed my MasterCard and called Wenham Software (508-774-7036). The program was delivered within two days by Priority Mail.

BATCOM is a compiler for batch files. Compiled batch files execute much faster than normal batch files since the command interpreter does not have to read and analyze each statement. BATCOM is not very effective on small batch files but the increase in speed that results from compiling larger batch files that include a number of IF and GOTO instructions is impressive. Unfortunately there is a price. Compiled batch files are several times bigger than the original batch file.

The .EXE files produced by BATCOM can be converted to .COM files with the Spacemaker and some disk space will be recovered. (Spacemaker, SM.COM, is on the DOS Tools disk available from Personalized Software for $39.95. Please see price list in center section.) In addition BATCOM offers some extensions to the DOS batch language that allow writing more efficient programs. For example, BATCOM supports a non-case-sensitive equal statement (=) which can replace the two == statements necessary with the DOS language to make command parameters somewhat non-case-sensitive.

Another advantage of compiled batch files is that the EXIST command, unlike in the Portable's DOS 2.11, will handle subdirectories. In other words, should I want to check for a file in another subdirectory, I don't have to change to that subdirectory. Similarly, program speed can be enhanced by pathing directly to the program file rather than requiring the computer to search the path for it. For example, to execute EDPLUS.EXE on A:\BIN the code is:

```
a:\bin\edplus.exe
```

Although BATCOM programs will execute normal uncompiled batch files, I could not get a batch file to execute using the above method. Put the batch file name in the program code and it will execute with no problem. Unlike

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 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.

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.

60-DAY MONEY BACK GUARANTEE
See order form for details.

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

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executing a batch program from another batch file, the original program continues to execute.

I had to make two small modifications to my batch files but I had no problem compiling them. Spaces had to be added on each side of the == operator, and I had to add an initial echo statement to the batch file for terminal escape sequences, since BATCOM could not interpret them hung on the ECHO OFF command where I normally put them.

Since compiled batch files occupy memory until execution is completed, programs loaded with a compiled batch file will have less working memory available than the same program loaded with a standard batch file. This should not normally be a problem, but I do have a few spreadsheets that demand every bit of memory I can find. The ultimate disadvantage of compiled batch files may be loss of flexibility. Ordinary uncompiled batch files can be modified at any time with a simple editor. Modifications to a compiled batch file can be made only if the source code and BATCOM program is available.

BATCOM fails in one area on the Portable. When DOS loads a program it makes a copy of the environment for use by that program. On the Portable the set command will change variables in the local environment but cannot reach through and change the global environmental variables. On PC compatibles the set command works fine. I verified this problem with Wenham Software. When I told them the Portable's DOS is on ROM he immediately suspected that a difference in the way the Portable loads DOS was responsible. Unfortunately there does not appear to be a solution. Even with this flaw BATCOM is still an excellent program for the Portable. Considering the Portable's paltry allowance for environment not much can be done with environmental variables. BATCOM provides internal variables that can be substituted in many cases for the DOS environmental variables.

In addition BATCOM provides language extensions that can eliminate the need for some of the little programs that some of us keep around to make our batch files work. For example: INPUT.COM and ASK.COM are eliminated by GETKEY. KEYBUF replaces STUFF.COM. WD.COM is eliminated by GETDRIVE and GETDIR. And if no other TSR programs are used INSTALL.COM and REMTSR.COM can be deleted too.

ECHONOLF (echo no linefeed) is an excellent tool for sending escape sequences to the computer. ERRLEVEL checks for a specific error level rather than equal-or-greater-than as does the DOS ERRORLEVEL. BATCOM supports more complex programming constructions with GOSUB and RETURN and DO_WHILE and END_WHILE. READ, which reads a line of text from the keyboard to a BATCOM variable, allows complex data input.

BATCOM's documentation is clear and concise. There are only 55 pages in the manual. The manual contains code demonstrating BATCOM commands, and code for several useful programs is supplied on the distributions disk. Unlike some arrogant major software houses, Wenham puts a READ.ME file with updates and corrections to the manual on the disk. The manual is generally organized alphabetically. Unfortunately it is not indexed and there is no table of BATCOM commands. Correcting

2400 baud portable modem for your HP Portable

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

Weighs only 6½ ounces!

If you do data comunications 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 nonvolatile 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 portablility, reliability, well-designed features, and ease of use. Order yours, risk-free, today.

	Retail Price	Subscriber Price	
WorldPort 2400 modem	**$359.00**	**$319.00**	PRODUCT NO. WM12NM
WorldPort Modem 2400/MNP	**499.00**	**425.00**	WM13NH
WorldPort 1200 modem (without software)	**199.00**	**179.00**	WM11NM
Cable to connect modem to HP Portables	**30.00**	**20.00**	WM14NM
Acoustic coupler (300/1200 baud)	**79.95**	**79.95**	WM16NM
Upgrade kit: WorldPort1200—WorldPort2400 (includes Carbon Copy PLUS software)	**199.00**	**179.00**	WM13NM

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

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both of these problems would be a good learning experience for an enterprising user. I went though my manual with a red pen and highlighted the commands. The manual contains a much needed ASCII table as an appendix. However, I found using it difficult since it is laid out with the characters zigzagging horizontally across two columns rather than in the traditional vertical layout.

The BATCOM compiler provides much less error checking than the Turbo Pascal compiler. This is somewhat a result of the free-form nature of batch files. It is possible to compile a BATCOM program without errors that may do very unexpected things. Don't even think about executing a program when the compiler reports errors. I did and I think it cost me a hunk of my disk.

In summary, BATCOM will not save you any memory or disk space. It will allow you to write faster, more sophisticated, and better looking batch programs. As a bonus BATCOM makes many DOS 3.+ features available to Portable uses. I have rewritten and compiled most of the larger batch files I use on my Portable. I will upload them to the Cserve HP Forum. Look for the following:

CLYDE.ZIP, EDBAT.ZIP, FONE.ZIP, BATBAT.ZIP, NEWMODE.ZIP, SPELL.BAT.

[BATCOM is available through Wenham Software Company, 5 Burley Street, Wenham, MA 01984, and retails for $59.95 for an individual copy or $35 each for two or more copies. Please call 508-774-7036 for further information.] □

By David Hughes

110 P+ PV LS/12

Some computer enthusiasts believe in the myth that you've got to own the latest technology to stay ahead of mainstream computing. If you fall behind, you're as good as lost. Others love nostalgia and never go beyond their first computer. HP has introduced four different laptop computers over the past five years to satisfy the consumer's cry for faster and more powerful portable computing: the HP110, Portable Plus, Portable Vectra, and Vectra LS/12. Now HP is getting out of the portable

computer business, for the present.

I believe we're seeing the law of diminishing returns take its toll on HP in the portable computing industry. The original HP110 was a marvel of engineering; it is the computer that started HP in the laptop market. Its built-in ROM applications, extended battery operation and fast EDisc enabled many people to prepare items while traveling that were previously impossible to do without an office or a secretary. The Portable Plus advanced this concept by offering tremendous memory expansion capabilities, a clear, 25 line display, improved IBM compatibility, and a variety of industry-standard software on ROM. These computers offered a fresh approach to computing, breaking with traditional concepts, even by today's standards. However, despite these ingenious products, the market's lackluster cry prevailed: IBM compatibility.

The Portable Vectra CS was HP's first attempt at producing a computer with full IBM-compatibility. It was available either with two 1.44mB 3.5" drives, on a single 3.5" drive and a 20mB hard disk. Although larger and heavier than the competition, it offered longer battery life, boasted state-of-art construction, and possessed greater expansion capability. It was a machine full of promise. Again, the market cried for something else: lower weight, faster speed.

As the most recent attempt, HP introduced the Portable Vectra LS/12, an OEM version of the Zenith Supersport 286. Some of us may remember back to 1985 when Zenith and HP were strong competitors in the laptop market when the Internal Revenue Service was purchasing laptop computers for its field employees. Although the LS/12 lacked traditional HP design, it was a delightful computer, packing AT-class performance in a 14.7 pound package. It will be discontinued by HP in the near future due to an overlap in distribution channels. The market's cry: be original.

Today companies like NEC and Zenith are introducing notebook-style laptop computers that boast many of the concepts originally offered by the Portable Plus. We've come full circle. It's amazing to me how things come back in style. The market has proven that HP's design, with the original Portable and Portable Plus, was right in the first place.

WHAT NOW?

HP was four years ahead of its time when it introduced the Portable Plus. HP gave us the best of its creativity in producing a laptop that could be realistically used everyday on the road. Having been shunned by the computer industry so many times, HP has set its goal to lead the way to the high-performance arena. The computer industry, like the stock market, can give mixed signals about the future. In order to successfully produce a new laptop computer of original HP design, HP needs to know that the market wants one. As present owners of the current generation(s) of HP computers, we are the market. I would encourage those who desire to see such a product to write a letter to HP encouraging them to embrace such a project.

110 P+ PV LS/12

WORDPERFECT 5.1

WordPerfect Corporation has recently announced Version 5.1 of their state-of-art word processor, WordPerfect. As a member of their beta team, I had the delightful opportunity to explore and experiment with this powerful new product. It's hard to believe that they could really improve upon the excellence they've already established, but believe it or not, they have outdone themselves again.

WordPerfect 5.1 contains some significant new features: Equations, Tables, Labels, Mouse Support, Pulldown Menus, Spreadsheet Linking, and an enhanced Document Summary. Here is a brief overview of what each feature offers, and how this is supported on the Portable Plus:

Equations: The equation editor allows you to logically and quickly write mathematical equations and put them in a graphics box. Equations can be scaled and moved in a box like a graphics image, and can even be stored to disk. Equations are written in an easy to use syntax, and may be printed either in text or graphics mode. It is even easier to use with the mouse. It is doubtful that this feature would run on the Portable Plus, since the editor runs in graphics mode. I have used this feature in the preparation of technical reports; there's nothing else like it.

Tables: The tables feature alone is worth the upgrade price. It has saved me countless hours laying out tabular information. You can manipulate your tabular data like a spreadsheet. The original Math feature is still there, but this is superior. You have complete control of each "cell" in the table - its font, justification, shading, and lines on all four sides. Unlike version 5.0, graphic lines used in tables are displayed on the screen. You can import a spreadsheet directly into a table, if you like.

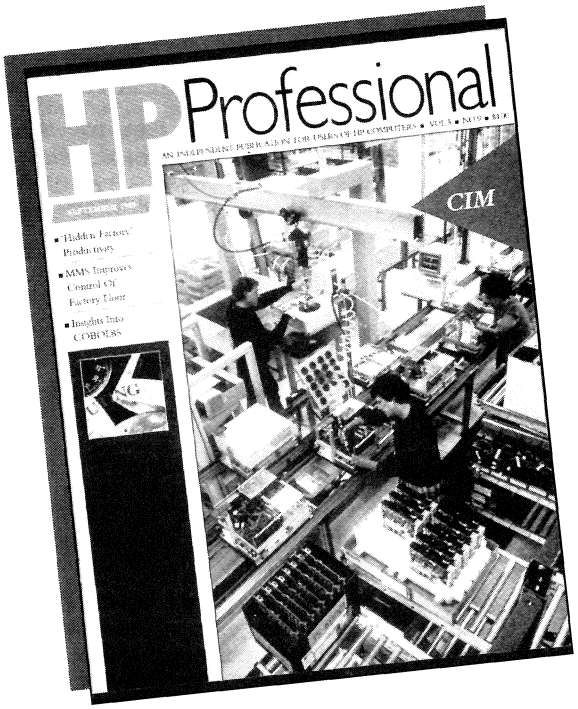
Labels: Printing mailing labels can really be a nuisance with WordPerfect 5.0. Version 5.1 offers a Labels macro that sets up the format for the labels. You choose the label by identifying the Avery or 3M part number, or the size and layout. It's an almost fool-proof way of printing labels.

Mouse Support/Pulldown Menus: WordPerfect now offers an alternative way of using the interface. The pulldown menus can remain visible or hidden, to suit your liking. Most veteran users who know the keystrokes probably won't use this feature, but it's great for the casual user. The pulldowns work well with the mouse. This feature should work on the Plus, if there's enough memory left over.

Spreadsheet Linking: If you're a Lotus 1-2-3 or Quattro user, you'll find this feature very handy. You can now import spreadsheets into your WordPerfect documents. You have the choice of importing the entire sheet or named ranges. The spreadsheet is normally imported into a table, but you can change it to straight tabular data if you wish. WordPerfect uses 'warm' links - you can update the link by issuing a WordPerfect command, in lieu of completely automatic 'hot' links.

Enhanced Document Summary: Unless you've adopted some DOS filenaming convention for your work, you'll probably forget how you named some of your files. This

FREE SUBSCRIPTION OFFER



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

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

version of WordPerfect contains a feature called Long Document Names. It allows you to add a descriptive name and document type to a file. With this feature enabled, you may forget you're using DOS. The document summary has been improved to support the long names, keywords, account, and abstract. It is a significant feature, especially how it frees you from typical DOS filenaming worries.

Overall, WordPerfect 5.1 is a hot product. You'll love the new features and appreciate the subtle refinements made to existing ones.

WORDPERFECT 5.1 ON THE PORTABLE PLUS

WordPerfect 5.1 on the Portable Plus will be quite a challenge. I wanted to test the product on the Plus during the beta period, but my computer was out on loan. The size of the program has increased in the following areas:

Table 1
File Size Comparison, WP 5.0 and 5.1

Purpose	Filename	WP5.0	WP5.1	Change
REQUIRED FILES				
Main Program	WP.EXE	252 K	218 K	-34 K
Overlay	WP.FIL	303 K	572 K	+269 K
Driver Files	(various)	NA	40 K	+40 K
Setup File	WP{WP}.SET	2 K	3 K	+1 K
Required Printer Driver	(various)	28 K	36 K	+8 K
	TOTALS	585 K	869 K	+284 K
OPTIONAL FILES				
Help File	WPHELP.FIL	48 K	186 K	+138 K
Optional Help File	WPHELP2.FIL	53 K	NA	-53 K
N/A Speller	SPELL.EXE	38 K	54 K	+16 K
Optional Dictionary	WP{WP}EN.LEX	292 K	363 K	+71 K
Optional Aux Dict.	WP{WP}EN.SPW	NA	13 K	+13 K
Optional Thesaurus	WP{WP}EN.THS	362 K	358 K	-4 K
Optional Hyphenation	WP{WP}EN.HYC	NA	11 K	+11 K
Preview Fonts	WPSMALL.DRS	13 K	69 K	+53 K
Keyboard Files	KEYS.MRS	4 K	5 K	+1 K
Optional Font Libraries	(various)	NA	Varies	Varies
	TOTALS	810 K	1,059 K	+249 K
	TOTALS, ENTIRE PROGRAM	1,395 K	1,928 K	+533 K

The underlined files are required for operation. The big increase is in the overlay file WP.FIL.

Assuming that only the required files for the Portable PLUS are loaded, the size of WordPerfect has increased by 284 K. For the Vectra CS or LS/12, the minimum system has increased by more than 500 K. Anyway you look at it, it's quite cramped. □

[David is a service engineer for computer power systems for KW Control Systems of Middletown, New York and a long time contributor to The Portable Paper. This is the first of a regular column he will be doing.]

(Continued from page 5.)

2. MemoMaker enhancement codes (underline and bold) do not operate corresponding printer codes;
3. The printer will not work with HPrint;
4. Text/graphics width is limited to 7.08 inches;
5. On the whole, it is not quite up to ThinkJet quality of construction.

For those who desire letter-quality printing, and who can live with the above limitations, this little printer has a lot going for it. It offers expanded, and condensed print, three print-quality levels, and all international character sets can be selected.

The Portable Plus talks to the Diconix 150 through the serial port and needs the HP92221P or the Personalized Software SC13NM cable.

The following settings must be initiated from PAM in the Portable;

System Configuration:

Printer Interface	Serial
Printer Mode	Alpha & HP Graphics
Pitch	No Config.
Line Spacing	No Config.
Skip Perf.	NO CONFIG.

Datacom Configuration:

Transmission Rate	9600 bps
Word Length	8 bits
Stop Bits	1
Parity	None
Off/On Pacing	Off
CTS Line	Ignore
DSR Line	Ignore
DCD Line	Ignore

The "serial" version of the Diconix 150 has 22 dip switches which must be set to receive proper information from the Portable-Plus (see printer manual). The switches are located in three panels described "A", "B", and "C":

At panel "A" set switch #3 to "on" (up) position. Set all other switches to "off" (down) position. This sets the printer to "IBM MODE".

At panel "B" set switch #4 to "on" (up) position. Set all other switches to "off" (down) position. This sets the Data Length to 8 bits.

At panel "C" set all switches to "on" (up) position. This sets the printer CTS, DSR, & DCD to "ignore" status.

Connect the Portable-Plus to the printer with the HP92221P. When printing screens from MemoMaker, select HP-type printer on MemoMaker menu.

See Diconix manuals for operational information.

Mike Mooney
Heavener, OK

[We reviewed the Diconix 150 Plus earlier this year in The Portable Paper (Vol.4, No.4, Pg.9. We liked it too -- Ha

Artificial Intelligence Program for the HP-110

Just a short note to tell you about an Artificial Intelligence (AI) program for the HP-110. I have not seen any mention of a LISP language package for either of the HP Portables. I have discovered that XLISP, a public domain LISP written by David Betz, will run on my HP-110 (minimum of 200K and an external drive needed). The software consists of four archive files divided as follows:

1) Documentation and 42 pages of definitions. The average user will need to get another book to learn how to program in LISP, the manual is no help here.
2) The exec files include both a PC-DOS and a generic MS-DOS version. The 86K MS-DOS version is the one that worked on my 110.
3) Nine .LSP programs, including a PROLOG interpreter, which can be loaded and run (if you have the right exe file). Some of these programs require the PC-DOS version in order to use the turtle graphics.
4) The source code (in C) so that knowledgeable users can configure the system to their liking. Perhaps someone could set something up specifically for the Portables. I haven't done much with LISP, but it is nice to know that it is available in case I ever need to develop any AI programs on my Portable.

I have renewed my subscription for another year, more to get the subscriber disk than for the six issues of advertisement. I very much enjoyed the first two or three years of the Portable Paper. They were filled with tips on how to get the most out of the machines using batch files, and Pascal. It was primarily due to those frequent articles on "how-to" in Pascal that I purchased Turbo Pascal 3.0 and Turbo Optimizer. Using these products and the excellent programming support provided both on disk and in those initial issues of the Portable Paper, I have learned a new language, and hope to have a couple chemistry programs dealing with HPLC optimization available for your evaluation in the near future. I am, however, disturbed that the more recent issues of the Portable Paper have degenerated to discussions of products and advertising lists with no help for potential programmers. Even progress on the Pop-UP has been dropped! Don't feel bad, this is the route that many major computer publications have taken. I used to be able to get all kinds of tips from "Byte" or "PC-Tech Journal", but now they aren't very helpful. Don't you realize that by providing programming help you are assuring an ever growing supply of software products that you will be able to market as well as showing the potential market that there still exists a strong user base for the product? As an encouragement to give more of this grass-roots programming support, I'll contribute a Turbo Pascal include file, WHEREXY, that I've developed to mimic the PC's WHEREX and WHEREY functions on my 110. I'm willing to bet that there are many others of your readers that have solved similar problems who would be willing to share their solutions through the "Portable Paper." There is no need for each of us to keep reinventing solutions to those problems we have in common (by owning Portables) when the solutions already exist somewhere out there. Maybe some of the solutions proposed aren't the "best" way of doing things, but they will at least inspire someone else to try, and perhaps that someone else will come up with a better solution. This approach is what kept "KeyNotes" and the "PPC Journals" in existence for many years and significantly enhanced the value of the products discussed in those articles. Above all, keep those programming tips flowing!

William J. Pinnick
Chem-micro-Metrics
Greenville, NC

[Thanks for your note! Please see page XX of this issue for Bill's WHEREXY program. If any reader wants the software, Bill discussed, send $9.50 and request the LISP disk. We'll send out what Bill sent us. -- Hal.]

Problems with DISKPACK

I used DISKPACK (from the 1987 Subscribers Disk) to pack my A drive and instead it reduced the amount of Memory available in System Configuration (e.g., from 184K to only 172K). Any idea why?

I was able to get back to 184K by copying the files from drive A to a newly formatted disk in drive C, deleting the files from drive A, and then copying them back to drive A. But that doesn't say much for using DISKPACK. Also, I entered **Diskpack A: -w** and received a "no disk drive argument" message. Isn't this the correct entry when DISKPACK. EXE resides in drive A?

Edward C Hartman, Moraga, CA

[The correct command syntax is ***diskpack -w a:****. Diskpack arguments must be in small-case letters. Your experience with the internal memory change is the first I've heard of such a problem. -- Hal]* □

HP110/HP110+ USER GROUPS

Thanks to so many of you who are willing to help organize local users groups. Users groups give an opportunity to share tips, answer questions, discuss other products, trade free software and Lotus templates, and meet other professionals. As you will notice, some areas have more than one contact person and some major areas have none. If you are in a "missing" area and would like to organize a group, contact us. If your groups combine, also tell us. We will publish this column each issue, keeping it up to date. Write: *Local Users Groups, Box 869, Fairfield, IA 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, 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**, HP Computer Users Association LTD, Cunningham House, Bessborough Road, Harrow, HA1 3DX, United Kingdom,01-423-3313. **Japan**, I would like to help start a users' group. Michael Lazarin, 26-26-502 Moto Ujina; Minami-ku, Hiroshima 734 **Netherlands**, Mr. R.M. Franquiner, Menthenbergseweg 13, NL-6816 PR, Arnhem, The Netherlands. **Spain**, Club de usarios 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.

WordPerfect 5.0 (and 4.2) for

You don't need an IBM PC to run the world's best-selling word processor. Now you can use industry-standard WordPerfect on your HP150 or Portable Plus!

P.S. We even have a Portable Plus version that's partly on ROM!

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

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

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

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

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

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

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

Order WordPerfect today, and put it through its paces.

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

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

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

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

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

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

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

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

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

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

60-DAY MONEY BACK GUARANTEE
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the Portable Plus and HP150

Frequently Asked Questions

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

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

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

a.) the on-line tutorial does not run on the Portable Plus or HP150. (However, the "learning" section of the users manual covers the same material as the tutorial.)

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

c.) Some extra, unessential utilities that come with WordPerfect do not run on the HP150 or Portable Plus.

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

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

A. Yes to both.

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

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

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

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

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

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

WordPerfect in Brief

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

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

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

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

Columns
WordPerfect's Columns feature is ideal for writing a newsletter, glossary, script, or any text that requires columnar format. Up to 24 columns can 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 at least 896K of RAM (e.g., a 512K Portable Plus with a 384K RAM drawer, or a 128K Portable Plus with two 384K RAM drawers).

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

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

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

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

HP150:
To run Version 5.0, you'll need 512K of memory and a double-sided disk drive.

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

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

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

SALE OF A LIFETIME!

ALSO: HP Portable software and accessories—at up to 77% off!

Like-new HP Portable Plus: ~~$2795~~ only $1295 used $895.

One of the greatest computers every made—at the lowest price ever offered!

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DON'T FORGET THE HP110!

The original HP110 Portable is a great machine too. Same ruggedness and long battery life as the Plus. Weighs only 8 pounds. Has Lotus 1A, MemoMaker (text editor), 300-baud modem, and communications software all built in. Ideal for students, co-workers, spouse, and friends.

Original retail price was $3000. Our price, used and fully guaranteed for one year: **only $495 each!** Complete system including HP9114A disk drive and ThinkJet printer: **only $795 each!**

Order as many as you like. Use the enclosed order form or call us toll-free: (800) 373-6114.

Individual and volume buyers welcome. **Call (800) 373-6114**

Each like-new Portable Plus comes in its original packaging with new battery and new manuals. Personalized Software provides the one-year guarantee. (Personalized Software will honor the one-year guarantee. After the first year, you can have the equipment repaired by us or HP.)

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