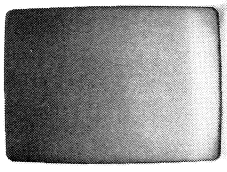


Publisher's Message	1
Letters	1
110%	
Free 1987 Subscribers Disk	2
Plus price decrease, 1-2-3 version 2 Coming	2
Personalized Software—New PLUS Products	3
Borland Updates Tutor, Raises Prices	3
Portable vs Portable PLUS	4
B Drive	
Lotus 1-2-3	
Introduction	5
Lotus Applications Can Show Up In Pam	5
Improving 1-2-3's Accuracy	5
Thanks For The Memory	6
How to Create Lotus Macros	10
Printing Spreadsheets	12
1-2-3 Tidbits	13
Books on 1-2-3	14

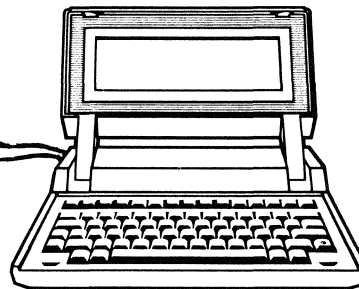
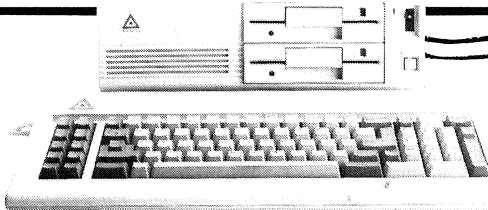
MemoMaker	
8 Lines Per Inch, 30 Lines Per Page	19
DOS	
64 File Limit	28
Speeding Up HP9114 Disk Access	28
A Drive	
SideWinder - A Sideways Printing Program	20
PLUS Notes	
New Products	21
Frequently Asked Questions	21
The Connection	
Excellent 1-2-3 Overlays	22
Just Keepin' Records	22
Through The Looking Glass	25
110 Wizardry	29
Received for Review	12
Classifieds	27
HP Portable Local User Groups	30

LEADING EDGE MODEL "D"

NEW!
more memory
more software
same price



Now included:
Hard disk option
increased to 30
Megabytes,
TWIN (works just
like Lotus 1-2-3),
Leading Edge
Word Processor,
Mail Merge, and
Spelling Checker



The Leading Edge—the best IBM Compatible value available. Features include:

- Complete compatibility with all IBM software.
- DOS, GW BASIC, TWIN (works just like Lotus 1-2-3), highly rated Leading Edge Word Processor and Spelling Checker come bundled with computer.
- The Model "D" comes standard with both Parallel and Serial ports.
- 4.77 MHz speed using same 8088 microprocessor as IBM.
- Socket for Intel 8087 Math Processor.
- Improved IBM keyboard with enlarged Shift and Return keys.
- Monochrome Monitor, Hercules Graphics emulation runs graphics software.
- Extra expansion slots for add on features.
- Easy set-up—Just plug it in and turn it on!

Leading Edge Back-up Support

- Each Model "D" comes with a full 15 month warranty on all parts and labor. That's five times the industry standard.
- Servicing is available at any Leading Edge authorized dealer.
- Leading Edge has a Toll-free Technical Support Hot Line if you ever have a question or problem.

- The Leading Edge Hard Disk Option increased 10 Megabytes to 30M!
- When you buy your Leading Edge, not only do you get—at no extra cost—DOS, BASIC, and the highly rated Leading Edge Word processor, now another \$200 worth of software comes FREE. You get the Leading Edge Spelling Checker and Mail Merge program, as well as TWIN, a powerful spreadsheet that works just like your Portable's Lotus 1-2-3 release 1A and can read your Portable's 1-2-3 files.

Get yours from Personalized Software and get personal attention.

Personalized Software will take care of your special needs. All our Leading Edge computers come with an HP-IL card installed and tested, so you can transfer files from your Portable to your Leading Edge as easily as you can transfer files to your HP9114 external drive.

Save Money.

Your Portable Paper discounted cost for a Leading Edge computer with HP-IL card installed: \$1595, dual floppy system; \$1995, 20 megabyte hard disk. That's it, no hidden charges. We pay shipping, and you pay no tax (lowans add 4%). That's considerably less than you paid for your Portable system!

And save time, too.

Just fill out the coupon at the back of this issue and send it to us with your check or credit card. We'll send your Leading Edge computer right to your door. (Please allow 1-5 weeks for delivery.)

Personalized Software's High Quality, Low Cost Recommendation

- Leading Edge, 30 Megabyte hard disk, floppy disk drive, HP-IL card \$2095
- DOS, GW BASIC, Leading Edge Word Processor & Speller / Mail Merge, TWIN with Leading Edge \$0
- 640K upgrade (from 256K) \$150
- Everex 300/1200 Baud Internal modem (we'll install) with Bit Com Software and half year warranty \$249
- Tax (lowans add 4%) \$0
- Shipping \$0
- Complete System \$2493

PS. We sell almost all IBM PC software—call us!

*Configured Specifically
for Your Portable
By Personalized Software*

"Best Buy—
IBM Compatible
System"
—Consumer Reports

"IBM PC Compatible with
twice the features at half
the cost."
—PC Week

"...everything you could
want at a price that's
hard to beat. We
recommend it highly."
—InfoWorld

"A stunningly good
value."
—Family Computing

"If you demand quality
but don't want to pay the
premium price IBM
demands for its name, the
Leading Edge Model "D"
is the machine for you."
—PC Magazine

"An Absolutely
phenomenal deal."
—PC Week

**from
Personalized
Software**

PUBLISHER'S MESSAGE

My duty, as editor of *The Portable Paper*, is to provide material that helps you use the HP110 or Portable PLUS more effectively. As the head of Personalized Software, I am always looking for products that increase the value of your HP Portable.

The dual role is fortunate. Both positions allow me to discover the needs of HP Portable customers and obtain products for review and distribution. It is encouraging when products are brought to my attention that work so well on the HP Portables, products such as SideWinder, The Norton Utilities, Turbo Pascal, Typing Whiz, and now, for the Portable Plus, SHELPER.

My responsibility as *The Portable Paper* editor, is to evaluate Portable products objectively. To this end, it is the independent, nonpaid *The Portable Paper* readers—high-level professionals in their fields—who write most of the product reviews. Often it is their enthusiasm about a product that makes us decide to distribute it.

Our desire is to continue to provide you with the knowledge and products that make your HP Portable more valuable to you. We realize this is the basis of our success.

Letters

HP-IL Speed and Hard Drive

I have a comment on the letter last issue from Richard C. Gearhart regarding using a hard disk with the Portables. I use both portables in conjunction with an IBM-XT and find this a quite workable configuration. However, whether you interface via an HP-IL card, an HP-IL - GPIB converter, or any other device, there are fundamental limitations in data transfer rates inherent in HP-IL design that severely limit transfer rates.

Although the specifications of HP-IL loop transfers permit speeds of up to 19.6 KBAUD, this is not an effective measure of performance. In fact, mean transfer rates in the HP-IL loop including a hard disk and the Portables are limited to 3 to 4 KBAUD. I have verified this under several configurations, including Portable to Portable, Portable to HP9114A, and Portable to IBM PC-XT. Thus, although the hard disk is a handy device for mass storage, it must remain as slow as the HP-IL loop.

It is interesting to me that the new HP9114B drive is advertised as having significantly faster access times. Given the relatively slow data transfer of the HP-IL loop, I cannot help but speculate that except in unusual circumstances of very frequent disk access, the increase in speed would not be perceptible to a user.

Anyway, I don't mean to criticize HP-IL. It is an excellent protocol and has allowed for the development of these low power computers and devices. HP continues to be vigorous, innovative, and reliable (most of the time), but if you are interested in moving information between devices quickly, HP-IL is not suitable.
Dr. Stephen Bartold, University of Michigan Medical Center

Immortal Names and More

In The Norton Utilities article in Volume 1 issue 2 of the Portable Paper, you told how you found the "23 immortalized names" in the Portable Plus. In regard to the HP110, the "Nomad Design Team" follows the **pam.mnu** selections, on the B drive. In MemoMaker, issue press the **Get Memo** function key and get **b:\pam.mnu**. Interestingly, **type b:\pam.mnu** won't reveal the names.

One thing that we have problems with is the connecting the portable directly to another computer via RS-232. The manual states that the baud rate can be changed from 300 to 19.2K baud. However, it has been our experience that the 110 can only go at a maximum of 2400 baud. The reason for this seems to be the screen. We have forced the 110 to go faster than 2400 baud by turning Xmit/Pace Rec/Pace off. When one does this and initiates a high speed "dump" (ASCII data, protocols off) from a host computer (say 19.2K baud) the screen will actually "hum" and shortly thereafter die. We have talked to people at HP and they have verified this problem. At this point, there does not seem to be a work-around except to operate at no more than 2400 baud.

It seems that if there were a way to "turn off" the screen while capturing ASCII data, it would make operation at higher speeds possible. The screen does in effect turn off when transferring in Xmodem, only displaying the status of the file transfer. We have only used Xmodem with phone lines, so we don't know if it will go at higher speeds (greater than 2400 baud).

Maybe part of the problem is that HP uses the screen as the "capture buffer" and that this buffer is too small. It might be possible to write some sort of program that utilizes the memory in the 110 as a capture buffer. We used to have an HP

THE PORTABLE PAPER
Volume one/Number four
September/October 1986

Editor

Hal Goldstein

Department Editors

Ed Keefe
Cliff Looyenga

Editorial Consultant

Jim Karpen

Contributing Editors

Steven Cochran
Gary Goodman
Gordon Norman
Thomas Page
Kay Sinclair

Art Director

George Foster

Typography

The Word/Form Corporation

Circulation

Rita Goldstein
Emo Baer

Advertising Manager

Hal Goldstein

The Portable Paper is published bimonthly by Personalized Software at R.R.4, Box 310, Fairfield, IA 52556. Subscription rates, one year: U.S. and U.S. possessions, \$55; Canada, Mexico add \$3 surface mail, \$6 air; other countries add \$6 surface mail, \$24 air. Please allow four to six weeks for receipt of first issue. Executive, Editorial, Circulation, and Advertising Offices: P.O. Box 869, Fairfield, IA 52556. Telephone: (515) 472-6330. © Copyright 1986, Personalized Software, all rights reserved. No part of this publication may be reproduced without written permission. Reasonable efforts are made to provide accurate and useful information, but the reader must make his or her own investigations and decisions; the Publisher and Editorial Staff cannot assume any responsibility or liability for the use of information contained herein. Application to mail at second-class postage rates is pending at Fairfield, IA 52556. POSTMASTER: Please send address changes to Personalized Software, The Portable Paper, P.O. Box 869, Fairfield, IA 52556.

87XM that did this.

P.S. Thank you for sending Norton Utilities, Format 110, and PrinterTalk to us. They will pay for themselves rather quickly.

I hope the enclosed disk containing an **auto123.wks** Lotus file will be of some use to you. We find it handy to put into the A drive. It's small and allows a rapid use of external disks and/or subdirectories when you first enter Lotus. It is also a way to get someone's interest in the infinite uses for Lotus.

Mike Driver, Driver Engineering, Windsor, CO.

[Ed - Thanks for the Lotus file. I find it handy. We will include it on the Free 1987 Portable Paper Subscriber disk described in the 110% column and in the back page renewal ad as one of the "Surprise Goodies."]

110%

Making more of your HP110

by Hal Goldstein

Time To Renew?

Most of you began your subscription to *The Portable Paper* with issue 1. That means that you will receive one more issue before your subscription runs out. The top line of your address label should state when your issue expires. If you believe we made a mistake in regard to the expiration date, please inform us.

This has been a most exciting year for me as I went from being an HP software engineer to being an editor and an independent entrepreneur. I appreciate your encouragement, kind words, and patience. I would like to continue our relationship as long as you own an HP Portable.

Free 1987 Subscriber's Disk

We have put together a nice package of programs for all 1987 subscribers to *The Portable Paper*. If your year's subscription covers any of the 1987 issues, you may receive the software for free. In addition the first 1987 issue will contain a table of contents and index of the 1986 volume of issues.

The disk contains Ed Gilbert's DISKPACK program. The program, actually written for the hard disk on the HP150 and Vectra, works fine on the Portables. I have seen comparable utilities advertised for as much as \$50. DISKPACK works like the **pack** utility that is built into the PLUS and is available from us for the HP110, except that it contains no bugs and packs a disk more efficiently than **pack**. (**pack** should not be used on any disk that contains subdirectories).

On a hard disk or on an HP9114 disk, DISKPACK can significantly increase the disk access speed because it unfragments the disk. When run on the Portable electronic disk, it allows full utilization of system memory. Without such a pack program, a situation can easily arise on the Portable when you cannot increase the **Memory** in **Memory / Edisc** in PAM's **System Config** even though there is plenty of extra space. The only bad news about DISKPACK is the size - 23K.

Ed Gilbert, the author of the program, has also written an excellent editor and text formatter for the Portables (and other DOS machines) that Ed Keefe discusses briefly in his Looking Glass column. We will be distributing these products for Ed Gilbert starting next issue.

Cliff Looyenga, The Wizard, has made two excellent contributions to the free 1987 Portable Paper subscriber disk. Most of us with Portables have had the experience of wanting to copy files from one 3 1/2" to another 3 1/2" disk, perhaps for backup purposes or to send to someone else. The obvious approach is to copy the files into a subdirectory on the Portable and then back again to the second disk. That procedure is cumbersome enough, but as many of you have no doubt experienced, often there is no room for the files on the Portable. Then you have to get yet

another disk on which to dump your current Edisc files in order to make room for the transfer.

The Wiz's **fcopy** will allow you to copy one or more files (wildcards allowed) to temporary Portable memory. Then it will prompt you to remove the source disk and put in your destination disk into the HP9114. That way you do not have to worry about how full your Edisc is.

Cliff is also supplying an updated Time Manager utility that reads your appointment list and prints out a WEEK-AT-A-GLANCE calendar on the ThinkJet printer.

Finally, Paul Grimmer, the author of the excellent and popular SideWinder, the sideways printing program for the Portables and the ThinkJet, is supplying one of his SideWinder utilities. This utility tests the ThinkJet ink cartridge to make sure all the little ports are unplugged. His test improves on the ThinkJet self-test in that it clearly shows which rows are plugged. With the test program is a lucid explanation for steps to take if the ports are plugged.

In addition, there are several other "surprise" goodies that make the disk even more worthwhile. We will also include the Portable PLUS HP calculator program that is in the original 1986 free subscriber disk. That way new Portable PLUS owners will not have to obtain both disks.

The 1987 Portable Paper subscriber disk can be obtained by 1987 subscribers by sending either a blank formatted disk and a self-addressed stamped envelope or \$7.50 to *Personalized Software*, PO Box 869, Fairfield, IA 52256, (515) 472-6330.

As a special thank you for all your support this first year, we will send you the disk free at our expense if we receive your payment for a subscription renewal by September 30, 1986.

Come See Us At Interex

Interex, the international Hewlett Packard users group, hosts its annual conference in Detroit this year. If you're registered, come on over and say hello. We will have booth 643.

For those not registered for the conference, there is no charge to attend the vendor exhibits only. The exhibits and conference will be held at Cobo Hall - Hall "C", One Washington Blvd, Detroit. The vendor portion of the show will run from September 30 through October 2. For more information about the conference itself, contact *Interex Detroit Conference*, 680 Almanor Ave., Sunnyvale, CA 94086, (408) 738-4848.

PLUS Prices Decrease, 1-2-3 Version 2 Coming

The price of the Portable PLUS with the new screen and 512K of built-in RAM was reduced to \$2995. In addition, the extended memory drawer now costs \$395 and the

128K RAM card sells for \$250.

HP says that version 2 of 1-2-3 can be expected sometime this winter. Other products on the horizon can be found in this issue's PLUS Notes. PLUS Notes also contains an HP address for you to register your vote on what you want to see on the PLUS.

New PLUS Products From Personalized Software

SHELP = SIDEKICK + SUPERKEY

Randy Salo, the former HP Engineer who authored MemoMaker on the original HP Portable, has written a wonderful program for the Portable PLUS that both HP and Personalized Software will distribute. The product, SHELP, (a combination of *shell* and *help*) takes some of the best features of Borland's SideKick and SuperKey and makes them available for the PLUS. Only someone as familiar with the Portable hardware as Randy could have written such an excellent, clean, useful program for the PLUS.

Although not nearly as extensive as either SideKick or SuperKey, SHELP offers features for the PLUS that IBM PC software users take for granted. No matter what non-graphics PLUS application you are running, with SHELP you can call up a calculator or a notepad, or you can turn your Portable off. That means in the middle of your 1-2-3 spreadsheet you can access your notepad to keep track of phone numbers, things to do, or brilliant ideas. Similarly, you can perform a complex arithmetic calculation without leaving MemoMaker. You can then "playback" the calculation into your current application (in this case MemoMaker).

In addition, SHELP lets you assign up to 31 of the normal ASCII characters to any of the 26 letters in the alphabet. That means, for example, within SHELP you could assign a 1-2-3 command such as /Worksheet Column Set to the letter **w**. One keystroke could then be used within any 1-2-3 spreadsheet to set the column width. No precious worksheet memory would have to be wasted in defining a Lotus macro. In addition, you could assign your full name to the letter **n**. Your name could then be accessed with one keystroke. (Also, for you programmers, SHELP is an installable device driver.)

SHELP is most easy to use. Press **CTRL Shift Extend char** at any time and up pops the SHELP menu. **CTRL Extend Char** and a letter invokes the macro assigned to that letter.

The retail price of SHELP is \$55. *The Portable Paper* subscribers can obtain SHELP from us for \$49.95 using the order form in the back of this issue.

SOON WE'LL PUT YOUR DATA IN EPROM

Personalized software is seriously investigating offering a new service to all our Portable PLUS customers. Our plan is to backup your data or programmed software on request onto EPROM chips that will fit inside the PLUS's ROM drawer. (They will work just like the ROM software you buy from HP.) In addition, when you purchase your disk-based software from us, we will make available an additional optional EPROM backup chip.

Borland Updates Tutor, Raises Prices

Borland International, publisher of the Turbo Pascal products that run so nicely on the HP Portables, announced

Turbo Tutor 2.0.

The product has been completely rewritten and is now a better, interactive learning tutor for Turbo Pascal. Any owner of the original Turbo Tutor 1.0 may send Borland their Tutor master disk and \$10 to get the new manual and disk to *Borland International, Turbo Tutor update, 4585 Scotts Valley Dr., Scotts Valley, CA 95066, (408) 438-8400*.

As of July 31, 1986, Borland no longer is bundling Turbo Pascal, Turbo Toolbox, and Turbo Tutor as the Holiday Pack. These items must be bought separately for \$99.95, \$69.95, and \$39.95 respectively. B.C.D. arithmetic and support for the 8087 coprocessor (not exactly a big deal for Portable users) comes with all versions of Turbo Pascal. Portable owners should always order the HP150 version.

Personalized Software bought a number of Holiday Packs and Turbo Pascals before the July 31, deadline. We will continue to sell these at the old subscriber prices (\$65.95, \$51.95, and \$32.95, and \$119 for all three) while supplies last. When the supplies are exhausted, we will continue to sell the products individually at 10% off the retail price. In addition, we include an extra 3 1/2" disk with the Turbo Pascal editor customized to the Portable for all those whose orders include Turbo Pascal.

TigerFox Trick

Here is a trick for those of you who have purchased or who will be purchasing from us the Portable arcade-type game, TigerFox. Our Wizard, Cliff Looyenga, told me of a secret path into the program that allows you to skip to the next maze without earning the privilege. Before pressing **F1 PLAY**, hold down **Extend char** and type **e**. When you actually start the game, the maze will change. Hopefully, Everett Kaser, the HP Corvallis engineer that wrote this clever program, doesn't mind the public disclosure of this secret that he probably included for purposes of testing the program.

Reflection 1 Command File Correction

In his fine article last issue on Reflection 1, David Hughes inadvertently left out of the command file the invocation to Crosstalk to accept the **XX** and **RX** commands. The following lines need to appear the three times CrossTalk is invoked.

TRANSMIT '^C' ; This invokes CrossTalk XVI

WAIT 0:0:2 ; Wait for Crosstalk to respond

Also, in the article HP2693A terminal emulation should have read HP2392A emulation.

HP PORTABLE RELATED PRODUCT

Oswego Software

LIF 110
allows your portable
to read

SERIES 300 SERIES 200
SERIES 80 HP 1000 HP 9000
HP TERMINALS 64000 MICROPROCESSOR HP CALCULATORS

\$200 Call us.

Oswego Software, Inc.
507 North Adams St.
Oswego, IL 60543

312/554-3567
TELEX 858 757

A Comparison: The Portable vs. The Portable PLUS

Many HP110 owners have written or called in ask whether they should upgrade and buy a Portable PLUS. Also,

because of the current low price of new and used HP110's in the marketplace, owners of the Portable PLUS have indicated interest in obtaining additional Portables for their companies. Here is a comparison of the two machines.

Portable PLUS

HP110

MAJOR HARDWARE DIFFERENCES

25-Line by 80 Column alphanumeric display.

256 by 480 graphic display.

LCD display: blue characters on light yellow-green for better viewing.

256K or 512K built-in **Memory/Edisc** RAM.

16K display memory.

Two expansion drawers for RAM (128K, 256K, or 384K per drawer)

ROM (up to 12 128K ROM's per drawer) or custom enhancement boards

Modem is optional (dealer installable, not customer installable).

Modem is 1200 BAUD and compatible with Hayes command set.

Optional dealer installable video-out interface.

The battery compartment button is a HARD reset: pressing it will erase electronic disc!

Embedded numeric keypad on keyboard (blue marking on key fronts).

16-Line by 80 Column alphanumeric display.

128 by 480 dots graphic display.

LCD display: dark grey on grey. Note the 16 line screen reads easier than original PLUS

272K built-in **Memory/Edisc** RAM.

8K display memory.

No RAM expansion possible.

384K built-in ROM, no ROM expansion possible

Built-in 300 BAUD modem.

No video-out interface.

Reset reboots system, does not erase Edisc.

No embedded numeric keypad.

MAJOR SOFTWARE DIFFERENCES

MemoMaker and 1-2-3 are optional ROM's.

TERM, built into ROM, is simple character-mode terminal with ASCII file transfer.

REFLECTION 1 is a full terminal emulator for the HP2622 or VT102 terminals with file transfer capabilities and is an optional ROM.

Other optional ROM-based applications available

Debug is built in.

A secure utility (SECURE) is built in.

A pack utility (PACK) is built-in. This utility removes empty gaps from Edisc so that they may be reclaimed for use as system memory.

DOS utilities such as SORT, FORMAT, MORE, FIND are built-in.

MemoMaker, 1-2-3 built in.

Terminal, more sophisticated than TERM terminal program built into ROM

No ROM applications possible.

No Debug.

No such utility.

Available on external disk in public domain.

DOS utilities found on backup disk.

SUBTLE HARDWARE DIFFERENCES

The optional modem and the serial port are independent devices; you may use an RS-232 printer while using the modem. The modem is device COM3.

The unit is 2 millimeters larger.

The Hewlett-Packard label on the outside is a reddish color.

f1 through f8 are marked on the bezel below the display.

Cannot use internal modem and serial printer at same time.

HP label is grey.

No such markings.

SUBTLE SOFTWARE DIFFERENCES

Improved IBM PC compatibility due to support of most IBM BIOS interrupts and 25-line screen.

"Open system" with full documentation of software and hardware for greater programmer freedom.

Expanded console driver with fast alpha and graphics primitives, more escape sequences. An escape sequence to read the serial number is included.

Different LCD controller and display memory mapping, allowing the following additional features:

(1) Display of multiple fonts simultaneously (bold, thin, math, and line-drawing characters built in).

(2) Display of underline as well as blinking and inverse video.

(3) Cursors and key labels implemented in hardware.

The memory required by PAM and MS-DOS has been reduced such that you can set the system memory to 80K and run a 64K program.

Edisc "memory lock" has been implemented such that any 128K block of memory which is entirely used as Edisc cannot be trashed by a buggy program which attempts to write bytes to Edisc.

PAM's battery "fuel gauge" is more accurate due to hardware changes. Also, the indicator goes up to 100% (not 99%).

Less IBM compatibility.

Many hardware and software features system undocumented

Displays blinking and inverse video.

96K is the minimum system memory that you can set

No such lock.

WordPerfect Box Cursor

In my brief review last issue of the disk based version of WordPerfect on the PLUS my major complaint was the unreadability of the line cursor. David Hughes of

Middletown, NY gave me a call to tell me he accidentally discovered the solution. **CTRL Select** toggles the line cursor to box cursor! Incidentally, we are reducing the subscriber price for this to \$495 retail package to \$299.

B Drive—Internal Software in ROM

Lotus 123 B

Special Lotus 123 Issue

Introduction

In this special Lotus 1-2-3 issue our goal was to include material relevant to HP Portable Lotus 1-2-3 users. Both Lotus novices and experts should find useful information.

The first article describes a clever procedure that makes Lotus 1-2-3 spreadsheets PAM applications. Pointing to the appropriate PAM box and pressing **Return** puts you into the spreadsheet.

In the next article Thomas Page gives sound suggestions about developing discipline when creating Lotus spreadsheets. Otherwise, it is all too easy to fall into the trap: "since the figures are computer-generated, they must be correct."

Available memory is a critical factor for users of HP Portables. In "Thanks For The Memory" we take a look at how Lotus consumes memory, and how to be more memory-conscious in setting up spreadsheets.

The next article is an introduction for the uninitiated on how to write Lotus macros. If you study this brief article, you should be able to create most of the everyday macros you need.

What follows is a detailed discussion of a macro designed to print spreadsheets. Even if you have no interest in writing macros, there is much to learn from this article about how to print spreadsheets.

Next comes short tips, tricks, and reader comments on using 1-2-3 on the Portables.

Finally, we incorporate two readers' suggestions as to what 1-2-3 books to add to your library.

Additional reviews on Lotus templates can be found in "The Connection".

Lotus Applications Can Show Up In PAM

A neat procedure for installing Lotus spreadsheets in PAM comes to us courtesy of the HP Response Center, Santa Clara. It is possible to install as many Lotus 1-2-3 spreadsheets into PAM as your memory permits. Starting the application from PAM will then place you in the desired spreadsheet. Here's how to do it.

1. From PAM enter DOS. Create a subdirectory for each spreadsheet you want installed into PAM. For example, to install a tax spreadsheet in PAM, you might create a subdirectory called **taxes** as follows.

md taxes

2. Start 1-2-3 from the subdirectory **taxes**. HP110 users ignore the error message. Do this by typing:

cd taxes

123

3. Within 1-2-3 change the Global Default directory with a **/wgdd** command. Enter **taxes**, the subdirectory name.

Type **u** to update the configuration file and exit Lotus.

4. Now you must copy your worksheet, say **tax86.wks**, from the root directory into subdirectory **taxes**. In the subdirectory **taxes**, the file should be renamed **autol23.wks**. Here are the commands to copy and then to return to the main directory and back to PAM.

copy \tax86.wks \taxes\autol23.wks

**cd **

exit

5. Now create a batch file within MemoMaker or your word processor that takes you into subdirectory **taxes** and runs Lotus. You can call the file **taxes.bat**.

cd \taxes

123

**cd **

exit

6. While still in MemoMaker or your word processor create or append your **pam.mnu** file with two lines. The first line should be the label that shows up in PAM, the second the name of the **bat** batch file.

1986 Taxes

taxes

7. When you exit MemoMaker your application should show up in PAM. If it doesn't, try rebooting the system by holding down the contrast key for 15 seconds.

8. Within constraints of your Edisc space, you can repeat this procedure for any application you want to show up in PAM.

Improving 1-2-3's Accuracy

By Thomas Page

I have been told that sitting at a computer keyboard will reduce a person's IQ 40 points, and I think there may be some truth to this. People who would never do a pencil spreadsheet without carefully checking the calculations will accept results calculated by a computer without a second thought.

There are many ways that errors can creep into computer calculations—especially those done with 1-2-3 or similar spreadsheet programs. I am sure that there is not a single user of 1-2-3 who has not dragged his thumb across the spacebar or in some way bounced a key, thereby trashing an important formula. A wise spreadsheet user builds error trapping routines into his spreadsheet to insure that results are correct.

Hardcore accounting types always make sure that their work adds down and crossways. Electronic spreadsheets should be crossfooted too. The rather ominous formula below is located in cell **O29** of a 1-2-3 spreadsheet that I use. It compares the column sum of the values in cells **O25** through **O28** with the row sum of the values in cells **P29** through **R29**. If these sums agree within a reasonable tolerance (.001) then the sum of cells **P29** through

R29 is displayed. If the sums are not equal, then 1-2-3 displays **ERR**. Any formulas depending on the result of this calculation will display **ERR**. The formula is:
**@if(@abs(@sum(O25..O28)-@sum(P29..R29))<0.001,
 @sum(P29..R29),@err)**

Some of you may wonder why it's necessary to use so complicated a formula—why not just use the equal sign? What you and I see as equal may not be equal to the computer. We work with decimal numbers. Lotus uses binary arithmetic and sometimes the conversion from decimal to binary and back results in slight differences in the umpteenth decimal place.

I have occasionally found that numbers which should be equal are actually different in the 17th decimal place. Another reason for an inequality is the translation of values through a series of calculations. Even if intermediate results are not rounded, some error will creep in, since the computer cannot carry an infinite number of significant digits and must, in fact, round off at some point. For these reasons I set the tolerance in the above formula at .001. The values in this particular calculation range from 100,000 to 100,000,000. 1-2-3, because it is having to carry many significant digits of whole numbers, is not carrying its calculations to very many decimal places. If I were using smaller numbers, I would probably set a tighter tolerance.

Often a spreadsheet simply rearranges numbers. In this situation the output should be compared with the input to be sure they are "equal." Below is a formula from cell **X51** of the same worksheet that combines a crossfoot with an input comparison. Here the column sum of cells **X45..X50** must equal the row sum of cells **Y51..AA51**, and these sums should be equal to the input value in cell **O121**.

**@if(@abs(@sum(X45..X50,Y51..AA51)-2*O121)<0.001,
 O121,@err)**

Since the comparisons here are not made directly, I am sure that someone could set up a situation in which this test may not yield valid results, but I think for practical purposes it will work.

WARNING!! These formulas are useless if an improper result is displayed when the test is true. Be sure the correct number is displayed. In setting up the worksheet, perform the test calculations in nearby cells and compare these with the results displayed.

A trick to expedite this comparison is to convert the **@if** statement formula to a label by going into edit and adding a label prefix (') at the beginning of the formula. The formula can now be copied without the addresses of the referenced cells changing. After copying the formula, edit out unnecessary parts including the label prefix. This calculation can be erased when you are satisfied that the formula is correct.

Another test that can be useful is a tolerance test in which key calculated values are tested to be sure they are within a preset range. For example, I often use a composite income tax rate that is a combination of Federal and state tax rates. I know that the lower limit for this rate is the Federal Income Tax rate (currently 46%) and that the upper limit is about 50%. An income tax rate that does not fall within this range is suspect but not necessarily incorrect. The Federal Income Tax rate may be changed and some states have significantly higher tax rates.

Crossfoot errors are fatal and properly cause **ERR** messages to spread to related cells throughout the spreadsheet if a crossfoot error occurs. A tolerance test can be

made fatal by including it in some key calculation; however, it may be more desirable to make it informative by displaying **ERR** in a table of error messages somewhere in the spreadsheet. Also, the result that triggered the test should be displayed in the table.

Below is a formula that checks the income tax rate in a cell that is the named range **itrate**. If the income tax rate is in the range of 46% to 50%, 0 is displayed. If not, **ERR** is displayed.

@if(itrate>=.46-and-itrate<=.50,0,@err)

It is a good idea to display key error messages in the printed output. A single cell can be used to indicate if one of a number of selected error tests has been triggered by simply summing the cells containing the error tests. If an error has occurred, **ERR** will be displayed; otherwise, an inconspicuous 0 will show.

A well designed worksheet will have a large number of error traps. This will make it easier to find the error should one occur. Unfortunately, there is no way all possible errors can be trapped. In the end you must look at the results and ask if they are reasonable. Sometimes even mathematically correct models give ridiculous results.

A side benefit that accrues from building error traps into worksheets is a better understanding of the problem being solved, since the error trapping process basically involves finding alternate and short cut solutions with which results can be compared.

There are a number of other techniques that I use to maintain accuracy in worksheets that I will share with you in a future issue of *The Portable Paper*. In the meantime I would like to hear your techniques for keeping 1-2-3 accurate. Drop a line to *The Portable Paper* and share your techniques.

Thanks For The Memory

By Hal Goldstein

INTRODUCTION

Memory is precious on the Portables. There are definite strategies you can employ to minimize the amount of memory consumed by your Lotus 1-2-3 version 1A worksheets.

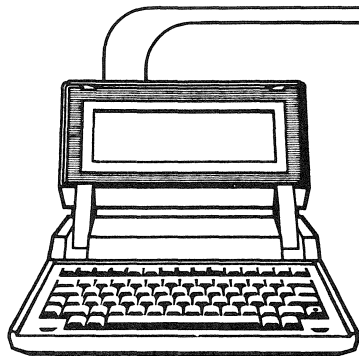
A 1-2-3 worksheet has 256 columns and 2,048 rows (or 523,288 cells), but the actual amount of information you can enter into one worksheet depends on the amount of available memory, which depends on four factors:

- the amount of **Memory** allocated in PAM's **System Config Memory / Edisc** option
- the organization of the worksheet
- the type of data you enter into the worksheet
- the amount of information you enter in each cell

MEMORY

The **Memory** part of the **System Config Memory / Edisc** option is the amount of temporary memory available in the computer. The memory is temporary because information stored there is lost when you exit a program if you haven't saved it to Edisc. For example, when you start entering data into 1-2-3, it is stored in this temporary memory and is lost unless you save your spreadsheet using the **/File Save**, **/File Extract**, or **/Print File** command.

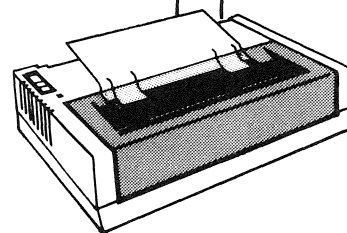
This (**RAM - Random Access Memory**) memory is measured in bytes. One kilobyte, or 1K, is equal to 1,024 bytes. When **Memory** is configured to 96K, it has 96 kilobytes (or 98,304 bytes) of temporary memory. We will discuss later how 1-2-3 stores information in terms of bytes.



PrinterTalk

The MemoMaker Enhancer

*It does the things you wish
MemoMaker could do!*



PrinterTalk takes up
39K disk space.
Shorter 25K version,
sufficient for most
applications included
on PrinterTalk disk.

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

- Change attributes (type styles) anywhere *within* the files you print—
Bold, underline, *italic*, compressed, **expanded** (whatever your printer supports)
- Control numerous print functions, including:
 - number of copies
 - lines per inch
 - lines per page
 - spacing (including double, triple, quadruple)
 - automatic page numbering
- Avoid paper waste by preventing annoying form feeds
- Use your HP110 as an electronic typewriter
 - PrinterTalk connects your keyboard directly to your printer
 - Great for labels, envelopes, short notes, any small typing task
- Perform advanced features supported by your printer, such as superscripting and subscripting.

CUSTOMIZED FOR YOUR PRINTER

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

SINGLE-KEY OPERATION

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

*Use you printer's **full** potential!
Order PrinterTalk Version 1.2A today!*

\$49.95 including manual

\$44.95 for Portable Paper subscribers

FREE UPDATE: If you already have version 1.2 or earlier, send it to us with a self-addressed stamped envelope (or send us \$7.50), and we'll replace it with version 1.2A (20% less disk space than 1.2).

15-day no risk trial:

If, after 15 days, you are dissatisfied with PrinterTalk for any reason, simply return it and we'll refund your money.

To order, send postage-paid coupon enclosed in this issue, or send check or credit card number to:
Personalized Software
P.O. Box 869, Fairfield, IA 52556 (515) 472-6330

SPECIAL OFFER:

Personalized Software's Hal Goldstein and FastAid's Ed Keefe Team Up! Put the MemoMaker enhancing utilities of

PrinterTalk & Format110

to work for you!

PrinterTalk owners - get Format110 for only \$19.95*

Special Low Price:

BOTH PROGRAMS now ONLY \$59.95*—A \$90 VALUE!

Format110 lets you format headers, footers, and page numbers - all centered, left or right justified; chain or merge documents; and preview your document on screen. Format110 also lets you send your document to your disk file or printer and compensates for "widow and orphan" lines. Disk includes the manual and Turbo Pascal source code. Format110 usually sells for \$39.95, now with PrinterTalk it's only **\$59.95*** **Order both today** and get all the text formatting and printing control you need. To order, use the convenient postage-paid coupon at the back of this issue. Or call (515) 472-6330 with MasterCard or VISA.

*Format110 owners - get PrinterTalk for only \$19.95. All prices plus shipping.

Think of this memory as a temporary scratch pad space in the computer which you can use to store information while you are working. The larger the **Memory** that you have configured, the more space is available for use with a worksheet.

THE /WORKSHEET STATUS COMMAND

The 1-2-3 /Worksheet **Status** command displays information about the worksheet settings and the amount of memory available on a worksheet. Begin with a new 1-2-3 worksheet on the screen and select the /Worksheet **Status** command.

The headings for the worksheet settings and available memory appear at the top of the screen. The third line displays the status of the settings and memory. The number under Avail Memory is the amount of RAM (in bytes) available for use within the worksheet. (This is NOT the available space on the Edisc for saving the file.)

On a new worksheet, the **Avail Memory** status reflects the amount of RAM in the computer minus the memory used by 1-2-3 and the operating system. Lotus 1-2-3 on the Portables is especially memory efficient since it runs out of ROM rather than RAM. The available memory decreases as you enter information on the worksheet.

(Typically, most ROM based applications in either Portable, such as MemoMaker, run out of RAM. That is, when the application is started, the program is copied from ROM into temporary **Memory** - RAM. Therefore, the program itself consumes some of the temporary **Memory**.)

The following chart compares the Portables' im-

plementation of Lotus 1-2-3 and the IBM PC implementation. The figures are approximate. The chart assumes both systems are 256K machines. (That means the Portable has been configured to a **Memory** of 256K).

	HP PORTABLE	IBM PC
Operating Sys. Overhead	27,000 Bytes	25,000 Bytes
1-2-3 Overhead	40,000 Bytes	100,000 Bytes
Avail Workspace	195,000 Bytes	137,000 Bytes
Time from Power-On To entering 1-2-3	< 5 seconds	~50 seconds

This means that if you see a Lotus Template advertised that requires 256K, you will know that because you are using a Portable, you will have to set **Memory** for 200K at most.

If you increase the **Memory** in the **Memory / Edisc** ratio in your Portable, this increase is automatically reflected by an increased amount of memory available for the worksheet. If you have a Portable PLUS, buying additional RAM gives you the potential for larger spreadsheets.

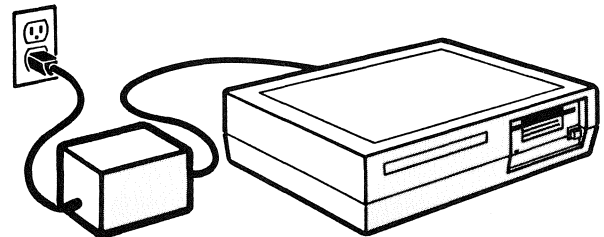
WORKSHEET ORGANIZATION AND MEMORY USE

The way information is organized on a worksheet helps determine how much memory is needed. 1-2-3 defines the 'active worksheet area' as a rectangle extending from cell A1 to the last column and row in which information was entered or to the last cell that was formatted. This means if you use cells A1 through A10, B1, C1, and D1, your active worksheet area extends from A1 to D10.

You can identify this active area by pressing the Lotus **End** key (**Select** on the Portables). This puts the word **END** at the bottom right of the screen. Then press the **Home** key

HP PORTABLE RELATED PRODUCT

THE HP9114 EMPOWERER



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

THE PROBLEM:

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

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

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

WE HAVE THE SOLUTION:

The official HP suggestion is to buy another battery pack and keep both plugged in. When one loses power, replace it with the other. This seems clumsy to us. What if you want to do several hours of disk intensive work? At **Personalized Software** we have a **better solution—2, in fact. Either will solve the problem.**

SOLUTION 1: This is a special power supply. It will allow your HP9114 disk drive to run forever. Just remove the battery pack, plug Solution 1 into the open slot and into your wall outlet. It's that easy! And let's you run your HP9114 to your hearts content. It costs \$129 if you're a *Portable Paper* subscriber, \$145 if you're not. **SOLUTION 2:** A power supply and battery pack. Solution 2 includes Solution 1 and a modified HP battery pack you can substitute for yours.

Our special battery pack lets your Portable run directly off your wall outlet. You can plug in the regular HP charger at the same time, so your battery pack always stays completely charged. Solution 2 sells for \$199 to Portable Paper subscribers, otherwise it's \$225. Both solutions are custom-made. Both solve the HP9114 battery problem. And both will let you finish your work.

From Personalized Software

To order, use the postage-paid form at the back of this issue. Or call (515) 472-6330 to place your order now.

MasterCard and VISA accepted. Please allow 3-4 weeks for delivery. Prices do not include shipping.

How many times have you wished you had a 2nd external disk drive?

Personalized Software is selling (for a limited time) complete HP9114A units including power supply at a substantial discount. Call 515/472-6330 for details.

(**Extend char Left Arrow** on the Portables). You will find yourself on lower-right corner of the active area.

It is important to know the size of the active area because 1-2-3 allocates 4 bytes of memory for every blank cell that falls within the active area of the worksheet. For example, if your only entry of information was in cell M20, 1-2-3 would define the active area as the range from A1 to M20. Memory would be allocated for that range even though you entered information in only one cell. That means the spreadsheet would consume at least 1040 bytes of memory.

Since blank cells in the active area take up memory, you should make the active area of the worksheet as compact and close to A1 as possible.

Note: If you are creating a worksheet containing a macro, keep in mind that blank rows and columns between the macro and the worksheet use up memory. Although you should enter a macro in a blank area of the worksheet, choose a spot that will keep the active area of the worksheet as small as possible.

USING END-HOME TO EVALUATE THE ACTIVE AREA

The following exercise uses the End and Home keys to examine the relationship between worksheet size, organization, and memory use.

1. Start with an empty worksheet. Move the pointer to any cell but do not enter any information. To check the End-Home position, press the **Select** key and then the **Extend char Left Arrow** key. The pointer should move to cell A1 because you have not entered any information on the worksheet.

2. Select **/Worksheet Status**. Look under Avail Memory and write down the number of bytes available on the empty worksheet. Press the **Return** key to return to Ready Mode.

3. Go to cell E1 and enter a single letter. Move the pointer back to cell A1. Now press the End and Home keys. The pointer should move to cell E1 because 1-2-3 has defined the active area of the worksheet as the range from A1 to E1.

4. Select **/Worksheet Status** again and look at the available memory. 1-2-3 has used 4 bytes for every empty cell in the active area between cells A1 and E1. Write down how much memory is now available. Press **Return**.

5. Go to cell A10 and enter a single letter. Press the End and Home keys, and the pointer should move to cell E10. Remember, 1-2-3 defines the active area as a rectangle extending from cell A1 to the last column and row where information was entered. 1-2-3 now defines the active area as the range from A1 to E10.

6. Select **/Worksheet Status** again and look at the available memory. Compare the number under Avail Memory to the other two numbers you wrote down. 1-2-3 has used 4 bytes for every blank cell in the active area between cells A1 and E10. Press the **Return** key to return to Ready Mode.

USING /FILE XTRACT TO ADJUST THE ACTIVE AREA

Sometimes the End-Home position is not where you expect it to be. If you have entered and then erased information, or if you have accidentally typed a character in a remote cell, the End-Home position may be far from the worksheet data. You may get a Memory Full error message. Memory Full means there is no more **Memory** (RAM) available for use with the worksheet. Erasing the contents

of a cell does not change the active area of the worksheet, so erasing a cell or even deleting several rows will not increase the available memory.

To decrease the active area of a worksheet and regain memory, use the **/File Xtract** command. **/File Xtract** copies all of the information in a specified range of the worksheet to a separate, new worksheet file. The active area of this new worksheet file includes only the range of information you copied.

If you are doing a **/File Xtract** on a worksheet, be sure to include all the information you want copied into the new file. Also, choose a new file name. If you choose an existing file name, the worksheet you are extracting will replace the existing file. You can see the 1-2-3 User's Manual for more information on **/File Xtract**.

In the following we walk you through an example of the **/File Extract** command and demonstrate how 1-2-3 consumes memory.

1. Start with a new worksheet (execute **/Worksheet Erase Yes**) and enter the following information, beginning in cell A1:

	A	B	C
1	Item	Jan.	Feb.
2	Rent	550	550
3	Food	400	350
4	Car	180	40
5	Medical	65	0

2. Press the End and Home keys. The pointer should move to cell C5. Select **/Worksheet Status** and write down the amount of available memory.

3. Go to cell E10 and enter a number or letter. Go back to cell A1 (**Extend char Left Arrow**) and press the End and Home keys to identify the active area of the worksheet. Select **/Worksheet Status** and write down the amount of available memory.

4. At cell E10 use the **/Range Erase Return** command to erase the information in E10. Move back to cell A1 and press End and Home again. Even though you erased the information in cell E10, 1-2-3 remembers that information was placed there and does not change the active area of the worksheet. Select **/Worksheet Status**. You see you have not regained any memory by erasing cell E10.

5. Move the pointer to cell A1 and select **/File Xtract**. Select **Formulas**.

6. Type in a new file name. Name the new file **memory** for this example. Press **Return**.

7. Now specify the worksheet range that you want to extract into the new file, **memory**. The range should include only cells with relevant information (A1 to C5 in this example). Do not include the blank cells below or to the right of the worksheet data.

8. Press **Return**, and 1-2-3 will extract the range you specified and make a new worksheet file.

9. To see the new file, select **/File Rtrieve** and choose the file named **memory**. Check the size of the active area of the new file by pressing End and Home. The End-Home position should be cell C5. Select **/Worksheet Status** and check the available memory. It should be greater than the amount of memory you recorded before extracting the file.

WORKSHEET CONTENT AND MEMORY USE

The amount of information you can enter into a worksheet depends on the content of the cells as well as the

organization of the data. The following information should help you evaluate memory use in a worksheet:

- Blank cells use 4 bytes.
- Integers (numbers between -32768 and 32768) use 4 bytes.
- Real numbers use 12 bytes.
- Labels up to 4 characters long use 6 bytes. Longer labels use an additional byte for each additional character. For example, a 3-character label would use 6 bytes, and a 10-character label would use 12 bytes.
- Formulas use a minimum of 30 bytes. The more complex a formula, the more memory it uses.
- Range names (**/Range Name Create**) use 32 bytes each, regardless of the length of the name.
- A function takes 26 bytes with fixed number of arguments and 27 bytes with a variable number of arguments. Additional memory is taken depending on the type and number of arguments as follows.

BYTES	ARGUMENT
1	a function
3	number < 32768
5	cell ID (eg A1)
9	range (eg C5..C9)
9	number >= 32768

For example, **@count(1,2,3,4)** takes 27 bytes for having a variable number of arguments plus 12 bytes for the numeric arguments totalling 39 bytes. **@sin(A1)** takes 26 bytes since it has a fixed number of arguments plus 5 bytes for its argument being a cell ID totalling 31 bytes.

- Graph names use 461 bytes each, regardless of which options are used.

CONCLUDING REMARKS

As we have discussed, keep the rectangle that contains the active cells as small as possible. Note that when a range of cells is formatted using the **/Range Format** command, all those cells in the range are considered active. For example, suppose in a new spreadsheet you place a label in cells A1 through F1. Then you format cells C2 through C100 as **Currency**. The active cells in your model are from A1 through F100.

Be careful of the **File Extract** command when trying to regain memory. The **/File Extract** command can be dangerous if you attempt to save the extraction to the current file rather than to a new file. However, you may need to do so, if you don't have access to an external drive and are low on Edisc memory. Be very careful to define your **File Extract** range correctly and to include all relevant cells.

There is an alternative to the **File Extract** command. Do a End-Home. Then do a **/Worksheet /Dlete** to remove any unneeded rows and columns at the end of the worksheet. At this point you have not significantly reduced the available memory. However, now save the file with a **/File Save**. As 1-2-3 saves the file, any blank rows at the bottom or any blank columns at the right edge of the active area are removed from the active area, thus reducing the memory requirements of the worksheet. When you retrieve the file with a **/File Rtrieve**, the available memory for the worksheet increases.

Finally, a simple way to develop a feeling for what causes memory consumption is to use the **/Work Status** command often. Use it before you are about to make a

significant entry, mark down the figure, and use it after the entry. You will soon get a working knowledge of the space consumed by your entries.

How To Create Lotus Macros

By Hal Goldstein

For the uninitiated, macros simply provide a method for assigning a series of often-used keystrokes to one keystroke. For example, how many times have you typed **/Worksheet Column Set** to set a new column width? Within Lotus 1-2-3 you can easily create a macro such that every time you press **CTRL Shift w** (hold down the **CTRL** and **Shift** keys and press **w**), you are prompted for a column width.

To define this macro find an empty cell in a Lotus spreadsheet. In that cell type in the following label: **'wcs**. (Be sure to include the apostrophe '.) Now after entering the label, stay at the same cell location and issue the command **/Range Name Create**. At the prompt type **\w**. When asked for the range, press **Return**.

That's it. You have created a column-width macro. Press **CTRL Shift w**, and you will be prompted for the column width, which you can enter by typing a number and pressing **Return**.

In general, to create a simple macro, type the required keystrokes into an empty cell as if they were a label. In this case we typed in **'wcs**. The apostrophe ' was necessary in this case because otherwise Lotus would have thought you were issuing the command rather than entering a label.

You can create up to 27 Lotus macros per spreadsheet and assign them to the 26 letters or to the number 0 (the automatic startup macro). You assign them to a letter by using the **/Range Name Create** macro as we did above. You must precede the letter name of the macro with a backslash: ****, as we did with **\w**.

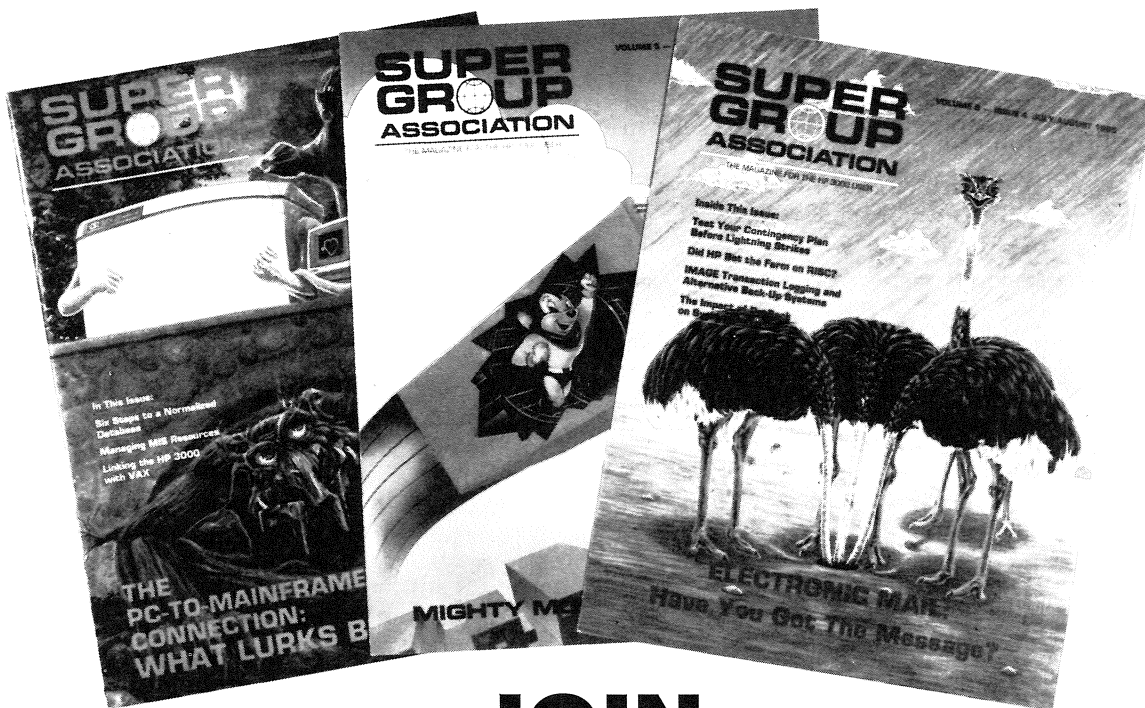
There is much more to the art and science of writing macros, as evidenced by the many books on the subject. Macro writing can be thought of as a form of computer programming. However, 80% of your macro needs probably can be accomplished with the information just given and by understanding the **~** and **{?}** symbols discussed in your manual. **~** stands for **Return** and **{?}** for wait for input.

For example, type in the macro **'@date(86,{?},{?})~** as a label into a blank cell. Name it **\d** using the **/rnc** command. Go to a different cell and format it for dates: **/Range Format Date Return Return**. Use your **\w** macro to set the column width at 10 by typing **CTRL Shift w**. Now press **CTRL Shift d**.

On the editing line in the upper left hand corner of the screen **'@date(86,** will appear. Type the month number and press **Return**. Type the day and **Return**. The date has been entered.

As you can see, the two **{?}**'s prompted for input. The finishing **~** stands for the **Return** that was needed to enter the date from the edit line.

The example of the macro that follows prints a range in a Lotus spreadsheet. In the example the macro is given in one column and a number of consecutive rows. In general a single macro can occupy many rows within one column. Lotus stops processing a macro when it reaches a blank cell.



JOIN SuperGroup Association Today and Get **3 FREE ISSUES!**

Become a part of the world's **largest** association of HP 3000 users. You'll receive **twelve** issues a year with articles by the experts, user experience stories, product announcements and vendor profiles. Send in the membership application today to receive a one year's subscription and enjoy **three** additional magazines—**FREE!**

Members are not eligible for this offer.

MEMBERSHIP APPLICATION

Name _____ Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____ Telex/EasyLink # _____

☐ Check enclosed

☐ Bill me

☐ Charge to: VISA/MasterCard; Diners/Carte Blance; American Express,
ACCESS EUROCARD or BARCLAYCARD;

Card # _____ Expiration Date _____

Signature _____

Check one box:

☐ 1 year (plus 3 free
magazines)
\$48

☐ 2 years (plus 3 free
magazines)
\$80

☐ 3 years (plus 3 free
magazines)
\$110

Mail to: **SUPERGROUP ASSOCIATION MAGAZINE** / 348 East South Temple / Salt Lake City, Utah 84111 / U.S.A.
(801) 521-3000 / EasyLink: 6275-8667 / Telex: 38-7088 (SUPER SLC)

Printing Spreadsheets

Hal Goldstein

INTRODUCTION

Thomas Page of Houston sent me a print macro with a paragraph of explanation that was filled with Lotus tips. I am going to expand on Tom's comments and make explicit

Received for Review

Personalized Software has received the following products for review. The description accompanying the product name was provided to us by its vendor. From *Westminster Software, INC. 2570 El Camino Real, Mountain View, CA 94040, (415)941-6800* we received *PertMaster*. 'A menu-driven critical path analysis management tool, *PertMaster* is easy to learn and use, yet has a high degree of sophistication, including merging plans, precedence and arrow notation, and superior output. Version 6.0 that runs on the HP Portable PLUS has a zoom (graphical input) mode and can handle 1000 activities. The Portable version has 500 activities with no zoom.' 256K memory required. \$695.

TechniGroup, 16 Green Acre Lane, Northport, NY 11768, (516) 261-0423, distributes the *TravelComm1200*, which is a serial, 300/1200 BAUD, originate-only, 6.5 ounce, shirt-pocket-sized, single 9-volt battery-operated modem. (Thomas Page, who is reviewing the product for us, tells us he has run into some difficulties using it with the HP110 but is working closely with the vendor to see if they can resolve the problem.)

From *Oak Hill Software, 73 Hillyer Circle, Middletown, NJ 07748* we received *Personal VI*, which is a text editing program for the Portable, Portable PLUS, and HP150 intended for people who have grown up in a UNIX environment. The 49K program includes all of UNIX VI full screen editing features. Dr. David Leeper, the program's author, wrote me that he would discount the \$195 product to \$165 for *Portable Paper* subscribers.

From Ed Gilbert we received *ED* and *FMT*. *ED* is a powerful text editor, and *FMT* is a powerful text formatter. The *ED* disk provides versions of the editor for the Portable, Portable PLUS, HP150, and IBM PC. Ed Keefe discusses Ed Gilbert's *ED* briefly in this issue's *Through The Looking Glass*. We (Personalized Software) will be distributing both *ED* and *FMT*.

Randy Salo sent us his simple-to-use *SHELP* program written exclusively for the Portable PLUS. No matter what non-graphics application you are working in, *SHELP* lets you pop-up a temporary calculator or notepad. *SHELP* also allows you define up to 26 keyboard macros—that is, assign up to 31 characters to a single keystroke. The program can be ordered from *Personalized Software, PO Box 869, Fairfield, IA 52556, (515) 472-6330* or by sending in the order form at the back of this issue. *SHELP* sells for \$55, \$49.95 to *Portable Paper* subscribers.

the many ideas contained in the paragraph and macro. Study this article, and you will learn about printing files, about exploiting the ThinkJet's capabilities, about managing memory more effectively, and about writing macros. Even if you are reluctant to use macros, read this article and you will learn useful information.

THE MACRO

Here is Tom Page's print macro. The first column contains the macro; the second column contains explanatory comments which you do not need to type in. For the inexperienced, you can issue the keystrokes listed below as commands within Lotus to understand what the macro does. {**calc**} stands for the **Shift fl (calc)** key. {**esc**} stands for the escape key.

{ calc }	Recalculate your spreadsheet
/PPACAO	Clear past printing settings
H{ esc }	Substitute header for {esc}
F{ esc }	Substitute footer for {esc}
ML0~	Set left margin to 0
MR142~	Set right margin to 142
MT0~	Set top margin to 0
MB0~	Set bottom margin to 0
BC{ esc } { esc }	Subst. col. border for {esc}
BR{ esc } { esc }	Subst. row border for {esc}
S\027&k2S	Set print to condensed
\027&l8D~	Set 8 Lines Per inch
P88~	Set page length to 88 lines
OU	Unformatted (no page breaks)
Q	Quit options
RPRINT~	Print-range called <i>print</i>
GPPQ	Print, advance page, quit.

TIPS FROM THE MACRO

One of the most annoying features when printing Lotus spreadsheets is unwanted gaps and margins. The methods described here for printing to the printer also work when printing to a file.

Many applications require a continuous printout. In this macro there are several commands given that insure a gapless, continuous printout of the spreadsheet.

In the macro Tom eliminates each margin by using the (/Print /Printer /Options) **Margins** command for each of the four margins. He sets the top, bottom, and left margins to 0. Since condensed print on the ThinkJet supports 142 columns per line, he sets the right margin to 142.

Most important, he issues a (/Print /Printer /Options) **Other Unformatted** command. This eliminates the three top and three bottom lines that are reserved for top and bottom headers (whether or not you define them)!

Tom also leaves himself some room within the macro to define headers, footers, or borders. To define a header or footer, Tom would need to remove an {**esc**} and type the header or footer he required. In 1-2-3, the {**esc**} command allows you to go back one command. The {**esc**} 's in this macro tell the program that you have chosen not to specify a header. If you do want a header, such as 1986 Taxes, you must, therefore, remove the {**esc**} in the macro and replace it with **1986 Taxes~**. Be sure to include the ~, or you will get a strange result.

Similarly, there are two {**esc**} 's for the **Border Column** and **Border Row** since both the **B** and the **C** or **R** must be backed out of. Again, you may choose to delete these and replace them with names. Tom says that when he uses

borders he always gives the top (row) border of cells the range name **topborder** (using the **/Range Name Create** command). He calls the side (column) border of cells **sideborder**. He then substitutes the range name for the two **{esc}**'s.

If he does add a header or footer, he must be sure to change the line in his macro that reads **Other Unformatted** to **Other Formatted (OF)**. Otherwise, the header or footer lines will be suppressed.

The lines with the **/027**'s in them are escape sequences for the ThinkJet. They are printer directives. The first, after invoking the **Setup** command, is the condensed print escape sequence. The **/027** is Lotus's way of representing the **ESC** character (ASCII 27) that the ThinkJet requires. The second sequence defines 8 lines per inch. (It contains the letter "l", not the numeral "one" following the **&**). The **~** at the end of the second sequence is necessary to enter the two sequences. Escape sequences can be found in the back of your printer manual.

With the **Other Unformatted** command, the 88 line page length (**P88~**) command has no meaning. The **OU** command causes the printout to be one long page. However, if the spreadsheet requires headers, the page length is necessary (and **OU** must be changed to **OF**). The default page length is 66. The line containing **RPRINT~** assumes that you have PREVIOUSLY defined the range of cells you wish to print using the **/Range Name Create** command. The range of cells should be named **print**.

Optionally, in the last line you can remove a **P** if you do not want a full page advance after the entire defined range is dumped to the printer.

MEMORY SAVING CLOSING TIP

Tom stores this macro as a **.prn** file. This is an excellent strategy for storing macros since print files do not take up nearly as much space as **.wks** (worksheet) files. Generic macro **.prn** files can then be **Imported** and temporarily put into worksheets without permanently wasting space. Furthermore, Tom says "There is a margin of safety in using the **File Import** command rather than the **File Combine** command to add a macro to a worksheet. I sometimes get **File Combine** and **File Retrieve** confused, thus clobbering a worksheet. Even if I get confused with **File Import** and **File Retrieve**, if I am careful there won't be a corresponding **.wks** file to the macro **.prn** file, so I don't wind up with a worksheet containing only a macro."

For those not familiar with creating **.prn** files and **File Importing** them, here is an explanation. The normal way to save a file is with the **/File Save** command. This creates a file with the name you give it and automatically appends a **.wks** to it. Alternately, instead of printing to a printer, you can print to a file using the **/Print File** command. Lotus automatically appends a **.prn** to the file name you give it. That print file can then be imported into most any word processor or back into Lotus as one wide column.

These points about printing a macro also apply to printing a file. For example, let us suppose you typed in the Tom's print macro, and you want to print it to a (**.prn**) file. You should issue a **/Print File** command and supply Lotus with a name. Then press **Range** defining the range as the entire macro. Before you print to the file using **Go**, you must first set the top and left margins to 0 using the **Options Margins** command. (If the length of the file was greater than the page length, you might also want to use

the **Other Unformatted** command).

In order to import the macro **.prn** file into another spreadsheet, use the **/File Import Text** command at a place in your spreadsheet where there is room to bring in the macro file. Then at the top row of the macro use the **/Range Name Create** command to define the macro as, say, **\p**. Label the range you want printed as **print**, again using the **/rnc** command. Press **CTRL Shift p** and the printing should begin.

1-2-3 Tidbits

PRODUCTS FOR 1-2-3

A company called *4-5-6 World* specializes in 1-2-3 products. The staff seems knowledgeable about the individual products they sell. However, they have little information as to how their products run with HP computers. Their catalog contains descriptions of many Lotus-related products, including templates, books, and learning aids. Contact *4-5-6 World, PO Box 22657, Santa Barbara, CA 93121, (800) 524-5678, CA: (805) 564-2424* for a catalog or to order.

SHIFT KEY INSTEAD OF EXTEND CHAR

Paul Grimmer, SideWinder's author, tells us that "The manual indicates that **Home**, **Page-up**, and **Page-down** must be accessed using **Extend char** followed by the appropriate cursor direction key. The **Shift** key works as well as the **Extend char** key and is more convenient to use."

HP110 MACRO BUG

Paul also tells of a HP110 bug. "If you have an infinite looping macro that hits a worksheet or title boundary, there is no way out of it other than a reset. I found out the hard way and lost a whole spreadsheet."

1-2-3 AND SUBDIRECTORIES

James Small of Alexandria, VA and a number of other readers have asked about accessing files in subdirectories within Lotus. Unfortunately, you cannot give a subdirectory name when you retrieve or save files in Lotus. What you must do is, within Lotus, change the subdirectory using the **/File Directory** command. Then you will be able to retrieve and save to the newly defined subdirectory.

THE PRINT FILE COMMAND

The **/Print File** command prints a range from a 1-2-3 worksheet to a file and appends **.prn**. This print file is an ASCII file that can be read by MemoMaker and other programs. A common error is to neglect to define the range of the print file correctly. If the range is not defined, you will lose the file unless you have also **/File Saved** it. Store macro files and any other one-column files as print files rather than worksheet files, since print files take much less Edisc space than worksheet files. (Set left and top margin at 0.) Use the **/File Import** command to input the print file.

MOVING FORMULAS

If you want to move a formula from one cell to another, Lotus will automatically change any relative cell references corresponding to the new position of the formula. If you want those references to remain constant, use the **f2**, edit key, to make the formula a label. Do so by placing an apostrophe ' in front of the first character of the formula. Use the **/Move** command to move the label. Then, in edit mode, remove the apostrophe and make it a formula again.

WORK WHILE YOUR PORTABLE WORKS

When you are working on a large spreadsheet, sorting or recalculating can take a long time. Hit the **Backspace** key four or five times after you have given a command that you know will take a long time. Since **Backspace** is an illegal key whenever you are not in Edit mode, the program will beep four or five times after the command has finished. You can go off and do something else until you hear the beep. The same trick will work with macros. Just put in several {bs}'s whenever you want the program to beep.

SOME READER QUESTIONS

Dick Wright of Honolulu and contributing editor Gary Goodman and others have asked if anyone knows of good project management templates that run on the Portable version of 1-2-3. In particular, Gary would like to be able to print a Gant timeline chart from Lotus. We will definitely be reviewing non 1-2-3 project management packages in future issues.

LOTUS CALENDAR OFF BY ONE

I hope Dr. Martin Koenig of Cincinnati won't mind me summarizing his interesting three-page letter about calendar arithmetic on the Lotus 1-2-3. First, Dr. Koenig lamented the fact that Lotus begins at 1900 and ends in the year 2099. "Is it not more likely the average person might wish to make calculations with dates of previous centuries than with more than 100 years ahead at a time that none of us will see and that will find our machines as museum pieces?" Instead, Dr. Koenig suggests eliminating the Lotus serial number system and using the generally accepted

system of Julian day numbers that begins January 1, 4173 B.C. and continues indefinitely.

His biggest criticism of the Lotus 1-2-3 calendar function is that it begins with an incorrect assumption. It assumes the year 1900 was a leap year when, in fact, only every 400 years is the turn-of-the-century leap year. Therefore, January 1, 1901 should be serial number 366, not 367, as Lotus has implemented it. Therefore, the serial numbers for most dates are one unit higher than they should be.

Finally, to clear things up Dr. Koenig wrote identical letters to HP and Lotus. HP did not respond. Lotus wrote saying that any 1-2-3 implementation on HP is HP's responsibility (even though the same problem exists on IBM versions). Dr. Koenig concludes that although many Lotus 1-2-3 users probably aren't overly concerned with calendar arithmetic, "there are other areas in which they might eventually come across similar problems and receive evasive letters. Only if the growing community of users joins forces to stand up against this type of conduct, we might expect results."

Books On 1-2-3

STEVEN C. COCHRAN'S COLLECTION

I have found a number of books on 1-2-3 to be quite useful. In some cases they have served to fill out my reference library; in other instances they have helped me solve a particular problem.

1. *1-2-3 Revealed*, (267 pages) by Dan Shaffer, published by Reston.

HP PORTABLE RELATED PRODUCT

BLUE CHIP COMPUTER SYSTEMS



17958 Ventura Blvd. Encino, CA 818-996-3132
9701 West Pico Blvd. Los Angeles, CA 213-553-3393

 **HEWLETT
PACKARD**
Authorized Dealer

		List	Special
HP-9114B	NEW HP-IL DISK DRIVE	795.00	636.00
HP-2225B	THINKJET PRINTER	495.00	396.00
HP-92261L	THINKJET PAPER	29.00	19.95
HP-92261B	THINKJET PRINTHEADS (Box of Ten Cartridges)	99.50	79.50

CALCULATOR SPECIAL!

Model	List	Special!
HP-11C	56.00	48.00
HP-12C	99.00	80.00
HP-15C	99.00	80.00
HP-16C	120.00	89.00
HP-41CV	175.00	135.00
HP-41CX	249.00	190.00
HP-71B	525.00	394.00

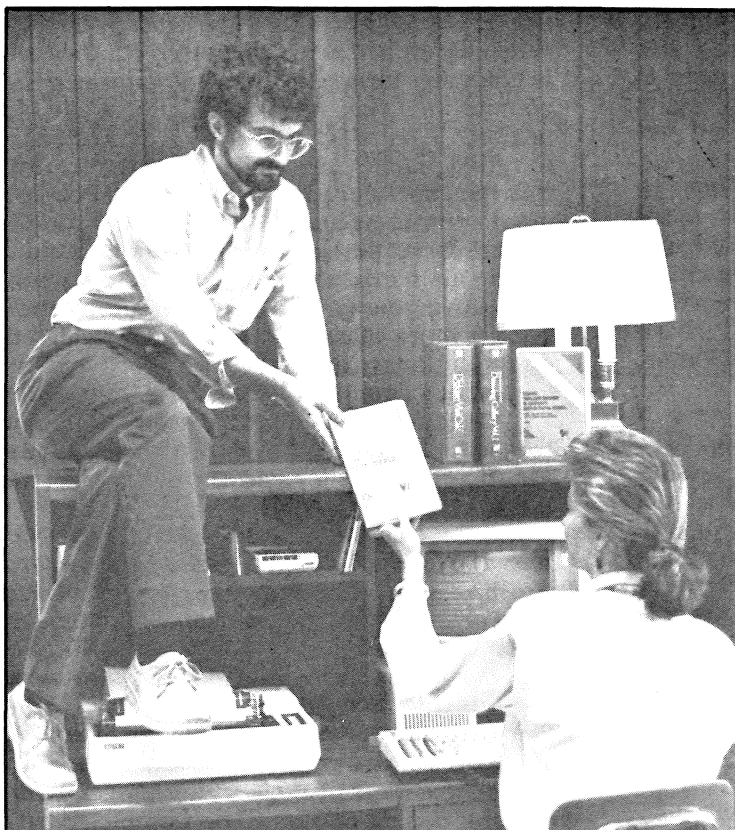
CALL

1-800-4HP-BLUE 1-800-325-9868
Extension 501 Extension 501
In Continental U.S. In California

Please rush me Blue Chip Computer System's
free mail order catalog **IMMEDIATELY!**

Our Ad was designed using "Desktop Publisher" by Lexissoft on an HP LaserJet Plus.
This Word Processing and Page Composition program is now available at Blue Chip.

PUT AN EXPERT ON YOUR SHELF



You can have hands-on training right at your fingertips without videotape-workbook training courses.

**Get affordable,
up-to-date training
when you want it.**

**Wilson Videos
puts an expert
on your shelf.**

**Available now:
USING EXECUTIVE
MEMOMAKER FOR
THE HP 150
- and -
USING REFLECTION™
SERIES FOR THE
HP 2622 AND
2392 COMMUNICATIONS**

USING EXECUTIVE MEMOMAKER will teach you such functions as:

- How to use the keyboard and the screens
- How to create, save, add a picture, edit, check spelling and print

USING REFLECTION™ SERIES will teach you how to use the PC 2622™ or REFLECTION to communicate between a personal computer and the HP 3000.

- How to send a file to the host from a personal computer
- How to receive a file from the host
- How to access DOS commands while on-line
- How to print a file



Wilson Videos™
A division of Wilson Publications, Inc.

P.O. Box 10998, #450
Austin, Texas 78766
(512) 250-5518

Use this order form to **put an expert on your shelf** today!

Please send:

- ☐ Reflection Series
 - ☐ Executive MemoMaker
- each only \$149.95
(One workbook per tape included)
extra workbooks \$14.95 each
- ☐ extra workbooks

qty. _____

qty. _____

qty. _____



Wilson Videos™
division of Wilson Publications, Inc.

P.O. Box 10998 #450 • Austin, Texas 78766 • 512/250-5518

Bill to:

- ☐ Company ☐ Individual
☐ Enclosed ☐ MC ☐ V ☐ AmEx

Card No. _____

Exp. date _____

Signature: _____

Company_____

Name _____

Address _____

City _____ ST _____

Zip _____ Phone _____

This is one of the better books available for understanding macros. The book is divided into three basic sections: 7 chapters on understanding and creating macros; 3 chapters on macros for data I/O, report outputs, & graphics; and 3 chapters of "tips." The book is generous in its examples, it has flowcharts explaining macro sequences, and it also has sections of the command structure being discussed in a given section. The author has also included some example problems for the reader to try, and solutions are provided (upside down) so that you can measure your success. An example tutorial diskette is available (at extra cost), or you can enter all the examples from the keyboard. In addition, they offer a diskette of "a keyboard macro library" for \$15.00. I have not seen either so I cannot recommend them. I do, however, find this book to be an excellent reference and highly recommend it.

2. *1-2-3 Macro Library*, (281 pages) by David Paul Ewing, published by Que.

This is a reference book rather than a "teaching" book. It is, just as its name implies, a collection of macros. Each macro is described and any unusual features are pointed out. If you have a question about how to use a specific command, such as the /xg, then this is the book for you. It is indexed and structured like a users manual for 1-2-3. Over 100 macros are included and cover nearly everything you might want to try. The book is written so that a novice can learn all about macros and a "pro" can pick and choose at ease. This text also offers a diskette for an additional \$79.90 which contains all the macros used in the book. If you are considering whether to purchase this book, I suggest you look at its well written introduction, which is a good summary of the content.

3. *1-2-3 TIPS, TRICKS, AND TRAPS*, (257 pages) by Anderson and Cobb, published by Que.

This book is intended for those of us who have been having a particular problem or have had a "glitch" pop up that is not easy to understand. It has 13 chapters on the full range of 1-2-3's capabilities. It covers worksheet design, data entry, files, sharing data, date math and much more. It is basically a collection of one-liners that hit on a specific aspect of Lotus 1-2-3. Each Tip, Trick or Trap has two or three paragraphs of explanation to go along with it. The book has 336 such "TTT's" that are really very fascinating. If you are a regular user, I think this book is worth picking up to read just to get a better understanding of 1-2-3. It will have some value to a novice, but someone who is familiar with using 1-2-3 will get a lot more good out of it.

4. *USING 1-2-3*, (419 pages) by LeBlond and Cobb, published by Que.

This is really a book for the first time user of 1-2-3. It picks up where the tutorial included with 1-2-3 leaves off. It starts by giving a history of spread sheets and walks the first time user through a complete series of lessons on the capabilities of 1-2-3. It is oriented toward the IBM and the illustrations reflect this. All the examples are clear and understandable. I picked up this book when I first started using Lotus. Now I find it a good text to loan friends who are starting out with this program and have a lot of questions. I think those who have experience with 1-2-3 will not need to consider this book. A diskette is offered that has all of the examples from the book already set up.

5. *Orchestrating 1-2-3, Notes for Advanced Users*, (243 pages) by Rier and Fine, published by Addison Wesley.

The book is just what the title states. It is not written for the casual user, nor in my opinion for the occasional user. It is written for the user that has graphed a set of data and

wants to add that "extra line," or for the user who is looking to economize his macro steps. It also helps in doing more sophisticated macros. The book is primarily about macros, but it also covers much more. One section, for example, is titled "How do I Construct a Friendly Program." When example macros are presented, they are presented in columnar form with each line explained in the second column. In a way, this book is almost like two books in one: *1-2-3 Revealed*, and *1-2-3 Tips, Tricks and Traps*. It has good practical tips, and it expands on features of 1-2-3 that the experienced user should appreciate.

I know there are a lot of other very good 1-2-3 books on the market but so far my library seems quite complete. I hope my remarks will help you select a book that will help solve your problem. I have found, though, that a book is more valuable after I have struggled through my own solutions to an application. Then I really appreciate an author's concise solution.

One final note: I really love my 110. I'm writing this review for Hal while on camping in the mountains of West Virginia. The Portable makes it as easy to write a book as it is to read one.

GORDON NORMAN'S RECOMMENDATIONS

[Ed - The following is a letter that I received from Gordon Norman, one of the many physicians who subscribe to The Portable Paper. I have appended some reviews that he sent with his letter. He discusses a range of template and books available for 1-2-3 and also mentions some auditor software packages.]

Since you invite reader response, I am providing mine both via disk and hard copy. I hope it is what you are looking for and that it can be used in future issues. I think the most valuable benefit of our SIG on CompuServe (GO HP) and other publications like PPC and CHHU for HP programmable calculators is the user/reader exchange, or cross-fertilization, that takes place when questions, ideas, and experiences are freely traded. Hopefully, your Portable Paper will continue to be such a forum to nurture our 110/110+ "community."

By way of background, I am a practicing family physician in New Hampshire, with a strong interest in practical computer applications for medicine. My current interests are computerized preventive health maintenance, computer-assisted diagnosis, and medical decision analysis. So my 110 and 110+ each follow me to the office regularly, as well as to meetings out of town.

Lotus Templates:

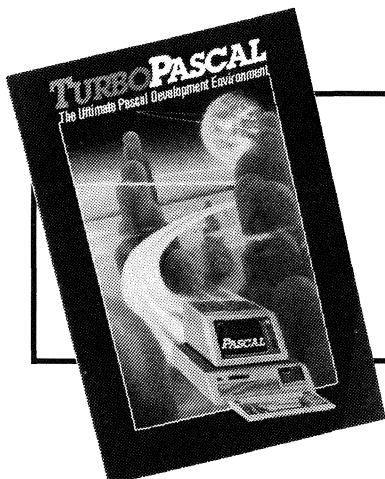
As most of us have learned, any Lotus 1-2-3 template will run on the 110 and 110+, if you can get it loaded! For me, the solution was to acquire a Steinmetz and Brown 5.25" disk drive with an HP-IL interface. This has turned out to be less than a totally satisfactory alternative, because it only will read a DSDD disk formatted by MS-DOS (PC-DOS) 2.0 or greater— ie, in 9 sector per track format. Good luck finding out from various mail order clerks on the phone whether the template you want to buy will be formatted as above; my batting average with the actual disks is that about 75% work. And if you think the HP9114 drive is slow, wait until you try loading a large group of files, or copy an entire disk with the S&B 5.25" drive. But it does work to gain access to all that IBM 5.25" (discounted) software out there that we H-P types usually have to quietly watch the rest of the world use.

Borland Raised Its Prices... But We Are Holding Ours While Supplies Last

When we heard Borland was going to discontinue its Holiday pack offer and raise the price of Turbo Pascal from \$69.95 to \$99.95 as of July 31, we bought 20 extra Holiday Packs and 10 extra Turbo Pascals. When these are gone we too will have to raise our prices.

With the new pricing subscribers will be able to purchase Turbo Pascal for \$89.95, Turbo Tutor for \$35.95, and Turbo Toolbox for \$62.95. These three products will no longer be available together as the Holiday pack. That means even at the subscriber rate you will have to pay an extra \$70 to get these same three products.

But why pay these prices if you don't have to? Order your Turbo products at the old prices listed below NOW, WHILE OUR SUPPLIES LAST.



"Turbo Pascal is clearly the Portable and Portable Plus programming language of choice."

—Hal Goldstein, Editor, *The Portable Paper*

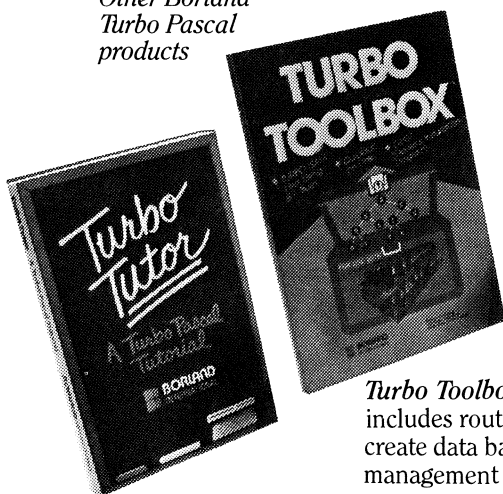
THE ENTIRE SYSTEM, INCLUDING EDITOR CONSUMES LESS THAN 40K BYTES.

Turbo Pascal is superior in terms of:

- price
- performance
- portability to other machines
- programmer's environment
- memory consumption

EVEN IF YOU ARE NOT A PROGRAMMER THE WORDSTART-TYPE EDITOR ALONE IS WORTH THE PRICE OF TURBO PASCAL

Other Borland Turbo Pascal products



Turbo Toolbox: Disk includes routines that create data base file management system.

Turbo Tutor: Disk and manual for learning Turbo Pascal. Includes many features for experienced users.

When You Buy From Personalized Software, You Receive

- 5% Subscriber discount
- Additional disk that customizes the Turbo editor so it can use the normal Portable *Extend Char* editing keys.
- The disk includes programs to access Portable graphics

Holiday pack: includes Turbo Pascal, Turbo Tutor, and Turbo Toolbox.

TURBOPASCAL™	Retail	<i>Portable Paper</i> subscribers
Turbo Pascal	\$99.95	\$65.95
Turbo Tutor	\$39.95	\$32.95
Turbo Toolbox	\$69.95	\$51.95
Holiday Pack (All 3)	\$209.85	\$119.00
Pascal programs for portable	\$49.95	\$44.95*

*\$39.95 subscriber price if purchased any Turbo product from Personalized Software.

Books/Templates I Have Known and Used:

1. *Lotus 1-2-3 for Business*, Cobb and Anderson, Que publishing.

A very nice spectrum of Lotus applications with genuine utility; some typographical errors, so get the disk version.

2. *Decision Power with Supersheets*, T. Owen Carroll, Publisher Dow Jones-Irwin.

A broad array of management decision techniques, including Statistics and Forecasting, Linear Programming,

Network Analysis, Project Planning and Scheduling, Decision Analysis, Production and Inventory Control, Capital Budgeting and Finance, and Queuing Theory. Very well presented and explained, though typographical errors are present. I suggest getting the disk for those who really want to use these "supersheets."

3. *Ready to Run Accounting for Lotus 1-2-3* (v. 1.0), William Urschel, Alfred Publishing.

This is a popular double-entry general ledger template which works. The only problem for me is the difficulty of setting up a customized chart of accounts, but Alfred now provides a "Customizer" disk for Chart of Accounts and Financial Statements which should solve the problem. These are apparently incorporated into the latest version of the program, v. 2.0, for \$69.95. My experience with the templates to date are that they do indeed allow serious accounting for a small business, if you can tolerate the generic limitations of the Lotus 1-2-3 environment (no access security, no true audit path, no automatic backup, size limitations due to RAM-bound status, etc.) Recommended. (Though I haven't yet used the newer v. 2.0, I expect it to be an improvement in minor ways over v. 1.0)

4. *Business Worksheets for 1-2-3*, Jack Grushcow, Publisher: Reston.

From the same folks who brought you the Spreadsheet Auditor, this double-entry general ledger system is very similar to the Urschel templates, but I find the text to be more helpful in explaining the sheets and allowing customizing. I originally rewrote the screens to "fit" the 110, but this is not too difficult. The Chart of Accounts is easy to set up, but the Financial Reports are not easy to customize unless you are quite experienced at macros. Obviously I recommend the \$49.95 disk for those who want to set up a usable accounting system with little fuss; I have found it to work nicely, and the Payroll template is also a useful goody added on. No frills (but then, none claimed)—definitely recommended. Even if you don't use it, your improved knowledge of accounting and G/L systems will have made the investment worthwhile.

5. *Everything You Need to Do Your Taxes with Lotus 1-2-3*, Kwatinetz, Pitt, and Kwatinetz, Woodbury.

The 1984 version works, but is mainly useful as a check on math and for "what-if" considerations; don't fire your tax man yet!

Macros:

1. *The Hidden Power of Lotus 1-2-3: Using Macros*, Ridington and Williams, Brady.


This is a macro instruction book and disk; the tutorial function is done very well, and the examples are useful in other applications. A few complex, lengthy applications are included. If I had to recommend one book for macro beginners, this would be it.

2. *1-2-3 Financial Macros*, Carlton, Que.

Not for the beginner. More macro templates, including financial applications, accounting applications, budgeting, capital-expense analysis, multiple regression analysis, stock portfolio manager, and other miscellaneous topics. Disk available.

Auditors:

1. The Spreadsheet Auditor - v. 1.05 works with limited cursor control; you must use space bar to walk through choices, not first letters or cursor control keys. I can't get v. 2.0 to run so far, which is a pity, since it has more capability

HP PORTABLE RELATED PRODUCT


Improve your typing skills with
TYPING WHIZ
 The HP Portable Typing Tutor*

Developed for Portable users by an HP/Corvallis engineer, TYPING WHIZ includes these features:

- **Sequential dynamic learning.** Starts you on the home keys and automatically adds more keys as you gain proficiency.
- **Instant feedback.** Speed and accuracy are reported after each typed line to help you improve your typing quickly.
- **Varied practice.** Practice with words, sentences, numbers, symbols, or whatever keys you wish.
- **Speed and accuracy graphs.** Easy-to-read bar graphs pinpoint the keystrokes you most need to practice.

■ **Typing test.** Use the built-in test or create your own!

■ **Help screens.** Just press HELP for a clear explanation of each menu option. (The manual is clear too, but there's virtually no need to use it!)

Turn your Portable into a personal typing tutor!
 Have fun while you increase your speed and accuracy!
 Become a master of the keyboard - order TYPING WHIZ today!

\$49.95
\$39.95 for Portable Paper subscribers

15-day no-risk trial: If, after 15 days you are dissatisfied with this product for any reason, you may return it for a full refund.

■ To order, use postage-paid order form enclosed in this issue, or send check or credit card number to: Personalized Software P.O. Box 869, Fairfield, IA 52556 515/472-6330

*Runs on the HP110 Portable, Portable Plus, and Touchscreen

Typing Whiz is one of the better typing programs on the market and is priced competitively. If you want to learn or improve your typing, buy Typing Whiz. Typing Whiz is on my highly recommended list.
 —Dave Mark, L.A. Scrug Notes, newsletter.

as an auditor, plus the sideways print feature.

2. Cambridge Spreadsheet Auditor - not tried yet...anyone else??

3. DocuCalc - not tried yet

[Ed - I have had several unsatisfactory conversations with the author of DocuCalc, Laurence Chapman, Micro Decision Systems 2672 Gloucester, Pittsburgh, PA 15241, (412) 854-4070. My understanding of his program is that it runs on generic DOS machines, and, therefore should run on the Portables.

However, when I asked for a review copy and discussed the possibility of distributing the program if it would prove of value to our readers, the response was how could it be copy protected? I tried explaining that our readership is not the software thieving type. Furthermore, even if there are a few of our readers that don't yet understand that copying software from or for friends is as bad as shoplifting (it's stealing), Mr. Chapman would still profit by letting us review and possibly distribute the product. He was unconvinced, but said that if I could send him code for copy protection, he would send me the product.

Paul Grimmer, SideWinder's author, let me send him the portion of the SideWinder program that checks for which HP computer is being used. That code can be turned into a copy protection scheme. I have yet to hear from the DocuCalc folks, but I will continue to follow up since it is important for many users to have some kind of auditing program for 1-2-3. Thomas Page's article in this issue gives a flavor of the purpose of auditing programs.]

MemoMaker B

8 Lines Per Inch, 30 Lines Per Page

by Hal Goldstein

Connie Doolittle of Zurich tells us that 'MemoMaker works pretty well for my needs, but I go mad with no ability to control page length for 8 lines per inch and printing on European paper. I know I can use PrinterTalk, but that means going out of MemoMaker, which is an inconvenience. A Zurich salesman put a box on the PAM screen that I punched before starting MemoMaker, and for a while the printer followed European-sized paper. Then I lost the file. Do you have any ideas?'

First of all, if you want to always have your HP printer print at 8 lines per inch, you should make the adjustment in PAM's System Config. In the field **Print line spacing**, make the value **8 lines/inch** using **Next Choice**.

However, if you want to be able to switch back and forth from 6 to 8 lines per inch and be able to control the line length of your document, the procedure is a bit more cumbersome. If you are running MemoMaker on the Portable PLUS, it is not so bad. Insert the required printer directives (escape sequences) within your program. You can find the proper escape sequences in the back of your printer manual. Examples of escape sequences can be found below in the discussion of HP110 MemoMaker. To enter the **escape** character on the PLUS hold down the **CTRL** key and type **[** or type the **esc** key.

In general, after much experimenting I could find no way from within HP110 MemoMaker to change the line

length from 55. The solution on the HP110 (this method also works with the PLUS) is to **print** a file from DOS that contains the ThinkJet directives (escape sequences) that tells the printer the lines per inch, lines per page, and length of page. Then from DOS **print** the file. Once the proper escape sequence file is created, the whole procedure can be automated using a box on the PAM screen. Here is what to do.

Let us say you would like your pages to be 30 lines long, 25 lines on each page (the extra 5 lines are for top and bottom margin). Also, you want 8 lines per inch rather than the normal 6 lines per inch. The approach I use is to create separate files for each of the escape sequences and then combine them into one file.

In each of the following files there is an **esc** character. Using the **copy con** command you can create the escape character by typing the **ESC** key and then the **&** key. By coincidence, the next character in these files is also **&**, so you will end up pressing **&** twice in a row. The third letter in each of the following is the letter 'l,' NOT the numeral one. If entered correctly from DOS, the first 3 characters (**esc&l**) will appear as **^[&l**. Finally, to end the **copy con** command (which stands for copy from the console to a file) hold down the **ctrl** key and press **z**, then press **Return**. The **^z** below stands for this **ctrl z**.

From DOS type the following.

```
copy con 8lpi.tj
esc&l8D^z
copy con 30pl.tj
esc&l30P^z
copy con 25lpp.tj
esc&l25F^z
copy con perfon.tj
esc&l1L^z
```

Now combine those four files into one file: **totj**.

```
copy *.tj totj
```

There are several advantages to creating the four **.tj** files rather than creating **totj** directly using **copy con**. First, if the printer does not do what you think it should after sending it the escape sequences, it is easier to isolate the problem testing one file at a time. Secondly, if you have to type in all four lines, each time you make a mistake you have to start over. Thirdly, if you have various requirements (for example, sometimes you want 6 lines per inch and sometimes you want 8), you can quickly build whatever combination you require if you have created enough of these primitive one-line files.

File **8lpi.tj** contains the 8 lines per inch escape sequence. **30pl.tj** gives the directive that the page length is 30 lines. The 25 lines per page is represented by **25lpp.tj**. Finally, skip perforation is given by **perfon.tj**. If the skip-perforation-off escape sequence had been sent, or PAM's **System Config** had **Skip Perforation** as off, then the printer prints any file as one long page with no break after 25 lines.

Finally, create the following two files using your word processor or **copy con**. File **totj.bat** should contain the following lines.

```
print totj
command
```

The following two lines should be appended to **pam.mnu** if it exists. If **pam.mnu** does not exist, create it consisting of these two files.

```
PRINT FILE
totj
```

Now reboot the system by holding down the contrast key for 15 seconds. **PRINT FILE** should be one of the boxes on

the PAM screen. Start the application. **totj.bat** gets executed, thus sending the four escape sequences to the printer. **command** starts DOS. Now you are in DOS.

Line up the paper where you want to start printing.

Use the DOS **print** command (eg, **print filename**) and your file gets printed according to your print specifications. Type **exit** to return to PAM.

(B Drive—DOS—continued on page 28)

A Drive—Application Software in RAM

SideWinder

A

SideWinder - A Sideways Printing Program

By Gary Goodman

SideWinder is a new sideways printing program developed by Paul Grimmer of Southern Software specially for HP Portables and HP150 computers and for the ThinkJet and most other HP graphics printers.

The ability to print documents sideways is especially useful for printing Lotus spreadsheets containing more columns than can be printed across a normal page. Although compressed printing on the ThinkJet will allow you to put 142 columns across a page, the letters are inconveniently small and you may need more than 142 columns. Small printers like the ThinkJet cannot use the larger 14" paper size; thus, sideways printing is more important for these printers.

SideWinder is a well developed program. Besides being able to print normal characters, it has the capability for underlining and for printing double-wide characters. Lines can be any length. The line spacing is fixed at 6 lines per inch, giving a maximum of 40 lines per page. The characters closely resemble the standard ThinkJet characters. Printing is done at the full speed of the ThinkJet printer in graphics mode, which is somewhat less than half the speed of normal printing.

The program is quite easy to use. If you have a Portable or Portable Plus and a ThinkJet printer connected to the HP-IL interface, you are ready to roll. If you have some other computer connected with the printer through the RS-232 interface or with an HP-IL/RS-232 converter, you will first have to reconfigure SideWinder with the configuration program that is supplied. It looks easy enough, but I didn't have to do it since I use an HP110 with the HP-IL ThinkJet printer. SideWinder can be executed from PAM, in which case you will be prompted for the name of the file to print, or you can execute it from MS-DOS, supplying the name of the file to print on the command line.

Probably the most common use of SideWinder will be to print large spreadsheets. This is done with Lotus by first 'printing' your spreadsheet to a file instead of the printer. Lotus will allow you to specify a line length up to 240. If your spreadsheet is shorter than that, printing it with SideWinder is very simple. If the spreadsheet is longer than the print width you specify in Lotus (240 max.), then Lotus breaks it up into separate pages, which normally must be joined together by the cut and paste method. A well thought-out feature of the SideWinder program is the 'glue' specification, which causes the program to 'glue' the separate pages of the spreadsheet together during printing

so that each row is printed to its full length.

Two utility programs are supplied with SideWinder and a third is an optional extra. The first is an enhancement utility, a simple editor which shows you one line of your file at a time and allows you to specify where to start and stop double-wide and underline printing and allows you to edit the line. The second utility is a simple program to check the ThinkJet for clogged ports in the ink cartridge. (This could be tested just about as readily by using the ThinkJet's built-in self test.) The optional third program provides an easy interactive means to develop your own sideways character set which SideWinder will recognize when you print your file. This utility works very nicely and is also fun.

The documentation is quite complete and easy to read. A lot of attention is given to creating the Lotus .prn file so the pages will 'glue' together properly. A computer novice should have no trouble using SideWinder.

A number of standard printer features are not available in SideWinder. It will print only normal and double-wide characters at 6 lines per inch and 40 lines per page. Bold printing is not available. The absence of bold printing is apparently a limitation of the ThinkJet's graphics mode printing. Personally, I think the lack of an 8-lines-per-inch mode is a major limitation. I hope Southern Software will upgrade the program to add this feature. The present version of SideWinder should work with HP's new QuietJet printer, but it cannot take advantage of the QuietJet's wide carriage as it can print only 40 lines per page. A new version of this program is being developed for use with the QuietJet to allow more lines to be printed on wider paper.

If you need a sideways printing program for an HP Portable computer with a ThinkJet or HP82906A printer, SideWinder is a good choice. If you have a different printer, you should check with Southern Software to find out if it is compatible.

(Ed-Paul Grimmer has released a new version of SideWinder that can print up to 72 lines per page - useful to owners of the new wide-carriage HP QuietJet. In addition the new version can be customized for the IBM PC (rather than just "generic MS-DOS") and HP Printer. The new version also speeds up the HP150 to HP printer interface. If you have version 1.01 (printed on the label), and you will be helped by the new version, send Personalized Software your master disk and a self-addressed stamped envelope, and you will receive the update at no cost. Alternatively, you can send us \$7.50, and we will send you a new disk.)

An Etcha-Sketch type free-form drawing program also comes as an optional utility. You can save your sketches or dump them to your printer. Both optional utilities—the Etcha-Sketch and the sideways character generator work on the Portables— but not with the HP150.

Southern Software sells SideWinder for \$69.95 and SideWinder with the two optional utilities for \$79.95. Southern Software will give Portable Paper subscribers a \$10 discount on either product when ordered through Personalized Software. The subscriber cost for SideWinder is \$59.95, and \$69.95 with the utilities included.

SideWinder can be ordered from Personalized Software, P.O. Box 869, Fairfield, IA 52556, 515-472-6330, or by using the order form in the back of this issue of The Portable Paper.)

PLUS Notes

[The following information is from the HP Corvallis support staff, dated July 8, 1986]

New Products

The new Portable PLUS system ROMs, revision BBBB, have just gone into production. In recent months, several additions and improvements have been made to the Portable PLUS product line. HP has announced new hardware and new applications, as well as refinements to the existing hardware and software. There are also some other items coming soon.

New hardware includes the enhanced-contrast display and the additional memory in the enhanced versions of the Portable PLUS. With the latest (July 86) price reduction, the 45711F (with 512K of internal memory and the enhanced display) lists for \$2995. Another new hardware item is the CCITT modem which is now approved for use in a few European countries—this is the international counterpart to the Bell-212 internal modem used in the U.S.

New applications announced recently include REFLECTION 1(tm), Executive Card Manager, MultiMate(tm), Localization Kits (which provide application software in French, German, or Italian) and Microsoft(R) Spell.

The Portable PLUS itself now has improved reliability and RFI shielding, as well as better drawer connectors, new battery connection straps, added insulation at potential short-circuit points, and an RFI-protected bottom case. The memory cards have been strengthened and all circuit boards have been upgraded for improved solderability. All this is intended to make the Portable PLUS the most reliable computer of its kind.

HP is willing to mention a few of the products still under development. Watch for:

- Revision B of the U.S. modem, due in August 86. This modem improves compatibility with a number of other modems.
- An application that allows automated, unattended access to HP Desk, with off-line review and preparation of messages. (Fall availability).
- A plug-in drawer and application which provides full IBM 3278 terminal capabilities, including bisynchronous communications. (Fall availability).
- Version 2 of 1-2-3(tm), scheduled by Lotus for winter availability.

Do you need something which isn't on the list? Let Hewlett Packard know, because other projects are being evaluated and prioritized. You can send your comments to Hewlett Packard, Portable Product Marketing, 1000 N.E. Circle Blvd., Corvallis, OR 97330.

Frequently-asked Questions about the Portable PLUS

Q. Will I ever see GW BASIC for the Portable PLUS?

A. Yes, in September it will be added to the existing (Touchscreen/Portable) disk-based GW BASIC product. Wait until September, then order HP 45450D.

Q. The **Tab** key never works when I type a message on the display. I'm logged on to an HP 3000 using REFLECTION 1 (PC 2622).

A. The **Tab** key indeed works; there just aren't any tabs set initially with REFLECTION 1. Setting tabs in REFLECTION 1 is accomplished using **f2** (margins/tabs/col) in the System Keys. Be sure to save your configuration before you exit REFLECTION 1. You can save a configuration using the **f6** function key on one of the configuration screens.

Q. How do you know how much System Memory to set for each application?

A. Applications that are sold by Hewlett-Packard normally include the Main Memory requirements at the front of the manual.

For example, on page 1-2 of the Using MemoMaker manual, you'll read that the value for the Main Memory must read at least 96K. The Main Memory is increased or decreased on the System Configuration (**f6** from PAM menu).

Some programs may require additional memory in order to utilize all of the program features or to edit larger text files or programs.

To make it easy for you, here are the Main Memory minimum requirements for the most popular programs, along with the current version number:

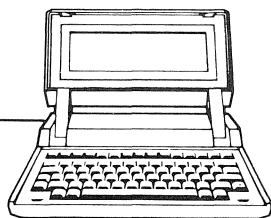
APPLICATION	MEMORY REQUIRED	CURRENT VERSION
MemoMaker	96K	A.02.00
Time Management	96K	A.03.CD
Microsoft Word	140K	1.1
Executive Card Manager	128K	A.02.00
MultiMate	152K	3.31
REFLECTION 1	144K	1.00
Lotus 1-2-3	80K	Rel. 1A
Lotus 1-2-3 Tutor	192K	
Lattice C by Microsoft	128K	V3.00 (upgraded from V1.00)

Q. How can my Portable PLUS be upgraded with more memory and higher quality display?

A. An upgrade program is available for a limited time (April 1, 1986 to September 30, 1986). The cost of the display upgrade (part number 45711-60955) is \$350. The cost of the memory upgrade (part number 45711-60956) is \$1100. The memory upgrade increases the internal 128K CMOS memory of your machine to 512K internal RAM. (Existing memory drawers further expand your total memory.)

You should call the Corvallis Repair Center at 1-800-782-8884 (in Oregon and Alaska, call 1-503-752-7793, collect) to schedule a time for your unit to be upgraded. It takes about 10 days for the upgrade once your unit has been received.

THE CONNECTION

Running IBM Software on The Portables

(All products discussed below, unless otherwise indicated, are ONLY AVAILABLE ON 5 1/4" DISK. If you have access to an IBM PC or compatible with the HP-IL Interface card, you will have no problem converting it to a 3 1/2" medium or running it directly from your PC. Alternately, if your dealer can't help you out, send us \$9.50, your source disk, a formatted 3 1/2" destination disk, and we'll do the conversion for you and mail the disks back. If you prefer, add \$4 for second-day UPS delivery or \$10 for next day UPS delivery.)

Excellent 1-2-3 Overlays

By Steve Cochran

I have 3 sets of overlays (templates on my HP110) that I have tried that work with 1-2-3. Personal Accounting System by Steve Cooper of Easy-As, and STAT-PAD and SAMS-PAD by John Clements. Each is excellent and I highly recommend them.

The Easy-As Personal Accounting System is a very well done overlay. My copy was set up for a regular 25-line screen, and therefore it takes a little adjustment in order to read the initial screens. (In order to adjust quickly, it helps to scroll down a couple of lines.) As in most accounting systems, the author has his own way of doing a system. This system is thoroughly professional and is also easy to post. After posting several entries though, the date format will no longer function. You will need to enter the worksheet and either extend the format area (with a range format command) or create an additional entry macro to speed posting as I did.

Easy-As is neat in the reports that it creates. It posts credits and debits, it creates an income/expenditure report, a listing of all transactions, an account summary, and it will reconcile a bank account. If you want a nice personal accounting package, then this will probably meet your needs.

Two other overlay packages are so massive and sophisticated that I can't praise them enough. They are both packages that would most likely be used by a Quality Control person. The first set is called STAT-PAD. It is a collection of expandable overlays that allow a statistical analysis of your data. To use it, you create a data file and name the data range "data." You then select the overlay you want, expand it to fit your data and import the file. The overlay is fully menu driven for all titles, data entry, analysis, error checking, graphics and saving. I think the package is the greatest.

STAT-PAD contains overlays for: Descriptive Statistics, Students t test paired & unpaired, 6 Contingency Tables, Analysis of variance (ANOVA), X bar s chart, P chart, C chart, U chart, Line fit, Curve fit, Plane fit, and Plot p.

You get this all for the price of \$65.00. I use these regularly in my business and find they handle all but the most rigorous tasks. The author, John Clements, has upgraded the overlays using 1-2-3 version 2. This allows better control of missing data points. It's really sad we can't get 1-2-3 upgrades for the 110.

SAMS-PAD, also by John Clements, is a collection of templates used for Quality Assurance sampling plans. They are just as sophisticated as the previously described overlays. The collection includes 16 overlays for a variety of fixed and sequential plans. The package will also develop and print curves for varied sample sizes. If you use sampling plans, this is a very good package. A sound understanding of sampling plans is suggested for the user of this package. John has also priced this collection at \$65.00.

In order to use all of these overlays, I purchased the originals in IBM format and then copied them to my 110. I have access to an IBM with an HP-IL card in place. All of the overlays have run without a single glitch. I am a big fan of well-written overlays for 1-2-3. For me they have been useful timesavers, and I find that they function as well as dedicated programs that are more costly. It appears that a very useful cottage industry has developed around 1-2-3. I say "keep em coming." *(Personal Accounting System can be ordered from Easy As, 36 S. Charles St., Suite 402, Baltimore, MD 21201, (301) 539-5540 for \$35. STAT-PAD and SAMS-PAD can be ordered from Professional Applications Development, 12 Sandy Way, Weymouth, MA 02191, (617) 331-4062.)*

Just Keepin' Records

By Kay Sinclair

"Just Keepin' Records," a clever, macro-driven Lotus 1-2-3 template with menus, can help balance a checkbook, do a budget, and track expenditures.

The Just Keepin' Records (5 1/4") diskette comes with three files (AUTO123, DEMO, and JKR) for each Lotus 1-2-3 version (1A and 2) and for Symphony Rel 1.1. I used the Lotus 1A version on the Portable PLUS. In addition, I loaded the three files, along with the file containing my checkbook records, into both an HP110 and an HP150 and tried entering transactions, reconciling, and so forth. The program worked fine on all three HP machines. I was able to keep my HP110 memory configured to the default 96K and to record four months of my family's checks.

A letter that comes with the Just Keepin' Records explains the different files and gives the user instructions to get started. There is an AUTO123 file that loads automatically when you start Lotus. Nearly everything is self-explanatory.

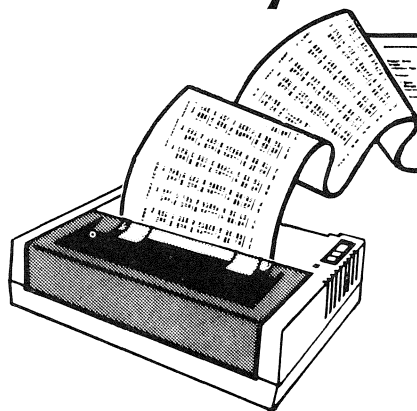
Like most templates, the software was originally written for an IBM. The Portable user needs to be prepared for a few inconsistencies/differences between the two computers. An IBM uses the **alt** key to start a macro while the Portables use **ctrl shift**. Also, when instructed to press the **ENTER** key, I finally decided after some trial and error that **Return** worked on my HP.

For documentation it is sufficient to simply print a copy of all the help screens by doing the following: /Main Menu **Other Print-Reports Instruction-Manual**.

The entire package is set up so you either choose from a menu of commands which appear across the top, or you

HP PORTABLE RELATED PRODUCT

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



SIDEWINDER

**At last! Sideways printing
for the HP Portable,
Portable PLUS and
ThinkJet!** (And the HP 150, Vectra, IBM PC,
MS-DOS computers and most HP graphics printers.)

It's called SideWinder, and it's perfect for Lotus 1-2-3 print files, MemoMaker files, or any other text (ASCII) file that's too wide for a normal page.

Just type in the file name, and SideWinder does the rest, printing up to 40 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.

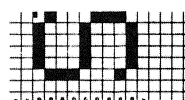
\$69.95

Order Today from Personalized Software for Portable Paper subscribers \$59.95

*72 rows for QuietJet printer.

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.



SideChar
NAME
Q to Quit P to Print
L to Load S to Save
Select to toggle block
Cursor keys to move

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

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

are prompted to fill in data before the spreadsheet will let you continue. After using a Demo file and the General Help Instructions file, you will be ready to begin setting up your own data. You load template file JKR to guide your data entry.

Within the checkbook you can set up a maximum of 15 frequently used transactions such as monthly car payment, monthly mortgage, education loan, credit card payments, electric, gas, phone, and so forth. Each of these 15 gets assigned a single letter 'name' in the Transaction-Library. Every time one of these transactions needs to be entered into the checkbook section of your spreadsheet, you will just press **ctrl shift** and that particular letter, without typing the payee, account number, or amount. If the amount changes each month, as with phone, gas or electric, you don't have to fill it in until actually entering

the transaction. A Look Up window is included, in case you forget any account numbers when posting transactions. For all other entries, you type them into the file, just like you would write them into your checkbook.

The date column is already formatted to hold a date in a Year, Month, Day form. To fill in the date you type **@Date(86,5,9)** which will appear as **05-May-86**. I kept wondering if there wasn't an easier way to enter dates, other than putting your transactions in frequently and using one of the macros **ctrl shift T** (Today's date), **ctrl shift Y** (Yesterday's date), **ctrl shift B** (Day-Before-Yesterday's date), or **ctrl shift N** (Tomorrow's date).

I went back to January 01, 1986 and entered all of my checks since then. If you run out of pre-formatted lines, you are told how to format some more.

HP PORTABLE RELATED PRODUCT

You erased your Portable's data. Get it back with The Norton Utilities™

It happens. One slip of a finger and a whole week's worth of input data is history. The Norton Utilities are powerful organizational tools for the HP Portable and Portable Plus.

With a remarkable file recovery feature called UnErase™, you can actually search for and restore lost data with a few simple commands. And you can use The Utilities daily to locate files, track down data and put disks in order.

Works great on Portable and Portable Plus.*

Purchase Utilities from Personalized Software and you'll receive additional 3½" or 5¼" disk with copy of Norton Utilities

- Norton Utilities normally not available on 3½" disk
- Disk contains instructions on how to run Norton Utilities on Portable and Portable Plus
- Disk includes several excellent Public Domain programs
- *Portable Paper* subscribers receive 10% Discount

Pricing

Normally \$99.95

Subscriber discount \$89.95

Until July 31, 1986:

If already purchased Holiday Pack from us - \$84.95

Holiday Pack and Norton Utilities - \$199.95



THE NORTON UTILITIES

DATA RECOVERY DISK MANAGEMENT

TIME-LIFE
ACCESS
NEWSLETTER
says "Highly
recommended for
business users."

A life saver for your data.

*We include a program that allows The Norton Utilities to run on the HP150.

Once all of the transactions are entered into the "checkbook" area of the file, you are ready to balance your checkbook. First you mark any outstanding checks or deposits. Then you are ready to use the "Reconcile" menu. Here you will be prompted to enter the date and ending bank balance from your bank statement.

At that point, the computer does some pretty amazing and FAST work. It totals up all of the outstanding items and shows whether your checkbook balances and how the balance compares to the bank statement. Some tips are included in the instructions that, for example, help you to find where the checkbook is "off" and that help you find all payments to a particular "payee." Finally, you can print a variety of reports—the whole checkbook in its current sorted order, the Transaction Library (so you don't have to

remember what you named each one), or the Instruction-Manual.

I'd recommend taking full advantage of the Transaction-Library, to save as much typing time as possible. One problem that I never quite conquered was how to deal with interest on the account and match the balance that had shown in my checkbook.

This template is valuable, but after putting in two months worth of checks and reconciling, I wasn't sure the process was worth the effort. However, for those who want to keep their personal or small business expense and budgeting information on their Portable, the program has much to recommend it.

(Ed-I talked with the author of the program, Hershell L. Heath, an accountant. He told me that there are so many

uses for the program (such as tax planning) that he plans to put out a newsletter to owners so they can fully utilize the richness of the program. He has a new program, "Just Keepin' Records For Churches" that adds membership

and contribution fields to the original Template. "Just Keepin' Records" can be purchased on 5 1/4" disk for \$35 by writing PO Box 44128, Oklahoma City, OK 73144)

Through the Looking Glass

By Ed Keefe

This journey through the "looking glass" of the HP110 or Portable Plus is going to be a real trip: something to drive any hatter mad.

In the first section I will be aiming this article at intermediate to advanced users of the Lotus 1-2-3 spreadsheet program. Even so, I will be probably be accused of creating chaos out of the neat row and column order of your favorite number crunching program. Following Lotus are discussions of a new Portable editor and several DOS discoveries. I will conclude with a batch file and discussion that I promised HP110 Time Manager users in an earlier issue.

For Lotus Aficionados

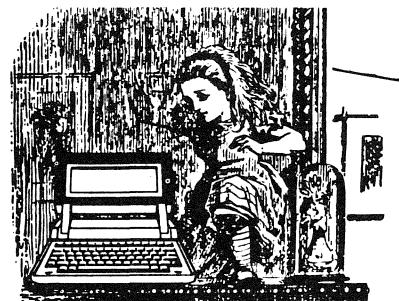
Most users of 1-2-3 value the program's ability to manipulate mathematical models and to forecast their fiscal fortunes. Others are gratified when they can generate graphs and charts.

Yet there are the travelers in the wonderland of 1-2-3 who have tasted the lotus and have become aware that there is more to 1-2-3 than meets the eye. Beyond the numbers, formulas, macros, and graphs of the workaday world lies another world of games, puzzles, challenges and even play.

For instance, when your work is done, and you want to look like you're still hard at work developing the ultimate spreadsheet, try some of the following challenges with Lotus 1-2-3.

THE CHALLENGES

- 1) For those who like to play with graphs, try getting 1-2-3 to present you with a picture of a square or rectangle when you issue the / **G**(raph) **V**(iew) command. (HINT: it has to be an **X-Y** type of graph, doesn't it?)
- 2) If the first challenge is too easy, shoot for a star. Get the spreadsheet to draw a five-pointed star on the screen. (Again, this would have to be an **X-Y** type of graph.)
- 3) A college math professor whom I know once belittled Lotus 1-2-3 because, as he said, it was "only good for business charts" and couldn't produce graphs of simple trigonometric functions. I accepted the challenge and, in about 20 minutes, I had produced a graph of the functions $\text{SIN}(X)/X$ (the sine of X , divided by X) and $-\text{SIN}(X)/X$ on the same graph. I'll wager that you can do the same. It will help if you have had a course in trigonometry, but that isn't essential. You can use the **@SIN()** function built into 1-2-3 without really understanding what a SIN function is.



- 4) A real challenge: in the Lotus Manual for the HP-110 (page 16-3 of my edition) there is a graph entitled "Spiraling Form." The graph seems to be part of the standard documentation for Lotus 1-2-3 (release 1A). Is it possible to duplicate this "Spiraling Form" graph on either of the HP Portables?

- 5) The hottest topic in microcomputing nowadays is desktop publishing. People are expecting more than dot-matrix printing from their desktop and lapheld computers. Did you know that it is possible to produce not-quite-near-letter-quality printing with Lotus 1-2-3? It IS possible, if you are willing to use the Lotus files containing the character fonts used to generate the Titles and labels on Lotus graphs. (HINT: you will need to use a Line graph which has neither lines nor symbols, just an "imaginary" set of points on a vertical line. Then, of course, you can create data labels that are associated with these points. These "data labels" can be several words long. Finally you will want to print the "graph" using the ROMAN2 characters for both the first and second titles.)

- 6) For those who are interested in the lore of numbers, here is a different kind of challenge. It involves developing a macro or two that will let you convert numbers in base 16 (hexadecimal numbers) to decimal numbers (numbers in base 10). (HINT: this one involves the use of the data base functions in Lotus 1-2-3. You may try using a database of 256 rows for a relatively simple solution to the puzzle. For a real challenge, try limiting yourself to a data-base of only 16 rows while still being able to convert **FF**(hex) to **255** (decimal).

- 7) Here is a challenge which Lotus 1-2-3 may help you beat. Like many readers of PC World and PC Magazine, I have been challenged time and again by the articles in those magazines which ask me to key in a BASIC program which will, eventually, become a great little utility program. The BASIC program is usually referred to as **X-Maker** and may contain anywhere from 2 to 200 **DATA** statements. Each data statement consists of 16 numbers, separated by commas. Trying to key in all the numbers using MicroSoft BASIC is an exercise in futility.

Just recently, however, I got three of these programs to run on the first try. I used Lotus 1-2-3 to ease the input of all the numbers. I also used 1-2-3 to number all the lines in the BASIC program with the simple expedient of the Data Fill command. I only typed the word **DATA** once and only needed to type one comma. All the duplicates of **DATA** and the commas were generated with the Copy command. The only thing left to do was to key in the



PORTABLE COMPUTER PERIPHERALS & ACCESSORIES

		LIST PRICE	OUR PRICE
9114B	Portable Disc Drive	\$795.00	629.00
88014B	Replacement Disc Drive Battery	55.00	49.00
2225B	Portable Thinkjet Printer	495.00	399.00
82199A	Replacement Thinkjet Battery	45.00	39.00
82164A	HP-IL/RS-232 Interface	295.00	249.00
82169A	HP-IL/HP-IB Interface	395.00	329.00
HP-12C	Financial Calculator	99.00	79.00

These are just a few of the products in our large inventory of Hewlett-Packard computers, calculators, printers, plotters, and supplies. Please call for prices on any Hewlett-Packard products not listed. We accept VISA, Mastercard, and American Express.



COMPUTER PRODUCTS

DIVISION OF GRAPHIC ARTS SUPPLY
519 Hamburg St.
Buffalo, NY 14204

N.Y.

800-851-1511

U.S.A.

800-231-0678

numbers on the DATA lines. Even there, 1-2-3 simplified things. The last number in each row turned out to be the sum of the numbers in the row. I used the **@SUM()** function and let 1-2-3 show me where I had made typing errors.

This strategy also works for those programs that list their data using hexadecimal numbers. However, the **@SUM()** function is useless in this case.

When the worksheet version of the BASIC program was finished, I printed a copy of it to a file on the disk. Then I used the MS-DOS command **REN** to rename the file so that its extension was **.BAS** instead of **.PRN**. Finally I loaded the program into my BASIC translator program and Ran it. Success!

GAMES

1-2-3 PLAYS If you like puzzles and challenges, you're sure to enjoy the ultimate game designed to run in Lotus 1-2-3. The name of the game is "Templates of Doom." It is actually a series of games which will teach you more about the commands in 1-2-3 than you care to know. It is something of an adventure game in which you are challenged to find the name of the hero and his weapon, etc. The answers are buried in several cleverly designed worksheets. The game will even run on the HP110, and is more of a challenge due to the 16-line display. The game comes only on a 5 1/4 inch diskette. It is sold by Solar Systems Software, 8105 Shelter Creek, San Bruno, CA 94066 for \$39.95.

Well, there you have it: a variety of frustrating challenges that will let you explore many of the by-ways of Lotus 1-2-3.

I have purposely restricted the number of "hints" for each of these challenges. As a teacher, I would like to share with you the tricks for solving these puzzles. On the other hand, as a fellow learner, I would like you to have the satisfaction of discovering the answers for yourself.

As a compromise, for those who find themselves

stumped and losing sleep over the solution to the puzzles, just send me a stamped, self-addressed envelope and I'll send you my solutions to the puzzles. If you have your own puzzles, send them along, too. The address is *The FastAid Co., 314 S.W. Logan, Ankeny, IA 50021.*

Tired Of MemoMaker?

If you are looking for an alternative to MemoMaker on the HP110 or Portable PLUS, I would suggest that you get a copy of Ed Gilbert's text editor, ED. It is a full screen editor that is truly an amazing piece of work. Its mode of operation is very much like Lotus 1-2-3. It is relatively easy to use and extremely fast and flexible. Actually, ED is a programmer's editor.

However, it can be easily modified to behave like a word processor complete with word-wrap, left and right justification, and file lengths up to the limits of memory in the HP110. I can't sing loudly enough my praises of this text editor. If you want a change of pace for word processing on the HP110 or Portable PLUS, then this 40K byte program should do the trick. I will be reviewing ED and a text formatter that Ed Gilbert also wrote in the next issue. Hal Goldstein tells me that Personalized Software will market both products beginning next issue.

For MS-DOS Users

THE UNDOCUMENTED CHKDSK /V

There is an undocumented MS-DOS command that I have found useful. The command is a variation on the **CHKDSK** command. It is simply **CHKDSK [d:] /V**, where **[d:]** is the label of the disk drive.

To try out the command, type in **CHKDSK B: /V** and press the **Return** key. You will see a list of all the files on the B: drive for your computer. On the HP110 this list will include the hidden files, one of which is the **amigo.sys** program. The list will conclude with the usual display for

extreme left of the 110's display.

TimeManager

T.BAT

Save these two lines on your disk as **c:pam.mnu**.

(If you already have a **PAM.MNU** file on the micro-floppy disk, bring it into the MemoMaker work space, add the above two lines to it, and re-store it on the disk.)

RUNNING THE BATCH PROGRAM

Whenever you want to run the Time Manager program, all you need do is insert the disk containing the TM program into the disk drive and press the **f4** key to reread the disk. You should see the TimeManager option in one of the prompt windows. Point at the prompt window with the cursor key and press **Return**. Within a few seconds you should see the Time Manager Calendar. Go ahead and add or change or delete any Things-To-Do or Appointments or Names and Addresses.

When you finally exit the Time Manager program, your work will be stored back on the disk and everything will be restored to the original condition. Any appointments that you have made will be left on the electronic disk as a **PAM.ALM** file, and also copied onto the magnetic disk as a backup.

HERE IS HOW THE BATCH FILE WORKS

The **echo off** command will stop MS-DOS from echoing, on the screen, everything that it is doing. The **cls** is the DOS abbreviation to "clear the screen." When the batch file is running, you should see the message "Loading Time Manager" and then a briefly displayed prompt before the screen is cleared. DOS will display the message "1 file(s) copied" once for each of the files that must be copied to the electronic disk. The "to do list" and the "name and address file" must be on the electronic disk for the Time Manager program to work properly.

The commands **if exist c:tm.tdo copy c:tm.tdo a:**, along with the next two similar commands, are MS-DOS commands that will copy each of the files from the C drive (the source) to the A drive (the destination). However, the files will be copied only if they exist on the C drive. The **if exist** prefix to the command prevents a message on the screen telling you that the file does not exist.

Once those three files are transferred to the electronic disk, the batch file **t.bat** invokes the Time Manager program with the command **tm.com**. This command will bring the Time Manager program into the working memory of the computer and run it.

Finally, when you exit from the Time Manager program, the batch program will resume control and clear the screen and turn the echoing off. The program will copy the "to do list," the "name and address list" and the "alarm file" back to the disk. Again, the copying will only be done for those files that exist. The batch program will then delete both the **tm.tdo** and **tm.nam** files from the electronic disk. The asterisk in the last line of the batch file is what MS-DOS calls a "wild-card." It has the effect, in this case, of deleting all those files which start with the name "tm" and which end with any extension whatsoever.

SOME CAUTIONS FOR USING THIS BATCH FILE

There is a glitch in the Time Manager program that detracts from the complete usefulness of this batch file method of loading the program. This glitch can be seen when you decide to "take a note" from within the Time Manager program.

The Time Manager program uses the MemoMaker

program to create a file with the name of the date and extension **.not**. If the program **tm.com** resides on the magnetic disk only, the **date.not** file is created on that disk. And, when you use the **File/Save** keys to store the document, it will be placed on the magnetic disk. But when you try to EXIT from the "note-pad" (MemoMaker), the Time Manager program "crashes." The computer resets itself and returns to the PAM menu screen. At this point nothing has been destroyed. However, if you have updated any of your appointments or "to-do's," before writing your note you will have to use PAM to copy the appropriate **tm.xxx** files to the C drive before you run the Time Manager program again. Otherwise, the older version of the files on the magnetic drive will overwrite their newer versions on the A drive.

The same system reset happens when you try to return to The Time Manager program after you have run a program or issued a DOS command from within TM. Say, for example, you want to know what files are contained on the A drive. With the TM calendar screen in the display of the HP110, you can simply type in the command **dir** and press the **Return** key. The computer will respond by blanking out the calendar screen and showing you the directory of the A disk. At the end of the list of files will be the message "Press any key to return to Time Manager." When you do press a key, the program will crash and the computer will reset itself.

So the first word of caution is to forego running other programs (or writing notes) with the Time Manager program in control. It should also be said that such a system reset does not hurt your computer. Ordinarily, a system reset will leave all your files intact as well.

A second word of caution: be sure you have enough room on the electronic disk before running the Time Manager program from the external disk. Depending on the size of your "to do" and "name" files, the amount of space you will need will be in the neighborhood of 10K bytes to 20K bytes.

Until next time, Happy Porting.

Ed Keefe is an author, programmer, and Computer Science instructor. He is the president of The FastAid Co., 314 SW Logan, Ankeny, IA 50021. Ed's CompuServe I.D. is 73277,1064.

(continued from page 20)



By Hal Goldstein

64 File Limit

Several readers have complained that, while saving a file, they get an error message such as "File creation error" (from DOS) or "Cannot create file" (from 1-2-3) and similar messages from other applications. If this happens to you, nothing is wrong with your machine. You have probably reached the maximum number of files you can create within a main directory: 64.

The way around this limitation is to create subdirectories. (see *The Portable Paper* issue 2 or the DOS manual.)

A subdirectory is considered a file, so, a main directory with 63 files can support one subdirectory. I believe you are allowed up to 1024 files in each subdirectory.

In order to test the limits of the Portables' main directory I constructed a DOS batch file using a Lotus 1-2-3. This batch file created new files quickly. Here's how it's done.

From within Lotus in cell **A1** enter the phrase **copy 2**. Use the **/Copy** command to copy that phrase from **A2** to **A64**. Then use the **/Data File** command in column **B** to fill cells **B1** through **B64** with the numbers **3** through **66**.

With the **/Print /File** command print the spreadsheet to a file named the number **1**. Upon exiting Lotus rename the Print File just created from **1.prn** to **1.bat**. Finally, enter command **copy con 2** to create a file named **2**. Type any letter and press **ctrl z** and **Return**. The file named **2** is created.

Now type **1** and files named **3** through **64** will be created one by one automatically. A "File creation error" gets printed when **copy 2 65** is attempted. Because of memory limitations, I only got as high as file **630** on the PLUS when attempting to test the subdirectory limit.

Speeding Up HP9114 Disk Access

Dr. Byron Rigby, Maharishi Vedic University, Washington D.C writes: "sometimes on the HP110, something happens that makes the **dir** command go smoothly: a list of 60 files prints on the screen like lightning (far too fast even to halt with the **Stop** key). How can one make sure it is always so fast? Usually it is slower, with the cursor retyping the line on the screen (or the last inch of it) 2 or 3 times, as if it has hit the end and bounced a few times. It can be painfully slow reading the directory of an external disk."

Cliff Looyenga, our Wizard writes: "I too have wondered about this. The other day I was doing a directory on a disk that was in my HP9114A drive. I became very impatient as it took about 2 seconds per file listed. This occurred because my directory was fragmented. I could hear my disk drive moving the head back and forth as it read the fragmented directory."

As you may recall from past issues, disk fragmentation means that a file may be divided into many fragments located throughout the disk. One solution to disk fragmentation is to use Ed Gilbert's DISKPACK routine available free to 1987 subscribers to The Portable Paper. This program not only packs the files like the **pack** routine (built into the PLUS and available from us for the HP110), but it corrects fragmentation of the files (and does not contain the **pack** program's bug that can corrupt a disk with sub-directories).

Cliff continues: "The problem got me thinking about something I had read in an MSDOS book: using the **buffers =** parameter in a **config.sys** file. I tried it, and here are my results. Without using the **buffers** parameter a directory took 43 seconds. When I used the **buffers =** parameter the directory took only 13 seconds. That is over three times faster! Using the **buffers =** parameter can speed up many applications that make much use of the HP9114 disk files."

The **buffers =** parameter tells DOS how many disk buffers to use. Normally, by default MSDOS uses two, 528K disk buffers. A **disk buffer** is an area in your Portable's memory that temporarily holds the information you are transferring to or from your disk. So if you gave the DOS command **dir c:**, the information gets transferred from the C disk to the disk buffers, and from the two disk buffers it gets written onto the screen. Furthermore (and here is what really speeds up things), DOS is smart enough to check the disk buffers before it goes to disk to see if the in-

formation requested is already resident in the 528K disk buffers from previous requests.

Similarly, if you were to save a file, for example, from within Lotus to your electronic A drive, the information would first be sent to these buffers and then to the electronic disk.

The **buffers =** parameter allows you to change the number of these 528K buffers from 1 to 99. As you can see, the rub comes that in order to increase the speed of disk access you have to give up precious internal memory.

If you are only retrieving and saving information to your Edisc, you are probably better off leaving things alone since the minuscule increase in speed you would gain transferring data back and forth from your Edisc would not be worth giving up memory. However, if you are making heavy use of your HP9114 in an application, you might want to experiment with the **buffers =** parameter.

As an example, **buffers = 10** tells DOS to use 10 (528K) disk buffers. To use this option, you need to create an ASCII file within MemoMaker or on your word processor that has the following line in it: **buffers = nn**

where **nn** is the number of buffers you want between 1 and 99. (Note that there is also a point when DOS gets bogged down just managing buffers.) Cliff recommends a number between 10 and 20—he uses 10 on his Portable.

Save this file as **config.sys** and then do a hard reset (by holding down the contrast key for 15 seconds) to make the **config.sys** file active.

If you do a lot of reading and writing information from different parts of a HP9114 disk file, you will notice large gains in performance. A block of information already in a disk buffer from a previous access will not have to be reread from disk. However, if you access a file sequentially, you will not benefit nearly as much because DOS still has to read each sector.

110 WIZARDRY

by The Wizard, Cliff Looyenga

Programmatically Turning Off the Portables

Some time ago I wrote a program that would give the person running the program the option to turn the computer off without terminating the program. I thought it would be a simple task because I assumed I would only need to call interrupt 55h (hex). In fact, it was fairly simple, but there was one little catch that took me a while to figure out, so I thought I'd share that with you.

Interrupt 55 hex is indeed the interrupt to use to turn off the portables, but the problem I had when I called it was that the computer would turn off and then come back on again a second later. After some reading and experimenting, I found that when the user entered the command to turn off the computer, the program would execute the interrupt 55h before the user had released the last key of the command, thus turning the computer back on again.

The solution is simple: just wait a little while before turning the computer off to ensure that all keys have been released. The following is a short procedure written in

turbo pascal that you can use to turn off the portables programmatically.

procedure off;

var reg : record

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

end;

begin

delay(400);

intr(\$55,reg);

end;

To execute the program, just type **off** from DOS or PAM and the machine shuts itself off. The program **off.com** is available on the CompuServe HP forum and will be on the utilities disk that will soon be released (we hope) by Personalized Software.

Cliff Looyenga provides technical support for HP PC's and HP3000's, and in those circles he is known as 'The Wizard.' He has developed a number of Portable and Portable PLUS utilities. You can reach Cliff via CompuServe. His ID is 75106,2130.

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, 515-472-6330.*

California

Southern California

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

Los Angeles County, Southern California
Interested in forming HP110 local users group. Call during day. Blue Chip Computer System. 9701 West Pico Blvd, Los Angeles. Elmar M. Gomez 213-553-3393.

San Diego

Please contact me if interested in forming users group.

Stephen L. Eyre. 454-0555.

San Mateo, Santa Clara Counties In San Francisco Bay Area

Call if interested. Time and place to be arranged. Herbert L. Hamerslough. D: 415-340-8811. E: 415-323-9618.

Los Altos/Mountain View

609 Rosita Ave. Los Altos, CA 94022. 1st Tue night, 8PM, monthly or bi-monthly. Please, call to verify time and place and to say, hello. Marge Sutton.

D: 415-949-0509. E: 415-948-0627.

Colorado

Colorado Springs

Mission Research, 4935 N. 30th St., Colorado Springs, 7 PM, First Monday each month. Call if plan to attend. Dan Ritt. 303-528-8080.

Denver

Call Bob Pressey, 303-777-0326

Georgia

Atlanta

Call Brian Walsh D:404-394-2500

E: 404-399-6842

Hawaii

Honolulu

Call Rodney Y. Fukuya if interested, 808-945-3111.

Indiana

Indianapolis

Call Bob Glass if interested in getting together, 317-638-2326.

Iowa

Mid Iowa

Preferably on weekends, Thursday or Friday evenings. I headed a users group for the HP41C and know what a good learning experience a users group can be. 314 SW Logan, Ankeny, IA 50021. Ed Keefe D: 515-964-6644 E: 515-964-7064.

Southeast Iowa

906 W. Briggs, Fairfield, IA 52556. Call Hal Goldstein 515-472-6330.

Maine

Yarmouth

Every last Tue 6:30, US Route one, Yarmouth, ME 04096, 846-5497

North Carolina

Charlotte and surrounding area

If you are interested in developing a Charlotte area HP-110 user group, please call my phone answerer and leave your name, phone number, address, and the fact that you are interested in a 110 user group. John Jacob, 704-334-3468.

Oregon

Salem

Call to verify time & place & say hello. CompuServe ID 75066,1744 for electronic mail. Tom Cropper 503-390-1431.

Texas

Dallas/Ft. Worth Metroplex

2nd Thursday each month. Schedule and location can change to accomodate members. Optic-Electronic Corp, 11545 Pagemill Rd, Dallas, TX 75243

D. E. Pennington, D: 214-349-0190,

E: 214-331-4402.

Houston

Houston area users, please call and let me

know what interests you. I will arrange a meeting as soon as I know what is needed. Our abilities are enhanced by sharing resources.

Thomas R. Page, D: 713-759-4259,

E: 713-528-7138.

Utah

Utah County

First Friday each month at Noon. Heritage Halls Office, 825 East Heritage Drive, Provo. Call to verify time and place.

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

Virginia

Central Virginia

Call to introduce self and confirm interest.

Steve Cochran. D: 804-528-8491,

E: 804-348-5289.

Washington

Eastern Washington, Northern Idaho, Western Montana, and possibly Western Washington until someone does it

Call or write to say hello and give input on desired time and place. N. 16725 Suncrest Dr, Nine Mile Falls, WA 99026.

Bob Sandberg. 509-466-4999.

Eastern Washington

Every second Tuesday. Call ahead to confirm. E. 3703 33rd, Spokane.

Stephen S. Warner. D: 509-534-1588,

E: 509-535-3322.

Washington D.C.

Greater Washington D.C. Area

8:00 PM, Third Monday of Each Month, Ballston Tower #1, 800 N. Quincy St., Room 519. Call to confirm and to say, Hi.

William F. Cross. D:202-696-4112,

E:703-845-9508.

Wisconsin

Racine

Write Tom Nelson, Racine Federated, Inc., 2200 South St., Racine, WI 53404, or call 414-6770.

Australia

8 Avoca St, S. Yarra, Victoria, Australia.

Nigel S. Ball. 03-267-8344.

England

Trafalgar House, Grenville Place, Mill Hill, London, NW7 3SA England. Tim Cullis.

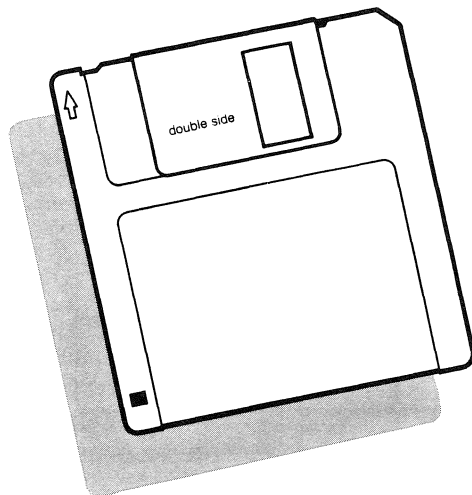
(01) 959 4359.

Spain

Club de usuarios HP 110, Pont Reyes S.A.,

A la atencion de D. Enrique Serra,

Ronda Universidad, 15, 08007, Espana.



Buy Quality 3 1/2" Double Sided Double Density Disks For Your HP9114 From Personalized Software

Why pay HP \$69 for 10 disks in a fancy shrink-wrapped box with lots of artwork? We sell you quality Sony disks - without the boxes. We'll package your disks in an ergonomically designed \$4.95 library case at no extra charge.

Portable Paper subscribers pay \$39.95 for 10 unlabeled (you'll need to trust us) Sony disks, the same disk that HP sells.*

To order from Personalized Software - use convenient postage paid coupon at back of this issue. Or call (515) 472-6330. MasterCard or VISA welcome.

**Plus shipping. Lifetime-Warranty on each disk. If you find a bad disk, we'll send you back two good ones.*

FOLD HERE



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 1047 FAIRFIELD IA

Postage will be paid by addressee:

Personalized Software

PO Box 869
Fairfield, IA 52556



FOLD HERE

Name _____
Title _____
Company _____
Address _____
City/State/Zip _____
Telephone (____) _____

Specify size of disk: ☐ 3 1/2" ☐ 5 1/4"

Method of payment: ☐ Check ☐ MasterCard ☐ VISA

Card # _____ Expires: _____

Cardholder Signature _____

Attention

Credit Card Holders:

You may order by calling (515) 472-6330 Monday through Saturday or by sending CompuServe EMAIL to ID 72257,714.



To Order by Mail:

- 1) Staple your check (U.S. funds) to this card or note your credit card information in the space provided.
- 2) Fold this side over first, then fold the other side so that it covers this side.
- 3) Tape shut and drop in mail. We pay postage.



Personalized Software

Products that make HP Portables smarter

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

ORDER FORM

Product		Retail	Subscriber Discount	Qty	Total
NEW	The Portable Paper—2 Year Renewal ¹	99.00			
	The Portable Paper—1 Year Renewal ¹	55.00			
	Back Issues (indicate numbers) ¹	9.20			
	Time Manager, Pack, HP Calculator ²		7.50		
	1987 Subscribers Disk ³		7.50		
Software - general	CompuServe Starter Kit	39.95	35.95		
	Format110	39.95	35.95		
	Norton Utilities ⁴	99.95	89.95		
	PrinterTalk	49.95	44.95		
	PrinterTalk/Format110	89.90	59.95		
	Private File	39.95	34.95		
	NEW SHELP (works on PLUS only)	55.00	49.95		
	NEW SideWinder	69.95	59.95		
	NEW SideWinder + Utilities ⁵	79.95	69.95		
	TigerFox	32.95	29.95		
	Typing Whiz	49.95	39.95		
	NEW WordPerfect (PLUS only, Disk- based)	495.00	299.00		
Pascal Software	Holiday Pack ⁶	125.00	119.00		
	Turbo Pascal ⁶	69.95	65.95		
	Turbo Toolbox ⁶	54.95	51.95		
	Turbo Tutor ⁶	34.95	32.95		
	Pascal Programs For Portable ⁷	49.95	44.95		
Disk Drive Supplies	10 Unlabeled 3.5" Sony DS/DD Disks + Library Case	64.90	39.95		
	HP9114 Empowerer (Power Supply)	145.00	129.00		
	HP9114 Empowerer With Battery Pack	225.00	199.00		
	HP9114 Empowerer With Used HP9114A ⁸		595.00		
Leading Edge	NEW L. Edge, 30M Hard Disk, 5 1/4" Floppy, HPIL Card, sw	2310.00	2095.00		
	Leading Edge Dual Floppy, HP-IL Card, software	1810.00	1595.00		
	Leading Edge 640K upgrade (from 256K)	200.00	150.00		
	With L.E.: DOS, GWBASIC, L.E. Word Proc., TWIN	400.00	0.00		
	Installed Everex Internal Modem for L.E.	274.00	249.00		

Iowa residents add 4% tax.

Shipping and Handling add \$4 for 1 item, \$7 for Holiday Pack or more than one item. FREE SHIPPING FOR U.S. ORDERS OVER \$200. Non-North American orders: additional \$3 surface mail, \$10 airmail. We bill or charge Non-U.S. orders for the actual postage amount if it exceeds these shipping charges. (Holiday Pack costs about \$25 overseas.)

Specify Disk Size ☐ 3 1/2" ☐ 5 1/4"

TOTAL

¹ Includes U.S. second class mailing. For each six yearly issues Canada, Mexico add \$3 surface mail, \$6 air. Other countries: \$6 surface, \$24 air.

² Available only to subscribers. Includes shipping. Subscribers may obtain programs at no charge by sending formatted disk with self-addressed stamped envelope. Time Manager & Pack work only on HP110, HP Calculator works only on PLUS.

³ This disk is mailed free to all those whose payment for a 1 or 2 year Portable Paper subscription renewal is received by September 30, 1986.

Available only to those whose subscriptions include at least one 1987 issue. Includes DISKPACK, ThinkJet cartridge tester, Time Manager WEEK-AT-A-GLANCE print utility, C Drive copy utility, and more. Also, contains the PLUS HP Calculator program from other free disk. The \$7.50 includes shipping. 1987 subscribers can alternatively mail in a formatted disk and a self-addressed stamped envelope to receive the software at no charge.

⁴ Includes original 5 1/4" disk as well as 3 1/2" free disk containing Norton Utilities, instructions for Portable users, and several public domain utilities including IBM emulator that allows Norton Utilities to work on HP150. (Personalized Software is the authorized distributor of the Norton Utilities on 3 1/2" disk).

⁵ Utilities include sideways character creation utility and Etch-a-sketch-type utility.

⁶ Includes free disk containing HP Portable/Portable Plus customized Turbo Pascal along with Portable graphic programs. Holiday Pack Offers include Turbo Pascal, Turbo Tutor, Turbo Toolbox. Prices good only while supplies last. When supplies gone, new subscriber prices: Pascal - \$89.95, Toolbox - \$62.95, Tutor - \$39.95, no more Holiday Pack.

⁷ \$39.95 subscriber price if purchased any Turbo product from Personalized Software.

⁸ Offer good depending on the availability of HP9114A's.

**FREE SHIPPING
FOR U.S. ORDERS OVER \$200**

Credit Card holders may order by calling (515) 472-6330 Monday through Saturday or by sending CompuServe EMAIL to ID 72257,714

PERSONALIZED SOFTWARE PRODUCTS FOR HP PORTABLES

■ CompuServe Starter Kit

Gets you started on the Electronic Information Service, CompuServe (which includes the HP forum). The kit includes \$25 worth of free time, a complete hardcover Users Guide, permanent user ID number and preliminary password, and CompuServe's monthly magazine, Online Today.

■ HP9114 Empowerer

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

■ Leading Edge

IBM PC compatible computer with either a 30 Megabyte hard disk with one floppy drive; or two floppy drives. The price includes installed HP-IL interface card so that you can transfer files from your Portable with ease. Also included is the highly rated Leading Edge Word Processor, Spelling Checker, and Mail Merge; DOS; GW-BASIC; and TWIN, a software package that works just like Lotus 1-2-3 version 1A and that can read Portable Lotus files.

Recommended options are a 640K internal memory upgrade and an installed 300/1200 BAUD Everex internal modem. Additional software, surge protector, or printer available on request at discount.

■ The Norton Utilities

—Customized For The Portables

These utilities allow you to recover deleted Portable files and organize your electronic and external disks. Peter Norton has authorized Personalized Software to include an extra 3 1/2" disk (formerly available only on 5 1/4" disk) with each package sold. The disk includes a copy of The Norton Utilities, additional utilities, and instructions for running The Norton Utilities on the Portables and the HP150.

■ The Portable Paper

The only publication exclusively for Portable and Portable Plus users.

■ Portable Paper Subscriber's Disk

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

MAILED AT NO CHARGE IF SUBSCRIPTION RENEWAL AND PAYMENT RECEIVED BY SEPTEMBER 30, 1986.

■ Portable Pascal Programs

These 600,000-plus bytes of Turbo Pascal routines and documentation for Portable and Portable Plus users include programs that access Portable graphics and sound as well as business, statistic, utility, game, and other routines. Great for beginners as well as programming professionals.

■ PrinterTalk and Format110: MemoMaker Enhancers

These two independently developed programs expand the formatting capabilities of MemoMaker. With PrinterTalk you can change type styles in the middle of a document, change number of copies and lines per page, do automatic page numbering, and perform many other functions. Format110 lets you format headers, footers and page numbers; chain or merge documents; compensate for "widow" and "orphan" lines and much more. Purchase these products together at the same time and receive a 33% discount (subscribers only).

■ Private File

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

SHELP



Whether you are in the middle of a Lotus spreadsheet, a MemoMaker memo, or most any program, SHELP gives you immediate access to a notepad or calculator. SHELP also lets you define up to 26 keyboard macros—that is, assign up to 31 characters to a single keystroke. Written exclusively for the Portable PLUS.



SIDEWINDER

This program, written specifically for the HP Portables, the HP150, and the ThinkJet printer, allows you to print your spreadsheets (or any other text file) sideways. This means you can print your 60 column by 40 row spreadsheet on the ThinkJet from your Portable as one long printout without cutting and pasting.

■ Tiger Fox

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

■ Time Manager, Pack, HP Calculator

Time Manager (for the HP110 only) includes a calendar, appointment manager, list of things to do that won't let you forget, phone book with automatic dialing, notepad, limited search capability, archiving feature, and file manager. PACK repacks the Edisc eliminating potential problems when changing the Memory/Edisc configuration. (Time Manager is available in ROM for the Portable PLUS, and PACK comes with the PLUS.)

HP Calculator works only on the PLUS and includes the most popular features of many HP Calculators. It is also available on the 1987 Subscriber's Disk. (The program assumes general knowledge of HP calculators or access to an HP calculator manual).

■ Borland Turbo Pascal —Customized For The Portables

Turbo Pascal, the HP Portable programming language of choice, outstrips others in price, performance, compatibility, memory consumption, and programmer environment. The WordStar-type editor alone is worth the price. Borland has authorized Personalized Software to include an extra disk with their product customizing the Turbo editor to The Portables' editing keys.

■ Turbo Pascal Toolbox

Turbo Toolbox contains a set of tools written in Turbo Pascal that creates a data base file management system. The code implements state-of-the-art sorting (Quicksort) and searching (B-tree) routines usable in other applications. Toolbox also includes code for installation onto various terminals.

■ Turbo Pascal Tutor 2.0

Turbo Pascal Tutor 2.0 is a step-by-step interactive tutorial on Turbo Pascal programming complete with commented source code for all program examples on disk.

■ Typing Whiz

Better than almost any typing program on the market—designed specifically for The Portables and the HP150. Have fun improving your typing speed and accuracy with immediate numeric and graphic feedback of your progress.

■ WordPerfect 4.1

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

From Personalized Software—Making HP Portables Smarter

Subscription running out?

PLEASE CHECK YOUR ADDRESS LABEL BELOW

If you're like most of our readers, you started THE PORTABLE PAPER with issue #1—which means your subscription will run out after the next issue.

DON'T LET THIS HAPPEN! Renew for 1987 (or for 1987 and 1988) and keep on receiving issue after issue of THE PORTABLE PAPER, each one packed with information that's vital for every user of the Portable and Portable Plus.

Filling a Need

Judging from your letters, THE PORTABLE PAPER is filling a real need, and it's filling it well. Here are just a few samples of the tens of dozens of positive letters and comments we've received:

"Your first two issues alone provided enough useful information to justify the price of a subscription."

Julian Tobey
Bay Village, Ohio

"...one of the best user/application publications I've encountered, and I value it highly."

John Chavez
Colorado Springs, Colorado

"In terms of the most useful information per pound of paper, your newsletter beats them all!"

Jean-Claude Dabler
Baldwinsville, New York

"The Portable Paper is the most useful document I have encountered so far in working with my Portable."

James D. Small
Alexandria, Virginia

"I simply cannot believe the QUALITY of your immensely useful and valuable journal! Your contributors write lucidly, and the subtle hand of a masterful editor is evident. I especially appreciate your detailed 'how it works' explanations. I not only use these things, but to my amazement I find I can actually UNDERSTAND them and apply ideas in related ways."

Rodman A. Sharp
Sante Fe, NM

Coming Attractions

We could go on and on, but we don't think we have to sell you on THE PORTABLE PAPER. After all, you're already a subscriber! What we do want is tell you a little of what's coming in '87.

First of all, we'll be continuing our tradition of theme issues. Themes for '87 will include:

- IBM Compatibility
 - Listings of PC-compatible programs that do and do not run on the Portables.
 - Tips for customizing your IBM PC compatible programs for your Portable.
 - Reviews of IBM PC compatible programs that work on the Portable.
- Database and File-Management Systems
 - How to make the most of Lotus' database capabilities.
 - Other database programs that run on the Portables, and how to use them to full advantage.
- P.A.M.
 - Making use of all Configuration Menu options.

- Getting around P.A.M.: when, how, and why to disable it and work directly from DOS.
- When to use File Manager and when not to.
- Peripherals
 - Printers, disk drives, and modems that run with the Portables.
 - Making more of your ThinkJet and HP9114.

SAVE \$11

Order all 1987 and 1988 issues
for ONLY \$99!

Secondly, we're planning two new columns (in addition to The Connection, 110 Wizardry, A Drive, B Drive, Through the Looking Glass, User Group Guide, and 110%). The new columns are:

Portable Profiles: Stories about the most interesting uses of HP Portables by our subscribers. (Here are three possible stories: There's a cultural anthropologist who uses his Portable to keep notes on the tribe he studies. A forensic scientist in Argentina uses his Portable to help solve political crimes. An extremely wealthy prince from India uses a Portable in his travels.)

Foundations: Discussions on the fundamentals of making the most of your Portable.

In '87, we'll continue to be the forum for HP Portable users around the world to share knowledge. As our subscription rate continues its dramatic growth, there will be more readers to

share tips on ROM-based internal software and on other products that work with The Portables. You, the Hewlett Packard Portable user, continue to be the greatest resource of our publication.

Subscriber Bonuses

Here are the bonuses you'll receive for subscribing to the 1987 issue.

- New products for the Portables—with the usual savings of up to 45% for PORTABLE PAPER subscribers.
- An index to 1986 Issues—to help you quickly find valuable information—free to all subscribers of 1987 issues.
- Free software only to 1987 subscribers to THE PORTABLE PAPER.

Remember, THE PORTABLE PAPER is the only newsletter exclusively for HP110 Portable and Portable Plus users. It's the most up-to-date source for reviews and descriptions of new products for the Portables. It's the hub of a worldwide network of users like yourself who want to share their knowledge and experience. It's the one publication to read if you want to make the most of your HP Portable.

Subscriptions for 1987 are still at the same price: just \$55 for 6 bimonthly, information-packed issues. Or save \$11 and order all 1987 and 1988 issues for only \$99. We thank you and all the other PORTABLE PAPER pioneers who grew with us in our first year. In 1987 we will continue to provide you with top-quality HP Portable products at fair prices with fast, personalized service.

Protect your investment in the Portable or Portable Plus: Use the order card or order form inside the back page and renew your subscription today.

Renew your subscription by September 30, 1986, and we'll mail you the 1987 subscriber disk free at our expense.

(After Sept. 30: send us a formatted disk and self-addressed 39¢ stamped envelope, or add \$7.50 and we'll supply the disk.)

The 1987 subscriber disk contains:

- DISKPACK by Ed Gilbert (author of ED 110): Bugless pack utility usable on the Edisc, external disks, hard disks. Commercial equivalent sells for \$50.
- Time Manager Calendar Utility by Cliff Looyenga (The Wizard): Prints WEEK-AT-A-GLANCE calendar from Time Manager's appointments list to the ThinkJet.
- ThinkJet Cartridge Tester by Paul Grimmer (author of SideWinder): Check and fix your ThinkJet or QuietJet ink cartridge.
- C Drive Copy Utility by The Wizard: Copies file from one disk to another WITHOUT having to copy the file first to your portable.
- Other surprise goodies.

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

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