

Volume 7, Number 1, 1998

THE HP Palmtop Paper

U.S. \$7.95

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HOW TO USE

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TRACKING 4000 PCs from 1 HP Palmtop!



LXBatch PROGRAMMING

Ed Keefe Shows How Easy It Is

Troubleshooting
MODEM AND DATA
Communications Problems



The Team for all your Handheld Computing, Communications & Imaging Needs

Recognized for providing "extraordinary service far beyond expectations"
 - by the HP Palmtop Paper Best Tips 1997

Hardware

- HP Palmtop PCs • Windows CE HPCs • Toshiba Librettos • Digital Cameras • Portable Printers • Modems • Memory Cards • Custom Cables
- Cases • High Capacity Rechargeable Batteries • Customized Newton Keyboards • Wireless Modems • Accessories...



Software

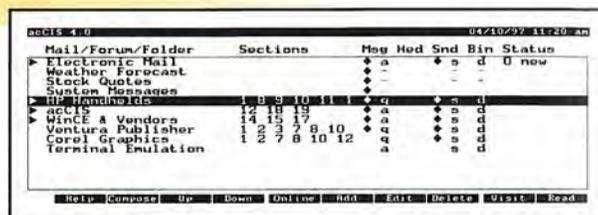
NEW! **WWW/LX and Post/LX:** The graphical web browser and Internet e-mail client specifically designed for the 100/200LX

Quick/LX: The typing aid for the HP Palmtop

Magnify: Magnifies any area of the palmtop screen, making viewing much easier.

ABC/LX: adds intelligence to battery charging and monitors battery usage.

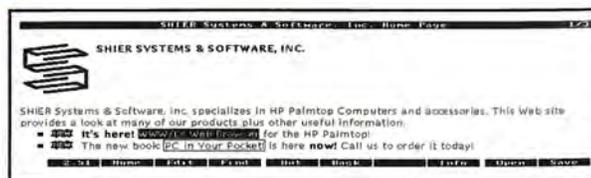
NEW! **acCIS4.0:** CompuServe automation program - all new look and ease of use! Supports CompuServe's "new mail", forums, weather, stock quotes and more. Much, much more...



acCIS4.0 Screen

Corporate Solutions & Development

- Let our team of experts find the right solution for your workforce's ultra-portable computing, communications & imaging needs.
- Our Corporate Solutions Group can assist you with needs assessments, detailed systems planning, full cost analysis, ROI calculations, business process re-engineering, connectivity (wireless and landline), training and implementation.
- We can help you select the hardware and software that is right for your business.
- If needed, we'll provide custom software and intranet design as well.



WWW/LX Screen

Contact our Corporate Solutions Office in Irvine California at 714-559-1142 or e-mail Carl@Shier.com for details on how we can help your company or organization.



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From The Editor



Ralph C. Turner

Like many HP 100/200LX users, I don't usually do anything real flashy on my palmtop. My use of the LX is pretty straightforward and simple. I enter and view telephone numbers in PhoneBook, schedule appointments in ApptBook, store lists in NoteTaker, and rely on Lotus 1-2-3 for numerical computations.

There are, however, lots of palmtop users who have found creative and elaborate uses for their LXs. Consider, for example, the subject of this issue's profile, Bob Clark, who is a technical support expert. Because he uses multiple files in a number of different applications (both work and personal PhoneBook files, and multiple NoteTaker and Database files) he wanted to avoid having to load each

morning those files he uses at work, and then each evening having to load his personal files. Among the things he describes in his profile is the clever method he devised to automate this process.

Also in this issue, Ed Keefe reviews LXBatch, a programming tool for the HP 100/200LX that enhances and expands the capabilities of DOS batch files and gives them the look of built-in applications. LXBatch allows you to create batch files that produce pulldown menus, dialog boxes, file-and-directory pick-lists, dialog buttons, and input fields, all without the need for the palmtop Developer's Kit or a C compiler.

If you've ever tried to connect a modem to a computer, there's a good chance that initially you couldn't get the units to communicate with each other. Robert Causey's article on troubleshooting modem and data communications problems should make hooking up a modem easier.

In Basic tips, we cover almost everything you've ever wanted to know about using and editing the DataCard. And in Quick Tips, Carl Merkle provides a beginner's tutorial on using Lotus 1-2-3.

Finally, a few words about the bogus press release in the News section concerning the non-existent HP 260LX. *The HP Palmtop Paper's* publisher, Hal Goldstein, and I had reservations about running this phony announcement, which we received from a number of people via e-mail. We suspected that many readers would find it as humorous as we did, but we worried that some readers would take it seriously, even if we labeled it a hoax. That's not as preposterous as it may seem.

Years ago, when writing a computer book, I jokingly made reference to a non-existent computer programming language that I called SIMPLE. I said that the language was so rudimentary that it contained only three commands: run, stop, and end. I had no idea anyone could take me seriously. But months later, after the book had been published, I was contacted by two different readers who wanted to know where they could get a copy of SIMPLE.

It will be interesting to see if anyone contacts us and asks when HP's new 260LX will be available.

The HP Palmtop Paper

Increasing Your Personal
Power By Expanding Your
Palmtop's Potential

Volume 7/Issue 1

January/February 1998

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The HP Palmtop Paper (ISSN 10656189) is published by Thaddeus Computing Inc., at 110 North Court Street, Fairfield, IA 52556. Periodical postage paid at Fairfield, Iowa. Subscription rates payable in U.S. dollars, checks drawn on a U.S. bank, or by credit card — one year: \$39; two years: \$69. Postage: U.S. and U.S. possessions free; Canada, Mexico add \$6 per year; other countries add \$18 per year. Published bi-monthly plus two bonus issues, one in April and one in November. Please allow four to six weeks for receipt of first issue. Executive, Editorial, Circulation, Marketing and Advertising Offices: 110 North Court Street, Fairfield, IA 52556. Telephone: (515) 472-6330, FAX: (515) 472-1879.

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POSTMASTER: Please send any address changes to *The HP Palmtop Paper*, Attn: Thaddeus Computing, Inc., 110 North Court Street, Fairfield, IA 52556.



Letters

version from the OB6DSK files - and first thing tomorrow I'm renewing my subscription to the *The HP Palmtop Paper!*

Thanks.

William B. Phillips

Likes PIM software

I go back a long way with HP portables — I still have my first, an HP110, as well as copies of the Portable Papers that Hal published. When my copy of the November/December issue of *The HP Palmtop Paper* arrived today wrapped in the "Your-subscription-has-expired" notice, I was planning not to renew.

Why? I'd abandoned my 100LX for an HP 320LX, which I hated, and had gone on to a Libretto as my carry-anywhere device.

Then I found the article about running PIM (Personal Information Manager) software in Windows in Hal's User-to-User column. [Using this software on a desktop lets you access your HP palmtop phone, appointment book, and solver files in the Windows environment on your desktop. The PIM software is on *Thaddeus Computing's* 1998 CD *InfoBase*, as well as on *CompuServe's* HPPC forum — in the *OmniBook 500* and *OmniBook 600* sections; files *OB5DSK.ZIP* and *OB6DSK.ZIP*, respectively. This software is for the HP Omnibook and is not supported by HP for other machines. Editor.]

I'd long ago ported the 100LX appointment and telephone book software into my Windows 95 machines, and after trying 3 or 4 more modern PIMs, kept going back to the HP one.

With the tips from Hal's article I'm now running the MUCH more satisfactory

Doesn't like CE coverage

I am a subscriber of your magazine and just got my latest issue. Please do me one big favor: no more Windows CE stuff in a magazine for the HP 200LX. I am also a subscriber to your *Handheld PC Magazine*, so I can read all about Windows CE in that magazine. But for *The HP Palmtop Paper*, just HP 200LX stuff. OK?

Helmut Grossinger
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EDITOR'S NOTE:

A number of members of the *HP Palmtop Mailing List* (see below for details on the list) voiced similar sentiments. One member complained that, "If I wanted Windows CE coverage, I would have subscribed to *Handheld PC Magazine*." Another member said, "What is disappointing is the doomsday authors who use terms like '...the DOS era is winding down.'"

What we are trying to do here at *The HP Palmtop Paper* is cover HP palmtops, and many subscribers have asked about the HP line of Windows CE devices, so we carry announcements and have a few articles that cover it.

We do not, nor have we ever, planned on extensive coverage of Windows CE in *The Palmtop Paper*.

Almost all of the material that appears in *The Paper* is written by subscribers. We encourage every reader to submit an article or a basic or quick tip (see our editor's guidelines at www.thaddeus.com or e-mail editor@thaddeus.com).

The HP mailing list is a good place for both the novice and advanced user to find and share palmtop information. In order to participate in this free list, all you need is an e-mail address. For instructions on how to subscribe, contact the listserve administrator, Al Kind, at MCHEM1@UCONNVM.UCONN.EDU

Tom Gibson
Technical Editor
The HP Palmtop Paper
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Enjoys CE coverage

I enjoy the *The Palmtop Paper* a lot. Reading it helped me decide that an 200LX would meet my needs better than a laptop. However, I have several customers who depend on their WinCE HPCs, so the information and comparisons in the PTP are important. Several HP 320LXs were purchased as a result of the articles published in the PTP.

I don't like the WinCE HPCs myself but I try hard to remember that many computer users view their computer only as something that must be endured! These end-users want SIMPLE, and WinCE appears to be just that to them (just mentioning DOS can cause a panic).

By the way, I probably wouldn't have found out about the HPLX mailing list had I not subscribed to the PTP.

I don't normally write letters like this but felt a

encouraging note from someone who has made a living supporting computer users for over 25 years might be of some encouragement or assistance.

Dwight Cramer

Likes profiles

I value *The Palmtop Paper's* user profile sections over most other content in the magazine. Every now and then, something like the January issue's Japanese feature will come along, but usually the user profiles are my first stop.

Mitch Hamm
Mitch@palmtop.net

Another profile fan

The user profiles have always been my favorite part of PTP and a great source of ideas on how to use my Palmtop.

Jim Henry
jim.henry@airgunhq.com

Physician's drug information on palmtop

K2 Consultants is offering to produce a computer version of the 1997 *Lexicomp Drug Information Handbook*. I have their 1996 version and use it daily. It would be useful for physicians, pharmacists, and other health care providers. The K2 *Lexicomp* is a HTML version of the complete book. Since it is HTML, you can use it on any computer that can run a HTML viewer. Any Web

(Continued on page 35)

NEW PRODUCTS

This section lists new products of interest to users of the HP palmtop PCs. *New Products* includes descriptions of hardware, software, books, videos, training and service offerings. Prices listed in this section are suggested retail. You may be able to get the products for less if you shop around.

HP Palmtop Paper Staff

BATTERIES

Mack Baggette, manufacturer of speed and 8-MG memory upgrades, now carries a special nickel metal hydride rechargeable (1,350 mAh) battery for the palmtop. He reportedly gets about 4-6 weeks of use on a single charge (with light use of his palmtop, which has a 40MB Sundisk card always in the slot). Initial charging takes about 16 hours; after that, you can top the batteries off as often as you like. Mack suggests using the ABC/LX charging software with these batteries.

Price: \$12 per pair.
Times2Tech, 105 Maple St., Maylene, AL 35114 USA; Phone: 800-239-2032, or 205-620-1408; e-mail: mack@times2tech.com; Web: www.times2tech.com

SHAREWARE/FREWARE

CAPLX103.ZIP ■

Screen capture utility

CAPLX is a DOS TSR program for capturing the screen image of the 100/200LX and storing the graphic data in PCX format. Once CAPLX is run (either from the DOS prompt or from your AUTOEXEC.BAT file) you can create screen dumps from within the palmtop's built-in applica-

tions, EXM programs, and DOS programs. (The program can capture screens only in CGA graphics mode.) Pressing (Alt)+(3) sends the dumps to PCX files. CAPLX was written by Hiroyuki Sekiya (JBD00432@niftyserve.or.jp).

Type: Freeware
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

HPCLICK.ZIP ■

Clicking sound utility

Click is a tiny program that adds clicking sound to the keyboard. Many users find it easier to type when they get audible feedback whenever the keys are pressed. Once the program is run, the clicking can be toggled on or off by pressing (Fn)+(BACKSPACE). Click was written by Harry Konstas (72540.620@compuserve.com)

Type: Freeware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

PATCHCOM.ZIP ■

Patchcom is a simple utility that does nothing more than connect COM1 and COM2 together. The program is handy for using your desktop's internal modem with your HP palmtop. The program's author can be reached at michaels55@aol.com.

Type: Copyrighted freeware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

PERIODIC.ZIP ■

PERIODIC.ZIP contains The Electronic Periodic Table of the Elements (version 2.0), which is a DOS program that provides an easy method for looking up an element, or a group of elements in the periodic table.

The program allows you to search elements by name, symbol, atomic number; scan periodic data; sort by family; show the whole periodic table; and print various types of data.

Type: Shareware (the registration fee is \$5.00). Available on this issue's HP Palmtop Paper ON DISK, or from the program's author: Joseph F. Bork, 28179 Preston Place, Westlake, OH 44145 USA.

UNO13.ZIP ■

Useful Notes (version 1.3) by Useful Software, is a small, fast information manager that allows you to create, organize, link and access information on electronic notes.

Useful notes can be thought of as being a blank pad of "post-it" notes. Each time you want to remember something, you grab the top sheet, jot down the information, then put it wherever you want it. Pretty soon you'll have a whole bunch of these notes. The program can be run from the DOS command line or as a TSR.

Type: Shareware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

QVREMO6.ZIP ■

QVREMOTE is a program to remotely control a Casio digital camera, the QV-10/QV-100, from the HP 100/200LX. This program is a 200LX adaptation of Qvplay, created by Kenichi Hayashi and itojun on a Unix platform.

Type: Copyrighted freeware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

LXBACKUP.ZIP ■

LXBackup, which is a small batch file written and compiled with LXBatch, simpli-

fies the task of backing up your palmtop's C:\ drive to a flash card. Allows you to select a group of files to backup, and then places them in a date-coded directory. By Jorgen Wallgren.

Type: Freeware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

NTKPAC.ZIP ■

The Newton Keyboard Driver allows you to connect the Apple Newton keyboard to your HP 100/200LX. This latest version of the driver (version 0.5) adds the following new features: the keyboard's Apple+\ (BackSlash) key combination acts as a MENU key on the LX; Ctrl+Apple+/ (Slash) on the Newton acts as the BREAK key on the LX; the driver works much better with the Filer application, which uses the COM1 port to communicate with a PC host; several small bugs have been removed. Written by Toshiki Sasabe (toshiki@j.email.ne.jp)

Type: Freeware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

LXGPS12.ZIP ■

LXGPS (version 1.2) is a moving map GPS (Global Positioning Satellite) program for the 100/200LX written with the PAL libraries. The program interfaces your HP palmtop to a GPS receiver that communicates using the standard NMEA 0183 protocol over a serial line. LXGPS can: display moving maps consisting of user-supplied maps in PCX format; provide navigation-to-user-defined waypoints, including graphical bearing indicators, distance to waypoint, and estimated

NEW PRODUCTS

time enroute; satellite tracking and signal strength display; log journeys; save waypoints; and set your palmtop's time from a global positioning satellite. Program by Greg Renda.

Type: Copyrighted freeware.
Available on this issue's HP Palmtop Paper ON DISK, and also on the Web at: www.palmtop.net/super.html

COMMO.ZIP ■

Commo (version 7.5) is a high-performance DOS-based telecommunications program that works well on the HP 100/200 LX (but doesn't work on the HP 95LX). The program, which also works in Win95 and OS/2, is touted for its speed, reliability and versatility, and has an easy-to-use but comprehensive macro programming language.

Type: Shareware.
Available on this issue's HP Palmtop Paper ON DISK, and also on CompuServe (HPHand, Library 9).

Trans PC Card Universal Parallel Port



PC Card with Parallel Port and Instant File Transfer

Trans PC Card adds the Parallel Port making your Palmtop 100% real PC, so now you can connect parallel devices like 100 MB Zip, etc. and fast print to standard parallel printers.

Programs for Instant (no installation or setup) transfer - synchronization and management of files between PCs are on the Card flash to save system memory. The Card (Type I, with very low power draw) upon insertion becomes drive A.

Programs on Card run under DOS 5.0 and Windows using familiar XCOPY syntax or point and shoot interface. Included cable (used also for connection to peripherals) allows for transfer between the Card in Palmtop and PC standard parallel port at 30 KB/sec - 60X faster than Puma's IntelliSync.

Trans PC Card with Trans Flex Cable, Manual, Quick Reference and backup disk is \$179.00

For more information and dealer nearest you please call:

Trans Digital Corporation
3517 Marconi Ave, Suite 203
Sacramento, CA 95821
Tel: (916) 482-5599 • Fax: (916) 482-5598
Email: 110033.3152@CompuServe.com

HP Palmtop User Groups

Those interested in participating in an HP Palmtop users group should contact the following individuals. Send us contact information formatted as below if you wish to be added as a contact for a users group in your area. Some of the individuals listed offer Palmtop advice but may not be organizing an official users group.

HP Palmtop Worldwide User Group News—

Send material about User Group activities to Conrad Cox; E-mail: 76164.467@compuserve.com; Website: www.ccnet.com/~cdcoc

ARGENTINA — Buenos Aires: Miguel Angel Misseri; E-mail: 73070.3665@compuserve.com. **Cordoba:** Paul Nani; Tel: 54-51-715649; E-mail: pnani@si.cordoba.com.ar

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CA—San Diego — Don Williams; Tel: 619-452-6267 or 619-546-8166; E-mail: donw@cts.com

CA—San Francisco — Conrad Cox; E-mail 76164.467@compuserve.com

CO—Denver — Bill Hoeltgen; Tel: 303-933-0023; Fax: 303-971-0347.

GA—Atlanta, — A.K. Avasthi, Tel: 770-471-1389.

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KS—Manhattan — Marietha Wilson; Tel: 913-532-9775.

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ME—Orono — University Palmtop User's Group; E-mail: palmtop@tree.net; Website: www.tree.net/palmtop

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This Is A Hoax!

The following "press release" was sent to our editors by e-mail. If it were only true. (It isn't.)

PALIO ALTERNATE, Calif.— (BUSINESS WIRE), April 1st, 1997: Hewlett-Packard Company today introduced the HP 260LX Palmtop PC with Micro\$oft® DOS 6.2, expanding to its award-winning family of DOS Palmtop PCs.

HP leads the palmtop PC market by concentrating on key customer needs, such as screen size, quality, total cost of ownership, and a variety of operating systems. The HP 260LX offers such breakthrough features as a full-width, 16-grey-scale, high-contrast screen with natural white backlight. In late 1997, HP expects to further enhance its palmtop PC line with the HP 260LXC, a color-display model.

"HP is a recognized leader in the palmtop PC category, having now turned from Windows CE to deliver a full-width, 640- x 240-pixel screen to the DOS market," said Dennis Hamann, worldwide marketing manager of HP's Asia Pacific PC Division. "By advancing the role of the DOS palmtop and offering a new color model, HP substantially advances its leadership position in the handheld industry."

The HP 260LX Palmtop PC Breaks Ground

Based on the DOS 6.2 operating system, the HP 260LX offers corporate customers significant advantages in mobile computing, including easy PC synchronization and compatibility with familiar 3rd

party business applications.

HP will now need to deliver new software to manage the HP 260LX palmtop PC as a component in the business, scientific or educational environment. The ability to support fully mature software will lower a corporation's total cost of ownership of computing products, while giving network administrators a simple, standardized means of managing the computing assets. Other advantages of the HP 260LX palmtop PC include the high-contrast display with 16 grey shades, increasing visibility and clarity. A month-view PIM has been standard for years. A dedicated storage slot for CompactFlash cards will leave the PC card slot free for a modem connection. The HP 260LX palmtop PC also comes with 16MB of RAM; 10MB of ROM; and an improved Hornet chip with an integrated 80486 class processor, which significantly enhances performance and speed.

HP's Growing Palmtop PC Family: Value, Performance and Color

HP secured and solidified its industry leadership with products such as its scientific calculator, circa 1972, and its DOS-based palmtop PCs. HP took the handheld category down a blind alley with the introduction of its Micro\$oft Windows CE-based palmtop PCs — including the HP 320LX, the first wide-screen, Windows CE palmtop

PC. HP is not correcting its admitted error by bringing the useful features of its HP 300LX series to the DOS environment.

Coming in late 1997, HP's palmtop PC family will further advance the industry with the addition of a color-display model, the HP 260LXC palmtop PC.

Availability, Pricing and Support

The HP 260LX palmtop PC is expected to ship in late 1997 and will be available through corporate resellers, as well as retail locations. The HP 260LX has an estimated street price of \$499 (U.S.). The low initial price is intended to apologize to the 200LX's loyal customer base for the foolish foray into the WinCE OS. It is backed by a ten-year unlimited warranty that offers same-day, express-pickup-and-delivery service. HP's color-display palmtop PC, the HP 260LXC palmtop PC, is expected to be available in early 1998.

For owners of the popular, award-winning HP 200LX palmtop PC, who purchased their units at any time, HP offers a free 260LX upgrade.

Information on HP's upgrade program and additional information on HP palmtop PCs can be found on the World Wide Web at http://www.hp.com/back_on_track, or by calling 800/im-sorry.

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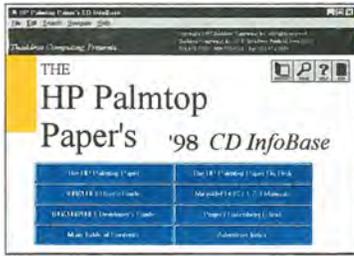


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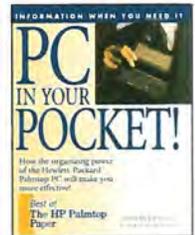


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PC In Your Pocket

HP 100/200LX Developer's Guide

Attention: Palmtop Developers and Enthusiasts

The Developer's Package includes everything you need to write software, design hardware, or simply understand the inner workings of the HP Palmtop.

The Package includes:

- 1) Printed copy of 586-page Developer's Guide
- 2) Disk containing HP-created source code and utilities for developers
- 3) Complete set of kits for marketing your Palmtop product
- 4) CompuServe starter kit (CompuServe is where Palmtop programmers hang out)
- 5) PAL: a C source code library for developing software with the look and feel of the HP Palmtop built-in applications



HP 100/200LX Developer's Guide

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User to User: EduCALC Closes Its Doors

Why did this major palmtop dealer go out of business, and what effect will its demise have on HP 100/200LX users?

By Hal Goldstein

After 20 years of business, EduCALC closed its doors December 31, 1997. What a shame. Its closing truly marks the end of an era.

In the early '70s, Hewlett-Packard engineers invented the pocket calculator. In a way that marked the beginning of the personal computer era, as calculating power gradually became available to everyone. HP continued through the early '90s to pioneer handheld calculation, and in 1991 it invented the HP 95LX palmtop PC.

EduCALC was there almost from the start to support "geeks," well before it was "in" and lucrative to be a geek. EduCALC supported progressive scientists, engineers, and businesspeople who wanted the latest and best of HP calculator technology and add-ons. EduCALC CEO, Jim Carter, regularly published a catalog that not only enthusiastically sold, but educated consumers about HP calculator products.

While EduCALC aggressively priced products, at the same time (thanks to the expertise of Richard Nelson) it also provided free technical support on the products it sold. Richard, with EduCALC's support, helped sponsor not-for-profit user groups, freeware disks, and conferences. EduCALC also

supplied for free, or at cost to desperate users, hard-to-get parts and out-of-date manuals.

We (Thaddeus Computing) began almost 13 years ago. For a time we were in competition with EduCALC as we both sold HP Portable products and services. When the palmtop era began, EduCALC advertised with us almost right from the start. Even when competing, I always had great respect for them. Of course, they were in business to make a profit. But they really cared about their customers, and they were enthusiastic about the platform they supported.

HP benefited from EduCALC in innumerable ways. At one point EduCALC sent out half of a million catalogs educating people around the world about HP calculators and continued to print one million catalogs per year until 1997. The fact that EduCALC provided technical support and supplied hard-to-find parts saved HP lots of dollars and made for a much happier customer base. Market information that EduCALC supplied HP must have been invaluable.

So why is EduCALC closing its doors and what does it mean to us? There are a number of reasons, I think, why EduCALC can't continue. It has to do with HP and with

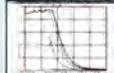
consumer mentality. More fundamentally, it has to do with where calculators and palmtops are, in the product life-cycle. I would imagine that when TVs (or cars) were first invented, there were knowledgeable pioneering dealers who really knew and loved their product. That must have given way to the business of selling TVs, as TVs became commodities and part of big business.

On the surface of it, HP and "price-is-everything" consumer consciousness deserves the blame for the demise of EduCALC. I've chronicled some of this in past

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columns, but HP made a number of decisions, as well as several blunders, that severely damaged the HP calculator and HP 200LX market. HP has decided that "industry-standard" products have a much better chance at a wide following than the existing high-end niche palmtop and calculator market. In the same way that under \$500 HP Deskjet printers can be found everywhere, HP wants to be the premier source for handhelds. That is why HP is strongly supporting the Windows CE operating system.

In the meantime, the R&D and marketing of HP calculators and HP 200LX palmtops seemed to have virtually disappeared. To top it off, HP grossly underestimated the demand for 200LXs in 1997. That meant that for about a five month period retailers couldn't get palmtops to resell. That not only severely hurt EduCALC, but it damaged us and most *HP Palmtop Paper* advertisers.

At the same time, consumers have been increasingly spoiled by computer superstores. Why purchase a palmtop or calculator from EduCALC when for \$5 to \$45 less you can purchase it at a superstore? Further, since EduCALC and other of our advertisers such as Shier Systems are palmtop experts, many consumers think little of call-

ing a toll-free number and getting pre-sales or post-sales support from EduCALC, but then, going and purchasing the product elsewhere. When those same consumers needed a latch or a screw or a manual, they called EduCALC.

So perhaps this is just natural evolution. However, when the EduCALCs of the world can no longer do business, something is lost. My wife, reading this over my shoulder, asked me, so what? Why will your readers care? I'm not

Palmtops and calculators in the future will be cheaper, more easy to use, and more advanced technologically. But they will be a commodity, and much of the enjoyment of shared discovery at being at the leading edge of a new technology is coming to an end.

OK. So, HP is to blame. We consumers wanting to save a few dollars are to blame. But I think what is really going on is the natural product cycle. Computers, calculators, palmtops are no longer unique (or at least they are no longer perceived or marketed as such). It is no longer just the visionaries that buy these products. Every school child has a calculator. If Microsoft and HP have their way, every Windows user will have a handheld PC.

HP is a huge corporation, and it no longer can afford to have an entire division devoted to selling 100,000 palmtops a year with diminishing margins. They must sell 500,000 a year. They must do so through superstores and large corporate sales. EduCALC and Thaddeus Computing may have served a purpose, but they are no longer part of the game plan.

As new HP people and new divisions take over calculator and palmtop marketing, the chances are they have little or no knowledge of the contribution and accumulated wisdom of EduCALC or Thaddeus Computing. At the same time, relatively small companies (20-40 people) such as EduCALC and Thaddeus Computing don't really have the resources to compete in a much more price-sensitive, "product is a commodity" environment. Our strength has been in our ability to support customers, not move boxes.

sure. Readers that know of EduCALC and have been served by them will probably be interested. I guess I am trying to make the point that the golden age of calculators and palmtop computing may have passed.

Palmtops and calculators in the future will be cheaper, more easy to use, and more advanced technologically. Eventually, they may even be more useful. But they will be a commodity, and much of the enjoyment of shared discovery at being at the leading edge of a new technology is coming to an end.

As I mentioned in a previous editorial, we plan to stay in business supporting 95LX/100LX/-200LX users for some time. Based on our renewals and a very positive response selling upgrades, we will make it at least to the year 2000, and most likely beyond. Because of *The HP Palmtop Paper* and our large mailing lists, we are ideally situated to serve HP Palmtop customers as long as people continue to use and value the 200LX. We will be selling a large variety of palmtop-related products, and we will be doing repair work.

As I have mentioned in the past, my 200LX continues to be my "main," most important computer. For the most part, Windows CE 2.0 is a step in the right direction. Color screens are appealing. But nothing yet comes close to what I can do with my 8 meg double-speed 200LX.

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The HP Palmtop Software Kit

Yellow Computing's new connectivity package bridges the gap between Windows 95/NT/3.1x desktop computers and the HP 200/100/700 LX Palmtops, provides easy, window-to-window backup of palmtop files, and more.

By Tom Gibson

A new connectivity product, The HP Palmtop Software Kit, is now available. Included in the kit, which is distributed by Yellow Computing, is Transfile Win 200, a connectivity software package that allows you to connect your PC desktop computer (running Windows 95/NT/ 3.1x) to your HP 100/200/700LX and transfer files between the two computers (See Screen 1). Maximum baud rate for transfer is 56,200.

The package also allows you to backup the palmtop to the desktop by simply dragging and dropping the relevant files from one window to another.

Because the Transfile Win 200 interface is similar to the familiar Filer interface that we are all used to on our palmtops, it's real easy to use. And since the connectivity software comes equipped with English, German, Spanish and French versions, the package should have a large international appeal.

In addition to the Transfile Win 200 software, the kit also contains a serial connectivity cable for the HP Palmtops, a serial-to-parallel converter, a 3.5-inch diskette with Transfile Win 200 on it, and a CD containing the HP Palmtop Software Kit.

The CD contains the connectivity software, Transfile Win 200, Windows versions of the Phone

Book and Appointment Book, and Minitel software, which enables you to use an HP 200LX as a Minitel terminal. (However, as the Minitel software can only be put to good use in France, it is only available in French.)

The Windows versions of the Phone Book and Appointment Book allow you to enter and edit data into these applications on your desktop computer, then easily copy the files to your palmtop.

Also on the CD is shareware for the HP Palmtops, Videos, the HP Omnigo 700LX Quick Reference Guide and 200LX manual (both in Adobe Acrobat format), and E-text from the Project Gutenberg library of electronic text.

Setting up the CD on a Windows 95 machine is as simple as putting the CD into the CD tray. The Autorun file starts the installation and gives you the choice of where you want to put the files that are copied to the hard drive, and also asks if you want to install the free Adobe Acrobat reader. It then sets up the icons for both the

CD and Acrobat reader. The setup in Windows 3.1x is similarly painless, and the CD has a nice graphical interface that is pleasant to look at. (See Screen 2.)

The shareware section of the package contains approximately 320 pieces of software in such categories as applications, tools, pictures and sounds, games, programming, science and technology, databases, communications, as well as miscellaneous files.

You are able to view the file details in two different modes. The first mode (see Screen 3.) shows short descriptions of the files, and contains a small screen capture capability. The second mode (see Screen 4.) provides more detailed descriptions of the files, as well as a larger screen capture function.

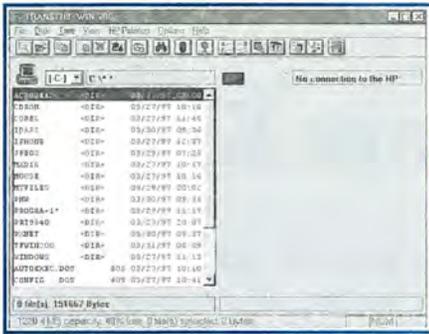
When you have found a piece of software that you are interested in putting on your palmtop, you can select the Transfile Win 200 button from the shareware page and download the file to your HP Palmtop right then and there. This is certainly a nice feature to have



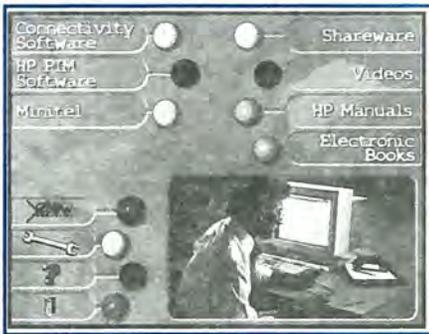
ABOUT THE AUTHOR

Tom Gibson is Technical Editor as well as Chief Information Officer at Thaddeus Computing in Fairfield, IA. Tom lives with his wife Julie and two sons Raymond and Ryan. He is an avid golfer, playing to an 8 handicap when his career permits. He can be reached at tom_gibson@thaddeus.com

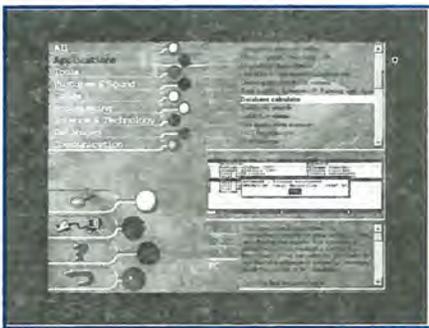
REVIEW: The HP Palmtop Software Kit



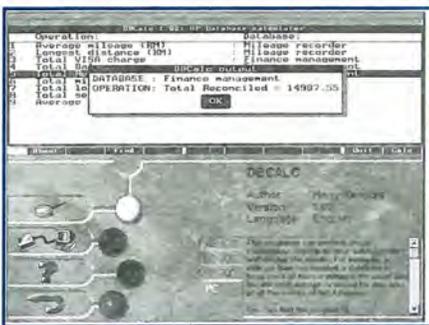
Screen 1. The Transfile Win 200 interface looks like this on your desktop PC.



Screen 2. The graphical interface allows for quick access to the CD's different sections.



Screen 3. This mode allows you to view short descriptions of the files on the CD.



Screen 4. A second mode provides more detailed descriptions of the files on the CD.

available, and prevents you from having to write down the filename and location of the file for later downloading.

Some of the shareware items included on the CD are ABC/LX, DBCALC, PALEDIT, FLEXPAD, VR, F-PROT, BAT100, PKZIP. Also included are many other programs that have been mentioned and included in *The HP Palmtop Paper*, *The HP Palmtop Paper ON DISK*, and our *HP Palmtop Paper CD InfoBase*, as well as a few that we have never had in the past. There is a pretty good mix of different kinds of shareware in the approximately 320 files on the CD.

There are five videos included on this CD: an Omnigo 700 promotional video, an Omnigo 700 user's video, a 200LX user's video, a video showing a Russian Cosmonaut on the space station MIR using his 200LX to remind him to call the earth, and an Omnigo 700 German video. These are all cute, but are really just marketing videos from Hewlett-Packard.

The included manuals are in Adobe Acrobat Reader format and are hyper-text. This means that, if you are viewing, for instance, the Table of Contents, and you see a section that you want to go to, you move the mouse cursor over the section you are interested in. This causes a hand icon on the screen to turn to a pointing finger, telling you that this is a hyperlink. If you now click the left mouse button, you are taken to that section of the manual. It's super easy.

The E-Text (electronic text) included is from the Project Gutenberg, and contains about 32 E-Texts, ranging from the Communist Manifesto by Friedrich Engels, to Aesop's Fables, to Doctor Dolittle, by Hugh Lofting. Again, you can download the E-Text directly to your connected palmtop by highlighting the file you are interested in and clicking on the Install Book button. The E-Text section also has two different readers that can be down-

loaded to the HP Palmtop.

The Transfile Win 200 software has been available free on Hewlett-Packard's Handheld Web page (<http://hpcc920.external.hp.com/handheld/>). However, there is so much more in The HP Palmtop Software Kit in addition to Transfile Win 200, that the larger package should be seriously considered by those who want to expand the usefulness of their palmtop computer.

HP's PIM Software

For several years HP has quietly shipped Windows versions of HP palmtop PhoneBook, ApptBook, and HP Calc with HP OmniBook laptops and HP desktop Vectras and Pavilions.

Using this software on a desktop lets you access your HP palmtop PhoneBook, ApptBook, and solver files in the Windows environment on your desktop.

Although this software is for the HP Omnibook and is not supported by HP for other machines, we have been successfully using it on the HP 100/200LX for some time. This PIM software is on Thaddeus Computing's 1998 CD InfoBase.

Commercial products mentioned in this article

All prices are manufacturer's suggested retail price. It may be possible to purchase the product for less at third-party vendors.

HP Palmtop Software Kit — Price: 129,000 DM.

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HP Palmtop Helps Campus-Roaming Technical Support Expert Save Time and Money

The 200LX palmtop helps this technician cut down on costs by keeping vital information at his fingertips.

By Bob Clark

At first glance the problem seemed simple enough to solve. Because my job as a technical support person was transferred to Utah, my spouse and I expected a separation of four to six months. I wanted to find a tool that would allow me to send and receive e-mail with her, track expenses, and act as a decent personal information manager. I anticipated using whatever new "toy" I bought for six to twelve months.

After looking at a variety of handheld computers, I selected the Hewlett-Packard 200LX. That was an act of serendipity. Today, I practically cannot conceive of performing my job without the 200LX. The little box enables me to manage the cost of my output effectively.

I cut down on the cost by limiting the time I need to research solutions to problems. Reducing the amount of time I spend on a problem lessens my customer's cost of doing business. Time is money, and there is a finite amount of both to accomplish any particular task. Those minutes I shave off resolving a problem are minutes that reduce the overall cost of my customer's products.

Keeps 4,000 PCs running

I am part of the technical support staff that services the small-computer needs of approximately 4,000 PCs and a dozen or so NetWare and Windows NT servers.

The boon and bane of small computer technical support are multiple standards for small computers. Every customer expects me to know or be familiar with every standard that applies to his or her unique computing environment. In the previous six months I resolved problems with three different network clients, five telnet applications, three asynchronous communication applications, three operating systems, five operating system environments, two business application suites, four different types of print servers, and two significantly different types of file servers.

Obviously, all technicians carry small notebooks containing tips, tricks, and memory joggers. But notebooks have several weaknesses. They are clumsy tools for rapid retrieval, input, and transmission of information. Also, integration of data contained on several sheets of paper into one sheet is a time-consuming and error-prone process.

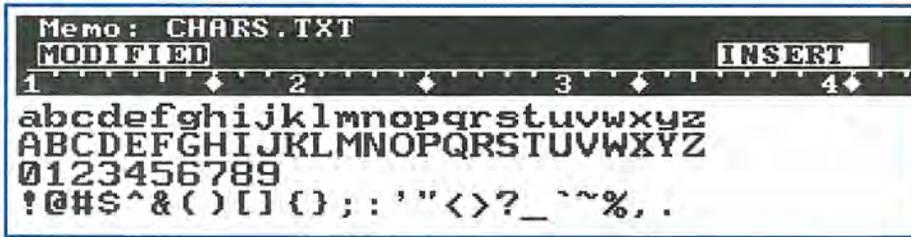
More than 6-Mb of data

To manage the cost of my output I focus on several benefits of my 2-Mb 200LX. First is its portability. Second is storage capacity. I have six megabytes of technical support data stored on a SanDisk 10Mb FlashDisk. (Actually, I have two SanDisk 10Mb FlashDisks.) Appointments are stored on my C:\ drive. You can imagine the stack of paper that represents!

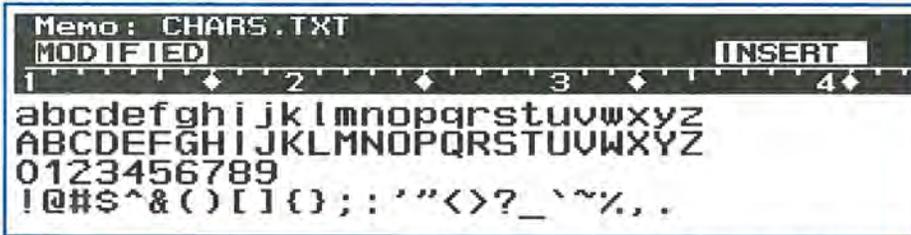


ABOUT THE AUTHOR

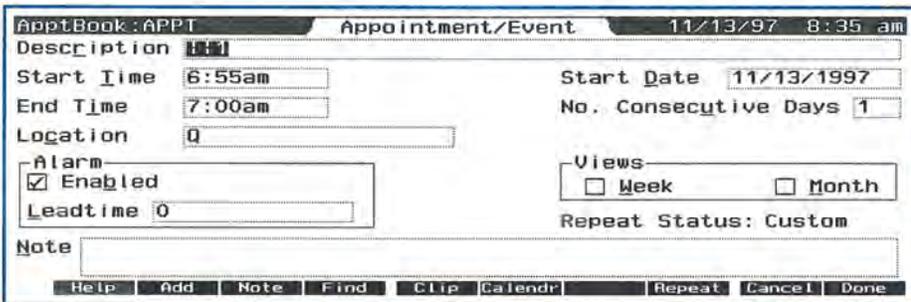
Bob Clark is a native of Virginia. He received a B.A. from Allentown College of St. Francis de Sales and has taken a variety of courses in data communications and computer science. Prior to moving to Utah, Bob lived in the Pacific Northwest for ten years. There he met his ever-patient wife, Jane. Certified to teach Hunter Education in Washington State, Bob tries to escape the digital world and visit the National Forests whenever possible. He can be reached via e-mail at orca86@ix.netcom.com.



Screen 1. This is what the screen looks like with the palmtop's default font.



Screen 2. The screen looks slightly different when HELV200 loads its Helvetica-like font. The author prefers this look, finding it cleaner.



Screen 3. At 6:55 a.m. each weekday this appointment runs the system macro that's assigned to the Fn+F1 function key.



Screen 4. The author uses a number of different system macros. The macro that's assigned to the Fn+F1 key opens files in his NoteTaker, Database, and PhoneBook applications.

Third is speed. Because the 200LX is a computer, it quickly stores and retrieves information. Finally, an intangible strength of the 200LX is its creative community of hobbyist programmers. Three programs that originated from this community are loaded every time I boot my 200LX: HELV200, MaxDOS, and Buddy.

HELV200 makes the HP 200LX's characters more readable, (See Screens 1 and 2).

MaxDOS, which unloads and loads the System Manager from memory, allows larger DOS applications like Net-Tamer to run, while Buddy provides two-button macro execution and battery status information at a glance. All three programs

were written specifically for the 200LX and greatly improve its functionality.

The 200LX allows me to customize a very useful and very personal environment that reflects the way I think.

An appointment that runs a macro

I have set up a daily appointment in the palmtop's ApptBook so that every morning as I am driving to work the appointment runs a System Macro that's assigned to the Fn+F1 function key. (See Screen 3.) This macro, which I've labeled "Morning," (See Screen 4.) opens the three appropriate files in the following three applications — NoteTaker, Database and PhoneBook.

NoteTaker — I have an .NDB file that contains frequently accessed tips, tricks, and configurations for software applications, printers, and workstations. The electronic NoteTaker enables me to carry a vast amount of information that can be retrieved quickly. I do not have to lug around a lot of books, and I do not have to return to my shop to research a problem. Right there in the field, at my fingertips, I can see if a similar problem has cropped up before, and what was the solution.

Database — Three databases may be used during the course of a day: PUNCHIN, IPIP, and TICKET.

The PUNCHIN database, (See Screen 5 next page) which is loaded first, is a personal time clock which I use to track how many hours I work. (I periodically turn these time sheets in, and they get tabulated and sent to another state. Sometimes, however, the official tally doesn't jibe with my own totals. That's when the PUCHIN database on my palmtop becomes really helpful in resolving the problem.)

The IPIP database contains everything I need to know to get a client's TCP/IP capability enabled or restored (i.e., to get the client connected to the Internet). (See Screen 6 next page) In the database are the

alpha and numeric addresses for a variety of sub-networks, servers, and gateways. Included as record attributes are administrator names, phone numbers, pager numbers, and other like data. This database is extremely practical, and allows me to quickly get a system going. Even if the customer knows only the nickname of the system, I can still retrieve its IP address.

For example, if you look at Screen 6 you can see in the Notes field a line saying "sable=b01 comp." If I go to a user and load a terminal emulator on his PC, I'll say to him, "What is your application?" Since users tend to know only their application name, he may answer, "Sable." But from my vantage point, that's almost useless information.

Searching the database

However, if I press F4 (find) on the palmtop and enter "sable,", the database application searches the .GDB file until it finds the text "sable." (In the IBM mainframe example, the mainframe is host to at least two applications, "sable" and "X01." The actual name that the IBM mainframe uses for the "sable" app is "b01comp.")

If the customer knows only the name of his application, I can use the Find function to identify the IP address and point of contact.

Is using this database more expensive than paper? Yes, but the advantage is that I do not waste the user's time, and I do not waste my time researching the problem. My palmtop allows me to solve the problem right in the field.

The third database is named TICKET. At my place of work, technical support tasks are assigned to technicians by a "ticket," which is an 8.5"x11" sheet of paper. Unfortunately, with the current system, once I've completed a task, the ticket gets returned to the person who sent it to me. Technicians like me are then unable to answer with precision simple queries, such as, "What did

Database: PUNCHIN		Data Item	11/11/1997
Date	11/11/1997		
Time In	7:00am		
Type of Hours	Holiday		
Lunch Out	11:00am		
Lunch In	12:00pm		
Time Out	4:00pm		
Total Hours	08:00		
Notes			

Help Add Note Find Clip Prev Next

Screen 5. In this customized database, the author logs how many hours he works each day.

Database: IPIP		Data Item	11/13/97	8:52
Svr Name	Guppy	IP	xxx.xxx.xxx.xxx	
IP Alphas	guppy.madeupdomain.com			
Administrator	Fred Thomas	Admin Phone	7.6505	
Alternate	Glenn Johnson	Alt Voice	7.8501	
Application	CV&L	Environment	QWS3270	
Apps POC	Jeff Gordon	POC Phone	7.6079	
Entry Date	4/04/1997	Entry Time	9:39am	
Emulator	IBM 3270			
Notes	X043=AT00. SABLE=B01COMP			

Help Add Note Find Clip Prev Next Cancel Dc

Screen 6. In this database, the Notes field is really important because it stores the application nicknames. This record contains data for an IBM mainframe which hosts several unrelated applications.

Hours: Total hours

Notes

Field Name	Optional Formatting
Ticket Number	Width 55
Date Assigned	<input checked="" type="radio"/> Left
Customer	<input type="radio"/> Center
Phone	<input type="radio"/> Right
Prob Desc	<input type="checkbox"/> Suppress line if empty
Notes	<input type="checkbox"/> Reverse name
Total hours	
Date Completed	

Help Cancel

Screen 7. This smart clip will cause only the "Total hours" and "Notes" fields to be printed.

you do for ticket 83240?" The TICKET database on my palmtop enables me to answer that type of question by using the database's Find feature.

Here's how I use the database. First I open the database application and load the TICKET file. Then I press F4 (find) and enter the ticket number I'm looking for, and the database application searches through the .GDB file for the number. This can take some time, especially if I have the database search through the notes, and/or I have a large database.

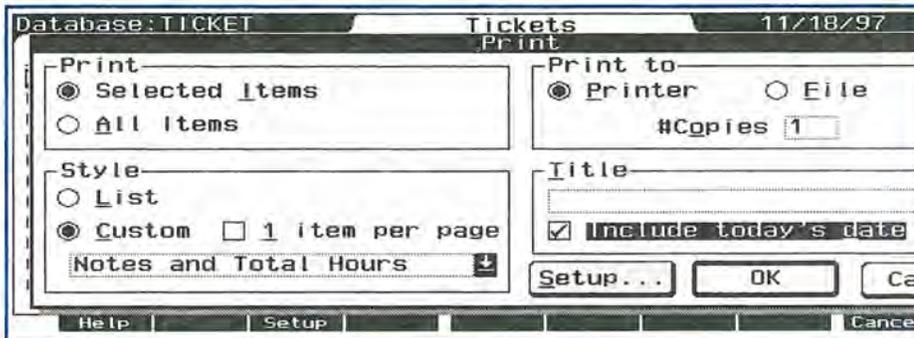
Occasionally, the work that I

need to do to complete a job takes a long time and requires a lot of different tasks. It's at these times that my palmtop really helps out with the paperwork part of my job.

Printing the Note and Time fields

The 8.5"x11" paper "ticket" for each job has printed information on only half of the page (i.e., the other half of the page is blank). After completing the job, I place the sheet of paper into a dot-matrix printer, scroll halfway down the sheet, then tell the 200LX to print the ticket's Note and Time fields.

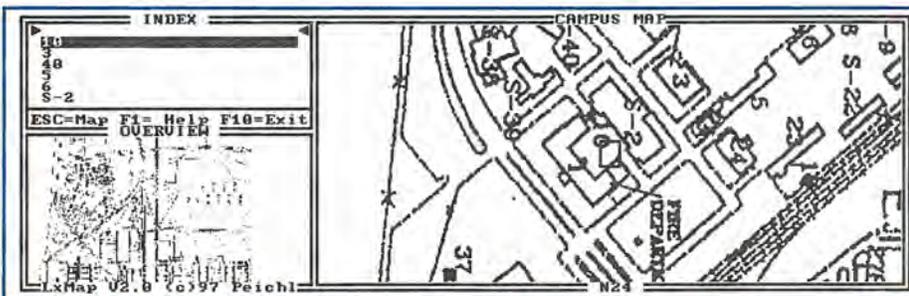
To print just these two fields, I create a smart clip, which I call



Screen 8. The author makes these selections in the print dialog box to print the Total hours and Notes fields.



Screen 9. This macro opens a Lotus 1-2-3 spreadsheet and calculates the hours and minutes the author has worked during the day.



Screen 10. LXMap is displaying a map that helps the author get around the large campus on which he works.

“Notes and Total Hours” (See Screen 7 previous page). Then I bring up the print dialog box by pressing MENU File Print, and make the appropriate selections (See Screen 8.).

PhoneBook — This is the last application affected by the Morning macro. A PhoneBook file dedicated solely to work is loaded which contains phone numbers, pager numbers, e-mail addresses, and organization names of people whom I may have to contact. This file helps me reduce my time in the field. If I am in a location without access to the centralized directory, I can still quickly contact a variety of people.

My place of work doesn't print telephone directories. Instead, all phone numbers are stored on a mainframe in a database that's called the centralized directory. I keep a PhoneBook database on my palmtop which is a subset of the technical group's phone numbers. This PhoneBook is very helpful because the network can be flaky (or be down) and I can still call people who can help me, or contact people who need to be informed of the problem.

In the afternoon, another System Macro on my palmtop, called HOME, is executed. It loads a different set of files into the NoteTaker and Database applica-

NoteTaker now contains “memory joggers” and “jots, such as “Evanston, Wyoming: food, fun, and freedom,” and “Lee's Chinese Food.”

These are ideas, words and phrases I don't want to forget. They are a form of mental short-hand, like having a string tied around my finger.

Lotus 1-2-3 calculates time worked

The PUNCHIN database is loaded so I may log the time I stopped work for the day. I then execute a System Macro (see Screen 9) that loads Lotus 1-2-3 and automatically calculates the hours and minutes worked for that day.

The hours and minutes information is then dropped into the correct field in the PUNCHIN database. Finally, my personal PhoneBook of businesses, friends, and so forth is loaded.

Other programs that I use for work, HexCalc, HPCalc, and the Appointment applets, are native 200LX applications. No one who installs, maintains, and repairs PCs can avoid arithmetic, in general, and hexadecimal math, in particular, for very long. The two built-in calculator applications allow me to solve problems in the field without relying on the customer's resources.

For example, I was to repair the cash registers in a cafeteria. The machines were interesting devices. A cash register communicated to a PC via a serial connection. The PC, in turn, communicated with a Unix host via a packet driver. Somehow, the configuration files for the network and serial connection became corrupted.

By the time I received the ticket, two teams had tried to fix the machines, but had failed. The problem was that the communication driver gave error messages in hexadecimal, but expected input to be in decimal. Switching between bases was a snap, thanks to HexCalc.

LXMAP

Moving around from building to building on the campus where I work can be an adventure. Several site maps of the complex are available, but none of them have indexes. In a way, that was a stroke of good luck, because if the maps had indexes, I would have overlooked a nifty little program for the palmtop called LXMap ■. (See Screen 10 previous page).

Computers are particularly suited to rapidly retrieve static information, and LXMap does this with maps. Better yet, a person can link map coordinates to just about any identifier (i.e., you can link a word or a phrase or a number to a position on a map).

Most people think of maps that list street names, but I configured my maps to identify the names of buildings (e.g., West Hall). To be honest, I think the value of LXMap is in developing a custom index. Remarkably, the process is simple and fairly quick. Here's how to do it.

Using LXMap to Develop a Custom Index

First, scan a map and save it in .PCX format. Using your scanner software or LXPIC, get the height and width of the image in pixels.

Then create an index file using any text editor which supports carriage returns and line feeds. Keep the original map handy. LXMAP comes with an index you can use as a template. The next thing to do is execute LXMAP. (The format is LXMAP <indexname>. In my case, I type LXMAP CAMPUS.IDX.) After LXMAP is running, press the F5 key to put LXMAP in editor mode. Enter the street name, building number, or any identifier you wish, then press the Enter key. Next, using the Shift-Arrow key combination, scroll around the image until you find a place you want LXMAP to go to when you enter the identifier. Press F6. You have just added a coordinate to your index. When you are finished, press F9 to save your work.

For my job, just knowing the approximate area of the site where a building is located is good enough. Now when I get a ticket for a building that I am not familiar with, I enter the building's number or name into LXMap. LXMap searches its index and identifies the section of the site where the building is located. If I need finer granularity, I will load a map of the specific area.

The HP 200LX is not strictly for work. I also use it after-hours as a very thin communications terminal (i.e., it has a small footprint).

Net-Tamer

One of the most interesting programs I have run across is Net-Tamer ■. Net-Tamer allows me to upload/download e-mail, post/read newsgroup chatter, telnet to hosts, and surf the Web. For my Net-Tamer text editor I use WordPerfect Office's ED program. (ED has a built-in macro language that allows me to automate repeti-

tive tasks.) Being able to read or compose notes on the run enables me to spend more time at home with my family.

To really get the most out of the 200LX as a thin communications terminal, I use several utilities. An extremely clever utility is LXPic ■. LXPic allows pictures to be viewed on the 200LX, whether they are stored in .JPG or .GIF formats. It is great to have for those times when friends send their children's latest photos.

But how does a person get the photo into a usable .JPG format after the sender's e-mail program transformed it into yet another format? For those occasions, I use three utilities.

If the message was UUENCOD-ED I use the UUDECODE utility in UUENCODE/DECODE '96 ■. If the received message was encoded in a MIME format, I use the capabilities of MPACK/MUNPACK v. 1.5 ■ for DOS.

Finally, if after decoding the

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attachment I find it is a compressed file in a .ZIP format, I use the PKUNZIP utility from the PKZIP v. 2.04g package.

Prefers Procomm to DataComm

Sometimes I have to get the 200LX to emulate a Digital Equipment Corporation VT100 terminal, such as when I dial into the Kitsap County or Weber County library systems. For a while I used the built-in DataComm program, but lately I have switched to Procomm Plus 2.01. (I prefer Procomm because it has a scripting capability which is more flexible than DataComm.)

Typically I use Procomm Plus for connecting to the library or for testing out communications with serial devices like modems or printers.

As if using all those applications were not enough, I found several other programs that broaden the usefulness of the 200LX. For task switching, my solution is MS-DOS DOSSHELL, which I use in conjunction with MaxDOS.

Task switching with LXMAP

Here's how I use these two programs with LXMAP. The original campus map was too large to put on a regular sheet of copier paper. The solution was to divide the original map into sections that were then put on multiple pieces of 8"x11" copier paper. The map was divided into eight sections. An overview of the whole campus map was put on one sheet, and on that sheet each section is outlined and labeled ("section one," "section two," etc.).

I can have several instances of LXMAP running on my palmtop at the same time, and I can switch from one to the other. For example, I'll load the overview sheet, then enter "3" (for Building number 3). LXMAP will go to that part of the overview image that is marked "section one," where the building is located. Then I'll swap out the overview session, launch the

instance of LXMAP which loads section one map, then enter "3" again. LXMAP will then locate where building 3 is on that map. Incidentally, this is taking much longer to describe than it takes LXMAP to actually locate the building.

Transfile Win200 allows painless backing up of the 200LX and simple file transfers over a serial connection. I used it extensively prior to purchasing Greystone Peripheral's CardDock PC Card reader. Transfile Win200 is a wonderful program, but being able to backup my SanDisk FlashDisk in a matter of seconds rather than hours made the CardDock worth the price! Just to put the value of CardDock into perspective: I was able to install, configure, and test the CardDock and back up my FlashDisk in less time than it takes to back up the FlashDisk via a serial connection.

When I have to run a large DOS application that could use (or requires) expanded memory, EMM200 makes those applications feel right at home on the 200LX.

An especially fun program is Vertical Reader. I use this application when I fly from Salt Lake City, Utah, to Seattle, Washington, and back. Flying coach on commercial aircraft is an exercise in the economy of movement. The combination of the little 200LX and Vertical Reader is perfect for this environment. I can read a classic novel and still be able to drop my book in my shirt pocket when refreshments are served.

I hope that by reading this article you can see how I improved my efficiency at work, and increased my fun at home. Gathering and integrating the programs took some effort, but it has been well worth it. I hope my ideas will help you get the most out of this remarkable little machine.

Commercial products mentioned in this article

CardDock - (About \$150)

CONTACT: Greystone Peripherals Inc., 130-A Knowles Drive, Los Gatos, CA 95030, USA; Phone: 408-866-4739; Web: www.greystone.com

SanDisk FlashDisk

CONTACT: SanDisk Corporation, 140 Caspian Court, Sunnyvale, CA 94089, USA; Phone: 408-542-0500; Web: www.sandisk.com

Procomm Plus 2.01 - (\$85.95)

CONTACT: Quarterdeck Office Systems, 13160 Mindanao Way, Marina Del Ray, CA, 90292-9705, USA; Phone: 800-683-6696 x6326 (Mark); E-mail: info@quarterdeck.com

WordPerfect Office - (\$129.99 v. 6.2 upgrade)

CONTACT: Corel, 1600 Carling Avenue, Ottawa, Ontario, K1Z 8R7, Canada; Phone: 800-772-6735

Shareware/Freeware mentioned in this article

All of the following programs are available on *The HP Palmtop Paper's 1998 CD InfoBase*.

200BUDDY 3.0b - A utility for the HP 100/200LX that adds many useful features that save quite a lot of keystrokes. Shareware.

EMM200 2.0 - A utility that allows DOS programs to be loaded into expanded memory simulated on the C drive. Freeware.

HELV200 - Utility that makes the palmtop's characters more readable. Freeware.

LXMAP 2.0 - Program that display city (& other types of) maps. Freeware.

LXPIC 4.2 - Utility for viewing GIF/ICN/PCX/JPG and BMP graphics files. Freeware.

MAXDOS 0.3.7 - Allows you to launch from System Manager a program requiring a large amount of conventional memory. Freeware.

MPACK/MUNPACK 1.5 - Utility that can code and decode files in the MIME format. Freeware.

NET-TAMER 1.10 - A suite of applications for use with the Internet. Shareware.

PKZIP 2.04G - A file compression program. Shareware.

UUENCODE/DECODE 96 v. 57 - Utility that converts a binary file to text so it can be transmitted via E-mail. Freeware.

VERTICAL READER - A program for reading ASCII text files while holding the 100/200LX with the hinge vertical, like a book. Postcardware.

Programmer's Corner: LXBatch Programming

LXBatch lets you create DOS batch files with the look and feel of the HP 200LX's built-in applications — without the need for the HP Palmtop Developer's Kit or a C compiler.

by Ed Keefe

A little background for LXBatch

The unique feature of the HP palmtops is their ability to run older, but still useful, MS-DOS programs. Some HP palmtop owners have loaded their machines with Word Perfect and dBASE III+ as well as dozens of shareware and freeware programs. Yet, the most popular programs are those that have been custom designed for the HP 100/200LX (for example, acCIS, PalEdit, and HV). Such programs have the look-and-feel of the palmtop's built-in applications. They all use the medium sized character fonts. They all have pulldown menus and they usually show the function key labels on the bottom of the screen.

In the past, creating such look-alike applications required that programmers had to learn to use the HP palmtop Developer's Kit. They also had to get a copy of Microsoft's "C" compiler, which could be costly and hard to come by.

To overcome both these hurdles, the PAL (palmtop Application Library) group, under the leadership of Gilles Kohl, produced a library of C functions that work with almost any C compiler. Using the PAL library, programmers could design MS-DOS programs with the look-and-feel of "native" HP 200LX applications.

However, for many people, the hurdles were still too high. Learning C and mastering all the HP 200LX function calls might be considered "overkill," when all you needed was a DOS batch file. You might even have tried writing such a batch file, until you realized that batch files can't do everything that a full-blown program can do.

But wait: here's LXBatch! ■

But suppose that your batch files could have pulldown menus, dialog boxes, file-and-directory pick-lists, dialog buttons, and input fields! Suppose they had the ability to check everything from battery type and battery voltage to the number of bytes free on a disk or in the DOS environment space! Suppose a batch file program could switch from one Software Carousel session to another! Suppose it could turn the HP palmtop Off and On. Suppose that your batch files had the ability to repeat an operation a number of times and then quit. Well, suppose no more: with a little help from

LXBatch ■ your batch files can now have all these features and more. This one program can breathe new life into dreary old batch files, all for the cost of a couple of days effort and the price of a postcard.

Rob Koenis, the author of the LXBatch program, has taken the best parts of the PAL library and turned them into a high-level programming language for the rest of us. With the LXBatch language, you won't have to wade through yards of C code and miles of error messages to get a program to work. Just run a couple of the sample programs that Rob provides, examine the on-line help files, and within a couple of hours you'll have a working batch file with almost any feature you want.

OK, in all honesty, creating LXBatch programs is not exactly a "piece of cake." Some of the commands and the online help will leave you scratching your head and losing a few hairs in puzzlement. But when your program is up and running, you'll still have



ABOUT THE AUTHOR

A long time contributor to Hewlett-Packard Handheld support publications, Ed Keefe is an author, editor, programmer, computer science instructor, and part-time consultant in the computer industry. He is also the editor of the book *PC In Your Pocket: Information When You Need It*. Ed can be reached at 75300.3667@compuserve.com

REVIEW: LXBatch

some hair left. Lots of C programmers can't make that claim!

Some unique features of LXBatch

LXBatch actually allows two kinds of program development: ordinary batch files that contain LXB commands and LXB programs that contain MS-DOS batch commands.

As an example of the former, here's a simple batch file, called SHOWKEY.BAT ■ that uses some LXB commands.

```
@echo off
cls
echo This is a batch file with LXB
commands
pause
LXB screensetup
echo Note the Function Key
Labels
LXB display 100 100 3 Note the
function key labels
LXB showkeys Help View Edit
Copy "" "" "" Save Exit
LXB getkey key
if "%key%" == "F1" goto help
goto end
:help
LXB message This is the help
message
:end
LXB screenrestore
```

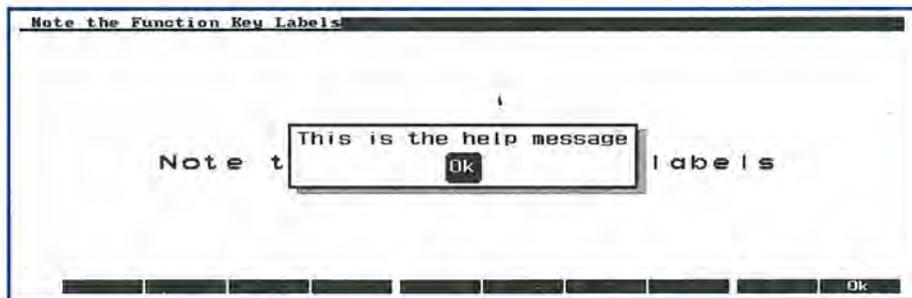
When you run the program, by highlighting the showkey.bat filename in FILER and pressing ENTER, you'll get the screen depicted in Screen 1.

If you press the F1 key, you'll get the screen depicted in Screen 2.

The showkey.bat file starts off as a typical batch file with the "echo off" command followed by commands to clear the screen, display a message and "pause." The first enhanced command, "LXB screensetup," puts the LX in graphics mode to handle subsequent LXB commands. The command "echo Note the Function Key Labels,"



Screen 1: This screen was created by inserting LXB commands in an ordinary batch file.



Screen 2: The "LXB message" command has put this text window on the screen.

another batch command, puts its message at the very top of the screen. The LXB version of the same command puts a similar message at location 100 pixels over and 100 pixels down on the screen using size 3, large, fonts. The LXB showkeys command fills in the function key labels at the bottom of the screen. (If a particular label is supposed to be empty, just use a pair of double quotes.) The LXB getkey command waits for a key and then stores the value of the key in the DOS environment variable "key." The next command shows just the first in a possible series of "if" statements that compare the value of %key% to a predefined key. In this case, when you press the F1 key, the batch file will jump to the :help batch-file label and execute the LXB message command. This message command puts a text window on the screen and waits for any key to be pressed.

The LXB screenrestore command puts the screen back in text mode.

This enhanced batch file may be just what you need to improve some of your current batch files. It will give you interactivity at the expense of a couple of extra commands.

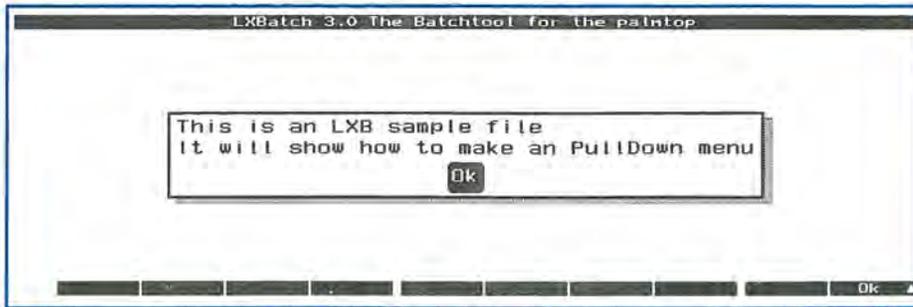
If your LXB-enhanced batch file happens to use a lot of environment variables, you may run into a problem, especially if you try to run the batch file from FILER. You may run out of DOS environment space, and your program either won't run, or it will run and produce undesirable results. If this happens, it's time to convert your batch file to a true LXB file and let LXBatch handle the environment variables for you. You'll get a faster running program as a reward for your effort. You'll think you have a double-speed palmtop in your hand.

A Sample LXB program

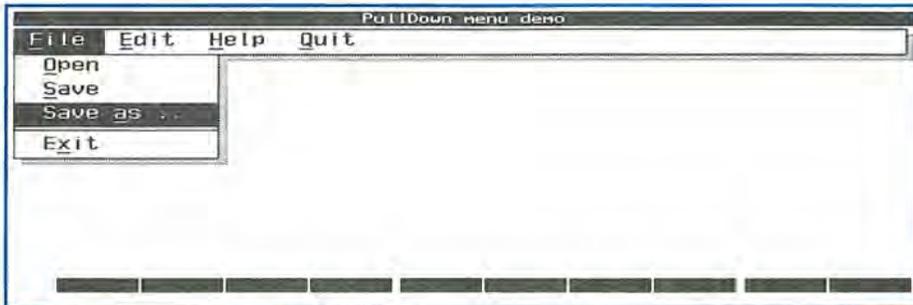
Here's an example of an LXB program. It's one of several sample programs contained in the LXBatch archive.

```
screensetup PullDown menu
demo
message "This is an LXB sample
file! It will show how to make a
PullDown menu"
```

```
:menustart
pulldownclear
pulldownitem 0 &File &Edit
&Help &Quit
```



Screen 3: The opening message in the LXB example program.



Screen 4: The pulldown menu from the LXB example program.

```

pulldownitem 1 &Open &Save
"Save &as .." - E&xit
pulldownitem 2 &Cut C&copy
&Paste
pulldownitem 3 &Help - &About
pulldownuse *pmenu

```

```

if @pmenu@ == 4 goto end
if @pmenu@ == 101 message
Open file
if @pmenu@ == 102 message
Save file
if @pmenu@ == 103 message
Save file as ..
if @pmenu@ == 105 goto end
if @pmenu@ == 201 message
Clipboard cut
if @pmenu@ == 202 message
Clipboard copy
if @pmenu@ == 203 message
Clipboard paste
if @pmenu@ == 301 message No
help
if @pmenu@ == 303 message
About | PullDown menu demo
goto menustart

:end
screenrestore
stop

```

When you run the program

you'll see the opening message. (See Screen 3.)

When you press any key, the pulldown menu will appear and will respond to the arrow keys. (See Screen 4.)

The thing to note about the SAMPULL.LXB file is the absence of the "LXB" key word. Since the LXBatch program will interpret the LXB file, it assumes that all commands are LXB commands except those that are obviously DOS commands. Also note that the "pulldownuse *pmenu" command replaces the "LXB getkey key" command. This command uses a value based on the pulldown item you've chosen. It stores the value inside LXBatch's data space rather than in the DOS environment space. To access the value of the variable you use @pmenu@ instead of the usual DOS variable name, %pmenu%.

To run the SAMPULL.LXB file, just use the command: LXB LXB-FILE SAMPULL.LXB. (If you have a HP 200LX, you can use the undocumented FILER.INI file to associate an LXB file with the LXB LXBFILE command.) If typing this

command is too much work, then you can compile the LXB file and turn it into a standalone EXE file. You'll be able to execute the EXE version of your program from FILER or by typing the name of the file at the DOS prompt. You could also distribute this file to others without having to show them how to use LXB!

But wait: there's more...and more...and more.

LXBatch will let you enhance your current batch files, or create interpreted or compiled LXB files. You'll be able to enhance your batch programs with more than 100 new commands.

To try and list all these new commands would be tantamount to rewriting the documentation and help files provided by Rob Koenis; something that I don't want to do. (Besides, I can't write with a Dutch accent, as Rob can.) However, if you have not yet explored the range of things that LXBatch files can do, here are a few of the commands, just to whet your appetite.

ShowPCX: You may be able to eliminate other PCX graphics viewers by using this built-in command. There's also the ShowIcon command that will let you display the icons used on the HP palmtops.

Sound: This command will let you play everything from a simple beep to any to the tinkertunes that can be played on the LX's tiny speaker. A companion volume command will set the sound level.

Dialog commands: These commands create buttons, text and input fields: all the things that go to make up a dialog box. There's even a command called FileDialog that puts a file browser on the screen. You can use this command in a batch file to pick one file from a list.

Check commands: Your batch files can check on the status of almost everything that can happen in your palmtop, e.g., CheckKey, CheckBatt, CheckSC (Software Carousel), CheckEOF (End Of File:

REVIEW: LXBatch

used with the ReadFile command), CheckDrive, CheckFree, CheckWeekDay, CheckEnvFree, CheckString.

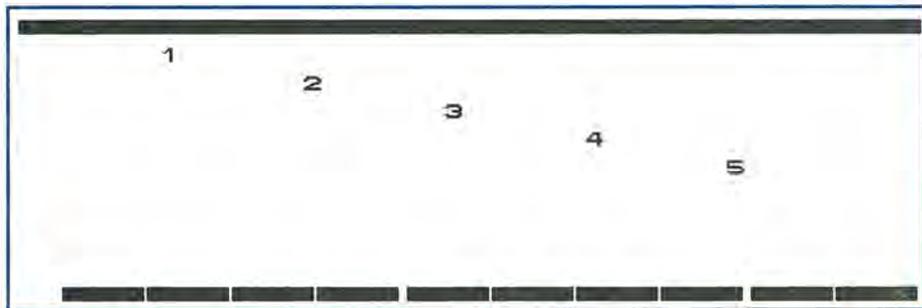
String commands: LXBatch contains a panoply of string functions that will let you parse strings that are typed into an input window, as well as strings that are read in from other files.

Conditional and goto functions: LXBatch goes beyond the usual batch file commands such as "if errorlevel", or "if /%1 == /," to offer such commands as "if (not) x<y", and "if (not) x>y". There's even a calc command that can be used to perform counted loops. For example, here is a simple FORLOOP.LXB program that puts the numbers 1,2,3,4,5 diagonally across the screen. It's not the ultimate program, but it shows some of the additional capabilities of LXBatch. In the program, the *variablename indicates an LXBatch variable that will hold a value: the @variablename@ indicates the value stored in the variable.

```
screensetup
; initialize 3 variables
set *counter 0
set *x 0
set *y 0
:loop
; add 1 to counter
calc *counter @counter@ + 1
calc *x @x@ + 100
calc *y @Y@ + 20
display @x@ @y@ 3 @counter@
if not "@counter@" == "5" goto
loop
getkey *key
; delete the variables
set *counter ""
set *x ""
set *y ""
screenrestore
```

When you run the FORLOOP.LXB file with the command LXB LXBFILE FORLOOP.LXB, you'll see what's depicted in Screen 5.

Menu commands: Besides the PullDown menu commands shown above, LXBatch has a set of commands that will let you create



Screen 5. In this example, the calc command is displaying numbers diagonally across the screen.

pop-up menus anywhere on the screen. You can then use the UpArrow and DownArrow keys to pick a command from a scrollable list. What more could a busy programmer ask for?

LXBatch as a prototyping tool

For many programmers, LXBatch may be all that you'll ever need. However, if you're designing an application for yourself or a customer, you'll find that LXBatch can serve as a great prototyping tool. You can have a "mock up" of a palmtop program in a day or two. If this meets with the approval of the customer, you can either compile it and sell it, or you can use it as the starting point for developing a C program that does the same thing, along with whatever else the customer wants.

The LXBatch program is my "top pick" for the palmtop Programming Tool of the year. It lets me write programs on the palmtop without the usual fuss and bother of a C or Pascal compiler. To expedite LXBatch programming, I keep a copy of LXB.DOC, the documentation file for LXBatch, in one of three Software Carousel sessions on my palmtop. I devote a second SC session to the PalEdit editor, which I use to develop the code for a LXB file. My third SC session is where I test the program as I develop it. I also have an "emergency repair program" which gets me back in business after the occasional crash and reboot.

Coming next month: CHOICE.LXB

Compared to developing similar programs on a desktop, the operation is lean, mean and fast. To get a better idea of the type of program that I'm working on, look for next month's issue of *The HP Palmtop Paper*. It will contain an extensive, and thoroughly documented LXB file called CHOICE.LXB. The program uses the FILER.INI file and lets me point at almost any file in FILER and have a choice of Running, Editing, Viewing, or Unzipping the file. The program is one of those hacks that will probably never be finished because it just keeps growing and growing. Hopefully, I'll have it ready for your inspection by the next issue. Until next time, Happy Programming: this time with LXBatch.

Shareware/Freeware mentioned in this article

All programs below available on this issue's *HP Palmtop Paper ON DISK*.

LXB30.ZIP ■ – Version 3.0 of LXBatch, the very powerful batch tool for the HP 100/200LX. Enhances the capabilities of DOS batch files. Postcardware. Available at: www.palmtop.net/super.html

FORLOOP.LXB ■ – Example LXBatch program. Freeware.

SAMPULL.LXB ■ – Example LXBatch program. Freeware.

SHOWKEY.BAT ■ – Example batch file. Freeware.

Troubleshooting Modem and Data Communications Problems

Although trying to get a new modem to work can be frustrating, you should be able to get your modem up and running by following this step-by-step procedure.

By Robert Causey

After spending some time in the HPHand forum on CompuServe, I noticed that many people had questions related to modems, and data communications in general. Solving modem problems can be frustrating, but it doesn't have to be.

Troubleshooting data communications can be difficult, in part because there are several hardware and software components involved, and determining where the problem resides can be challenging. Fortunately there is an easy process you can follow that can resolve most modem and data communications issues.

I thought it might be helpful to review some of the basics and provide a simple modem troubleshooting guide.

The Basics

Before you can troubleshoot data communications, it is helpful to have an understanding of the process involved, and some of the key components.

The beginning of any data communication starts at the communications program, or application, as it is sometimes called. Some examples of these programs are the

Datacom and cc:Mail applications built into the 100/200LX.

First the application will attempt to "initialize" the modem. The purpose of this process is to prepare the modem for communications and tell the modem how to communicate with other modems and the application.

The application will attempt to initialize the modem by sending an initialization string, or setup string as it is better known. The setup string consists of a series of commands that set various options in the modem. I will cover this in more detail in a moment. The application will then wait for the modem to signal that it is ready. If all goes well the modem will indicate an "OK" status and the application will continue.

The application will then instruct the modem to dial a phone number, either one preconfigured, or one the application had prompted you to enter.

The modem will connect to the telephone line and dial the phone number it was given. The modem will then wait for another modem at the phone number that was dialed to answer. I'll refer to this second modem as the "Host modem."

Assuming all went well, the modem at the Host answers. The two modems will now start a negotiation process to agree on the speed of the connection and the error handling strategy. This process is often referred to as the "handshake." This process normally takes a couple of seconds, and if you have a modem with a speaker, you will hear the high-pitched squeaky tones during this time.

If all goes well, the two modems agree on the speed of the connec-

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tion and the error handling strategy. If you have a modem with a speaker, it will go silent at this point.

The modem tells the application of the success of the connection. Depending on the application, you may sometimes see a message on your screen indicating the connection success.

At the same time, the modem at the Host notifies its respective application (the Host application) of the incoming call and connection.

Now that the physical path is established, the applications (palmtop and host) will start to communicate.

What happens next is determined solely by the two applications, and will vary from application to application. Since a majority of data communications problems occur before this point, I will focus on troubleshooting those areas.

Troubleshooting

Here is a troubleshooting technique that should help you isolate your problem. First we will prepare the modem and palmtop for the test.

1. For PCMCIA modems, start with your modem card inserted into the palmtop and connected to

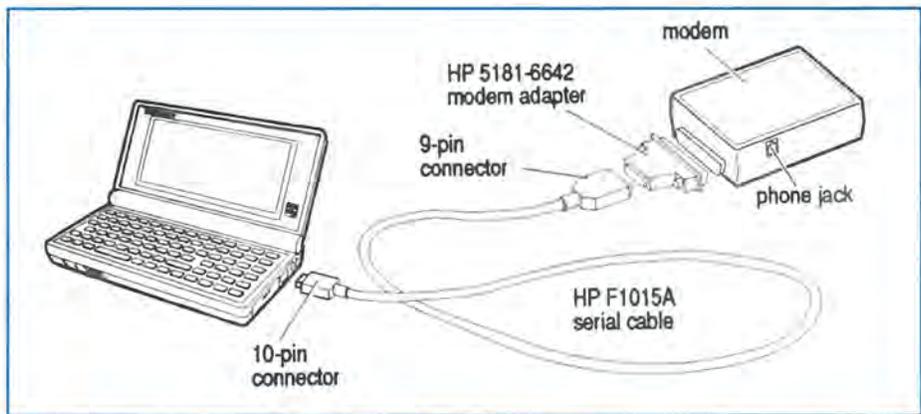


Figure 1. A serial cable and a modem adapter are being used to connect an external modem to the palmtop.

null-modem instead of the modem adapter.

2. Open Datacom by pressing (CTRL)+(QUICKEN). [On the 100LX, press (CTRL)+(cc:MAIL).]

3. Press (MENU) Connect Settings and adjust your settings as follows:

Baud: 2400

Interface: com2 for PCMCIA modems, com1 for external modems. Parity: Even

Data Bits: 7

Stop Bits: 1

Then save settings by pressing F10.

4. You should now be at the main terminal screen. We are now ready to begin the test.

5. The rest of the test involves typing the commands directly to the modem. Do not use the connect or dial features of Datacom for this test. The reason is the connect function causes the Datacom program to communicate with the modem on autopilot during dialing. You will need to see the modem results

so we will bypass the autopilot.

6. Earlier I mentioned the setup string as being a series of commands. These commands are used to program, or configure, the modem. The "AT" command is used to get the modem's attention. By prefixing it to whatever command you are testing, the modem will recognize the command; otherwise the command may be ignored.

Type "AT" and press (ENTER). You should get an "ok" prompt or "0" prompt. If you do not, your palmtop is not communicating with the modem.

Things to check if there is no response...PCMCIA modems

- a) Is the modem card seated well?
- b) The connection settings are not as above (see point 3).
- c) Modem is configured strangely. Try entering +++ (do not press ENTER).

Also try typing "ATZ" and hitting (ENTER). When you get an "OK" prompt, go to the next step.

Things to check if there is no response...external modems

- a) Is the modem plugged in to the palmtop and turned on?
- b) The connection settings are not as above (see point 3).
- c) The modem is configured strangely. Try entering +++ (do

Troubleshooting data communications can be difficult. Fortunately there is an easy process you can follow that can resolve most modem and data communications issues.

the phone line. Also, make sure the palmtop has a fresh set of batteries, or is connected to the AC adapter.

For external modems, start with your modem connected to the palmtop, connected to the phone line, and powered on. Also make sure the palmtop and modem have a fresh set of batteries, or are connected to the AC adapter.

In addition to HP's HP F1015A serial cable, you may also need HP's HP 5181-6642 modem adapter (See Figure 1). You could also use a

not press ENTER). Also try "ATZ" (ENTER).

d) You have not used the correct modem adapter. See point number 1. When you get an "OK" prompt, go to the next step. If you can not get an "OK" response, you may have a problem with your modem, cables, or on rare occasions, your palmtop. The best source of help would be the modem manufacturer, or the HPHand forum on CompuServe.

7. Manually enter your modem setup string (get it from the modem's manual or the application). Make sure you put the "AT" in front of the string. For example: ATV1&C3&D2(ENTER)

8. You should get either an "OK" or "O" response, depending on the contents of the string.

9. If you get an error response, try entering each item individually. For example, using the above string, try typing:

ATV1(ENTER) AT&C3(ENTER)
AT&D2(ENTER)

You will need to refer to your modem manual for the specifics of each command. You should get an "OK" or "O" response to each command. If you get an error, check the format of the command against the modem's manual. Also, note that some modems are case sensitive.

10. If all goes well, place a call to a BBS manually by entering ATDT, followed by the phone number. For example, ATDT555-1212(ENTER). If all goes well, you should get connected without error. You will know you are connected when you see something like CONNECT xxxx yyyy. You will usually see the word "connect," followed by a number and other verbiage. The

number is the speed the modems are communicating at, and the verbiage will describe the error handling strategy the modems are using (if any).

If you get a "no dialtone" or "no dial tone" message, this indicates a problem with the phone connection. Check the phone cord between the modem and the wall jack. Is this a working jack? To find out, plug into the jack a telephone that you know works. But even if the jack works with a phone, you may have a "digital" connection, not the "analog" connection that is required for a modem. Many businesses use fancy telephone systems. These systems typically support two kinds of connections: the "digital" connections used for the fancy business phones, and the analog connections used for modems and fax machines. Digital connections will not work with modems, and may actually damage them.

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Palmtop Programming Possibilities For Beginners and Pros

From BASIC to Microsoft's C Compiler, and from COBAL to the Lotus 1-2-3 macro language, the palmtop user has lots of programming options to choose from.

By Wayne E. Yang

HP palmtop owners have access to the world of popular programming languages right in their pocket. Since the palmtop is built on the open architecture of the old IBM-XT, we can run the wide variety of programs that thrive in the DOS, CGA environment: everything from Turbo Pascal to Microsoft's C Compiler.

Additionally, since it does not use a proprietary programming language, it is one of the few palmtops on which you can get under the hood.

"What I like about the HP Palmtop is that it can be programmed. Since the information is not available, as a mere mortal you cannot program on the PIM type machines." -- Gilles Kohl, software developer and engineer for PROCAD.

Portability is another big plus on the palmtop. Because the HP 100/200LXs are with you all the time, they make great machines for honing programming skills in spare moments. Whether you're sitting in a New York cafe or by a Carolina fireplace, it's always there when you want to use it.

"It is always available for those spare moments of inspiration. Its x86 compatibility is well documented and almost every programming language

has a compiler for it." -- Mark Scardina, a sysop on CompuServe's HPHAND forum.

Compilers turn programming code, which can be written in any text editor including Memo, into a program that can run on a computer. Compilers that run on the palmtop include Mix Power C (which Gilles recommends because it is inexpensive and comes with an excellent manual); Pacific C; Prolog ■ and TIPI ■ (a language by Kent Peterson that is a hybrid of BASIC and Forth ■, see the Jan./Feb. 97 issue of *The HP Palmtop Paper* for more information). Other users have even claimed success with the reputedly buggy Visual Basic for DOS. Given this abundance of choices, which programming language or compiler do you pick?

"If you polled the best programming minds at a large software developer like Microsoft, you would find a lot of different opinions about programming languages. Some programmers started on Logo, many on BASIC and at least one or two who had fun with machine language while they were in diapers. Each one of these programmers is going to favor the language they know best, and have special strengths and weaknesses as a result of their learning path." -- Beverly Howard.

Which is the best programming language for the palmtop?

To "C" or not to "C" — the biggest advantage associated with programming in the C language is that you have ready access to the Palmtop Application Library (PAL) ■. PAL is a library of functions coded in C that allows you to create programs that have the look and feel of the HP's built-in functions. Programs such as the popular HV ■ (an HTML viewer for the palmtop) and LXBatch ■ (a batch file enhancer) were created with the help of the C functions contained in PAL (see the Mar/Apr 96 issue of *The HP Palmtop Paper* for more on PAL).

"Those who want to be able to use PAL should bite the bullet and learn C." -- Ed Keefe, professor, programmer and author of PC in Your Pocket — Best of The HP Palmtop Paper, (available from Thaddeus Computing).

Another reason why many programmers prefer C is that it is con-

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sidered a more "pedal-to-the-metal" language. It offers greater control over your machine, and thus more speed and power.

"The thing about C is that it is extremely flexible and powerful. That is why it is such an obvious choice. It is also considered difficult for novices. Unlike PASCAL, BASIC, (or for those of you who have looked at it, JAVA) C will let you do anything that you want, no matter how stupid it is. This can get you into trouble." — Colin Cumming).

Start with PASCAL and Migrate to C

Many beginners might find C too difficult, and many programmers recommend that novices instead start with PASCAL.

"PASCAL forces you to think in clear concepts. C is more flexible, but allows you to program 'spaghetti code;' that is, it supports bad programming practices and strategies. Therefore, it is a good idea to start with PASCAL and then migrate to C. It is very easy to migrate from PASCAL to C and you will more likely write well-designed C code when going that way." — Andreas Garzotto, author of many palmtop software products and principal of D&A Software Inc.

Keeping things BASIC

BASIC continues to be one of the most popular programming languages ever. Many early IBM compatibles came with versions of BASIC bundled with their hardware, such as GW-Basic or Basic-A. Most machines that came with DOS-5.0 or later came with a sophisticated version of BASIC by Microsoft called Qbasic. Qbasic was hardly the BASIC with which most of us grew up. Gone were the command line prompts and line numbers that turned most of us off of programming, back when we had machines such as the Tandy TRS-80. Qbasic even came with its own integrated development environment that offered such things as

automatic correction of some basic syntax errors during the programming process.

"I used to teach BASIC in the MBasic and Basica days. I didn't like it, and jumped to PASCAL when Borland introduced Turbo Pascal 1.0 (CP/M). Since then, BASIC has grown up and is more like PASCAL. I've taught myself VBA in Excel and like what I see." — Ed Keefe.

One of the biggest advantages of programming in BASIC can be summed up in one word: Microsoft. The Redmond, Washington-based company has been pushing the language for years, first as GW-Basic (the IBM version of BASIC was known as BASIC-A), then later as Qbasic, which came bundled with machines. Microsoft also offered a commercial version called QuickBasic that offered programmers the capability to make their programs executable, (translating the code into machine language).

These days, Redmond's preferred version of BASIC is known as Visual Basic, a rapid application development (RAD) environment which is said to have more than three million copies circulating. Visual Basic has become one of the most popular RAD environments for developing Windows-based applications. VB exists also in the form of Visual Basic for Applications, the development language now common not just to the Microsoft Office suite of programs such as Word, Excel, PowerPoint and Access, but also to non-Microsoft programs such as Visio, the drawing program.

Additionally, there is a flavor of BASIC called VBScript, which can be used to create Web pages. Microsoft also supposedly has plans to allow programmers to write for Windows CE using Visual Basic. (Right now development for Windows CE is almost solely in C++). The programmer using QBasic or QuickBasic has the advantage of being familiar with

the syntax that has since evolved to become Microsoft's Visual Basic.

Then there are also the shareware basic compilers for the PC world such as ASIC, Bywater Basic, LibertyBasic (supported by author Carl Rundel) and TSRBasic. One of the most popular compilers for the PC DOS world is FirstBasic ■ Users interested in PowerBasic can download FirstBasic from CompuServe (GO POWERBASIC or GO HPHAND), or from PowerBasic's web page (www.powerbasic.com).

Another way of getting PowerBasic is to buy a copy of *Learning Basic Book for DOS*, which includes a copy of the PowerBasic 2.1 compiler for \$29.95. More recent versions of PowerBasic are advertised as 99.9% compatible with Qbasic.

"From personal experience, as someone who learned C programming in college, I prefer BASIC because it is less intimidating. Writing code in BASIC takes less time than it does in C (you don't have to worry about defining everything if you don't want to and you don't have to remember to put semi-colons after everything." — Dave Navoro of PowerBasic, Inc.

Learning how to program

So you've picked a programming language, but now how do you learn how to program?

1. Read a good book Comb the shelves of your local library for beginners' books on programming. Bookstores are also good sources for these. Barnes & Noble often sell copies of *QBasic for Dummies*, *Qbasic by Example*, and *Teach Yourself QBasic*. *The Revolutionary Guide to QBasic* teaches more advanced techniques such as 3-D graphics, multimedia and even creating your own spreadsheet application. I was recently able to find a copy of *Using Basic* (published by Que) at CompUSA for the closeout price of \$10. Of course, Thaddeus Computing offers such resources as the *HP Developer's Guide* and PAL

■ (Thaddeus Computing, 800-373-6114). Don't forget to check the Amazon web site for books on programming: www.amazon.com.

2. Get caught in the Web Most of the major programming languages have dozens — if not hundreds — of Websites devoted to them. BASIC continues to be a popular programming language and there are lots of Web resources for the beginning programmer. You can find freeware and shareware tutorials for BASIC-related topics, such as:

Qbasic (qbasic.com) - You'll find the Qbasic files themselves

and various other old DOS files at www.microsoft.com/win/dows/common/aa2724.htm; look for the `qbasic.exe` and `qbasic.hlp` files. You can also order Qbasic programs from DOS World (www.dosworld.com).

Beginners BASIC Homepage (intermid.com/basic/qmenu.htm) which includes ten chapters of a basic tutorial.

There are hundreds of sample programs and program snippets (also known as source code) that the programmer can peruse to see how others have tackled various problems.

COBOL on the HP Palmtop

COBOL has been the preferred language of business and government since the mid 1960s. More computer code has been written in this language than all other languages combined.

COBOL has become even more popular in the last couple of years as we approach the millenium and face the "2000 year problem" head on. Many programmers who know their way around a "working environment" and "perform varying" statements are currently making five-figured bonuses by upgrading miles and miles of legacy, COBOL code.

If you're interested in learning or re-learning COBOL on the palmtop, let me suggest the following inexpensive way to do just that. Buy a copy of the book "COBOL from Micros to Mainframes," by Grauer and Villar, published by Prentice-Hall, 1994, 2nd edition (see end of this article for ordering information).

The book includes a student version of the popular Realia COBOL compiler, along with a linker, editor and an interactive debugging program. The one limitation of the student version software is that it won't compile programs that are more than 500 lines long. However, such long programs can be broken into separate files, compiled and linked together to produce executable programs.

I'd suggest installing the software on a desktop PC before putting it on your palmtop. The installation instructions are in an appendix of the book, as are some brief instructions on how to use the compiler, editor and debugger.

You'll probably discard the clunky, Realia editor in favor of PalEdit or VDE. You'll definitely want to keep the debugger.

The compiler is command-line driven. If you want to automate the operation of the editor, compiler, linker and debugger, you can either use a DOS batch file or create macros in VDE or PalEdit to accomplish this task.

The Realia COBOL programs take up about 500 Kbytes of disk space. The sample COBOL code takes up another 500 Kbytes.

Ed Keefe

3. Find a mentor Many experienced programmers agree that the best way to learn programming is at the foot a grizzled, experienced pro.

"If possible do an apprenticeship with someone who already is highly productive in programming, or take a course at a college near you. If you're on your own, there are several good books that will teach structured programming and top-down-design, but most people need someone to guide them. Without a guide most self-taught programmers wind up repeating all the mistakes that other programmers have made." — Ed Keefe.

"Programming books are great, but it's better if you can discuss them with a mentor or some knowledgeable person. Play around with DOS batch files, little assembly routines and read the DOS manual. In other words, learn as much as you can about the machine your programming for. This may prove helpful in the future." — Art Leather, an Independent Windows/Psion Software Designer/Engineer.

It's best if you can find a real mentor — someone who is knowledgeable, patient, and interested enough in you and your new pastime that he or she will want to help you develop your skills. If you know someone that fits that bill, fine. If you don't, don't worry. There are a number of good sources for this kind of help.

One of the most obvious sources is your online service — CompuServe and America Online, for instance. Check out the programmer's section of CompuServe's HP Handhelds forum (GO HPHAND), the MS BASIC forum (GO MSBASIC), the PC Programmers (GO PCPROG), and MS Languages forum (GO MSLANG). There are other programming-related forums on CompuServe, but these are good places to start. When you are stuck on questions about the best way to approach a problem, or just curious about where the best source of information about a programming lan-

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—Robert J. Vondra, 8 Meg DoubleSpeed 200LX owner

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guage might be, these forums can be great resources. Generally, you will find that there are enough kind-hearted souls who remember what it was like when they themselves were novices that they will want to help you.

4. Just do it, and have fun!

Several experienced HP Handheld programmers agree that one of the best ways to learn how to program is, well, to just start programming and have fun doing it.

TeamHP member Fred Kaufman, who works as a volunteer answering questions in the HPHAND forum, also recommends that beginners dabble with LXBatch, a batch file enhancer with programming language functionality (See *The HP Palmtop Paper*, March/April 1996.) Pick achievable projects that you're interested in.

"Get a project to work on, an idea you may have carried around for a while and start building it into a program. You want to keep your interest in programming at an all-time high, so do it slowly by wining in small bytes. A project isn't just one big win, it's a lot of little successes that build into a complete program. I can't wait to see the big picture, but I keep reminding myself

that it's the little successes that build the bigger successes." — Art Leather.

[EDITOR'S NOTE: All the DOS freeware and shareware basic compilers mentioned in the article should work on the HP Palmtops, with the exception of the Mac and Windows compilers.

Also, the programming section of *PC in Your Pocket - Best of The HP Palmtop Paper* (by Ed Keefe, and available from Thaddeus Computing, 800-373-6114) discusses a number of built-in programming

Commercial products mentioned in this article

All prices are manufacturer's suggested retail price. It may be possible to purchase the products for less at third-party vendors.

COBOL from Micros to Mainframes

By Robert T. Grauer; 1994; 2nd edition. ISBN: 0133107647. Price: \$73 (includes book and disk). Contact: Pretence-Hall Publishing Co.; Phone: 800-223-1360.

Learning BASIC Book for DOS

Price: \$29.95 (includes book and copy of the PowerBasic 2.1 compiler). Contact: PowerBASIC, Inc., 316 Mid Valley Center, Carmel, CA 93923; Phone: 408-659-8000; FAX: 408-659-8008; Orders: 800-780-7707; E-mail: 75300.1742@compuserve.com

tools for the HP Palmtops, including the Lotus 1-2-3 macro language, user keys/system macros, the subset language in the database engine, DOSKEY (for DOS macros), HP Calc/Solver, the MS-DOS batch language, and Debug script files.]

Shareware/Freeware mentioned in this article

FirstBasic — BASIC compiler for the PC. Shareware. Available on this issue's *HP Palmtop Paper ON DISK*. Also available from CompuServe (GO POWERBASIC or GO HPHAND), or from PowerBasic's web page: <http://www.powerbasic.com>

HV — Utility: Hypertext viewer for W.W.Web's HTML format. Freeware. Available on *The HP Palmtop Paper's 1998 CD InfoBase*.

LXBatch (LXB.ZIP)— A batch file enhancer with programming language functionality.. Freeware. Available on *The HP Palmtop Paper's 1998 CD InfoBase*.

PAL — The Palmtop Application Library collection of C language functions that give DOS programs the look and feel of 100/200L built-in applications. Freeware. Available on *The HP Palmtop Paper's 1998 CD InfoBase*.

PGY.ARC — Another small Forth programming language compiler. Shareware. *The HP Palmtop Paper's 1998 CD InfoBase*.

PCC — Personal C Compiler Support is a popular alternative to Microsoft C and Borland C. Registered users receive a usable debugger and some other utilities. (Tested on the 95LX, but should run on all three palmtops.) Shareware. *The HP Palmtop Paper's 1998 CD InfoBase*.

PROLOG.ZIP — This is a freeware demo version of the 16-bit Prolog DOS compiler from Logic Programming Associates (LPA). PROLOG.ZIP runs standard Prolog programs "as is." Additional modules (optimizing compiler, debugger, examples, etc.) can be obtained, together with a printed reference manual, from LPA at shareware prices. See the included file READ.DOC for more information. *The HP Palmtop Paper's 1998 CD InfoBase*.

PYGMY FORTH — A small version of the Forth programming language enhanced for the HP 100/200LX. Shareware. *The HP Palmtop Paper's 1998 CD InfoBase*.

TIPI — A small Forth programming language designed for the HP 100/200LX. Shareware. *The HP Palmtop Paper's 1998 CD InfoBase*.

UDFORT.ZIP — A small Forth programming language compiler. Shareware. *The HP Palmtop Paper's 1998 CD InfoBase*.

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BASIC TIPS

PhoneBook

Using and editing the DataCard

The DataCard is a window that shows up in the list screen in the PhoneBook, DataBase, and NoteTaker applications (See Screen 1.) The DataCard, a RoloDex-type card appearing in the right hand part of the screen, is a feature on the HP 200LX, but not on the HP 100LX.

You'll notice that at the bottom of the card two numbers appear inside parentheses; in our example, "(2/11)". This indicates that there are 11 records in this file, and that the second record is highlighted and is being displayed.

You can cause the DataCard to be displayed (or not to be displayed) by toggling (CTRL)+(D), or by pressing (MENU), View, DataCard.

The DataCard is simply a Smart Clip of some of the information from the fields of whatever record is highlighted (See Screen 2.)

By editing the DataCard Smart Clip, you can customize your PhoneBook to suit your needs.

Here's an example. I rarely refer to a person's address or their company name, so the default DataCard is wasting space by displaying these fields. Instead, I'm constantly referring to business and home phone numbers, e-mail addresses (which I store in the Alternate field) and the first few lines of the Note field. What I'd like is a DataCard that displays this information from a record without me having to open that record.

In order to create such a customized DataCard, you need to know how to edit the DataCard Smart Clip.

First, open the PhoneBook application, then press (F5) (Clip), then use the UpArrow or DownArrow keys to select "DataCard" from the Smart Clip List. Then press (F4) (Edit). The "Edit Smart Clip Definition" window will appear (See Screen 3.)

Your own DataCard Smart Clip definition may, or may not, resemble the one displayed in Screen 3, depending on whether or not the definition has already been edited.

The information that's displayed in the DataCard in Screen 1 has been determined by the definition that's shown in

Phone: DF1 All Phone Book Items 12/11/97 11:35:39 am

Name	John Doe
Business: 515-555-1212	
Home: 515-555-2345	
Fax: 515-555-3456	
Acme Glass Company 123 Birch Lane Fairfield IA 52556	
(2/11)	

Help Add Note Find Clip Subset Sort Columns Open

Screen 1.

Phone: DF2 Phone Item 12/11/97 11:57:15 am

Name Doe, John

Phone: Business 515-555-1212 Home 515-555-2345

Alternate John_doe@thaddeus.co Fax 515-555-3456

Title Category

Company Acme Glass Company

Address1 123 Birch Lane

Address2

City Fairfield State IA Zip 52556

Note Wife = Jane
Kids = Curley, Moe, Larry

Help Add Note Find Clip Prev Next Cancel Done

Screen 2.

Edit Smart Clip Definition

Name

Business: Business

Home: Home

Fax: Fax

Company, ?

Address1, ?

Address2, ?

City, ? State, ? Zip, ?

Help Field Edit Cancel OK

Screen 3.

Screen 3. In other words, to change the appearance and contents of the DataCard we need to edit and change the DataCard Smart Clip definition.

The first interesting thing to note is that, although "Doe, John" appears in the record's Name field (Screen 2), when we look at the DataCard (Screen 1) we see "John Doe." Although most of us probably prefer this "first name, last name" display, some of you might find the names easier to read if they were displayed as the names in a regular phone book are (i.e., "last name, first name"). And even if you prefer the "John Doe" format, knowing how to change the order of first and last names can be useful in other situations besides the DataCard display; for instance, in creating Smart Clips that select data from fields and sends it to the printer or saves it to file.

So let's change the name order. First, make sure "Name" is highlighted in the Edit Smart Clip Definition (Screen 3), then press (F4) (Edit). A "Define Field" box will appear (See Screen 4 next page.)

Notice that the Name field is highlighted, and that the "Reverse name" box is toggled. When this box is checked, the characters that appear before the first comma in a field get displayed after the comma, and vice versa.

If you TAB down to the Reverse name box and press the (SpaceBar) the checkmark will disappear. Now press (F10) (OK), and you'll notice that the comma and the tilde characters ("," & "~") no longer are part of the Name field definition. The tilde character merely indicates that the Reverse name box is checked for this field.

Now press (F10) (F10), (OK)(OK),

and you'll see that the top line of your DataCard now reads "Doe, John".

Now let's look at the second line in the DataCard Smart Clip definition (See Screen 3). Note the presence of the equal sign character ("="). When the equal sign character appears on a line by itself, a thick line appears on the DataCard. When the minus sign character ("-") appears on a line by itself, as it does on the sixth line of the definition, a thin line appears on the DataCard. Such lines can be useful to visually separate the contents of your DataCard (See Screen 1.)

Here's another neat trick. Notice that, although the Smart Clip Definition contains both "Address1" and "Address2" fields (See Screen 3), the DataCard contains only the information from the record's Address1 field ("123 Birch Lane"). The presence of a question mark ("?") following "Address2" in the Smart Clip definition indicates that the "Suppress line if empty" box has been checked for that field. Checking the "Suppress line" box prevents a blank line from appearing in the DataCard when there is no data in a particular field.

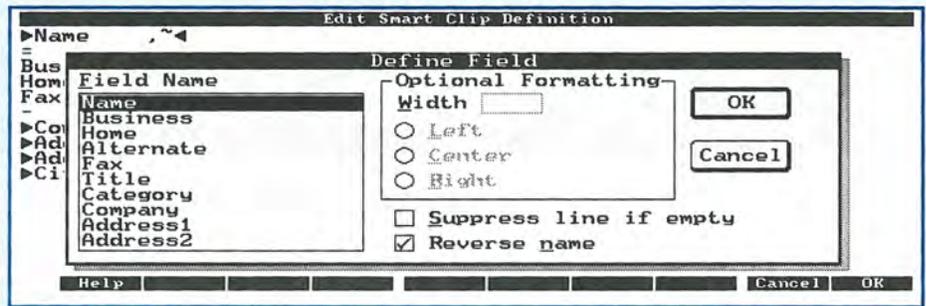
Now that we know how to edit the DataCard Smart Clip, let's create our own personalized DataCard that displays only the following fields: Name, business phone, home phone, alternate, and note. (The new, edited Smart Clip definition that we will create is shown in Screen 5).

First, press (F5) (Clip), highlight DataCard, then press (F4) (Edit). When the definition window appears, press the (DownArrow) key once. This will move the flashing cursor down to the second line so that the equal sign is highlighted. Now repeatedly press the (Del) key until lines two through ten of the definition are erased. Alternately, you can hold down the (Shift) key and press the DownArrow key nine times. This will highlight lines two through ten. Then press the (DEL) key to erase the lines.

The DataCard definition window will now contain only one line (the line with the name field on it). With the cursor on the second line, press (Shift) b (Shift) 5 (Spacebar). "B:" will now appear on the second line.

Now press (F2) (Field). This will bring up the Define Field window. Press the (DownArrow) key once. When the "Business" field is highlighted, press (F10) (OK). Now press (ENTER) to move down to line three.

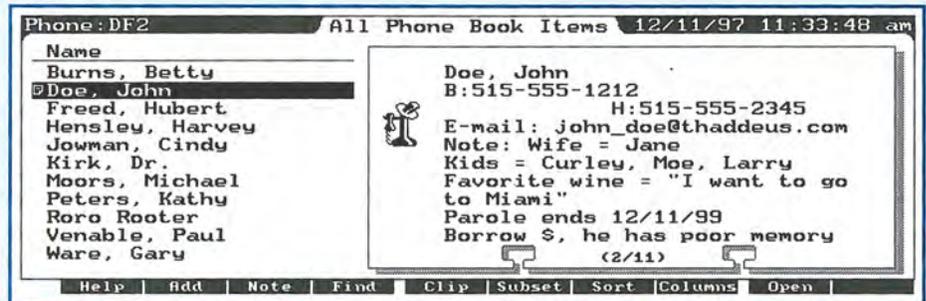
Press the (Spacebar) twelve times, then press (Shift) h (Shift) 5 (Spacebar). "H:" will now appear on the third line.



Screen 4.



Screen 5.



Screen 6.

Press (F2) (Field) and add the Home field to line three. Then press (ENTER) to move to the fourth line.

Type "E-mail:", then press (F2) (Field), highlight the Alternate field, then press (F10) (OK). Then press (ENTER) to move to line five.

On line five, type "Note:", then press (F2) (Field), highlight the Note field, then press (F10) (OK).

Our custom DataCard definition is complete, so we can press (F10) (F10) (OK) (OK). As you can see in Screen 6, our custom DataCard looks much different from the PhoneBook's default DataCard (Screen 1).

Here's why I like this particular customized DataCard. After using PhoneBook for months and entering hundreds of telephone numbers into new records, I've gotten accustomed to the fact that the business number is on the left and the home phone is on the right (see Screen 2). Because my custom DataCard maintains this "left-right" display of telephone numbers, it's easier for me to read.

I also like to be able to see at a glance a person's e-mail address; and

the fact that I store e-mail addresses in the Alternate field doesn't matter, since I've included the "E-mail" reference in the DataCard.

Here's why I like the contents of the Note field to be displayed: although I use the PhoneBook to store names and telephone numbers, I'm constantly referring to the odd bits of information that I store in the Note field. As long as I put the most important information in the top six lines of the Note field, this information is always displayed.

When you edit your own DataCard, think for a moment before you start, and decide what it is you actually use PhoneBook (or DataBase or NoteTaker) for. Once you know which fields you look at most often, you can design a custom DataCard that can be especially useful.

Ralph C. Turner
Managing Editor
The HP Palmtop Paper
ralph_turner@thaddeus.com

... QUICK TIPS ...

Password recovery

Jan Brands (jrbrands@win.tue.nl) has created a small (8-Kb) freeware utility program that finds the password in files that have been created by the DataBase, Notes, PhoneBook, Appointments and WorldTime (*.gdb, *.ndb, *.pdb, *.adb and *.wdb) applications on the HP 100/200LX palmtop.

HPCRACK ■ takes advantage of the fact that the password to a password-protected file is saved in the file itself, protected in a simple (although insufficient) way.

The program does not work with password-protected Memo files or Pocket Quicken files, which seem to use a different way of storing the password.

The program has two legitimate uses. First, its existence should serve as a warning that the password protection for many of your files on the HP LX is not sufficient to protect highly sensitive data.

Second, the program will be invaluable if you ever forget the password to a file. Just run HPCRACK, find out the lost password, then open your file.

To use HPCRACK, first make a backup of the file for which you can't remember the password. Then go to the DOS prompt and type:

```
Hpcrack <filename>
```

The password for the file will be displayed on the screen. Included with the program is the C source code so that those who are interested can learn more about the file protection algorithm.

Ralph C. Turner
Managing Editor
The HP Palmtop Paper
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Appointment Book

Special wake-up sound file

I am hard to wake up, so this is how I cope. I replaced the default sound file with a custom file that starts with one quiet beep, then a pause, then a somewhat louder beep, another pause, etc. Then the loud beeps are connected and get a waterfall effect, then a pause, then the waterfall becomes frightening, and I am awake for certain by then!

(To use a custom sound file, the file needs to be named c:_dat\alarm.snd. The file must be in ASCII format, and can be created, in the MEMO editor. Once the file is created go into Appointment Book and press (MENU) Options, Alarm-Beep. Then TAB down and select Custom. From then on, whenever an alarm goes off, the beeps that are in the c:_dat\alarm.snd file will sound.)

Here are the contents of my custom sound file:

```
t200 v1 k1 o00 l64 d
p1p1p1p1p1 v2 gg v3
p1p1p1p1 fffp1p1 o01 fg
p1p1 v3 l64 abc p1p1p1p1
c+a+abacadafaeafagae-
abagabaga+aa+aa+cegde-
fceaacee+ ff+gg+aceceace-
faced fdfdbcdge o03 abacad-
abacadbcbdb ebcdbbec
dcecfcdcecfcgfdafeede-
ceadeaceaceaceebdfdbf-
bdfcegecege
```

There should be no carriage returns in this sequence, just spaces. The characters must all reside on one line. This alarm is in the file WATER.SND■.

Frank Louwers
Belgium
72361.2161@compuserve.com

Here's another custom sound alarm file, this one of the 1812 overture:

```
K1 T150 L64 O4FF L32A+
O5CDC O4A+ O5C L16D
O4A+A+ P16,, L64 O4FF
L32A+ O5CDC O4A+ O5C
L16D O4A+A+ P16,, L64 GG
L32O5CDD+DCDD+DC
O4G L16O5C P16,,
L64O4FF L32A+ O5CDC
O4A+FA+FDL L16A+ T150
K1 L64 O4FF L32A+ O5CDC
O4A+ O5C L16D O4A+A+
P16,, L64 O4FF L32A+
O5CDC O4A+ O5C L16D
O4A+A+ P16,, L64 GG
L32O5CDD+DCDD+DC
O4G L16O5C P16,,
L64O4FF L32A+ O5CDC
O4A+FA+FDL L16A+
```

It should all be on one long line. This alarm is in the file 1812.SND ■.

Fred Kaulman
TeamHP

7[RTF bookmark start:
_Hll407079815]5[RTF bookmark end:
_Hll407079815]162.2616@com-
puserve.com

1-2-3

Lotus 1-2-3 fundamentals

Lotus 1-2-3 is one of the most powerful and useful applications built into the HP Palmtop PC. It's great to keep lists, add up numbers, and perform a myriad of calculations automatically. Once you set up a spreadsheet and make sure it works, all you have to do is enter data. The spreadsheet takes care of everything else.

Using Lotus 1-2-3 is simple, but you do need to know some fundamentals first. The best way to learn is with an example. Let's look at a small, privately owned company with three principle

stockholders. We'll create a spreadsheet that shows how many shares each stockholder owns and what percentage of the total shares each holds. While doing this, we'll cover the following basic spreadsheet tasks:

1. How to create mixed (relative and absolute) formulas. These will be used to create percentages and totals.

2. How to create a percentage formula.

3. How to copy formulas. This task makes it easy to create duplicates of the percentage formula that you will create.

4. How to format numbers. These are used to show the percentages properly. For example: 50.000%, instead of 0.5.

Getting started

Let's start with the spreadsheet shown in Screen 1, next page.

First, enter the data into the appropriate cells, as shown. Create the dashed lines that appear in cells B4 to D4, and in B8 to D8 as follows: Go to cell B4 and type the backslash key and the minus key (\ -). This will fill the cell with dashes. Now do the same in cell B5, and so on.

Creating relative formulas

The basic task at hand is to first figure out the total number of shares held by the three stockholders. To do this, we add up the numbers in cells C5, C6, and C7. The percentage each owns is the number of shares they own divided by the total shares, and then multiplied by 100.

With your cell pointer in cell C9, you can simply enter the following formula: @sum (C5..C7). This tells Lotus to add up the contents of all cells from C5 to C7. Another way to enter this formula is:

- Place cell pointer on C9.
- Type in: @sum(
- Press the UpArrow key until the cellpointer is on C5. (On the second line of 1-2-3, up in the left hand corner, it will display "@sum(C5)")

- Press the period key to anchor the first cell reference. The second line will now display "@sum(C5..C5)".

- Press the DownArrow key. 1-2-3 will begin blocking out the range. Press the DownArrow key until the range C5 through C7 is blocked out. Then finish the formula by pressing the close parenthesis key and then pressing (ENTER). Cell C9 should now display the total number of shares.

Creating a percentage formula

Again, the percentage of shares owned is a function of the number owned and the total number of shares in existence.

- Move your cellpointer to cell D5, where we'll create the first percentage formula. Notice that the Mode Indicator in the upper right hand corner of 1-2-3 says "READY" (i.e., Lotus is ready for you to enter data or a formula). Now press the plus key, "+". Notice that the Mode Indicator changed to "VALUE" (because you entered a plus sign, Lotus assumes you are going to enter a value). Note that the second line in the upper left corner of the screen now has a "+" in it. This line displays anything you are entering.

- Now press the Left Arrow key. Notice that the Mode indicator changed to "POINT." Instead of entering a value, Lotus is letting you point at the value you want to enter. Note that the second line in the upper left corner of the screen reads "+C5", and the cell pointer is highlighting cell C5.

- Now press the divide key "/". Notice that the Mode Indicator changed to "VALUE." Lotus "knows" you need to enter another value to finish the division. Note

B11: [W14]

	A	B	C	D
1				
2				
3				
4		STOCKHOLDER	SHARES	%
5		John Jones	50000	
6		Jane Jones	25000	
7		Judy Smith	25000	
8		TOTALS		
9				
10				
11				
12				
13				

03-Dec-97 03:33 PM

Screen 1. This screen shows our Stockholder spreadsheet with labels and data already entered.

B11: [W14]

	A	B	C	D
1				
2				
3				
4		STOCKHOLDER	SHARES	%
5		John Jones	50000	0.5
6		Jane Jones	25000	0.25
7		Judy Smith	25000	0.25
8		TOTALS	100000	
9				
10				
11				
12				
13				

05-Dec-97 02:13 PM

Screen 2. Our stockholder spreadsheet now shows the formula from D5 copied to D6 and D7.

B11: [W14]

	A	B	C	D
1				
2				
3				
4		STOCKHOLDER	SHARES	%
5		John Jones	50,000	50.00000%
6		Jane Jones	25,000	25.00000%
7		Judy Smith	25,000	25.00000%
8		TOTALS	100,000	
9				
10				
11				
12				
13				

05-Dec-97 02:14 PM

Screen 3. The spreadsheet now displays the properly formatted numbers and percentages.

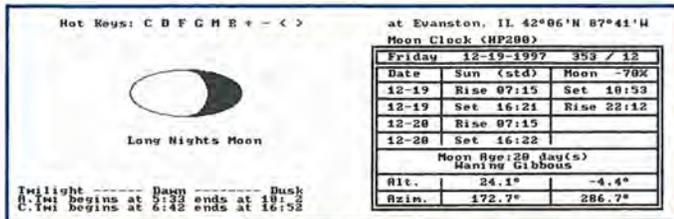
that the formula on the second line in the upper left corner of the screen changed to "+C5/", and the cell pointer went back to cell D5.

- Now press the DownArrow key four times and the LeftArrow key once.

Notice that the Mode Indicator changed to "POINT," the formula on the second line in the upper left corner of the screen changes to "+C5/C9", and the cell pointer highlights cell C9.

- Then press the (F4)

key, which is an "absolute reference" toggle switch. Notice that the formula on the second line changed to "+C5/\$C\$9". Keep pressing (F4) slowly until the formula on the second line is "+C5/C\$9". Then press



Screen 4.

(ENTER). [Note: One of the nice things about Lotus is that when you copy formulas from one cell to another, Lotus adjusts the cell references when needed. Sometimes you do not want this to happen. If this is the case, you create an absolute cell reference in the formula as described in this example.] The mixed reference formula in cell D5 is now complete.

Copying formulas

You can re-enter the above formula in Cells D6 and D7. But that takes too much time. It's easier to simply copy the formula from D5. With the cell pointer on D5:

Press: (MENU) (C) (ENTER) (DownArrow) (.) (DownArrow) (ENTER). After you press the last key the spreadsheet should look like Screen 2.

Formatting numbers

We'll fix the appearance of the numbers next.

1. First let's make the spreadsheet display all numbers with commas separating thousands and displaying no decimal places. Do so by pressing: (MENU) (W) (G) (F) (,) (0) (ENTER). Unfortunately, this doesn't display the percentages properly. Up to this point, they are displayed as fractions, and .5 really means 50%.

2. Fix the appearance of the percentages by moving the cell pointer to cell D5. Then press: (MENU) R F P 4 (ENTER) (DownArrow) (DownArrow) (DownArrow) (DownArrow) (ENTER).

Your spreadsheet will now look like Screen 3.

You now have a template ready to insert new data. (xx start here with Merkle's "Lotus 1-2-3 Fundamentals"

article...ie. start with "Lotus 1-2-3 is one of the most...")

Carl Merkle
 Director of Corporate Projects
 Shier Systems & Software, Inc.
 carl@shier.com

MISC

A great free program

The following freeware program is among the selections found on this issue's HP Palmtop Paper ON DISK. The program can also be downloaded on the Internet at www.palmtop.net/super.html. (See the New Products section for additional freeware and shareware selections.)

MOONCK17.ZIP ■

Moon Clock displays the phase of the moon and gives the position of the sun and moon or the times of rising and setting (Screen 4, above). This new version of the program was written just for the HP 100/200LX by Bill Quinlan (bquinlan@compuserve.com).

Shareware/Freeware mentioned in this article

HPCRACK.ZIP ■ - Utility that finds passwords for protected files. Available on this issue's HP Palmtop Paper ON DISK.

MOONCK17.ZIP ■ - Program that displays phases of the moon. Available on this issue's HP Palmtop Paper ON DISK.

ALARM.ZIP ■ - Contains two sound files for the palmtop's ApptBook alarm. Available on this issue's HP Palmtop Paper ON DISK.

Letters: *continued from p. 2*

Browser can display HTML. The 1996 version came with a freeware HTML viewer designed for HP palmtops.

The drugs are listed alphabetically by both trade and generic name. There is also a category listing, so you could look up "beta blockers" and find a list of all the drugs in that category.

Each drug's entry includes entries for: trade and generic names, category, pregnancy category, contraindications, adverse reactions, interactions, mechanism of action, dosages, forms, nursing issues and toxicology.

The 1996 package takes up 6.5 Meg of disk space uncompressed. It did compress to 2.2 Meg with Jam (a disk compression program similar to Stacker).

I have found it very useful in

my day-to-day practice. I carry my 200LX into exam rooms with me. I can check pill strengths, interactions, doses etc., in a few seconds. I call it "my computerized cheat sheet" and most patients find it very acceptable.

K2 wants at least 15 orders before they will produce the 1997 version. Here is their contact information:

K2 Consultants, Inc.
 33 Green Heron Lane
 Nashua, NH 03062
 603-551-5544 (v)
 508-842-3666 (f)
 617-497-1243 (Sales)
 k2@sktscape.com
www.skyscape.com/k2

Steve Carder, MD
 Family Practice
 S_Carder@compuserve.com

HP Product Index

HP Products contact information: Authorized HP computer dealers worldwide (i.e. the same place you can purchase an HP LaserJet). To locate an authorized dealer in the USA, call 800-443-1254. You can also purchase the 95LX & 100/200LX and its accessories from: EduCALC at 800-677-7001, Fax: 714-582-1445; Your One-Stop Palmtop Shop at 800-709-9494 or 608-752-1537, Fax: 608-752-9548; Notebook Supply Warehouse at 800-566-6832 or 714-753-8810, Fax: 714-753-8812; PDA Direct at 800-279-4732 ext 130; Shier Systems at 805-371-9391, Fax: 805-371-9454.

HP 300LX (F1220A)—\$499 (est.)

HP 320LX (F1221A)—\$699 (est.)

HP 200LX 4 MB (HP F1216A)—\$599

(versions available include: US English, UK English, German, Spanish, French, Portuguese, Japanese and Korean)

HP 200LX 2MB (HP F1061A) — \$499

HP 1000CX 2 MB Palmtop PC (HP F1222A) — \$449

(versions available include: US English, UK English, German, Spanish, and French)

HP OmniGo 700LX — \$NA

(Combination HP 200LX, fax software and Nokia GSM cellular phone.)

1.8 Mb Flash Disk (HP F1024A, with Stacker) — \$199

6 Mb Flash Disk (HP F1215C, with Stacker)—\$425

10 Mb Flash Disk (HP F1013C, with Stacker)—\$600

20 Mb Flash Disk (HP F1014C, with Stacker)—\$999

AC/DC Adapter (HP F1011A)—\$39.95

USA/Canada (Opt. ABA); Europe (Opt. ABB); Australia (Opt. ABG); South Africa (Opt. ABQ); United Kingdom (Opt. ABU).

PC Connectivity Cable (HP F1015A) — \$24.95

MAC Connectivity Cable (HP F1016A) — \$24.95

100/200LX Connectivity Pack — \$119.95

U.S. (HP F1021B); International (HP F1021C)

Connect/Adapter Kit — \$24.95 (HP F1023A)

4 adapters for connecting the 100/200LX to modems, printers, and PCs.

Palmtop Maintenance Kit (replacement parts) (F1216-60998) (US only) — \$20

Service Agreements (2-year extension) — \$85.

For U.S. HP Palmtop users. Units must be under warranty to extend.

Contact: HP, Corvallis Service Center, USA; Phone: 503-757-2002.

NOTE: Prices listed are suggested retail price. Dealer prices may vary.

How To Contact Us

Please note: The HP Palmtop Paper does not and cannot provide technical support.

There are a number of ways to get in touch with *The HP Palmtop Paper* staff. You can write, mail us a disk with your comments, send CompuServe or Internet e-mail, fax, or call. Our mailing address and contact information is:

Thaddeus Computing, Inc
110 N. Court St.
Fairfield, IA 52556 USA
Phone: 515-472-6330
or 800-373-6114
Fax: 515-472-1879

Internet: letters@thaddeus.com
CompuServe: 76125,1773

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TO ADVERTISE in *The HP Palmtop Paper* contact Brian Teitzman, Margaret Martin or Tiffany Lisk at phone: 515-472-1660 or 800-809-5603; Fax: 515-472-8409.

Technical Support

HP Technical Support — HP offers technical support from 8 am — 5pm P.S.T. Phone: 970-392-1001.

On-Line Support—offered by these bulletin board services:

- COMPUSERVE: GO HPHAND FORUM — Call 800-848-8990 or 614-457-8650.
- AMERICA ON LINE: Keyword PALMTOP — Call 888-265-8001 for membership information.
- INTERNET NEWS GROUPS: news:comp.sys.palmtops.hp; news:comp.sys.handhelds

How to Submit an Article

The richness of *The HP Palmtop Paper* comes from the contributions of Palmtop PC users. We and your fellow users welcome your submissions. (We do not offer payment for articles, your reward is knowing that you've helped others.)

If you have a good idea and want to "go for it," send it in via CompuServe e-mail [75300,2443], Internet: hal_goldstein@thaddeus.com, or send disk or hard copy to Hal Goldstein or Ralph C. Turner at the above address. Alternatively you can send an outline of your idea. We will try to guide you as to when and whether we would use the article and contact you if we need clarification or have any suggestions — please include your phone number. We may want to use an article but for a variety of reasons you may not see it for many months. Please understand that we cannot promise to run any particular article at any particular time.

If you can, especially if you write a Palmtop Profile, send us a photo of yourself.

Products Advertised in This Issue of The HP Palmtop Paper

COMPANY	PRODUCT	PHONE/FAX NUMBERS	PAGE NUMBER
Accurite	Floppy Drives for 100/200LX/Double Slot	510-668-4900; Fax:510-668-4905	17
Aware	Micro Roentgen Radiation Monitor	302-655-3800; Fax: 302-655-3800	9
Entente	Two-Way Conversational Translator	800-409-1701	10
EXP Computer	ThinFax Modem	800-EXP-6922 ext. 641 or 714-453-1020; Fax: 714-453-1319	BC
Greenwich	Link-A-Printer	800-476-4070 or 704-875-8490; Fax: 704-875-2801	30
Inmax	CGA VGA Graphics Pack Vision	604-980-9991; Fax: 604-985-5597	23
Kingmax Micro	Peripherals	714-454-9888; Fax: 714-454-9499	25
PDA, Inc.	Mobile & PDA Expo '98	415-252-8008; Fax: 415-252-8055	7
Shier Systems	Cables, software, accessories, Web Browser	805-371-9391; Fax: 805-371-9454	IFC
Thaddeus Computing	800-373-6114 or 515-472-6330; Fax: 515-472-1879	
	Thaddeus Palmtops: Double-Speed 8 Meg Palmtop, new and upgrade		29
	New 1998 CD InfoBase; 2-CD Deluxe Edition		IBC
	Knowledge products: Subscriptions, HP Palmtop Tech Ref. Manual, Ref. Books, CD		8
	Handheld PC Magazine		5
Trans Digital	Trans PC Card-Universal Parallel Port	916-482-5599; Fax: 916-482-5598	4

Shareware and Freeware Index

January/February 1998

Software on *The HP Palmtop Paper* ON DISK

PRODUCT	FUNCTION	CIS FORUM / LIBRARY	TYPE	PAGE
ALARM.ZIP	Two sound files for ApptBook's alarm.	NA	Freeware	33
CAPLX103.ZIP	Utility: DOS TSR screen capture program.	NA	Freeware	3
COMMO.ZIP	Application: telecommunications program.	NA	Shareware	4
FORLOOP.ZIP	Example program for LXBatch.	NA	Freeware	22
HPCLICK.ZIP	Utility that adds clicking sound to typing.	NA	Freeware	3
HPCRACK.ZIP	Utility: recover passwords that you've lost.	NA	Freeware	33
LXB30.ZIP	LXBatch ver 3.0: batch tool for the LX.	NA	P-cardware	22
LXBACKUP.ZIP	Easy backup of C drive to FLASH card.	NA	Freeware	3
LXGPS12.ZIP	Application: A moving map GPS program.	NA	Freeware	3
MOONCK17.ZIP	Program that displays phases of the moon.	NA	Freeware	35
NTKPAC.ZIP	Newton keyboard driver, ver. 0.5.	NA	Freeware	3
PATCHCOM.ZIP	Utility that connects COM1 and COM2.	HPHAND, LIB 1	Freeware	3
PERIODIC.ZIP	DOS program: look up the elements.	NA	Shareware	3
PTP37.ZIP	Text: The HP Palmtop Paper, Jan/Feb 1998	NA	NA	NA
QVREMO6.ZIP	Control Casio digital camera from the LX.	NA,	Freeware	3
README.ZIP	Text: cover letter to the HP Palmtop Paper ON DISK.	NA	NA	NA
SAMPULL.ZIP	Example program for LXBatch.	NA	Freeware	22
SHOWKEY.ZIP	Example batch file for LXBatch.	NA	Freeware	22
UNO13.ZIP	Application: an information manager.	NA	Shareware	3

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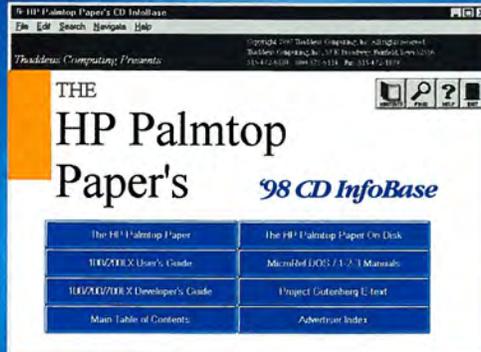
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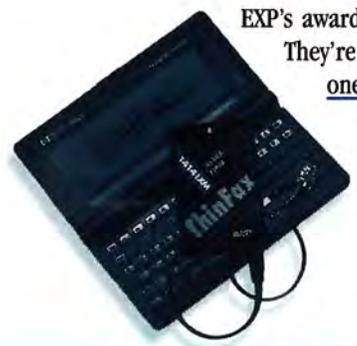
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