

THE HP Palmtop Paper



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HP Announces New 1MB 95LX— U.S. Users Can Upgrade!

HP announces a new 95LX with 1MB of internal memory, and a program where current U.S. users can upgrade their 95LXs for \$190. HP also introduces a 1MB RAM Card.

HP 95LX Upgrade

By Richard Hall

Since the introduction of the 95LX in April of 1991, increased memory has been the most asked-for enhancement by 95LX users. As of March 4, 1992 HP will offer a 95LX with 1MB of internal RAM memory. The list price of the new 95LX will be \$799.

Current owners of the HP 95LX in the U.S. can upgrade their Palmtops before December 31, 1992, for \$190. Upgrades will receive a 90-day warranty or the balance remaining on the original warranty, which ever is greater. To upgrade follow these steps:

1. COMPLETE the form in the box on page 6.
2. PACKAGE your 95LX for shipping (original packaging if available). Enclose the items listed on page 5.

(Continued on page 5.)

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ACEcard 1MB	A1004	1MB		399
ACEcard 1.5MB	A1005	1.5MB		629
ACEcard 2MB	A1006	2MB		779



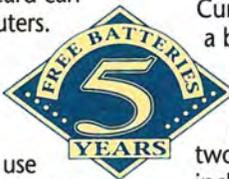
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Publisher's Message



Hal Goldstein

Kudos to HP for providing an upgrade path to its U.S. users at a reasonable price. Hopefully, a similar offer will be made soon to the 95LX's sizable international base.

When HP performs the upgrade from 512K to 1 MB of RAM, HP replaces the entire main logic board. That board contains the CPU (the "brains" of the HP 95LX), the ROM that contains the built-in software, and the 95LX's RAM memory. That means if HP decides to introduce new versions of the HP 95LX with better built-in software or a faster processor,

HP could offer a similar upgrade program. This is pure speculation, but within the realm of possibility.

With HP introducing the upgrade, Managing Editor, Richard Hall convinced me to let him take one of our HP 95LXs apart so we could see what HP would be doing. Following instructions from fellow users, Richard successfully accomplished this. He reports on this unrecommended procedure for the adventuresome and foolhardy.

Connectivity – the ability to transfer information between the HP Palmtop and other computers – is fundamental to HP 95LX users. Bil. Alvernaz and Bernie Kim review several excellent alternatives for the PC and MAC.

Larry Lefkowitz takes us by the hand and shows us, step by step, how to use the HP 95LX on CompuServe. He teaches us how to send messages and download files with a 95LX and modem.

Ed Keefe in Looking Glass and Tom Page in Savvy User show us some of the power of HP Solve. Meanwhile Bil. Alvernaz and I discuss how the CHAR key can be put to good use.

As described in the Fall 1991 issue, the 1992 Subscribers Disk will be mailed out around the time of the May / June issue. I decided not to release a disk earlier because I felt that it would take some months before the most useful HP 95LX utilities would be developed. I believe I was right, and I promise you the disk will be worth waiting for.

The HP Palmtop Paper

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POSTMASTER: Please send any address changes to Thaddeus Computing, Inc., Attn: *The HP Palmtop Paper*, P.O. Box 869, Fairfield, IA 52556.

Bug in PHONE and APPT Find Function

I usually don't write letters to publications for lack of time, but I do want to explain that the reason for the problem in the Find function is that the computer has to search through all the dates that you have set up in the repeat appointments. For example if you have set up repeating appointments up to the year 2906 it might take six hours until it finishes searching. If you want to find things fast, you have to do either of the following:

1. Avoid setting long term repeating or other appointments
2. Use a trick to find things faster.

Here is a trick that will let you find things fast: first you set the date to a little more than where you think the item to find might be. For example if you know that tip can be found in this year, go to January 1, 1993. Then search backwards, that way it only searches through the one year instead of having to search all the way through the far future. This is done by pressing F7, entering the search string and then pressing F5.

As for the bug in the PHONE Find function, this may be caused by incorrect keying. If you are careful to press only the right keys, it should not happen. If you want to avoid all problems, don't use F7 at all. You can find things in the phone book with F5 (Go To) just as well if you are looking for a name. If you are looking for the name "tuition," you just press F5 and "tuition" and press enter. It will go right there with no problems at all.

I also tried but rechargeable batteries vs. regular expensive AA batteries and I opted for using rechargeable batteries and changing

them every Friday or when the battery indicator is in the first 1/3 of the scale. I use the 95LX all day long and find that there isn't enough difference in how long they last with regular AA batteries vs. rechargeable ones, so why pay more? Make a permanent note to check/change your batteries every Friday and that will probably be good enough.

Alfred Herz
Guadalupe, Nuevo Leon,
MEXICO

Something needed to help users see the 95LX's display screen

After working with the 95LX for a while, I discovered that my 11-year-old son had a similar problem with his Nintendo Game Boy as I had with the 95LX. The display screen on both devices is small and sometimes difficult to read in poor light. We solved his problem with a device called the Light Boy (marketed by Vic Tokai Inc, 22904 Lockness Ave, Torrance, CA 90501, USA). It attaches to the Game Boy and provides both light and magnification of the game screen.

Frank Mattsson
Lasne, BELGIUM

95LX Great for Reading Meters

I use the HP 95LX to read utility meters and then transfer the meter readings via the connectivity pack to my PC. I developed a simple 1-2-3-based program, and it works great! My research indicates that cities pay \$8,000 to \$10,000 per hand held with software to do this job. The 95LX is a great alternative — for apartments, mobile home parks, ore even cost-conscious municipalities. I challenge professional programmers to come up with a RAM card-based program

HOW TO CONTACT US

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 mail; fax; or call. Our address is:

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CompuServe ID:
Hal Goldstein, [75300,2443]

(To send material to our street address, you may substitute "57 E. Broadway" for "PO Box 869".)

To contribute to *The HP Palmtop Paper*, contact Publisher / Executive Editor, Hal Goldstein or Managing Editor, Richard Hall.

To advertise in *The HP Palmtop Paper*, contact advertising sales director, Brian Teitzman.

To subscribe, change address, or clear up any problem with your subscription, contact our subscription department (Director, Kelly Johnson).

For support: We are not staffed to answer your HP 95LX questions by phone. If you send us a letter describing your problem we may publish and respond to it. For faster response we suggest you:

1. Call HP at 800-443-1254 for pre-sales information, dealer locations, and answers to common questions.
2. Call HP for technical support at 900-288-0025 from 8am - 3pm Pacific time. For non-U.S. customers, look in your User's Guide or call your local HP sales office.
3. Join the HP 95LX section of the CompuServe HPSYS Forum (call 800-848-8990 or 614-457-8650).

expressly designed for this purpose. There are lots of water, gas, and electric meters out there and they all have to be read.

Tom Carson
Costa Mesa, CA, U.S.A.

Likes Money Manager; Recommends The HP DeskJet Printer

I highly recommend Money Manager, from the Autobyte Corporation (see ad, page 25, Jan/Feb 92 issue) as an excellent way to get control of your personal finances. With two wage-earners and four checkbooks in our

household, each month used to bring a host of excuses and lots of bickering about who was going to give up an entire weekend to balance the checkbooks. Now I even volunteer to balance my wife's checkbook! For only \$50 (after receiving a direct rebate) you owe it to yourself to get this nifty program. Incidentally, Money Manager is not only designed especially for the 95LX's screen, it also comes with a TSR version for your desktop or notebook PC.

For those of you considering a printer, I want to mention that HP's DeskJet

printer works great via the serial interface. As a bonus, the DeskJet also comes with a parallel interface which you can leave connected to your desktop computer. Lotus 1-2-3's LaserJet interface works with text, but I haven't tried it with graphs yet. Anyone out there have any experiences with the 95LX/DeskJet combination?

John Pomeroy
State College, PA, U.S.A.

**Letters combined:
will the real nerd
please stand stand up!**

One minor complaint: on page 2, the first 50% or so of the note attributed to Ed Greenberg is actually from me — check out the file I uploaded to Lib 14 in HPSYS a few months back. The stuff from the beginning of the note through the paragraph ending "...for the case to "adapt" to the 95LX" is mine, taken from that file, and the rest is from a forum message Ed posted a few weeks later.

David Ramsey
San Jose, CA, U.S.A.

I AM NOT A "NERD"
Well, maybe I am, but I didn't write such a comment in the last *HP Palmtop Paper*. In an easily understandable typographical foul-up, Palmtop Paper seems to have mixed my article about a leather case for the 95LX with David Ramsey's article on the same subject, giving me credit for the whole thing in the process.

So, I'd like to go on record thanking David Ramsey for (a) machining the aluminum form, (b) finding Brian Digardi, and (c) pioneering the whole project.

Ed Greenberg
San Jose, CA, U.S.A.

[Mea culpa! I did combine letters accidentally. The term somebody used was "geek," not "nerd." Ac-

ording to Webster's Seventh New Collegiate Dictionary, a "geek" is a carnival performer whose act includes biting the head off a live chicken." I probably should have checked back with the author to make sure his use of the word wasn't intentional. I throw myself on the mercy of the subscribers. — Rich.]

**HP 95LX
Shutdown when Off**

I read your getting started memory article and think it is well presented for the

novice (Jan/ Feb 1992, page 35). However, the shutdown function does not work as you have described. In OFF mode the HP is truly shutdown, not simply powered down. The program parameters and data segments are saved to RAM and the CPU is shut off. Upon turning on the data is restored as the applications are activated.

Mark Scardina
San Francisco, CA, U.S.A.

**Using The HP 95LX
with Other DOS!**

Windows Programs

I was reluctant to convert to the HP 95LX Palmtop because I have become accustomed to my AST 386 Notebook computer. With a 60MB hard drive, space is not an issue for its PIMs and Database program. I did not see how the 95LX could become an efficient productivity tool. However, pulling out a full size notebook computer in a phone booth or with a customer required too much juggling. The need for something like the 95LX, with its built-in

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applications was appealing, so I devised a way to work with the 95LX.

Just about every PIM and database can export to an ASCII file. I use Micrologic's Info-Select as my desktop PIM. The 95LX's MEMO function can read ASCII. So, after I update my To-Do list, Phone Number List, Business Card List, or any of my Calendars (usually at the end of a day in the office) I export these four as ASCII files to a sub-directory on my AST-HARD DRIVE. I then Copy these files to the 95LX using DC95.EXE.

In order to do this without having to enter a thousand keystrokes, I have created the following User Defined Function Keys:

```
CHAR F1= CUSTOM F KEYS
          (Shows this list)
CHAR F2= RUN DC95.EXE
CHAR F3= OPEN 1992 CALENDAR
CHAR F4= OPEN ADD TO AST
CHAR F5= OPEN PHONE LIST
CHAR F6= OPEN TODO LIST
CHAR F7= OPEN FORECAST.WKI
CHAR F8= OPEN BUSINESS CARDS
CHAR F9= RUN DOS 3.3
CHAR F10=CONNECT TO WINDOWS
          TERMINAL PROGRAM
```

I use the following PALM.BAT file on my AST, to copy files from the AST to the PALMTOP:

```
cd\cpack
dc95
copynew c:\temp*.txt j:_dat
copynew c:\is\bc.txt i:
copynew c:\lotus\forecast.wk1 i:
```

Thus to update my HP 95LX, all I have to do is connect the cable, press <CHAR> <F2> on the Palmtop and run PAIM.BAT on the AST. While using my 95LX, the User Defined Function Keys allow me to switch between To-do list, Calendar, and Business Cards by just pressing <CHAR> <F?>.

So long to juggling and waiting for Power On Self Test and Boot-UP.

Frank Robertazzi
Wood Ridge, NJ, USA

Removing EOF Marker from Translated Phonebook Files

I recently upgraded from a Casio Boss to the HP 95LX. I didn't feel like re-entering 560 names, numbers, and addresses into the HP Phonebook, so I used Traveling Software's PC-Link program to output the Boss telephone database in SDF format. I changed the files extension from .SDF to .CD1 so the HP 95LX Connectivity Pack Translate Utility would accept it.

The Phonebook Translate Utility processes 99% of the file, then displays: "Cannot Process Source File, Invalid File Format, Press ESC to Continue."

The format of the data conforms to "Conventional Data Format 1" (see Translate Utility Users Guide, page 4-8).

After some experimentation I found that the End of File (EOF) marker created when the Boss data was translated was the culprit. I deleted the EOF marker using PC Tools HEX edit, saved the file, and ran the file through the Translate Utility again. Without the EOF marker, the translation succeeded.

Robert Mueller
Kai Tak, Hong Kong

[You can also edit out the EOF marker in MEMO. The EOF markers are entered by pressing <CTRL>-<Z>, and look like ← (right arrows). Use to remove it from the end of the file - Hal.]

Carrying case fits on belt

I note that you have mentioned covers or carrying "bags." I purchased a passport/money bag that can be worn on a belt. These are available in most travel stores, are made from nylon and are very durable. There are pockets for RAM cards and the 95LX fits perfectly.

We'd Like to Publish Your Opinion of The HP Palmtop Paper

Everyone benefits from a large readership of *The HP Palmtop Paper*. The larger the readership the greater the knowledge base for *The HP Palmtop Paper*.

Here is how you can help:

We are preparing a new brochure about *The HP Palmtop Paper*. It will consist of one- to three-sentence quotes from our readers. If you like *The HP Palmtop Paper*, tell us specifically what you find useful, why HP 95LX users should subscribe, etc. If possible, please include your Title, Profession, and Company.

Send your feedback to: Hal Goldstein, Thaddeus Computing, PO Box 869, Fairfield, IA 52556, Fax: 515 472 1879 or CompuServe ID 75300,-2443.

The top price for such belt wallets runs around \$15 in this area.

T.D. Craddock
Univ. of Western Ontario
London, Ontario, Canada

HP 95LX Disturbs Transmissions

I was at a meeting whose proceedings were simultaneously translated for international participants. All I could hear out of my headphones was static noise, instead of the translation. After switching off my 95LX, which was on my knees all the time, I immediately could hear the interpreter very clearly. Is my 95LX defective, or is this just a characteristic of the machine that I have to live with?

Relating to the above, it is very nice to use the 95LX on long-distance flights, but if it emits this kind of electromagnetic disturbance, I would soon expect it to be forbidden on airlines.

Also, I had a major problem with my 512K RAM card. One second everything was fine, the next it was dead - totally empty. Our local dealer will replace the RAM card, but you can imagine how I felt losing all my data on a three week trip around the world.

Dr. Bernhard Steiner
Fiabci, Austria

Wants to Test Maintenance Software

In response to the article on page 35 of the Fall 1991 issue of *The HP Palmtop Paper*, I would certainly have an interest in any HP 95LX software to be used for Industrial Equipment Maintenance. In one short month the HP 95LX has become an indispensable tool on the plant floor. As a data collection tool and portable logbook of vital information with safety, personnel, and equipment data stored in 1-2-3 worksheets, along with the built-in applications, the 95LX's size and power are ideal. This machine has certainly caught the interest of a colleague or two involved with Industrial Maintenance.

This could be a great opportunity for Maintenance Software developers to make their products available to the personnel that need constant and rapid access to equipment data; the mechanics on the plant floor and their support personnel. This is one productivity tool I would Beta test in a heartbeat: Maintenance Software developed with the HP 95LX in mind.

Mark Wilkinson
CompuServe ID: [71171,102]

(Continued from front page.)

Complete the form in the box on page 6 and package your 95LX for shipping, original packaging material if available. Enclosing the following items:)

- a. Copy of the completed form (point 1);
 - b. \$190 (US) payable in check, money order, Mastercard, or Visa. Checks and money orders should be made payable to Hewlett-Packard Company and should include local sales tax. Please do not include cash!
 - c. ALL ORDERS MUST include local sales tax in addition to the \$190.
3. INSURE the package for the full value of the 95LX.
 4. PREPAY the package for delivery to: *HP Corvallis Service Center, 1030 NE Circle Blvd., Corvallis, OR 97330, U.S.A.; Phone: (503) 750-3850.*
 5. Your 95LX will be upgraded in 2-3 working days and returned via UPS.

Back up all files you wish to keep. If you cannot back up files, clearly request HP Service to save your files and put them back on your upgraded 95LX. HP Service is very conscientious and will probably be able to do so.

New One Megabyte HP 95LX

The only difference between the new and the original 95LX is the amount of internal RAM memory. The original 95LX had 512K of RAM. The new HP 95LX has 1MB (1,024K) of RAM.

You can split the RAM memory of both 95LXs between system RAM (the RAM you use to run application programs) and RAM disk (for storing files). The new 95LX can be configured for a maximum of 626K of system RAM (still leaving a minimum 398K of RAM disk for storing files).

Rebate Offered on 512K 95LX in U.S.

HP will continue to offer the 512K version of the 95LX for a suggested retail price of \$699, \$100 less than the 1MB 95LX. HP will offer a \$100 rebate to anyone purchasing the 512K Palmtop PC between March 1 and May 31, 1992. This will make the cost of buying a 512K 95LX and upgrading it \$789, \$10 less than buying a new 1MB 95LX at list price. *Rebate offer good in the U.S. only.*

To apply for the rebate on the 512K 95LX you'll need the following:

- A rebate coupon (available from your 95LX dealer);
- Original or photocopied sales receipt reflecting purchase date;
- End flap to the box the 95LX came in (the end with the UPC code and HP logo).

Send all of the above to the address provided on the coupon. In 6-8 weeks you should have your rebate. If your local dealer doesn't have any rebate coupons, or if you have any further questions, please call 503-750-3383.

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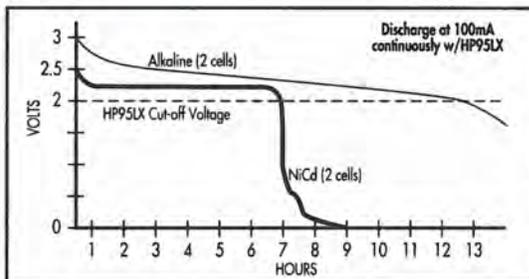
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Other Advantages of Upgrading Your 95LX

Inside any computer is ROM software. In most cases it is "low-level" software that has to do with the interaction between a computer's operating system and hardware. The 95LX ROM software also includes the built-in applications (Lotus 1-2-3, PHONE, APPT, COMM, MEMO, FILER, HP CALC, and SET UP).

All reputable computer companies from time to time "revise" ROMs. They do so to fix any problems they've discovered, or to improve things. HP has issued several revisions of the HP 95LX ROM.

HP did an exceptional job "getting it right the first time." Except for one problem in some of the very early units described below, users can feel very comfortable that their unit contains a stable, problem-free ROM.

Having said this, there are some minor ROM software revisions (improvements) that have been made since the HP 95LX was introduced April, 1991. When you send in your unit for a 512K to 1 MB upgrade, you will receive the latest ROM software revisions. This is so because HP upgrades each unit by replacing the main system board which contains RAM, ROM, CPU, and I/O circuitry. See photo below.

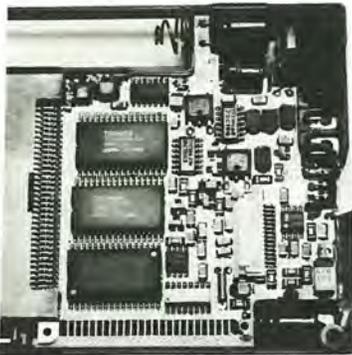


Figure 1
The Main System Board for the HP 95LX

Here is an unofficial list of some of the improvements in later ROM revisions as discovered by CompuServe users.

- Serial Port now only turns on when REMOTE or SYSTEM are

invoked from FILER otherwise it stays off (thus conserving batteries). Previously it turned on whenever FILER was invoked.

- The 5 minute default timeout is changed to 3 minutes.
- The problem with DOS COPY with /V option is fixed. (The COPY /V could cause a system to lock up in previous version.)
- The save function for large APPT or PHONE files is sped up quite a bit.
- The long wait searching for non-existent APPT entries has been significantly shortened.

Early units had an additional problem of an insufficient battery-low warning resulting in the potential loss of open unsaved files. HP will fix this problem at no charge by sending them the unit.

From what we can tell there have been four ROM revisions. From FILER take a look at the Lotus files

on your C drive with a .WK1 extension. Those files are either dated 3-20-91, 4-1-91, 6-5-91, or 9-24-91 depending on which revision you have. The 1MB upgrade boards will contain 9-24-91 or later dates.

If you upgrade to 1MB, it will be nice to get the latest revision. But remember, there will always be later revisions: if you are having no problems with your HP 95LX it's not something to be concerned about. (If it ain't broke ...)

One other note. Last issue we discussed several menuing systems that allowed users to run DOS software "on top of" the built-in system manager files based on software developed in UTIL Forth. (See Jan/Feb, 1992, pages 19 and 31). These "loaders" must be revised to work properly on units with ROMs later than 9-24-91. Updated versions of these loaders are available in the CompuServe HPSYS HP 95LX data library.

U.S. HP 95LX Upgrade Order Form

PLEASE UPGRADE MY 512K HP 95LX TO 1 MEGABYTE.

- | | |
|--|---|
| <p>1. Enclosed is my HP 95LX for upgrade.</p> <p>2. Also enclosed is my payment, payable to Hewlett-Packard Company:</p> <p>Upgrade payment \$190
Add Local Sales Tax _____
TOTAL _____</p> <p>I am making payment via, (please check one):</p> <p><input type="checkbox"/> VISA <input type="checkbox"/> Mastercard
<input type="checkbox"/> Check <input type="checkbox"/> Money Order</p> <p>Please do not send cash.</p> <p>Credit Card # _____</p> <p>Exp. Date _____</p> <p>Signature _____</p> | <p>4. My daytime phone number is: _____</p> <p>5. My evening phone number is: _____</p> <p>6. Please return my upgraded 95LX to the following address:</p> <p>Name _____</p> <p>Company _____</p> <p>Address (no P.O. Box please) _____</p> <p>City/State/Zip _____</p> |
|--|---|
3. My HP 95LX serial number (on the bottom of my PC) is: _____

IMPORTANT!

Please send your HP 95LX base unit only. **REMOVE** all accessories (RAM cards, etc.) before packing for shipment. Also, backup your data elsewhere for safe-keeping.

**SHIP TO: HP Corvallis Service Center, 1030 N.E. Circle Blvd.
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Should You Upgrade Your 95LX to 1MB or Buy a RAM Card?

It depends. Here are some of the advantages of upgrading your unit:

1. You will be able to allocate more RAM to system memory. That means you can run larger 1-2-3 spreadsheets, keep all your built-in applications open with larger files, or run DOS software that requires more system memory. (See Getting Started column in the Fall and Jan/Feb issues for a deeper understanding of System RAM.)
2. There is more built-in disk space to hold data or software. This means you can store more spreadsheets, memos, phone books as well as other DOS software and data in your base unit.
3. In the coming months you can expect to see an increase in the number of larger software programs available for the HP

95LX that will have to be stored in the PC card A drive slot. That means if you want to have data available when you use that software, you will need the extra disk space on the C drive.

Here are the advantages of adding a RAM card to your system.

1. Both the built-in C drive and the RAM card A drive are relatively safe. However, it is easier to inadvertently corrupt the built-in C drive than the RAM A drive. (No matter where your data is, you should be backing up both drives. See reviews on Connectivity Packs in this month's issue.)
2. Sensitive information can more easily be protected by simply removing the RAM card from your system.
3. The RAM card can be read not only in your HP 95LX but by RAM card readers that can attach to your desktop.
4. RAM cards can hold as much as

2MB (2000K) of data. 750K is about as large as you will want to make your built-in C drive.

Ideally you will want both. It depends on how you use your HP 95LX. If all you do is work with small files, your current 512K HP 95LX may be sufficient.

New 1MB RAM Card; HP Lowers Prices on Others

Another way to increase memory on the 95LX is to add a RAM memory card to the system. HP is introducing a 1MB RAM card in addition to the 128K and 512K memory cards it already offers. Suggested retail price for the 1MB card will be \$599.

As of the 1st of January, HP lowered the suggested retail price of their 95LX RAM cards. The 128K RAM card now retails for \$149.95 and the 512K RAM card for \$299.95. HP also lowered retail prices on RAM cards for its popular 48SX Programmable Calculator.

FEATURE: Opening The 95LX

Opening Up the HP 95LX

For your interest only! We do not suggest or encourage any 95LX user open the case and perform any internal repairs on the HP 95LX.

By Richard Hall

[Although I am listed as author, this article borrows heavily from information submitted by Jeffrey Mattox and David J. Marsh - Rich.]

A number of us had the desire to crack open the case on the HP 95LX to do some minor repairs. I was in a hurry connecting serial cable and I pushed one of the four pins in the 95LX's serial port back into the unit so just the pin's tip was showing.

Jeffrey Mattox had been using his new HP 95LX for about a week when an intermittent short circuit developed in the AC adapter input circuit. The unit would automatically turn itself off after a few minutes of inactivity even though it was plugged into an adapter. Jeffrey thought the short was mechanically

linked to the AC adapter jack, so he wanted to attempt a do-it-yourself repair.

David Marsh was advising another user whose 95LX speaker stopped working. He suspected that the wires going to the speaker had intruded into the Memory Card's space and that repeated insertion of a RAM card had broken the wires. He suggested splitting the case and taking a look.

So all of us wanted to look inside to see if there was a quick and easy fix without having to send our 95LXs away to Corvallis for a week. (Alright, maybe we're curious to see what it looked like inside!)

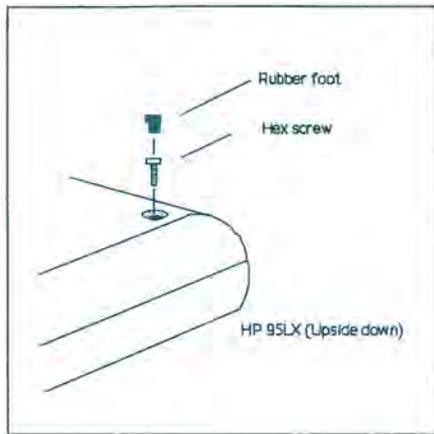
I contacted HP's Corvallis Service Center and they encouraged me strongly to send the 95LX in for repairs. They told me that any dam-

age to the unit while opening it up would be considered "customer damage", not be covered under warranty.

All three of us went ahead and split the case with no apparent damage. Here are the steps chronicled by Jeffrey and David.



Top and Bottom Half of the HP 95LX



Opening the 95LX Case

1. Back up any file you don't want to lose.
2. Remove both the main and backup battery covers.
3. Remove the main batteries. I left the backup battery in and didn't loose and C drive files.
4. Remove the four rubber feet. Simply bite each one with a small alligator clip or a pair of needle-nose pliers and pull straight out.
5. Remove the four hex screws now revealed. Officially, they require a special tool, but a 0.050-inch Allen wrench or a Torx T-6 driver works fine.
6. Spread the case halves apart about 3/4 of an inch at the main battery edge. There is a keyboard connector running between the "MENU" and "=" keys that has two press-fit retainers at each end. Gently pry the case halves apart in that area. Using a flat-head screw driver will work, but prying the case open can mar the outer plastic, so be careful.
7. The LCD screen connects to the main PC board via a small flexible cable. The connector on the PC board has two small retaining clips at each end. To release the flexible cable, use a small screw driver or pin to slide the two retaining clips away from the backup battery.

The repair for Jeffrey's problem was easy. The wires going to the AC adapter socket were being crimped together by one of the socket mounting guides. It was a simple matter to reroute the wires.

The problem David addressed (the speaker wires) was easily confirmed by splitting the case. Correcting the problem requires resoldering the break in the wires or replacing the wires — a job for the tech guys at Corvallis.

I opened my case and confirmed that the left-most of the four pins in the 95LX's serial port had been pushed in. All four pins are soldered to the PC board and extrude through a small piece of plastic. The fourth pin had been pushed back in through the plastic so that only the tip of the pin was showing. The fourth pin had also broken free of the solder, but was still making contact with the board. I *very carefully* used a small flat head screwdriver to push the pin back out (away from the board) until the end protruding out the serial port was the same length as the other three pins. Since the pin seemed to be making good contact with the board, I did not attempt re-soldering the pin. I re-assembled the 95LX and it worked fine. I left my backup battery in while I opened the case, and the files on my C Drive were intact when I reassembled my 95LX.

Putting It All Back Together

Just reverse the procedure, keeping in mind a few points:

1. Make sure the PC board is resting in its slots, laying flat. If it's a little out of position, the case won't close.
2. Connect the Screen cable first, then lay the screen and keyboard on top of the bottom part of the case.
3. Make sure the Press-fit retainers in the bottom part of the case are properly aligned with the black plastic pins in the top part of the case.
4. Carefully press the cases together at the press-fit retainers (next to the MENU and = keys).
5. Make sure everything is aligned properly. Then replace screws, rubber feet, and batteries.
6. The system should now come back on. You may have to re-configure your 95LX and restore files lost in the process.

It Was Fun — But What If...

What if, when we connected everything, the 95LX didn't work? Well,

we would have sent it in to HP's Service Center in Corvallis and they would have fixed it — for a price! Remember, if you damage anything while opening your 95LX, that damage will not be covered under the warranty. If you're 95LX is still under warranty, and even if it isn't, it's better to have Corvallis fix it. They usually fix your 95LX within a three working days, and then send it back two-day UPS (overnight if you pay for it). Hal Goldstein, publisher of *The HP Palmtop Paper*, sent his HP 95LX in to correct a screen problem and got it back five days later.

If your 95LX doesn't seem to work properly, see Appendix A in your HP 95LX User's Guide for diagnostic instructions and information on obtaining service. U.S. users requiring service can contact:

*Hewlett-Packard
Corvallis Service Center
1030 N.E. Circle Blvd.
Corvallis, OR 97330, U.S.A.
Phone: 503-757-2002*

Users outside the U.S. can contact your local HP sales office or dealer. European 95LX users can contact HP's European headquarters for the location of the nearest service center. (Do not send the 95LX in without first contacting an HP office):

*Hewlett-Packard S.A.
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CARDS

Setting Up System-Manager Compliant Applications Using APNAME.LST

[Editor's Note: in the Jan/Feb 92 issue we discussed System-Manager Compliant (page 18), how to install TigerFox and Hearts & Bones in the 95LX's System Manager (page 8), and two menuing systems that let you run DOS programs without having to exit the System Manager.

Adding programs to the System Manager requires creating the APNAME.LST file (not documented in the User Manual). It must be done precisely to avoid problems including data loss. Thanks to Mark Scardina for these guidelines.]

By Mark Scardina

The HP 95LX differs from other IBM PC compatibles in its ability to utilize System-Manager Compliant software. These programs have a .EXM extension, and like the 95LX's built-in applications, can only be

started with a designated hotkey. Once installed these programs allow instant switching between themselves and the built-in applications.

Installation of these programs requires that a special file named APNAME.LST be set up on the 95LX. This article assumes you understand the general format of the file as discussed in the last issue. The focus here is on how to properly set up and maintain one or more APNAME.LST files.

Before you proceed, you MUST create a CONFIG.SYS and an AUTOEXEC.BAT file and put them in your C:\ or A:\ directory. This will save you from losing your data. Mistakes made in your APNAME.LST file can cause your 95LX to lock up. This will force you to re-initialize your unit, thereby erasing all of your files. If you have a CONFIG.SYS and AUTOEXEC.BAT file on your

system, you will be able to access DOS before SYSMGR loads. You can rename a bad APNAME.LST file and avoid a lockup (and loss of data). (CONFIG.SYS and AUTOEXEC.BAT files are discussed in detail in *The HP Palmtop Paper*, Quick Tips section, in both the Fall and Jan/Feb issues. See also the sidebar.)

You can only access .EXM files through hotkeys. Information on hotkey assignments is stored in APNAME.LST. Whenever you reboot your HP 95LX (by pressing **CTRL-ALT-DEL**), SYSMGR reads the APNAME.LST on the C drive and inserts that information in its task table in memory. If a memory card is in the card drive, SYSMGR reads its APNAME.LST file (if it has one). SYSMGR only accepts a total of 8 entries in its task table. If you have 8 entries in the APNAME.LST file on your C drive, SYSMGR ignores any entries on your A Drive.

The procedure for setting up an APNAME.LST file is not documented in your *User's Manual*. Here are some rules and guidelines for setting up your file.

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File Examples

Here are some simple examples of files you might need to create when setting up System-Manager compliant software. You can create or modify these files using MEMO:

1. AUTOEXEC.BAT file:

```
PAUSE
$SYSMGR
```

2. CONFIG.SYS file:

(the space before /P is necessary)

```
SHELL=C:\COMMAND.COM /P
```

3. APNAME.LST file:

(Makes Ctrl-FILER and Ctrl-COMM hotkeys for the built-in games on the English language version of the 95LX.)

```
C:\SYS\TFOX.EXM,AE00,TFOX
C:\SYS\HP.EXM,B200,H&B
```

APNAME.LST Rules

1. All listings in your APNAME file should be in uppercase. According to the 95LX's Technical Reference Manual, the 95LX may miss a drive specification in lowercase (i.e. `c:_dat\HB.exm` may cause problems).

2. APNAME.LST listings should only call programs that reside on the drive that the APNAME.LST file resides on. You should have an APNAME.LST file on the C Drive for .EXM programs on the C drive, and an APNAME.LST file on the A Drive (RAM Card) for .EXM files residing there. When you press a hotkey combination, the System Manager will read both APNAME.LST files and load the appropriate .EXM file. Total number of entries in both APNAME.LST files can still only = 8.

3. The C Drive's APNAME.LST must reside in `C:_DAT`. The A Drive's in `A:\`. Any APNAME.LST elsewhere will not be read.

4. The maximum number of entries allowed is eight. The ones in `C:_DAT\APNAME.LST` are counted first. Any entries greater than eight will be ignored.

5. Your AUTOEXEC.BAT directly influences the operation of your hotkeys and MUST be in this order:

```
SET and PROMPT statements
PATH statement
DIET (if applicable)
Other TSRs
PAUSE
$SYSMGR
```

If you issue secondary PROMPT or SET statements prior to loading SYSMGR your APNAME hotkeys will not work.

6. If a line in an APNAME.LST file refers to a nonexisting program, all listings after it will not work. This can happen if you move or delete a program. The `C:_DAT\APNAME` file is read only upon starting SYSMGR, while the APNAME.LST file in the A drive file is read every time the card is inserted.

7. An APNAME.LST program cannot be compressed unless the decompression utility is memory resident. STACKER and DIET (when resident) are OK, PKLite is not. This can be troublesome if you remove Stacker or Diet and have any .EXM files compressed. If that happens SYSMGR will not load properly. You should rename your APNAME.LST file and reboot.

8. There must be a carriage return at the end of the last line of the APNAME.LST file.

9. Removing a card removes its APNAME.LST tasks. Inserting a card loads its APNAME.LST tasks. This allows you to spread out your 95LX applications over more than one RAM card. However, you should not remove a card if any of its applications are still open. If you have a problem using a file on a card, investigate that card's APNAME.LST file, or the programs that are listed in the APNAME.LST file.

10. Every entry in APNAME.LST must refer to a .EXM program, not a .EXE or .COM program. THIS IS VERY IMPORTANT. No other file type is allowed in this file. Ignoring this rule will lock up your 95LX.

11. Do not remove the compression utility from your AUTOEXEC.BAT file unless you have decompressed ALL .EXM files. This has been mentioned above, but it bears repeating. If you have been running DIET as a TSR (i.e. from AUTOEXEC.BAT) and you decide you want to remove it, unDIET all your .EXM files first with the following command:
DIET -ra <file.exm>.

12. If a TSR is preventing your hotkeys from working, try loading them with the prefix `COMMAND /C` (i.e., `COMMAND /C DIET -Z -P`). I have no

explanation for this except that it works under certain conditions.

13. If you frequently use DOS without SYSMGR being loaded and have a problem with your hotkeys working when you invoke SYSMGR from DOS, try loading all of your TSRs from DOS instead of from within a batch file. Due to the memory requirements of SYSMGR, many of you run applications without loading SYSMGR. Upon exiting those applications you then type \$SYSMGR to load your built-in applications. If you have loaded any TSRs in your AUTOEXEC.BAT you will find that your APNAME hotkeys no longer work. The rule is either load all TSRs and SYSMGR from your AUTOEXEC.BAT or run them all from the DOS prompt.

14. One long and two short beeps when you press a hotkey means that SYSMGR cannot find the program you are calling. This means that you either deleted it or are mixing drive letters in one APNAME.LST. If you hear one beep, it means the task table does not include the hotkey -- the item was not read from APNAME.LST.

15. Do not assign an ALT-Letter key to a program if you plan to use that key in a Lotus macro. The Lotus macro will not run.

16. If you use the same hotkey for more than one application, only the last one listed will work. In this case A: will have priority over C: as it is read last.

17. The entire program path should be included in the listing. There is however, a 30-character limit to its length. Therefore, you should not have a .EXM program in a subdirectory below the first level under the root: `C:_DAT\HB.EXM` is fine, but `C:\FUNGAMES\ARCADE\HP-TETRIS.EXM` is not.

The above rules and guidelines are the result of many hours of frustration by the those of us who have been the charter owners of this marvelous computer. Study them and take heed, as they will save you not only time but may save your files on C: drive as well.

Connecting Your HP 95LX to a PC

Which of these four connectivity kits for the HP 95LX is best for you?

By Bil. Alvernaz

You've probably discovered that to get the most out of your HP 95LX, you need a way to send files back and forth between the 95LX and your desktop PC. Whether you're backing up or transferring files, it's vital to have an easy-to-use link between your 95LX and PC.

"Connectivity" is a word that spooks more people than it should. It means nothing more than working with computers that are connected to one another. There are connectivity packages now available for the HP 95LX which provide a variety of options, ranging from straight file transfer to and from PCs, to file translation and merging.

The problem remaining for many 95LX users is lack of knowledge. Where do you start? What needs to be done? And of course, what's the fastest and least painless way to do it?

What's It Take To Get Started?

Many 95LX users think it takes an advanced degree to hook the Palmtop up to a PC. But it's really a jigsaw puzzle with just three pieces:

Here's what you'll need:

- Connectivity software program for the HP 95LX.
- PC Connectivity software
- A serial cable.

One end of the serial cable connects to the 4-pin serial port on your HP 95LX, the other to the serial port on your PC. Then all you need to do is install the software on your 95LX and PC, and spend a little while learning the basics of the program.

There are four products now on the market which make it possible to connect the HP 95LX to a PC compatible. (The details about a package that allows for Mac transfer are covered in an article on page

17.) The connectivity packages we'll be looking at here are:

- The HP Connectivity Pack
- Intellilink For The HP 95LX
- Nuvotech 95LX Connectivity Kit
- Zip Transfer Utility

All of the packages make it possible to link the HP 95LX to a PC. Two of them provide everything you need, including the special serial cable. Three are DOS based programs and one runs under Windows 3.0.

This review provides you with an overview of connectivity on the HP 95LX. In addition, we're going to take a look at each of the four connectivity programs and describe which user might get the most benefit out of each program. Finally, we'll provide you with a Comparison Table which summarizes important aspects of each program. You'll find company names and addresses at the end of this article.

Connectivity On The HP 95LX

It is possible to transfer files from the HP 95LX to a PC without using one of the connectivity programs discussed here. To do so you would need to use COMM, the built-in communications program on the 95LX, along with another communications program on your PC. Most of this article will focus on specific connectivity programs which are designed to make it more convenient for your 95LX and your PC to work together.

The importance of being able to move files back and forth between your HP 95LX and your PC goes beyond just transferring files. Here are the most important areas associated with connectivity on the 95LX:

1. Backing up Files

Backing up your HP 95LX files to your PC is a necessity, not a luxury. While it's true you can back up files

to Drive A on your 95LX, backing them up to your PC means you can also work with those files on your PC. Also, the files backed up on your PC's hard or floppy disks are probably more secure than a RAM card. If the RAM card battery runs out, you lose all of the data.

You do have the option of backing up your HP 95LX files using a RAM Card Drive. This drive connects to your PC. You can transfer files back and forth using a 95LX RAM card like you would a floppy disk.

Many users will use both a RAM card drive and a connectivity package to increase flexibility and capability. (See McLean article on page 12 of the Jan/Feb 1992 issue of *The HP Palmtop Paper*.)

2. Transferring New Files

There will be many points where you might want to transfer new files between your HP 95LX and your PC. This is handy for those times when you've started a 1-2-3 spreadsheet while traveling and then want to finish it up on your desktop PC; or when you've just started a spreadsheet in the office and plan to finish it on the road.

If you use Hewlett-Packard's Connectivity Pack, you can use the 95LX Phone Book and Appointment Book applications on your PC. Then whenever you make changes to PHONE or APPT on either your 95LX or PC, you can easily transfer them to the other machine.

3. Translating Files

Because of the translation features in most of these connectivity packages, you can work with your favorite programs on your PC and then translate their data files to the HP 95LX Appointment Book and Phone Book formats. Some of the file formats that can be translated to and from 95LX file formats are:

- Current ■ Daybook
- dBASE ■ Excel
- Metro ■ Packrat
- Paradox ■ PC Tools
- Sidekick 2.0

You need to check the specific connectivity program you're interested in to be sure of just which files it translates.

As an example, let's say you use Borland's Sidekick on your PC to keep track of your appointments. You can translate Sidekick's datafile to the format used by the 95LX's APPT function and then transfer it to the 95LX. APPT should then be able to use the calendar created on your desktop PC. You can just as easily go the other direction and translate 95LX file formats into Sidekick (or other) formats.

The ability to translate file formats provides a level of flexibility you'll quickly grow to like. And it's easy to learn how to use this handy feature, too.

4. Merging Files

Merge is another option you have with three of the connectivity packages reviewed here. The Merge feature lets you combine two files. Let's say you had made changes to the PHONE data file on your 95LX while traveling. The Merge feature would let you combine your 95LX's PHONE data file with the one on your desktop PC, and update the desktop's file.

The option of Merge is an extra level of flexibility that expands the potential of both your HP 95LX and your PC.

Connectivity Packages For The HP 95LX

This section provides a brief overview of each of the four connectivity packages. You'll find a Comparison Table of these packages at the end of the article. Also, you'll find a brief user profile immediately following the subheadings.

95LX Connectivity Pack From Hewlett-Packard

If you are a DOS user and want the ability to use the 95LX's built-in applications on your PC, consider HP's 95LX Connectivity Kit.

The first connectivity package on the market for the 95LX was the made by Hewlett-Packard. And, while HP included some clever and unique features in their package, it quickly became obvious that users were having difficulty setting up and getting started with the program.

On the other hand, the HP Connectivity Pack is quite good and offers features and options no other package has yet matched.

The two biggest advantages of the HP Connectivity Kit is that it comes with everything you need and it doesn't absolutely require additional disk space on your HP 95LX. The HP Kit even includes a 9-pin to 25-pin adapter just in case you need it when connecting the cable to your PC.

If you use the HP Connectivity Pack for straight file transfer you won't need any additional disk space. However, if you want to take advantage of one of the more advanced features you will need about 50K of disk space on your HP 95LX. We'll come back to that later on. You'll need approximately 700K of disk space on your desktop PC for the HP Connectivity Pack.

The HP 95LX Connectivity Pack comes with a 50-page *User's Guide*. While it is set up in a step-by-step format, too many assumptions are made about what the user knows and understands. Many HP 95LX users are NOT power users. In addition, some commands just aren't intuitive or that easy to remember.

Once you do get things set up and installed - which isn't that hard if you have a little common sense and some computer experience - there is much to be happy about with this package.

The heart of moving files is the Filer applications - both on the PC and 95LX.



Figure 1
HP Connectivity Pack FILER screen as seen on a desktop PC screen.

The screen above shows Filer running on the PC. This figure shows how you can split the screen to show the directory on the 95LX (the left side of the screen) and the directory on the PC. The figure shows the Phone Book file "_1.PBK" highlighted.

Once the connection is made between the PC and HP 95LX, it's easy to transfer files. You use the arrow keys to highlight the file you want to move and then press **F2** to copy the file. You'll receive a message at the top of the screen indicating the file you want to copy and the location you want to copy it to. Press **ENTER** (unless you want to change something) and the file is copied from the 95LX to your PC. You can go the opposite direction, too, moving any files from your PC to the 95LX.

If you run into any problems using FILER, press **F1** for help. This on-line help is a welcome feature, not offered on any of the other packages we review here.

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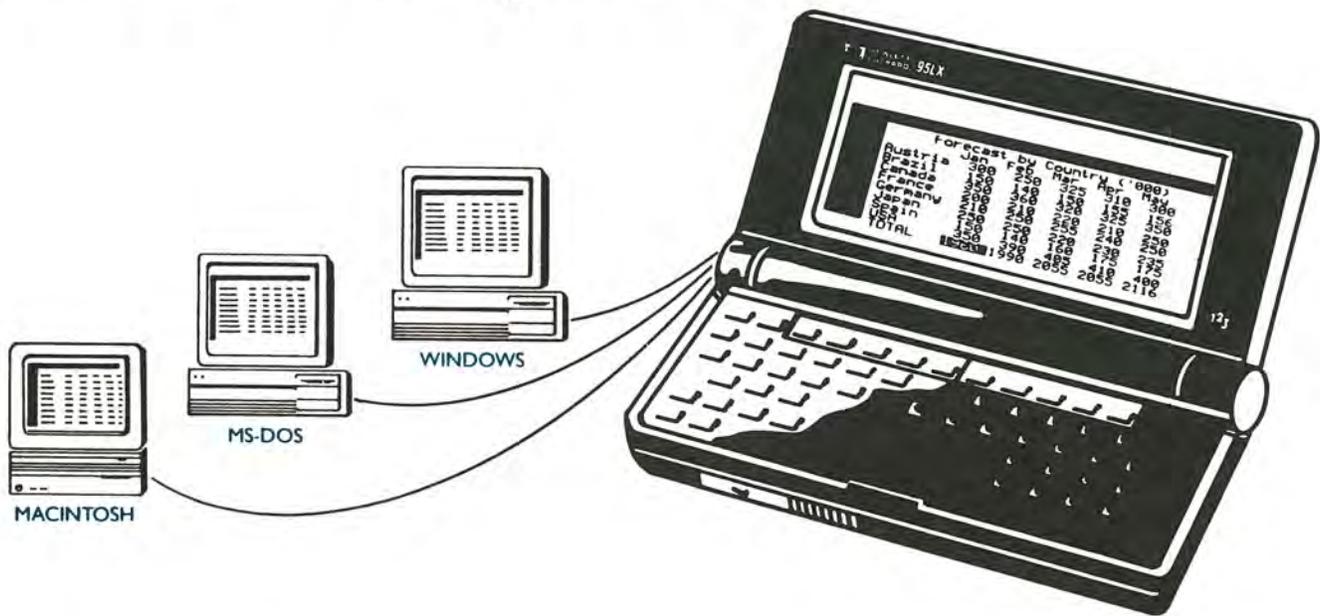
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Backing up you files using the HP Connectivity Pack's DC95 Program

DC95/DCS95 are file transfer programs included with the HP Connectivity Pack. (See Chapter 5 of the Connectivity Pack User's Manual for more details.) To back up the entire contents of the 95LX, create two sub-directories on the PC's hard drive: C:\HP95A to store the 95LX's A drive, and C:\HP95C to store the 95LX's C drive.

Here is how to backup the 95LX's entire RAM card to the PC assuming C is the last desktop drive. Type the following command form the DOS prompt on your desktop:

XCOPY D:*.* C:\HP95A /S /E

This will copy all files from the 95LX's A drive, including all sub-directories, to the PC. To copy the 95LX's C drive into the HP95C sub-directory on the PC, type the following command on the PC:

XCOPY E:*.* C:\HP95C /S /E

If you know how to create batch files, you can put both lines into a file, call it BACKUP.BAT, and then just type BACKUP from the DOS prompt.

Another nice feature of using DC95 is that you can run a word processor like WordPerfect 5.1 on the desktop and spell-check a file from the 95LX without transferring it. Just run WordPerfect and read a MEMO file in from the Palmtop's built-in C drive. Then spell check it and save it back to that drive in ASCII format. You could also use PCTools Shell program (or your favorite file manager) to access the 95LX's drives as if they were another disk on the PC.

Larry Lefkowitz
CompuServe ID: [76137,155]

and the ability to work in the Windows environment, select the IntelliLink connectivity package.

If Windows is your game, then IntelliLink is a great addition to your arsenal of Windows' tools. It is easy to set up and get started. However, a serial cable doesn't come with the program, so you'll need to get one (HP Serial Cable, part # HP 82222A, list price \$35).

IntelliLink provides file transfer and merging of files. It is the easiest to install of all the connectivity packages reviewed here. Even though the user manual is only 19 pages long, if you know how to install programs in Windows, you'll have no problem.

All you do to install the program on Windows is open up the Program Manager, Click File and Run with your mouse, enter the path and name of IntelliLink's SET-UP program and click the OK box. IntelliLink's Setup program does the rest. IntelliLink's manual is a little fuzzy with its Install instructions, so watch out. You'll also need

The HP Connectivity Pack is System-Manager compliant. You can open up Filer on the 95LX, without shutting down other applications, something you can't do with the other packages.

The biggest bonus of all with the HP Connectivity Kit is that you can run just about all of the HP 95LX's built-in applications and utilities on your desktop PC. Here's a list of them:

- Setup
- Appointment Book
- Filer
- HP Calculator
- Memo
- Phone Book
- Merge
- Translate

However, there are some limitations. For instance, you must purchase 1-2-3 and a communications program separately. The Appointment Book's alarms and timer won't work on your PC, and HP CALC on a PC has no links into 1-2-3.

The ability to run APPT and PHONE on your PC means that you can make changes and additions to your PC version and then transfer those changes to your HP 95LX, and vice versa. Also, while you're traveling, you as well as someone in your office can continue to work with PHONE and APPT. When you return the files can be merged, keeping things up to date without the need to re-enter and cross check data.

Merge works with either PHONE or APPT. Translate will

work with Lotus Metro, Borland Sidekick Plus, Central Point PC Tools and ASCII file formats, translating data to and from HP 95LX file formats. Merge and Translate are easy to use, working with simple menu formats that minimize typing.

The HP Connectivity Pack also offers you DOS Connect. This feature lets you set things up so that your PC will treat Drive A and C on your HP 95LX as additional disk drives. So if you have Lotus 1-2-3 on your desktop PC, you can open a spreadsheet file from your 95LX, work on it, and then save it back to your 95LX. This works with MEMO files, too, as well as any other ASCII text file.

DOS Connect requires that you transfer DCS95.EXE to your HP 95LX. This 47K file is included with the HP Connectivity Pack, along with DC95.EXE, which must simultaneously be run on the PC from the DOS prompt. (See "Backing up your files using the HP Connectivity..." sidebar, this page, for examples of how DOS Connect can be used.)

You can also use DOS Connect to link your HP 95LX into a network like Novell or OS/2 Lan Manager. DOS Connect also works with Windows.

IntelliLink for the HP 95LX

If you want a wide variety of translation and merge features,

IntelliLink

Not Just File Transfer

Data Translation & Reconciliation

HP Connectivity Pack "Add-In"	DOS	Windows 3.x
\$69.95	\$99.95	\$99.95

Sidekick 2.0	PackRat
Word Perfect Office	Current
dBase	Excel
Paradox	Word for
Calendar Creator	Windows
	1-2-3 for
	Windows

IntelliLink, Inc.
7 Parker Street
Acton, MA 01720
Tele: (508) 264-9943
Fax: (508) 635-9778



to add the DOS SHARE command to your AUTOEXEC.BAT file before you can use IntelliLink.

After IntelliLink is installed on your PC, it must be installed on your HP 95LX. A special program is provided to accomplish this and, like installing IntelliLink on your PC, this one is easy, too. There's even more complete instructions in the manual.

You'll also need to follow the instructions in the IntelliLink to create (or modify) the APNAME.LST file on your HP 95LX. The 95LX-portion of IntelliLink is System-Manager compliant — it can be accessed by a hotkey and pop up on top of the 95LX's built-in applications. IntelliLink requires approximately 50K of disk space on your HP 95LX and about 900K of disk space on your PC for the appropriate files.

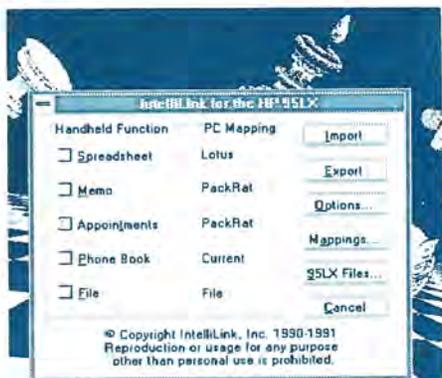


Figure 2
IntelliLink's Main Menu. You work from this screen to import, export, and merge files.

Figure #2 shows IntelliLink's main program screen on the PC, running under Windows. From this screen you will select options for transferring and merging files. Merging is accomplished using the Import Update feature. As data from files is being imported and updated, the user is allowed to determine whether or not duplicate data will be completely replaced or merged.

The following table shows which PC application file formats can be translated to the HP 95LX application file formats.

Application	PHONE	APPT	MEMO	1-2-3
Current	X	X	X	
Daybook	X	X		
Dbase	X			
Excel	X			X
Packrat	X	X	X	
Paradox	X			
Sidekick 2.0	X	X	X	
Word for Win			X	
1-2-3 for Win				X

Table 1
IntelliLink can translate the following PC application formats into the 95LX application formats indicated.

A lot of work has gone into the design of IntelliLink and it removes the user from the complexities of accurately translating data between file formats. Files from a program as sophisticated as Paradox are changed and re-mapped to fit the file formats for the Phone Book on the HP 95LX — all while the user just makes simple selections from menu screens. That's the way everything works in IntelliLink. It allows the user to concentrate on getting the work done, while the computer takes care of the details. When you think about it, it's too bad more programs don't work that way.

Nuvotech HP 95LX Connectivity Kit

If you want to work in DOS on your PC, with an intuitive user interface and easy-to-use translation and merge features, Nuvotech's kit is an excellent choice.

Nuvotech's connectivity kit is intuitive and has the look and feel of Windows (without the memory requirements of Windows). It comes with a serial cable, which makes life easier when setting things up. The only bad news with this kit is that you need 115K of disk space to install it on your HP 95LX. Fortunately, after installation is complete, you can free up more than half of that, leaving 47K on your 95LX. You'll also need about 500K of disk space on your PC. At press time, Nuvotech needed 520K of RAM to run on a PC. That will be

reduced to somewhere in the neighborhood of 400K soon.

Only a DOS version is available, but Nuvotech plans to cover all the bases with planned releases of this connectivity kit for Windows and the Macintosh. Their 75-page *User's Guide* is comprehensive and includes an ample number of illustrations, diagrams, and highlighted notes.

If you can follow simple instructions, you should have no problem installing this software on both your PC and the HP 95LX.

Once you've installed and set up Nuvotech, you'll need to modify or create APNAME.LST like you did with IntelliLink.

Nuvotech's install program helps you install the necessary files on to your HP 95LX. The process, although a bit involved, is much better than attempting to copy files over on your own, as we'll see when we get to the next program reviewed here.

Nuvotech's Connectivity Kit is very intuitive. The main menu screen shows the directories on both the PC and HP 95LX (see Figure #3). The command buttons are located between the directory listings. Other options are listed at the bottom of the screen. You'll always know what's going on in this program. Nuvotech's easy-to-follow program structure makes it easy to use.

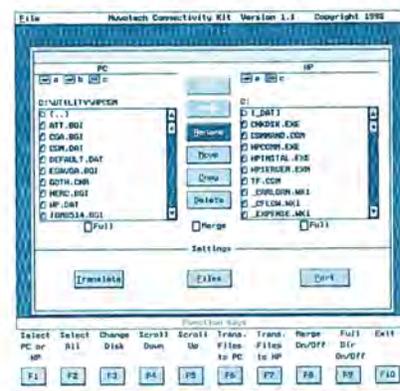


Figure 3
Nuvotech's Main Menu shows the PC (left), the 95LX (right) and the options (center).

You can translate the following file formats using the Nuvotech Connectivity Kit:

Application	PHONE	APPT	MEMO	1-2-3
CDF	X	X		
Metro	X	X		
Paradox	X	X		
PC Tools	X	X		
Sidekick	X	X		
ASCII text			X	
Lotus 1-2-3				X

Table 1

Nuvotech Connectivity Kit can translate the following PC application formats into the 95LX application formats indicated.

The translation feature in the Nuvotech Connectivity Kit works exceptionally well. Just point and click to make your selections. It's easy to make changes so the program isn't restrictive at all.

Merging PHONE or APPT files is so easy, it seems like cheating. Once you select the merge option, you need to decide which file records will be included in the output file and then whether to merge into the selected destination file or into a newly created file.

Perhaps the nicest feature of Nuvotech's Connectivity Kit is that you get all of the look and feel of a Windows 3.0 interface without the need to ever leave DOS (or add anything in the way of memory or hardware to your current system). After working with this program for awhile, you'll wonder why more programs can't look and work like this without Windows.

ZIP Transfer Utility

If you are reasonably comfortable working with DOS commands and just want to move files back and forth between your PC and 95LX, then ZIP is a good program for you.

ZIP wasn't developed for the HP 95LX, but a lot of people have used this dandy little program for file transfer between the HP 95LX and a PC. ZIP doesn't offer fancy features, but the program is a workhorse.

If you don't mind somewhat of an awkward, arcane interface, ZIP provides the fastest file transfer using the tiniest amount of disk space - 10K on each machine. You'll need to dig up your own serial cable to use with this program.

Look elsewhere for file translation and merging features. ZIP is strictly for moving files between machines. The best news of all is that this program only costs \$30, and payment for the program is voluntary for individual use. The program is so good, it's worth more than \$30. ZIP isn't just for 95LX to PC transfer, it's terrific for transferring files PC to PC, too.

To install ZIPs (copy its programs to the 95LX) you will have to use another connectivity package, the built-in COMM program, a RAM card, or a modem.

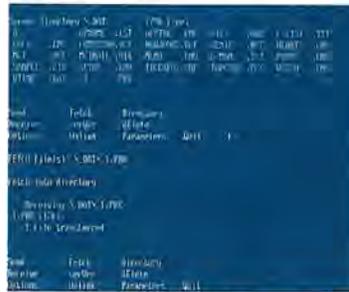


Figure 4
ZIP Main (and only) Menu — it's simple, but it does the job.

Figure #4 shows what ZIP looks like when run from the DOS prompt on your PC. This is the main and only menu you will work from. ZIP needs to be run on both machines simultaneously. Before starting ZIP on the 95LX you need to run ZIPCFG.COM, a special utility to set the ZIP to run in 40 column mode on the 95LX. You can also use this file to set the colors for ZIP when you run it on your PC.

Working with ZIP is as simple as selecting "Send" on one machine and "Receive" on the other machine. However, this means you'll need to be doing some typing on each keyboard. It's more ideal to set one machine to be the "Server". Then, all you need to do is type in commands on the other machine. You can use the DOS default character (asterisk) in file names to copy sev-

Connectivity Kit Comparisons				
Name/Price	HP	Intelli	Nuvo	ZIP
	\$99.95	\$149.95	\$99	\$30
Cable included	yes	no	yes	no
9-pin to 25-pin adapter	yes	no	no	no
Software on 3.5" disk	yes	yes	yes	n/a
Software on 5.25" disk	yes	no	no	n/a
Supports Windows	no	yes	yes	no
Supports a Mouse	no	yes	yes	no
COMM Ports (IR = Infrared port)	1,2 IR	1,2 3,4	1,2 3,4	1,2 3,4
File Formats Supported				
AmiPro		x		x
ASCII	x	x	x	
CDF			x	
Current		x		
Daybook		x		
dBASE		x		
Excell		x		x
HP 95Lx	x	x	x	x
Lotus 1-2-3	x	x	x	
Metro	x		x	
Packrat		x		
Paradox		x		
PC Tools	x		x	
Sidekick	x	x	x	
Word for Windows		x		
Quick Reference Card	yes	no	no	no

eral files at once. You also have options to list directories or even delete files while using ZIP.

Don't let the simple look of ZIP's menu fool you. This program is loaded with many nice features and touches. Using the command options in ZIP you can have the program copy files, overwrite files only when the new copy has a more recent time/date stamp, and prompt you to confirm files individually. There's even a command which lets you "fetch" files from the other computer while in server mode — the "Options" choice in ZIP. Finally, ZIP commands can be used in batch files expands, expanding ZIP's potential even more.

ZIP is a great program, ideally suited for file transfer from one computer to another. It's a simple, lean, and very, very effective program — the fastest of all the programs we looked at for this review.

On The HP Palmtop Paper on Disk, Mar/Apr 92.

Conclusion

All of the programs reviewed here do the basic job of getting files from one computer to the other. You need to evaluate your needs carefully and then look closely to see which program most closely fits those specific needs. Like all other computer software, it's a very subjective choice; and what is right for one person won't be the answer for someone else. Connectivity is an important issue on the HP 95LX and there are sure to be continuing developments when it comes to file transfer, translation, and merging.

This is the first in a continuing series of articles the *HP Palmtop Paper* will be doing on Connectivity for HP 95LX. We will cover all of the developments as they unfold for both PCs and Macintosh computers. We welcome your input, questions, tips, and pointers, which we will gladly share with our readers.

[Bil. Alvernaz is a Department Editor for *The HP Palmtop Paper*, and writes the "How Do You Do That?" column. You can reach him at (209) 394-8188, MCI MAIL #207-8825, or FAX: 209-394-8918.]

Connectivity Kit Contact/Pricing Information

HP 95LX Connectivity Pack

Retail price: \$99.95; available from HP dealers and other vendors. Contact: Hewlett-Packard, Corvallis Division, 1000 N.E. Circle Blvd., Corvallis OR 97330, U.S.A.; Phone: (800-443-1254)

IntelliLink for the HP 95LX

(Retail price: \$99.95; available from: IntelliLink, Inc., 7 Parker Street, Acton, MA 01720; Phone: 508-264-9943).

Nuvotech HP 95LX Connectivity Kit

(Retail price: \$99.00; available from: Nuvotech, 2015 Bridgeway, Sausalito, CA, U.S.A.; Phone: 800-468-8683 or 415-331-7815; Fax: 415-331-6445.)

ZIP Transfer Utility

Shareware fee: \$30.00; available from/ shareware fee paid to Eric Meyer, 3541 Smuggler Way, Boulder CO 80303, U.S.A.; CompuServe ID: [74415, 1305].

ZIP will be available on the March/April 1992 issue of *The HP Palmtop Paper ON DISK*.

Macintosh to HP 95LX Connectivity With MacLink Plus PC

Nuvotech will be releasing a Mac connectivity kit for the HP 95LX. In the mean time, this alternative was discovered by one of our subscribers.

By Bernie Kim
CompuServe ID: [71621,232]

DataViz, Inc. manufactures a Macintosh software program called MACLINK PLUS PC (\$129 through MacWarehouse) that enables your Macintosh and HP 95LX to transfer and translate certain Macintosh formatted files into the 95LX's format. Once set up, your 95LX works as if it were another Mac drive. You can back up your 95LX files onto your Mac's hard drive or a DOS-formatted diskette in the Mac's 1.4MB Superdrive through the Apple directory dialog box.

First: Connect Your Hardware

To connect your Mac to the 95LX, you will need a serial cable (HP 82209A, retail: \$60) that comes with the "Apple Macintosh Serial Interface" kit. The kit also comes with a diskette of Mac utilities for use with the HP 48SX Programmable Calculator. The serial cable is all you need.

To get started, connect the serial cable from your 95LX to the modem port of your Mac. (Later on, you may want to invest in an A/B transfer switch [2:1 Mini DIN 8 Switch Box] to connect both your modem and HP serial cable to the same outlet on your Mac. MacWarehouse advertises one for \$29.)

Second: Install Your Software

Ask a friend with a PC to transfer the MLPC.EXE file from the DOS Diskette of MACLINK PLUS PC into your 95LX's C:\ drive. That's the ONLY file you'll need in the 95LX. What's nice is that the program takes up only 32K of memory in your 95LX.

If you're like me and don't know anyone who has both an IBM compatible and a 95LX, you'll have to go

through an extra step to install the MLPC.EXE file into your 95LX through your Mac. See "Setting Up Your 95LX Without an IBM Compatible" at the end of this article for instructions.

On your Mac, follow the instructions in MacLinkPC/Plus to install the software onto your Mac hard drive.

Configuring Your Macintosh

1. Double-click on the MacLinkPlus/PC application icon.
2. Click the **SET MODE** radio button and select **MACLINK MODE**.
3. Click the **SET COMMUNICATIONS** radio button and select the following from the pop-up menu:

REMOTE	= IBM PC
TRANSFER VIA	= DIRECT (CABLE)
SPEED	= 19,200 baud
PORT	= PHONE

4. Save your settings at this point and name it "Mac/95LX" or whatever you desire.

5. Click the **SET TRANSLATORS** radio button. Two sets of scrolling menus will appear. The left scrolling menu is your Mac. The right scrolling menu is your "Remote IBM PC" or your 95LX. You'll see a variety of file translation methods. Macintosh MS Word or MacWrite II files can be translated and transferred into the 95LX's text (.TXT) format. Excel spreadsheets can be translated and transferred into the 95LX's Lotus 1-2-3 format (.WK1). Macintosh PICT files can be translated into the 95LX's picture card format (.PCX).

Configuring Your HP 95LX

1. Go to **FILER** and scroll down to your MLPC.EXE file.
2. Press **[F4]** (RUN). You'll be prompted to 'Press any key to continue'.
3. Do so, and you'll be prompted to

'Select a menu letter'.

4. Enter the following keys:

P then **A** — sets your Communications Serial Port to COM1;
B then **F** — sets your Communications Speed to 19,200 baud;
C then **C** — sets your Communications Connection to CABLE;
S — to SAVE; a .BAT file will automatically be created on your 95LX;
O — to GO Online; this will put your 95LX on standby until your Mac is connected.

Transfer a File

Let's try an example of transferring a Macintosh MS Word 4.0 file to your 95LX (assuming that you already have a Word 4.0 document on your Mac hard drive):

1. Go to **SET TRANSLATORS** on your Mac screen and select **MACINTOSH FORMATS** from the pop-up menu on the left side of the screen.

2. Scroll down the menu and highlight **WORD 4.0**. The upper-left corner will show that you've selected **WORD 4.0**. The **REMOTE IBM PC** scroll menu on the right will show you the PC formats that **WORD 4.0** can be translated to.

3. Since the HP 95LX stores **MEMO** files as .TXT, highlight **TEXT** under the **REMOTE IBM PC FORMATS** scrolling menu. When you do, the **SELECT FILES** radio button at the top of the screen will become activated.

4. Click the radio button that selects the **DIRECTION** of the file transfer. In this example, you select **MAC to IBM PC**.

5. Now, click the **SELECT FILES** radio button. You'll be taken to another screen similar to the one you just exited. Looks familiar? You'll recognize it as the Apple directory dialog box. The left box is your Mac and the right box is your 95LX.

6. Click on **CONNECT** in the lower-right corner of your screen. If all goes well, the IBM PC dialog box will show your 95LX's C:\ directory and your 95LX will read 'Connected to Macintosh.'

7. Scroll through your Mac dialog box on the left and select the **WORD 4.0** file that you want to transfer to your 95LX. If you want the file to be transferred to your 95LX's _DAT file, double-click on the _DAT file in the IBM PC dialog box (just like you would on a Mac!). Click on **CONVERT & TRANSFER** on your Mac screen. You'll be prompted to name your file for the 95LX. (Note that the .TXT extension has automatically been added to the default file name. If your Mac file's name was longer than 8 letters, it will automatically be pared down to the first 8 letters of the file name along with the . extension.) Click **OKHP150** and the translation and transfer will commence.

8. After the transfer has been completed, click the **DISCONNECT** button on your Mac screen. Enter **CTRL** +  on your 95LX. Go to **MEMO** in your 95LX and retrieve your new .TXT file to verify that the transfer was successful.

THAT'S IT! Later, when you're confident with transferring word processing files to your 95LX, experiment with **EXCEL** (Mac) to **Lotus 1-2-3** (IBM) transfers, or **PICT** (Mac) to **PC PAINTBRUSH** (PCX). Clicking the left **DIRECTION** button translates or transfers 95LX files to the Mac.

Quick Backup of Your 95LX FILES to Your Mac

Binary to Binary transfers from your 95LX to your Mac allows you to shift-click multiple 95LX files to back them up onto a DOS formatted diskette inserted into your Mac's 1.4MB Superdrive.

A Few Minor Quirks

1. If .BAT file you created doesn't save your Macintosh connection settings (as it often won't for me), consider writing a short macro to save you the key punching steps.

2. I've experienced problems with my 95LX locking up after I've connected the serial cable from the Mac to the 95LX. Reconnecting often solves the problem.

3. I haven't had any problems with 19,200 baud so far, but 57,600 gave

me a few problems. If it works well for you, go for it.

Setting Up Your 95LX Without an IBM Compatible

1. **SET UP YOUR 95LX** by entering **COMM** and pressing  **Settings Config Port**. Set your Interface to **COM1**, Baud to **7 (Direct)**, Stop to **1**, Parity to **None**, and Char to **8**.

2. Save your settings by naming it **MACCONN.DCF**, or whatever.

3. **SET UP YOUR MACLINK PLUS PC** software. Use the **Terminal** mode; Click on the **Set Connections** radio button and set the following options:

Remote: Other
Transfer Via Direct (Cable)
Speed 57600
Port Phone

Save your settings as "Mac To 95LX," or whatever.

4. **CONNECTING THE TWO:** on your 95LX, retrieve your Mac settings and the sub-menus **TRANSFER, XMODEM**.

5. You will then be prompted to **Send or Receive**. Select **Receive** and type in **MLPC.EXE**

6. On your Mac, retrieve your 95LX settings and click on **Set Communications** and then **Connect**.

7. You will then be prompted to **Send or Receive**. Select **Send** and click on the drive in the dialog box that contains your **MacLinkPlus/PC's DOS** diskette. Scroll to **MLPC.EXE** and double-click that selection.

8. Verify that your 95LX's **FILER** contains the new **MLPC.EXE** file.

Product Information

MacLink Plus PC comes with 5.25" & 3.5" DOS diskettes, 2 Mac diskettes, a manual, 25-pin to mini 8-DIN cable, 9-pin serial port adapter, and mini-DIN serial port adapter. It is a product of DataViz, Inc, of Trumbull, CT, and has a suggested retail price of \$199. It is available from discount software cataloges for less (\$129 from MacWarehouse — 800-225-6227). For DataViz contact information please see Third Party Products section this issue, page 45.

EduCALC ...The one stop source for all your 95LX accessories.

Software:

Derive 2.06

Simplifies BIG Algebraic expressions for you. Features symbolic algebra, derivatives, vectors, matrices, trig, statistics, finance, plus 2D and 3D plots!
Stock #2563 (Derive 2.06, ROM Card).....\$239.95

Money Manager

Program features banking, checking, credit card, and expense functions. Comes with 95 and PC versions; disk version requires 512K RAM card and Connectivity Pac.
Stock #2492 [95 Money Manager, 3.5" & 5.25"] List \$60.....\$54.95
Stock #2494 [128K RAM Card with MM installed].....\$184.95

Connect your 95 to PC Windows with

IntelliLink

Import/export to and from Windows at the field level with a few clicks of your mouse. Requires serial cable and PC running Windows 3.0
Stock #2517 (IntelliLink 2.1, 5.25" & 3.5") List \$100.....\$99.95

Mechanical Engineering Equation Library

160 of the most used equations for ME, plus Lotus 1-2-3 spreadsheets. Requires Connectivity Pack.
Stock #2535 (ME Library for HP 95, 5.25").....\$29.95

95 Utility Pack

36 small, efficient programs written for the 95 and its 40 column display. Requires Connectivity Pack.
Stock #2467 (95 Utility Pack, 3.5 & 5.25 Disks) List \$35.....\$27.95

FX-7 Flight Pak

Includes flight plans, DUATS weather briefings, E6B and weight and balance. Requires Connectivity Pack.
Stock #2544 (FX-7 Flight Pak).....\$194

Contact 95

Contact Manager for HP 95 and Windows, featuring integrated appointment book with Hot Key access functions. Requires 1Meg RAM card and Connectivity Pack.
Stock #2559 (CONTACT 95, 5.25).....\$99

TravelWare

Keep all your trip records on the HP 95. Requires Connectivity Pack.
Stock #2555 (95 TravelWare, 5.25).....\$29.95

Foreign Language Translation

Sentence by sentence translation including idiomatic expressions of Spanish, French, and German.
Stock #2566 (95 Spanish, 2 cards) List \$299.....\$279
Stock #2567 (95 French, 2 cards) List \$299.....\$279
Stock #2568 (95 German, 2 cards) List \$299.....\$279

Curve Fit: Linear Regression Software

Enter up to 99 points and find area under the curve, do graphs, and compare standard deviations for linear regression.
Stock #2545 (Curve Fit ROM card) List \$260.....\$235

95LX-UTIL FORTH Programming System

Turn your 95 into a software development system.
Stock #2562 (95LX-UTIL, 5.25) List \$70.....\$64.95

muLISP for the HP95

Fast, Compact language customized for the 95. Requires Connectivity Pack.
Stock #2560 (95 muLISP, 5.25).....\$399

HP 95LX Books:

Lotus in Minutes on the HP 95LX Palmtop

The essential commands and procedures of Lotus 1-2-3 in the 95, such as global commands, formulas, macros, and databases.
Stock #2469, Lotus in Minutes, 124p softbound.....\$8.95

The Answers You Need for the HP 95LX

Palmtop PC

The perfect, quick and easy reference book to keep on the desk beside your 95.
Stock #2468, Answers for the 95, 112p softbound.....\$8.95

Explorer's Guide to the HP 95 Palmtop PC

Stock #2534, Explorer's Guide to HP95, 112p softbound.....\$17.95

Using Your HP 95LX: Practical

Examples and Applications

More than 150 real-life examples from HP and Lotus experts
Stock #2564, Using Your HP 95LX, 380p softbound.....\$24.95

Hardware:

HP 95LX

Stock #HP95LX [Palmtop Computer] List \$699.....\$499

Palmtree SolidState Data Drive

Connects to any serial port on a PC/Compatible. Up to 115,200 baud data transfer rate.
Stock #2362 [External Data Drive] List \$299.....\$279

Internal ThinCard Drive

Include half-length PC board and Drive which fits into 3.5" or 5.25" Drives. Includes software
Stock #TMB2000 [ThinCard Drive].....\$289

Touchbase WorldPort Modems

HP's Suggested standard issue modem for HP 95LX communications.
Stock #2461 [WorldPort 1200 Modem] List \$159.....\$134.95
Stock #2462 [WorldPort 2400 Modem] List \$229.....\$194.95
Stock #2489 [WorldPort 2400/V.42 BIS] List \$349.....\$299.95
Stock #2481 [Tandy Acoustic Coupler 2].....\$79.95

2400 bps miniModem

This is a Low Cost, pocket sized Solution from EduCALC.
Stock #MM24B [2400bps miniModem].....\$139.95

Diconix 180si Portable Printer

Features Centronics and Serial interfaces. Uses HP Ink-Jet Printheads.
Stock #K180SI [Diconix Serial Printer] List \$450.....\$339

RAM Cards/Interfacing Equipment:

Palmtree Products

Stock #2363 [1MB RAM Palmtree] List \$649.....\$629
Stock #2364 [2MB RAM Palmtree] List \$995.....\$945

Hewlett-Packard

Stock #1002A [128K RAM Card] List \$200.....\$129.95
Stock #1003A [512K RAM Card] List \$400.....\$249.95

Sparcom

Stock #2368 [256K RAM Card] List \$199.....\$169
Stock #2369 [1M RAM Card] List \$500.....\$379

ACE card

Stock #2521 [512K RAM ACE card].....\$204
Stock #2522 [1M RAM ACE card].....\$389
Stock #2523 [1.5M RAM ACE card].....\$619
Stock #2396 [2M RAM ACE card].....\$759

Here's how you hook your 95 up to a PC, printer, or modem.

Stock #F1001A [Connectivity Pack] List \$100.....\$79.95
Stock #82222A [Serial Interface Cable only] List \$35.....\$29.95
Stock #82224A [Serial Cable Adapter Kit] List \$15.....\$14.95
Stock #2342 [95 Serial Interface Kit, 5.25"].....\$36.96

Nuvotech

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Diary of a User or On the Road With my HP 95LX

His Mission: To return to his Alma Mater and interview candidates for employment. His Plan: Utilize his HP95LX to automate and assist wherever possible.

[Editor's Note: "Palmtop Profiles" is a new column that lets 95LX users share with others how they use their HP Palmtop. If you want to write your Palmtop autobiography and share your insights and experiences with fellow users, this is the place. Some of the things we'll be looking for (all not necessary) in Palmtop Profiles submissions are:

1. Ways you use the 95LX that will trigger ideas in others on how to better use their 95LX
2. Tips and tricks
3. Interesting or unique uses of the 95LX.
4. How you use the 95LX specific to your occupation (if possible with implications to other fields)

Please see the box on the next page for more information on submissions — Hal.]

By Todd Bernhard

Recruiting Business Trip (2/17/92 - 2/19/92)

I've been given the opportunity to recruit at my old college, Carnegie-Mellon University in Pittsburgh, PA. I work for Sun Microsystems in California, and so I'll have to travel a little. Naturally, I plan to use my HP 95LX to help with scheduling, but I intend to use it for more than just an electronic Filofax — my 95LX is going to pay for itself before this trip is over!

First I'll identify the tasks I need to accomplish on this trip, and see where my Palmtop can help.

The Plan

1. Travel

- Flight: I'll put my schedule and flight numbers in my appointment book — along with Chess (AG.ZIP [icon], Jan/ Feb 92) and Tetris (GAMES.ZIP [icon], Fall 91)!

- Car: I can't play Tetris while driving, but my 95LX helps me track my frequent driver and frequent flyer numbers.

2. The Interview

- Timing: I have a lot of folks to interview in a short time, so I'll use the appointment book to remind me to wrap up the current interview



Todd Bernhard

with time enough to record my thoughts on the candidate (in MEMO). I'll use a large clock program to keep track of time. I'll place the screen towards me so I can check the time without making the student uncomfortable. I'll also use a timeout program to change the auto shutoff time to 30 minutes... I must remember to bring spare batteries! (TIMOUT.ZIP [icon] and SM-CLOCK.ZIP [icon] are available in HP-SYS's Library 14.)

- Questions: I prefer to be spontaneous, but just in case of a lull, I'll create a MEMO file of sample questions. I can have the file loaded and leave MEMO running, available by a keystroke.

- Evaluations: I can take MEMO notes on each student during the break between interviews.

3. Friends

I have a bunch of friends who are still in Pittsburgh. (I guess they don't know that they're free to leave!) We plan to get together and catch up on old times. My 95LX's Phone Book will help out with this.

4. E-mail.

My company, Sun, thrives on electronic mail. I'll use the communications utility to log in to Sun each night. I could interactively read my mail and respond, but I'm going to try a utility that lets me download my mailbox, hang up, and read and respond in batch mode. (*Portable Mail, DUX Software, 415-967-1500 works with any UNIX system using the standard /usr/ucb/mail system.*) When I log in next, my replies and deletions are processed on the Sun. I save time and money on phone charges, and can process my E-mail at my own pace.

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[icon] On The HP Palmtop Paper on Disk.

[icon] On The HP Palmtop Paper on Disk, Mar/Apr 92.

5. Diary

I'll be recording my thoughts throughout this trip on how the HP 95LX has made this trip more enjoyable and efficient.

Day One: 2/17/92

10:45 a.m.

Finished packing and managed to fit all my clothes in one carry on garment bag. I'm bringing along a modem, too.

12:00 noon

I have survived another drive on the freeway and I'm at the San Francisco Airport. I've decided to park in the short term covered parking for these two days. I'm not known for my short term memory, so I'll record where I parked on my 95LX, as a Note to my return trip's appointment.

I've changed my mind and checked my bag; had to check it in to try to upgrade to First Class. Besides, the bag was getting heavy. (Maybe I need a modem that is smaller and lighter than the 95LX itself!) Now, my only carry-on is a soft padded briefcase containing my tickets, my 95LX, business cards, and *The HP Palmtop Paper*.

One last stop at the Gift Shop for some AA batteries (I left spares at home). I'm using B-CURSOR, which came with my ACE 512K memory card to warn me when the batteries are low... 3/4 full now.

Now to create a file of questions to ask the students...

1:00 p.m.

Well, the upgrade came through...First Class to Chicago. First Class travel is very conducive to Tetris. I've reached my all time high, several times! Batteries now half full. To save power I use a batch file to start Tetris. I call it C:\AUTOTRIS.BAT, and here's what it looks like...

```
echo off
serct /o
a:\bin\hptris
serct /w
```

Whenever I want to play Tetris I select AUTOTRIS and press **F4** (Run). I don't have to hunt through subdirectories looking for Tetris,

and AUTOTRIS disables the serial port while I'm playing Tetris... uses less power that way.

4:00 p.m. (PST)

We should be arriving in Chicago in about an hour... time to update the Local City to Chicago by pressing **APPT** **F9** Watch (see page 17-36 in the *HP 95LX User's Guide*).

7:30 p.m. (Central)

We just arrived late and my connection is at 7:55 at the other end of the airport. If I don't make it, at least I have my 95LX with phone numbers of friends in Chicago.

7:55 p.m.

I made it. I'm in Coach this time, but at least I'm on my way to Pittsburgh. I hope my luggage is too. Time to update the Local City to Pittsburgh. Horrors! Voted the most livable city by Rand MacNally and it's not listed? I'll have to edit the entry for Philadelphia... how sad.

10:45 (Eastern)

My luggage made it. Off to the hotel...after a stop by my fraternity!

1:15a.m.

I decide to log in to work and sure enough, I have 15 new messages. I'm staying in a hotel with the room/phone modem-ready! Unfortunately the phone lines are not clean. I can only establish a connection at 1200 baud and this will slow me down.

Day Two: 2/18/92

11:00 p.m.

This is my first opportunity to update my diary today. That's not to say I haven't had a chance to use my 95LX, but that it's been a hectic day of interviews and meeting friends.

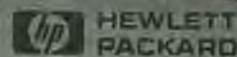
My plan worked well, with some minor hitches. When I arrived on campus I learned that my appointments weren't all 30 minutes apart...they left some 15 minute

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breaks in random spots. So the work I had done to set up the appointments in advance was wasted. There ought to be a better way to create/modify appointments. It would be nice to specify that an appointment is 30 minutes long, and then to change the starting time later. Instead, I have to change the starting and ending time.

Also, the beeping I used to tell me that I had 5 minutes before the next interview was good for me, but not for the student... so I did without it. Too bad the appointment reminder can't pop up on top of a graphics program, like the big clock.

The MEMO file of questions worked like a charm; it gave me the confidence I needed to keep the conversation moving.

When the first day of interviews was over, I contacted some old friends who were still in town, using my 95LX's phone book. We got together to sample some of Pittsburgh's finest...Primanti Brothers Cheesesteak and Iron City beer.

12:00 midnight

Logged into work again... 63 new messages this time! I respond to the urgent ones (i.e. from my boss) and download the rest to be processed on the plane using Jim Lerner's Portable Mail program. This takes some time at 1200 baud and is hard on the batteries (I didn't bring the AC adapter). I sure could use the NewsStream receiver. I could have my workstation at work transmit new E-mail at regular intervals... especially overnight while I'm sleeping. That would be nice!

Some of the E-mail messages have appointments for me. I switch over to APPT and enter them, and then use **lx2cm**, a program I wrote, to convert from .ABK files to Sun Open Windows 3.0 Calendar Manager. (Available on Library 14 of CompuServe's HPSYS forum as SUNCAL.95. ) This way my co-workers back at Sun can browse my calendar at work to see my new appointments.

 On The HP Palmtop Paper on Disk, Mar/Apr 92.

Day Three: 2/19/92

7:45 p.m.

Again, my HP 95LX has helped with questions and kept me on track. It also helped me contact the airlines during a break to upgrade to First Class again! My 95LX has my flight info, Frequent Flyer info, and phone numbers to call. No need to dig for a phone book, my tickets, and my Frequent Flyer card.

I'm now in Washington D.C., waiting. Since it's late and I'm tired, I think I'll opt for the slower pace of Chess instead of Tetris. And, I'll try to read those E-mail messages I downloaded last night.

9:45 p.m.

Portable Mail is pretty cool... it looks just like UNIX system mail (/usr/ucb/mail) with enhancements for DOS. I had an earlier version that was written for an 80 x 25 screen and told the author of my difficulties. He sent me the present version, which includes a **set screen 40 16** command that works great on the HP 95LX. I haven't figured out how to reply to E-mail yet. It looks like the program requires an editor (like the MS-DOS Edlin program) to provide that... the 95LX's MEMO doesn't cut it. I wanted to put Edlin on my 95LX anyway and this is a good excuse. I'll do that when I get back. For now, I can read my mail on the plane and use MEMO to take down any notes.

The guy across the aisle from me is recording his thoughts on a microcassette recorder. He's probably going to have a secretary transcribe it into a computer later. It's too bad everyone doesn't have a Palmtop. I think it's going to take pen-based units for folks like him to think about converting. Besides, you can't play Chess with a recorder.

10:30 p.m.

First Class is not necessarily conducive to Chess.

7:30 p.m. (Pacific)

Time to set the Local City to San Francisco. I'm home.

Epilogue

Well, I'd be lying if I said my HP 95LX paid for itself by managing my appointments and phone numbers during this trip. Paper and pen would be much cheaper. But being able to read my E-mail (so important for Sun) has certainly justified the 95LX's purchase for me. Indeed, that was one of the reasons I went with the HP 95LX instead of the Sharp Wizard – the larger screen of the HP is a minimum requirement. And many of the E-mails I responded to while on the road were involving big deals worth thousands or millions of dollars. I'd say it was justified on this trip alone, and my HP and I have more trips ahead!

[Todd Bernhard is a Product Marketing Manager at Sun Microsystems, Inc. He is the co-author of "Writing Applications for Sun Systems: A Guide for the Macintosh Programmer". Todd can be reached on Internet at todd.bernhard@Sun.COM or on CompuServe at [72510,2777].]

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MENU95.ZIP: Lets you run DOS programs without having to close the built-in applications you're working on.

DIET: Compresses files. DIET can double your disk space.

TIMEOUT.ZIP: Lets you adjust automatic shut-off time on your HP 95LX — saves batteries!

HPSL14.LIS: Description of HP 95LX CompuServe Library.

ATO: Automates CompuServe activities. Allows you to perform functions off-line, saving you line charges.

GAMES

AG.ZIP: Chess and Space Invaders (good graphics).

BJ95.ZIP: A Blackjack game you can run from the System Manager. Helps you "count" cards!

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(More countries being added. Write or Fax us for current listing.)

Appt

PROJECT MANAGEMENT IN APPT

Each entry on the appointments / to do list can be considered a project and the notes related to it are the "to dos" for that project.

*Arturo F. Barrio
Boca Raton, Florida*

EXPORTING APPT FILES

You can get an ASCII file of your Appointment Book by using the PRINT, FILE function on the 95LX, or from APP95 on your PC. You can choose start and stop dates, and decide whether or not to include Notes or not. You also get to choose Appointments or TO-DOs. The format of the ASCII file generated is useable, but not great.

A better solution is a file called CALRP.EXE, in Library 14 (95LX library) here in HPSYS on CompuServe. This is shareware that reads Sidekick Plus files and creates nice looking screen displays, print outs or ASCII files. You use the Translate routine in APP95 to convert from 95LX format to SK+ format, and then run CALRP. Kind of messy, but it works.

*Victor D. Roberts
[70413,1423]*

USE F10, NOT ESC TO EXIT CALENDAR ENTRY

In APPT, do not use the escape (Esc) key to exit a calendar entry you have not yet saved. This will erase your entry. Press F10 (Done) to return you to the calendar after making your new entry. Once you press the F10 key, you can use Esc without disturbing your new entry, even if it is not yet saved. The same procedure holds true in PHONE applications. You should be especially careful of pressing Esc key when making Notes in either PHONE or APPT. Always press F10 (Done) to return you to the basic PHONE directory or APPT calendar. Otherwise you will lose the notes you have made.

*King Walters
Houston, TX*

SOLUTION TO HARD-TO-HEAR 95LX ALARM FUNCTION

I have found the alarm function of the 95LX to be pretty poor. The only solution I've found for wake-up calls is to turn up the volume (from the setup menu) and set an alarm every minute for 5 minutes (or longer for when you're "belly down")!

I find that in a noisy office environment, I can't hear my 95LX alarm go off when it's sitting on my desk a few feet in front of me.

*Lee Buck
CompuServe ID: [76430,1067]*

Battery

BACKUP BATTERY

Wisdom around here suggests that if you relied on the backup battery for a long period of time, you may want to replace it early. Radio Shack stocks the battery, part number 23-162.

*Ed Greenberg
CompuServe ID: [76703,1070]*

ALKALINE BATTERIES LESS POLLUTING, LESS POWERFUL

Battery technology has taken some steps backward this year. The new alkaline cells, while certainly environmentally much better (reduced mercury), are not as powerful as their predecessors. They are also physically fragile.

*Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]*

ALKALINE CELL RECOVERY LEADS TO FALSE BATTERY LEVEL READINGS

Having the power level go up is normal. Alkaline cells do 'recover' a bit once you stop using them so heavily. That can be a real problem for those who routinely use the AC supply (like me). The batteries recover while the machine is on AC and that leads to false high readings on the battery gauge.

*Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]*

Comm

MODEMS AND THE 95LX: THREE COMMON PROBLEMS

There are three problems with using modems with the 95LX. First,

battery powered modems look for the computer to assert the DTR line. The modem uses that as an "ON" switch. Since the 95LX doesn't have a DTR line, most battery powered modems will never turn on. The WorldPort works because it can look at the TXD pin instead of DTR. (Other modems can be made to work by running a line from the modem's battery to the DTR pin, thus fooling the modem.)

Second, line powered modems (the kind with no battery and no AC power) expect to get their power from the RS-232 interface. The 95LX doesn't have enough power to share.

Third, many modems expect hardware handshaking (via RTS/CTS). The 95LX doesn't support this handshaking protocol. Most modems allow the user to disable the RTS/CTS handshaking, but many of them only let you disable it from a system that supports RTS/CTS. (You could wind up having to do the initial configuration using a PC to drive the modem.)

*Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]*

COMM DOWNLOADS

Yes, one can download using COMM while other System-Manager compliant applications are loaded.

*Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]*

Connectivity

CONVERTING PHONE FILES FOR THE MAC

There is a hypercard stack in the HPSYS 95LX library which will convert HP phonebook files to Mac files (MACPBK.SIT). If the format you need is not supported, you can modify the HyperTalk script to get it.

*R. David Mitchell
CompuServe ID: [76067,1121]*

DC95 CONNECTIVITY PROGRAM CAUSES POWER DRAIN

There is a warning in the documentation (page 5-5) that DC95 causes considerable power drain on the 95LX when it is running. The operator is warned to use an external AC

power supply. What the documentation fails to emphasize is that DC95 will force the 95LX to power up independently. I was surprised when, after using DC95 to backup my 95LX to my PC, I repeatedly turned my 95LX off only to have it turn itself back on again after about one second! Only by disconnecting the serial line or by unloading DC95 from memory (command: DC95 -U) can this be avoided. The documentation is correct but could have been more explanatory.

*Trevor Craddock
Univ. Western Ontario
London, Ontario, CANADA*

95LX AND 48SX CAN COMMUNICATE

HP says it won't work, but the 95LX and 48SX communicate via infrared with NO trouble.

One of the embarrassing points is that the 48SX's implementation of Kermit is better (more complete) than the 95LX's.

To transfer files to the 48SX, I put the 48SX in Kermit Server mode and use the Transfer Kermit Send command on the 95LX.

*Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]*

SOLVING CONNECTIVITY PROBLEMS

If your Connectivity Pack, modem or Serial printer does not work, First, try a hard reboot, <Shift-Ctrl-On> and answer NO to reinitialization. Second, go to your local Radio Shack and purchase a RS-232 serial port tester. It is a small 25-pin adaptor with Status LEDs to indicate your port condition. It will save you a lot of grief because you will instantly know where the problem lies.

*Mark Scardina
CompuServe ID: [71551,467]*

DOS Tips

.EXE AND .COM FILES DO NOT WORK IN APNAME.LST
Files with .EXE or .COM extensions are executable out of DOS, not out of the System Manager!. You

 *On The HP Palmtop Paper On DISK, Mar/Apr 92.*

cannot specify a .EXE or .COM file in APNAME.LST. ONLY FILES WITH .EXM extensions are allowed. The .EXE or .COM files will crash your system.

Mark Scardina
CompuServe ID: [71551,467]

A COMPLETE FILE LIST

Execute the DOS Chkdsk command with the /V (verbose) option for a complete listing of the files on your 95LX. For example, to list all files on your RAM card (A Drive) you would enter:

```
CHKDSK A: /V
```

This will give you a complete list of every file in every subdirectory on drive A, each file listed like this:

```
A:\DIRNAME\FILENAME.EXT
```

This will even list the hidden _SYS on C: and all the files in it.

Bruce Holmen
CompuServe ID: [75066,112]

Phone

FINDING GROUPS IN PHONE

If you want Phone to give you a list of everyone in a certain area, use Phone's Only function. From within PHONE press <F6> (Only) and enter, say the Zip Code or Area Code of a specific area and hit <ENTER>. You'll get a list of the contacts in that area.

This method isn't perfect. If you entered 202 (the area code for Washington, D.C.) you might also get the names of people with 202 somewhere else in their phone number, address, or Zip Code. I enter all my phone numbers with the area codes in brackets (202). When I do Only searches, I look for (202), with the brackets. I never get wrong information in these lists.

Rich Hall
Editor, The HP Palmtop Paper

DOUBLE TAB ALERT!!

I don't know if this is a bug or just something I couldn't find in the manual, but it seems that if you double tab on a line other than the top line in the "Address" section of PHONE before you save the entry, you will lose all lines of the Address section except the top line. They just disappear. Try it yourself.

Bill Noseworthy
CompuServe ID: [72737,2166]

Printer

FASTER PRINTING

Are you frustrated by the slowness of your printer when connected to the 95LX? When you notice this happening, press any key on the 95LX and watch your printer return to life in the fast lane!

John Pomeroy
State College, PA, U.S.A.

Programming

PROGRAMMING BOOK WORTH ITS WEIGHT IN GOLD

This book/software package is worth its weight in gold if you are writing programs for the 95LX.

Undocumented DOS is filled with tools that will help you fathom the depths of SYSMGR.

One gem is called INTERSPY, a TSR+scripting language that lets you compile a report of any and all DOS functions and interrupts during program execution without modifying code. The results can even be conditionally acted upon to produce a complete picture.

The author is Andrew Schulman and the publisher is Addison-Wesley. I bought my copy at Fry's in Palo Alto. There are many other useful tools. If you try it please share your results here.

Mark Scardina
CompuServe ID: [71551,467]

& Misc

FIND OUT WHO DEVELOPED THE 95LX SOFTWARE

In the original 95LXs, you can find the names of the people who developed the built-in applications and System Manager hidden in the 95LX. From the topcard (opening screen), with all applications unloaded, just press <ALT>-<Lotus> twice. This no longer works in later or upgraded units.

Hal Goldstein
Editor, The HP Palmtop Paper

AIRPORT SECURITY RISKS?

Since the 95LX is built like a calculator, it will set off the walk-through and handheld metal detectors. I've passed mine through the x-ray machine and have never had a problem or been asked to turn it on. I fly two or three times a month with several stops normal and have had my machine since May 1991.

Vaughn Buck
CompuServe ID: [73407,2441]

TEST THE KEYBOARD

You can test the keyboard very quickly. Exit all the applications and turn off the machine. Hold down the ESC key and press the ON key, then let up ESC. This brings up the self test screen. Move the highlight down to **Keyboard** and press **Enter**. "101" will appear next to the keyboard. That means you should press the left-most key of the 1st (top) row (i.e. the ESC key). The number then changes to "102" and you press the 2nd key in the 1st row (the tab key) and so on. Continue on across the top row, then move to the 2nd row, etc.

If you hit any key other than the expected key, the 95LX shows you the key number of the key you actually pressed. Hit the wrong key 5 times and you'll get the "User bad" error message and the test will fail. To see a limerick run the display test. Keep pressing <space bar> to advance through the test displays.

Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]

FUNCTION KEY LABELS

There is a small 45° bevel just above the function keys. Make a label with all your function key definitions on it, and cut the label to size (about 3/16" x 5"). It fits very nicely on the bevel, and the top closes with no problem. You can print it out on paper with a self-adhesive back, or put double-sided tape on the back. A blank template also makes a nice place to write in newly created definitions.

R. David Mitchell
CompuServe ID: [76067,11212]

AVOID LOSS OF RAM CARD DATA WITH ELECTRICAL TAPE

While removing the RAM card, I accidentally pulled the cards backup battery out and lost all data on the card. To avoid this, cut a one- to two-inch strip of narrow black vinyl electrical tape and place it lengthwise along the battery end of the RAM card so that it covers about 1/8 of an inch on the top and bottom of the card. The tape is thin enough to not cause binding when the card is inserted or removed. When you remove the tape to change the backup battery, there will be minimal adhesive left on the card. Lighter fluid can be used to remove any adhesive residue. It should not dissolve the RAM card's plastic case or remove any paint.

Fred Stone
Hewlett-Packard Co.
Orlando, FL, U.S.A.

DISPLAY \$1000 BILL SCREEN

In the SET UP application (press <SHIFT>-<FILER> Owner Picture-File, and replace the displayed filename with C:_SYS\1000.PCX. Now quit all applications and the \$1000 bill should be displayed. The blue application keys can still be used to start applications. To restore the normal (business-card) start-up display, go into SET UP and press Owner Picture-File <ESC> <ENTER>.

MURPHY'S LAWS OF THE HP 95LX

- 1) If someone asks to see your 95LX, it will lock up when you turn it on.
- 2) If you're only 3 points from a high score, your batteries will die.
- 3) If an appointment is important, you'll forget to turn the alarm on.
- 4) If you turn the alarm on, you'll set the time to 3 a.m. instead of 3 p.m.
- 5) If you try to transmit files, the serial port will be off.
- 6) If the serial port is on, your AC adapter is unplugged.
- 7) If running DOS, you'll be asked for a phone number.
- 8) If you're running the Phone Book, you'll need a DOS application.
- 9) If the boss walks by, you'll have a game on the screen.
- 10) The program you want the most is the one that won't run on the 95LX.

Dave Goodman
CompuServe ID: [72330,130]

WHAT DOES THE 95LX SERIAL NUMBER MEAN?

Look on the back of your 95LX, below the cover to the AA batteries and you'll see an HP serial number. For example: ABA3121A00046 gives you the following information:

ABA — The first three digits indicate option, in this case the unit is an English language version.

31 — The 4th and 5th digits added to 1960 indicate the year the unit was made (1960 + 31 = 1991).

21 — The 6th and 7th digits indicate the week in that year the unit was made (the 21st week is the week of May 19-24).

A — Country of origin (A = U.S.A.)

00046 — A unique I.D. number.

Ted Dickens (HP Forum Sysop)
CompuServe ID: [76701,272]

Accessing CompuServe with the HP 95LX

Larry Lefkowitz shows how to use the 95LX to send messages and download files from CompuServe's HP 95LX Support Forum.

By Larry Lefkowitz

If you're like me, you purchased the HP 95LX for its portable organizational tools. I saw its communications capability as an extra added bonus. As a long time CompuServe user, I planned to use it for limited CompuServe Information Service (CIS) access.

However, after some experimentation, it became apparent that the 95LX had real potential as a portable communications platform. This article will give a background on the two basic ways to work with CompuServe, Forums and Cmail. You'll also take a short online tour of two CompuServe forums.

Why the 95LX?

The 95LX, no larger than many calculators, has a rather small keyboard and a 40 column screen. Yet, with the proper software, it can be a serious tool for communicating with CompuServe. A couple of personal examples will help.

My desk at work is dominated by a computer terminal (this terminal cannot be used for CompuServe access). My 95LX sits right next to the terminal, where I use it for scheduling, phone numbers and calculations. The addition of a small portable modem allows retrieval of CompuServe messages and mail during the day.

At night, while watching the late news in bed, I use the same portable modem and the 95LX to retrieve, read and reply to CompuServe messages. Another computer, even slightly larger, would make this impractical.

Because of the 95LX has true shirt pocket portability, you can begin to exercise the full power of electronic messaging. Your electronic mail can be retrieved almost anywhere in the world that a phone line is accessible.

Methods of Forum Access

If you have never used CompuServe, you might have some basic questions that need answering. You should look at the sidebar titled "CompuServe Forums and Cmail" for information on CompuServe Forums and Cmail.

There are two basic ways to access CompuServe Forums and Cmail: 1. ONLINE and 2. Using a BATCH PROCESSING program.

Online access to CompuServe is simple and effective. You connect to CompuServe, and conduct all activities while connected. You may use the 95LX's built-in COMM program and your modem to conduct an online session with CompuServe.

The main drawback to this method is the expense. If all messages are read and composed while connected, the 2400 baud connect charge of of \$12.80 an hour starts to become prohibitive.

In order to make the access of Forums and Cmail cost effective, programs have evolved that greatly reduce connect charges. These programs call CompuServe, automatically visit forums you have decided on beforehand, retrieve and store Forum messages/Cmail and then disconnect you from CompuServe.

Once disconnected (no longer incurring online charges) you are free to read and answer these messages at your leisure. When you have finished writing and replying to your messages and Cmail, you can connect to CompuServe once again, and the program will automatically and quickly send your responses to the correct Forums, send Cmail to the Cmail area, and then disconnect.

Examples of programs in this category are MESSAGE, TAPCIS and AUTOSIG. (See the sidebar "Automate Your CompuServe Access" on page 28).

The remainder of this article

will guide you through a typical online CompuServe session. In the next issue, you will be introduced to MESSAGE, a program designed for the 95LX that allows automatic batch mode access of CompuServe Forums and Cmail.

Doing It By Hand

If you are brand new to CompuServe, or just want to get a feel for using it, this short tutorial will walk you through the steps. Using the built-in COMM program you will have an online session with CompuServe. You will read messages in the 95LX support section of the HP Systems Forum, retrieve (download) a file from the HP 95LX Palmtop library, and compose a message in the Practice Forum.

A note on the Practice Forum

The Practice Forum was created so that CompuServe members could learn to use the Forum software without any connect charges. It has the same organization as all CompuServe forums, (message area, libraries, etc), and is staffed by

CompuServe Forums and Cmail

CompuServe Forums and Cmail Forums are areas of CompuServe that address an area of interest. CompuServe has a multitude of interesting and practical Forum areas, and some that are just fun. Here is a (very) small sampling of CompuServe forums you can visit:

Astronomy Forum [ASTROFORUM]
 IBM Programmers Forum [IBMPRO]
 Comics/Animation Forum [COMIC]
 Aviation Forum [AVSIG]
 Bacchus Wine Forum [WINEFORUM]
 Mac New Users Help Forum [MACNEW]

Forums are divided into two major areas,

1. The Messaging area, where members can exchange ideas and information
2. The Library area, where programs and data files are available to forum members.

For further background on CompuServe and Forums, take a look at the article by Ted Dickens in the Fall, 1991 issue of The Palmtop Paper, page 10. Ted is the Sysop (System Operator) of the HP Systems Forum.

CompuServe Mail (Cmail) is a separate function from the Forums. Using Cmail, you can send a private message to any other CompuServe member. You may also send data and programs as well.

Quick Tips:

Using HP 95LX on CompuServe

- To get onto CompuServe follow the directions in the start-up kit and in this article. In general, after your modem makes connection, get the USER ID prompt by typing **CTRL-C**. If you get the "HOST SYSTEM" prompt, type **CIS**.
- To exit at any ! prompt, type **OFF**.
- If your system locks up from within COMM press **CTRL-F7** to hang up.
- Press **MENU** at any point to get to the main menu. Then press **Connect** to get back to the communications screen.
- If you want to "capture" parts of your communications session such as sessions described in this article, press **CTRL-F5** (Capture) and enter the filename you want to save it in when asked. **CTRL-F5** again turns off capture mode. You can read the captured file later in MEMO.

people who can answer any questions you may have about forum use. (See sidebar on page 11, Fall 91 issue of *The HP Palmtop Paper* for more on The Practice Forum.)

In order to perform the following exercise, you will need equipment in addition to the 95LX, most importantly a modem. For details on the equipment required and set up, see "How Do You Use DATA-COMM" on page 33 of the Jan/Feb issue of *The HP Palmtop Paper*.

When using the built in COMM program, menu selections become available when you press **MENU**. It should also be noted that at any point on CompuServe, you may type **HELP** and receive an explanation of the different options which are available at that point.

Connecting With CompuServe

Let's start! Your first step will be to change some of your 95LX's COMM settings to allow you to retrieve files. Then we'll connect with CompuServe. After turning on the 95LX, do the following:

1. Press **COMM** to start the built in COMM program.
2. Press **MENU** Settings Config.
3. Press **Port Baud** and enter the baud rate for your modem
4. Press **Port Parity** and select **Even Parity**.
5. Press **Port Char** and select **7**.

6. Press **Dial** and select **Tone** if your phone system supports tone signals, otherwise leave the setting on **Pulse**.
10. Press **Dial Number**. Enter your CompuServe access phone number and press **ENTER**.
11. Press **ESC** (two times). You are now at a menu.

You are now ready to access CompuServe. Make sure your modem is on and connected to the 95LX. You will now log on to, and change the CompuServe setting that will allow you to download files with the 95LX.

1. Press **Connect**. The screen will go blank, and you will probably

hear the modem dialing. Shortly, if the connection is made properly, you will see **CONNECT 2400** on the screen (assuming you are using a 2400 baud modem). At this point, follow the instructions for logging on to CompuServe you received with your CompuServe startup kit (also see "Using HP 95LX on CompuServe" sidebar above).

2. If all goes well, you will see the CompuServe main menu, and have a prompt ending with a !. Type **go profile** and press **ENTER**. You now see a menu titled **CHANGE YOUR USER PROFILE**.
3. Type **1** for "Terminal Settings" and press **ENTER**.

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4. Type **2** for "Change Permanent Settings" and press **ENTER**.
5. Type **4** for "Terminal type/parameters" and press **ENTER**.
6. Type **8** for "Parity" and press **ENTER**.
7. Type **3** for "Zero" or "None" and press **ENTER**.
8. Press **ENTER** to return to the PERMANENT SETTINGS menu.
9. Type EXIT and press **ENTER**.
10. Type **1** for "Confirm" and press **ENTER**.
11. Type **OFF** and press **ENTER**. You are now disconnected from CompuServe.

You have just changed your personal CompuServe settings to allow file retrieval (downloads) from the CompuServe libraries using the 95LX COMM program.

For successful file downloads, you need to make one final change to the settings you have made in the COMM program. You'll then save these COMM settings to a permanent file, so you don't have to go through the setup process each time you access CompuServe.

1. Press **MENU** Settings Config Port.
2. Press **Char** and then select **8**
3. Press **Port Parity** and select **None**.
4. Press **ESC** Save. Then type in the name you want to give file, press **ENTER** and then **ESC**. The above settings are now saved.

(NOTE: You can retrieve these settings after entering COMM by pressing **MENU** Settings Use. Several files to choose from will be displayed. By moving the highlight bar to the file called CSERVE and pressing **ENTER**, you can retrieve these settings.)

Accessing the HPSYS Forum

You are finally ready to go on line and access the HP Systems Forum. You should have the following menu options at the top of your screen:

Settings Connect Transfer Quit

If you don't, press **ESC** a few times and then **MENU** and you should see the options. Then do the following:

1. Select **Connect**.
2. Your modem will now dial CompuServe. After awhile, you will see the CONNECT 2400 on

your screen. Again, following the instructions you received from CompuServe, proceed to log on to the service.

This time, however, you will notice a difference. What appears to be meaningless characters will appear on your screen at the point you are supposed to see the "User I.D.:" prompt. This is normal. At this point, enter your CompuServe user I.D. anyway and press **ENTER**. When you enter your user I.D., it will also appear unintelligible. However, CompuServe is automatically sensing how your computer is set. You should now see the normal, readable "Password:" prompt. Enter your password and press **ENTER**.

3. You will come to a prompt that ends with a **!**. Type **go hpsys** and press **ENTER** to enter the HPSYS forum.

If you have never entered the HP Systems Forum before, you will see the following notice;

Non-members cannot access this feature. Do you wish to join (Y or N)?

Type **Y** and press **ENTER**.

You will then be prompted for your name. Enter your full name (first and last) and press **ENTER**. Finally, you will be asked if all is correct. If it is, type **Y** and press **ENTER**.

Reading Messages In HPSYS

You're now in the HPSYS forum. When you receive a prompt ending in **!**, type **set wid 40** and then press **ENTER**. This allows most messages to be read on the 95LX's 40 col display. Then type: **read new thread sec: 14,15** and press **ENTER**. This will allow you to read all new messages in the two sections of the forum dedicated to the 95LX. You will read only new messages (ones you haven't read before), and they will be in thread order (an original message followed by all replies).

(Note: To read only messages addressed to you, type **read waiting** and press **ENTER** instead of the above READ command. When entering the forum, you will be informed of any waiting messages.) Messages will begin to scroll by on the screen. Some will be too long to

fit on the screen all at once. To stop the scrolling, press **CTRL-S**. To start again, press **CTRL-Q**.

Replying to a Message

At the end of any message, you will receive a prompt ending with **!**. At this point, you may reply to the message if you wish. If you would like to do this, type **reply** and press **ENTER**. CompuServe will present you with this prompt;

Enter reply. (/EXIT when done)

Type in your reply. Keep each line less than 80 characters long, and press **ENTER** after each line. To end

Automate Your CompuServe Access

This article focuses on manual CompuServe access. In the next issue of *The HP Palmtop Paper* we will take a closer look at a program for the 95LX, called MESSAGE, that automates access to the CompuServe Forums and Cmail.

If you want to begin using an automated program, here is where you can find them;

MESSAGE — is available in the HP 95LX Palmtop Library (14) on the HP Systems Forum (GO HPSYS). This program is written specifically for the HP 95LX. Download **MESG.ZIP** **. It is a shareware program (\$20 registration). MESSAGE requires COMMO, a shareware communications program (registration \$35) to be on your 95LX. Download **COMMO.ZIP** ** and **COMMO9.ZIP** ** from the same library. An editor is optional but suggested. The recommended editor is VDE, a shareware program with optional personal registration. Download **VDE.ZIP** ** from the above library.

TAPCIS — is available in the TAPCIS Library (1) of the TAPCIS Forum (GO TAPCIS). TAPCIS runs on IBM and compatible computers. Download **TAP4.EXE** ** and **TAPDOC.EXE** **. TAPCIS is shareware (registration \$79).

AUTOSIG — is available in the AUTOSIG library (1) of the IBM Communications Forum (GO IBMCOM). AUTOSIG runs on IBM compatible computers. Download **ATO68B.EXE** ** and **ATODOC.EXE**. There is no cost for AUTOSIG.

NAVIGATOR — is available from the CompuServe online store, and may be ordered online (GO ORDER). NAVIGATOR runs on Macintosh computers. NAVIGATOR costs \$50, and comes with a \$10 CompuServe usage credit.

** Available on *The HP Palmtop Paper ON DISK*. See page 23.

your reply, type **/post** as the first entry on its own line and then press **ENTER**. CompuServe will respond with a message like this:

Message # 18127 posted

Your reply has been sent.

Finish Reading Messages

At the end of each message (if you choose not to reply), press **ENTER** to continue to the next message. To re-read a message, type **reread** and press **ENTER**. If you would like to stop reading messages, press **M** and **ENTER**. (By typing **M** at most places in CompuServe, you will return to the previous menu.) If you do not type **M** at the end of any message, you will continue reading messages until there are none left to read.

Before moving to the next step, be sure you have read all messages, or, have typed **M** at the end of a message and pressed **ENTER**.

Composing a Message

You will now compose a message on the Practice forum. To move to the Practice Forum, type: **go practice** and press **ENTER**. You will leave the HP Systems Forum and move to the Practice Forum. When you receive a prompt ending with **!**, you are ready to Compose a test message.

Type **compose** and then press **ENTER**. (If you haven't joined this forum yet, you'll be asked your name.) CompuServe will respond with the following:

The Practice Forum Compose Enter message. (/EXIT when done)

Type in your test message. Since this is just a test message, you may type just about anything. Lines should be shorter than 80 characters, and you must press **ENTER** after each line. When you have completed entering your message, type **/exit** (/ on numeric keypad, not MENU key) as the only entry on its own line and press **ENTER**. You will then be presented with a prompt ending in **!**. At this prompt, type **post** and press **ENTER**. CompuServe will respond with the following:

Post for (Name and/or User ID):

Your response to this prompt will determine who the message will be directed to. Type in **all** and press **ENTER** and the message posted for all to read. ALL is not the only appropriate response at this point, but is the one we will use during this practice session. It lets you address a question or comment to anyone on the forum.

Many times you will want to direct the message to a particular forum member. To do this you may enter their name, followed by their CompuServe user I.D. and press **ENTER** like this: **John Doe 70000.123**.

If you just enter a person's name without their user I.D., the person may not be alerted that you

have sent them a message when they enter the forum.

CompuServe will then prompt you for the subject, like this;

Subject:

Type in **Test** and press **ENTER**. The subject of a message can be no more than 24 characters.

Finally, you will be presented with a list of forum sections. Type **11** and press **ENTER**. The test message will be sent to section 11 called 'My "TEST" Message'. This section is set up on the Practice Forum specifically for test messages like the one you have just composed.

CompuServe will then show you the message on the following page:

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To: ALL
 Subj: TEST
 Section: 11

Is this correct (Y or N)?

Type **Y** and press **ENTER**. If something was incorrect, you can change it here by selecting **N**.

CompuServe will confirm that your message has been sent with a response similar to this:

Message # 126299 posted

You have now completed your practice message.

Downloading an Important File From the 95LX Library

The file you are about to retrieve will be very useful for you. It contains a listing of all the other programs and information files available in the 95LX Palmtop Library.

Type **go hpsys** and press **ENTER** to go back to the HPSYS forum.

1. You'll get a prompt ending in **!**. Type **Lib 14** and press **ENTER**;
2. Type **dow hpsl14.lis proto:xmo** and press **ENTER**; CompuServe is now ready to send you the file;
3. Press **MENU** Transfer **XMODEM Receive**. You are now prompted to enter the name the new file will have on your 95LX. Type in **hpsl14.lis** and press **ENTER**. You will begin to receive the file. The COMM program will present you with a screen showing your progress as the file is sent to your 95LX.
4. When the file transfer is complete, you will see a prompt at the top of the screen;

Press any key to continue.

Press **ENTER**, then press **ESC** three times. This will bring you back to the terminal screen where you left off when the download began.

Press **ENTER** and you will return to a forum prompt. (At this point you may want to download other files. The simplest way to do so is to type **bro** (for browse) at the **Disposition** prompt. A description of each file will be followed by the **Disposition** prompt. Type **dow** at the **Disposition** prompt any time you want to download a file.

Remember that **CTRL F5** saves these descriptions to a file. For a shorter description of the forum files consult **HPSL14.LIS**, the file you just downloaded.)

Type **off** and press **ENTER**. You are now disconnected from CompuServe.

To exit the COMM program, press **MENU** **Quit**.

The file **HPSL14.LIS** is now on your computer. You may view it in **File** or by retrieving it into the **MEMO** program. You may retrieve any file listed in **HPSL14.LIS** by repeating the above download procedure, and using the appropriate filename.

How to Join CompuServe

If you don't have a CompuServe account, you can obtain a free Introductory Membership by calling 800-848-8199 and asking for representative #231.

International users can call the 614-457-0802 in the U.S. (Please see page 11, Fall 91 issue of *The HP*

Palmtop Paper for specific international numbers).

Summary

The techniques outlined in this article allow you to enter any CompuServe forum and work in the online mode.

Your new found skills will allow you to ask any burning questions you have on how to use the 95LX. We welcome you to drop by HP Systems Forum.

Part two of this article will appear in the next issue of *The HP Palmtop Paper*. It will introduce you to a program for the 95LX that automates the message and Cmail functions described here.

[Larry Lefkowitz has been an Allstate Insurance agent for the last 5 years. Previously he was a programmer/analyst for 5 years and also in computer retail/direct sales for 2 years.]

Uncompressing .ZIP Files

When you download a file from CompuServe or another bulletin board, often the file actually contains several compressed files. For example, if you downloaded the HP 95LX blackjack game from the CompuServe HPSYS forum, you would download 9087 byte file **BJ95.ZIP**. To be able to use the blackjack program, you would first have to "unZIP" the **BJ95.ZIP** file. When you unZIP **BJ95.ZIP** on your HP 95LX or desktop, the 12,382 byte **BJ.EXM** file and the 3183 byte **BJ.TXT** file emerge. (The **BJ.TXT** file contains the documentation and the **BJ.EXM** file is the program).

PKZIP from **PKWARE** is the most popular of the file archiving / file compression programs. Most files in the HPSYS HP 95LX Data Libraries (**DL14** and **DL15**) are ZIPped.

To summarize, ZIP is a compression technique that performs two basic functions:

1. Compresses a file so it will take up less disk space
2. Consolidates several files into one file

Since the resulting file is smaller, it will take less time to transmit over a modem, saving you connect charges. And since one ZIPPED file may contain many compressed files, it makes downloading multiple-file programs very simple.

A file compressed in the ZIP format can be recognized by its name (ie **TEST.ZIP**) and may be uncompressed with a ZIP extraction program.

The original ZIP software comes from **PKWARE, Inc.** of Glendale Wisconsin. ZIP software is shareware. You can download **PKZ110.EXE** * from the HP 95LX Library (2) of the HPSYS forum on CompuServe. **PKZ110.EXE** is a self-extracting file. That means after downloading the file to your computer, type **PKZ110** at the DOS prompt, and it will automatically expand and separate all the compressed files that make it up. Doing so will create a number of files including a ZIPper and an unZIPper.

PKZ110 is well over 100K. If you are only interested in unZIPping, or if you are downloading to your 95LX and are short of space, there is at least one other alternative. A free ZIP extraction program called **ZIPPER.COM** * (11K), is available in the HP 95LX Library (14) of the HPSYS forum.

UnZIPping is simple. Let's use our **BJ95.ZIP** example. It is a compressed file made up of a program **BJ95.EXM** and **BJ95.TXT**.

To extract and expand both files from **BJ95.ZIP** type the following command at the DOS prompt: **ZIPPER BJ95.ZIPPER** (or **PKWARE's PKUNZIP**) will automatically add the **.ZIP** to the end of the filename, so there is no need to type it. Alternatively, selective extraction is useful on the 95LX with its limited file space. To extract only **BJ95.EXM**, type the following command at the DOS prompt: **ZIPPER BJ95.BJ95.EXM**. If you just wanted to find out what files are buried within **BJ95**, you would type **ZIPPER -V BJ95**. To find out the various ZIPPER options just type **ZIPPER**.

* Available on the Mar/Apr 1992 edition of *The HP Palmtop Paper ON DISK*.

Finish Line

This software program "remembers" the words you use and finishes typing your words for you, saving you time on the 95LX's diminutive keyboard.

By Hal Goldstein

The one downside of the compact 95LX, for me, is its keyboard. The size of the keyboard slows down typing and discourages entering lots of text. Columnist Ed Keefe introduced me to a possible solution: A software program that types much of your text for you. Innovative Design's Finish Line could prove a boon for the HP 95LX.

When in MS DOS, Finish Line learns the words and phrases you type into your HP 95LX and the likelihood of occurrence. Once Finish Line recognizes the first part of a word or phrase, it pops up a window with possible choices to complete the word or phrase. You pick one of these choices with a hot-key, or you keep on typing. If you continue typing, the "Prediction Window" winks out until the next time Finish Line sees something familiar. Pick from the choices and Finish Line completes the word/phrase for you.

The following screen comes from a text editor I use in DOS. Let's say I type **e**. Finish Line remembers the most common words previously entered beginning with "e."

Finish Line seems a very u program for HP 95LX users like typing on the keyboar	1 expression 2 eighth 3 exchange 4 enemies 5 eleventh 6 enemy 7 education 8 empty 9 effect
---	--

It would be great if the p
work with the builtin prog
Unfortunately, it only wor

It does no take that long to get used
to the prediction window. Finish Line
learns fast. It doesn't need a total
e

If the word I was about to type was "education", I would simply type 7 on my numeric keypad. If I wanted to type "elephant", I would type "elephant" in the normal way and the screen disappears as I type the word. The next time I type **e**, "elephant" will likely be listed as an "e" alternative.

The screen popping up is distracting at first, but once you get used to it, Finish Line is quite helpful. The more you use the program, the "smarter" it gets.

Finish Line is simple to install and use. It is very flexible. That is, it lets you customize how it works according to your preferences by pressing **CTRL**-<TAB> any time. For

example, on my 95LX I want Finish Line's menu to pop up often. In Finish Line's easy-to-use "Predict" configuration screen, I choose "Often" as opposed to "Rarely" or the normal "Default."

I could further refine what I mean by "Often." For example, I could tell Finish Line to guess after I typed 1 letter or 2 letters, or even 0 letters (enter **0** and Finish Line guesses based on last word typed.)

You can also customize where on your screen the Finish Line window pops up (upper left, center, and so forth) as well as what keys will be your "hot keys." I use the maximum of nine hot keys and choose them to be the numeric keypad. The

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Finish Line default hotkeys are: **CTRL-a**, **CTRL-s**, **CTRL-d** and **CTRL-f**.

There are other customization choices. For instance, you can tell Finish Line what characters you want to be considered as first characters. That way DOS users can have Finish Line recognize \ as the start of a word. With such a Finish Line configuration you can use DOS commands to change directories (e.g. **cd _dat**). You won't have to type all the keys since **_DAT** will pop up after you type \.

The most obvious use of Finish Line is in word processing applications. However, Finish Line could be useful in many other applications. For example, Lotus users could type @ and the user's favorite functions would pop up. Ed Keefe tells me he uses it for computer programming. Since there is a relatively small vocabulary for any programming language, Finish Line is a boon to programmers. It also works with most DOS-based text programs.

Besides the fact that **HELP** and the configuration menus are in English, the program is not language-dependent. That means Finish Line learns long German words or Spanish accented letters without difficulty.

What makes Finish Line even more attractive to HP Palmtop users is that it takes very little disk space. The main Finish file **FINISH.EXE** takes 44,546 bytes. The data file that stores the words typed does not grow. It stays at 16,384 bytes. There is an optional help file that is 65,501 bytes.

I DIETed **FINISH.EXE** and **FINISH.EXE** was reduced to 27,677 bytes (see Fall 1991, page 18 for more on **DIET**). The only degradation was that the configuration screen was much slower to pop up. That means Finish Line at the minimum only takes up about 40K.

Finish Line operates as a TSR program. That means it borrows some of the HP 95LX's System RAM to operate. It needs 39K extra of System RAM to work properly. (To use Finish Line you'll probably need to increase System RAM from the **SET UP** menu.)

The Down Side

Here comes the bad news. At this time Finish Line only works from DOS. This is great if you use DOS software such as VDE or COMMO described in the past few issues. However, at this time Finish Line will not run with any of the System Manager built-in applications such as **MEMO** or **LOTUS**.

Finish Line's advantages — ease of use, intelligence, and small size — cause a down side. The user cannot customize exactly what word pops up, when it pops, nor which hot key it is assigned to. However, the program is flexible in its customization of options and this lack of control is not a major problem.

Installing Finish Line on the 95LX

Running Finish Line requires a **CONFIG.SYS** and **AUTOEXEC.BAT** file. (See the Jan/Feb issue, **Quick Tips**, under **DOS Tips** and **Set Up** for instructions on how to set up these files.) You can start **FINISH.EXE** from your **AUTOEXEC.BAT** file. Alternatively, what I do is to create batch files containing my DOS applications in which I want to use Finish Line. In the batch file I load Finish Line, then the application, then I unload Finish Line.

If you have a desktop, you might want to install it there first to get used to its functioning and configuration screens.

The Future

Glen Shires, the program's author, is seriously considering a 95LX-only version of Finish Line that will work with System-Manager compliant applications. That means you could use Finish Line with **MEMO** or **LOTUS 1-2-3**. Furthermore, Finish Line would be able to memorize **MENU** key combinations so as soon as you **MENU**, 9 choices could pop up.

Whether a HP 95LX version is created depends on how much time it takes to make the conversion and how much interest there is. I am encouraging Glen and am even considering marketing the product under our company's name, since I

am so excited about the product.

Ordering Information

Finish Line is presently shareware, and the latest version is available on CompuServe: **GO IBMSYS**, Lib 1, File **FINISH.ZIP**. It's also available on the March/April **HP Palmtop Paper ON DISK**.

If you like the program, you are required to send Innovative Designs the user fee. You can order a registered version of Finish Line directly.

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 On The HP Palmtop Paper on Disk, Mar/Apr 92.

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 On The HP Palmtop Paper on Disk, Fall 91.

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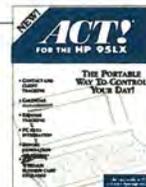


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Through The Looking Glass

Ed compares using Lotus and HP CALC to do "break-even analysis" on the HP 95LX.

By Ed Keefe

Number Crunching on the HP 95LX

This article takes a look at two of the "number crunching" tools in your HP 95LX: Lotus 1-2-3, and Solver.

Almost everyone who owns a 95LX knows how to use 1-2-3. Not everyone has had the time to come up to speed with Solver. Maybe this trip through the looking glass will pique your interest in one of the nooks and crannies of the HP 95LX.

Along the way, you'll develop a Lotus spreadsheet to do break-even analysis. Then you'll do the same break-even analysis using Solver.

Rather than just read about 1-2-3 and Solver, you'll gain some firsthand experience and be able to assess the strengths and weaknesses of each tool.

For those of you who have used Solver on the HP 19BII, some of this article will be old news. The article may even sound like the babbling of a kid who has just found a neat, new toy. Maybe it will remind you of the first time you discovered Solver. The sense of wonderment is exhilarating, right?

Break-Even Analysis

Break-even analysis is a mathematical tool used in business and marketing. If we know the cost of developing a new product, and the cost of making just one of these products, and we also have settled on a selling price for one item, we need to know how many items must we sell to offset the cost of development and production?

Textbooks refer to the cost of development as **Fixed Costs** and the cost of production, marketing, and distribution as **Variable Costs**. The selling price of one item is called the **Price per Unit**, or just **Price**. A single item is a **Unit**. Profit is always the bottom line, and

formula for getting to the bottom line is:

$$\text{Profit} = \text{Units} * (\text{Price} - \text{Variable Costs}) - \text{Fixed Costs}$$

The break even point is reached when Profit is zero. We want to know how many units must we sell to get to that point.

A Real-World Example

As an example of break even analysis, I'll use my most recent venture: developing and producing the "Divisions Disk of Games Galore for the HP 95LX." (See pages 7-10, Jan/Feb issue of *The HP Palmtop Paper*.) This will give us some real numbers with which to work.

The Solution Via 1-2-3

The two spreadsheets mentioned below are available on the Mar/Apr 92 edition of *The HP Palmtop Paper ON DISK*. Also included is a file called ED.EQN. That file contains the break even formula along with a couple of other equations that I've found useful. Maybe you will too.

Here is a 1-2-3 spreadsheet that shows the breakdown of the costs. If you have your HP 95LX handy, key this in and check the numbers. After you enter Lotus press **[MENU]** Worksheet Global Format Currency 2 to format the worksheet.

	A	B	C
1	Fixed Costs	\$500.00	Hardware
2		\$70.00	Development Software
3		\$11.86	Photo Ready Copy
4		\$25.24	Review Copies
5		\$435.00	Development time.
6		\$1,042.10	TOTAL FIXED
7			
8	Var Costs	\$0.90	Disk
9		\$0.63	Mailer
10		\$1.21	US Postage
11		\$3.57	Printing
12		\$6.31	TOTAL VAR

Figure 1

The formulas in cells B9 and B12 are, respectively, @SUM(B1..B5) and @SUM(B8..B11). While you're keying

this in, press **[MENU]** Range Name Create **FIXCOSTS** for cell B9 and press **[MENU]** Range Name Create **VARCOSTS** for cell B12. This will let you link these cells with the following worksheet.

Save this spreadsheet as COSTS.WK1 and then press **[MENU]** Worksheet Erase Yes to clear 1-2-3 to start a new worksheet.

The break-even analysis spreadsheet looks like this.

	A	B	C	D
1	BREAK-EVEN ANALYSIS			
2				
3	SELLING PRICE PER UNIT: \$29.95			
4				
5	TOTAL FIXED COSTS:\$ 1,042			
6				
7	VARIABLE COST PER UNIT: \$6.31			
8				
9				
10	BREAK EVEN QUANTITY: 44			
11				
12				
13	X	A	B	
14	BE	SALES	COST	
15	0.0	00	1042.1	
16	8.8	264.1	1097.7	
17	17.6	528.1	1153.4	
18	26.5	792.2	1209.0	
19	35.5	1056.2	1264.7	
20	44.1	1320.3	1320.3	
21	52.9	1584.4	1375.9	
22	61.7	1848.4	1431.6	
23	70.5	2112.5	1487.2	
24	79.4	2376.5	1542.9	
25	88.2	2640.6	1598.5	

Figure 2

Figure 3 below is a listing of formulas used to develop this spreadsheet. The Widths for columns A and B are 5 and 8. In the listing, the \ characters represent a series of dashes which have been copied across the cells in rows 2 and 8.

Note the formulas in cells D5 and D7. This type of formula is new to Lotus ver 2.2. The formulas link the cells in the current worksheet to a cell, or range of cells, in a worksheet that is on the disk. The general format is +<<Filename>>Cell (or range name).

The formula in cell D10 solves for the break even point. The cell is formatted to show only whole numbers with commas. The formula says "If the value in D3 (the selling

On The HP Palmtop Paper on Disk, Mar/Apr 92

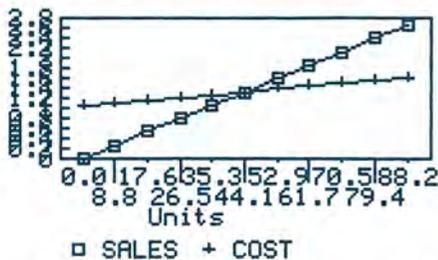
price) is 0, then show "0". Otherwise show the result of dividing the Fixed Costs by the difference between the Price and the Variable Costs: D5/(D3-D7).

The bottom part of the spreadsheet consists of three columns of numbers. These are used to develop a graph of break-even analysis. You don't have to key in the formulas for each cell. Just key in the formulas and labels for the cells in rows 13 through 16. Wherever you see \$D\$7, type in D7 and press **[F4]** to make the cell reference absolute. Copy the three cells from row 16 down to row 25.

To develop the graph, press **[MENU]** Graph Type Line. The X range is B15..B25. The A and B ranges are C15..C25 and D15..D25, respectively. Press **[MENU]** Graph Options Legend to set the A and B legends to SALES and COST. Press **[MENU]** Graph Options Title and make the First title BREAK-EVEN ANALYSIS. The X and Y axes are Units and Dollars, respectively.

When you're ready, press **[CTRL]**-**[←]** to get back to the spreadsheet. Press **[F10]** (GRAPH) and use the plus key (+) to view the graph. Readable graphs are one of the strong suits of Lotus 1-2-3. This graph shows the rising cost of producing items. The more quickly rising line shows the income. Where the income line cuts across the cost line, the break-even point is reached. A quick inspection shows that the break-even point is at 44.1 units.

BREAKEVEN ANALYSIS



To finish the worksheet, press **[MENU]** Worksheet Global Protect Enable. Then press **[MENU]** Range Unprotect with each cells (D3, D5, and D7).

Save this worksheet by pressing **[MENU]** File Save BRKVNAN. Leave 1-2-3 running.

Formulas for Break-Even Analysis Spreadsheet

B1: [W8] BREAK-EVEN ANALYSIS	C13: ^ A	B20: (F1) [W8] 0.5*(2*\$D\$10)
A2: [W5] \	D13: ^ B	C20: (F1) +B20*\$D\$3
B2: [W8] \	B14: [W8] ^ BE	D20: (F1) +\$D\$5+(B20*\$D\$7)
C2: \	C14: *SALES	B21: (F1) [W8] 0.6*(2*\$D\$10)
D2: \	D14: * COST	C21: (F1) +B21*\$D\$3
E2: \	B15: (F1) [W8] 0	D21: (F1) +\$D\$5+(B21*\$D\$7)
A3: [W5] SELLING PRICE PER UNIT : \$	C15: (F1) +B15*\$D\$3	B22: (F1) [W8] 0.7*(2*\$D\$10)
D3: (C2) U 29.95	D15: (F1) +\$D\$5+(B15*\$D\$7)	C22: (F1) +B22*\$D\$3
A5: [W5] TOTAL FIXED COSTS : \$	B16: (F1) [W8] 0.1*(2*\$D\$10)	D22: (F1) +\$D\$5+(B22*\$D\$7)
D5: (.0) U +<<COSTS.WK1>>FIXCOSTS	C16: (F1) +B16*\$D\$3	B23: (F1) [W8] 0.8*(2*\$D\$10)
A7: [W5] VARIABLE COST PER UNIT : \$	D16: (F1) +\$D\$5+(B16*\$D\$7)	C23: (F1) +B23*\$D\$3
D7: (C2) U +<<COSTS.WK1>>VARCOSTS	B17: (F1) [W8] 0.2*(2*\$D\$10)	D23: (F1) +\$D\$5+(B23*\$D\$7)
A8: [W5] \	C17: (F1) +B17*\$D\$3	B24: (F1) [W8] 0.9*(2*\$D\$10)
B8: [W8] \	D17: (F1) +\$D\$5+(B17*\$D\$7)	C24: (F1) +B24*\$D\$3
C8: \	B18: (F1) [W8] 0.3*(2*\$D\$10)	D24: (F1) +\$D\$5+(B24*\$D\$7)
D8: \	C18: (F1) +B18*\$D\$3	B25: (F1) [W8] 2*\$D\$10
E8: \	D18: (F1) +\$D\$5+(B18*\$D\$7)	C25: (F1) +B25*\$D\$3
A10: [W5] BREAK EVEN QUANTITY:	B19: (F1) [W8] 0.4*(2*\$D\$10)	D25: (F1) +\$D\$5+(B25*\$D\$7)
D10: (.0) @IF(D3=0,0,+D5/(D3-D7))	C19: (F1) +B19*\$D\$3	
B13: [W8] ^ X	D19: (F1) +\$D\$5+(B19*\$D\$7)	

Figure 3

Break-even Analysis Done with Solver

With Lotus 1-2-3 still showing, press **[CALC]**. Press **[MENU]** S to start the Solver. Press **[MENU]** Options Format Fixed 2 for this example.

Press **[F2]** to bring up the equation editor and key in this formula:

$$\text{GrPrft} = \text{Units} * (\text{Price} - \text{Var}) * \text{Fix}$$

Press **[ENTER]** to exit the equation editor and press **[F9]** to start Solver.

To fill in the numbers, use the RCL @ keys. For example, **[↑]** or **[↓]** to highlight the "Price =" line. Then press **M** and **@**. This will automatically bring up 1-2-3. Move the cursor to cell D3. Press **[ENTER]** once to grab the value 29.95. Press **[ENTER]** again, in Solver, to paste the value on the "Price =" line. Do the same for "Var" and "Fix". Alternatively, you can just type in the values at the cursor. (NOTE: The values mentioned below may be off slightly because the numbers from Lotus have greater decimal accuracy.)

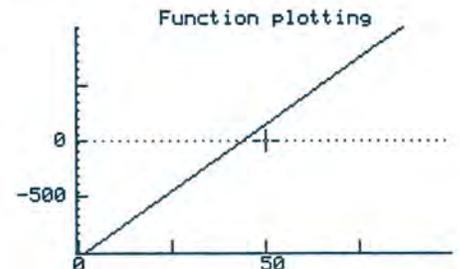
Solve Calc	
Brkvn	: GrPrft=Units*(Price-Var)*Fix
GrPrft	= 0.00
Units	= 44.08
Price	= 29.95
Var	= 6.31
Fix	= 1,042.10
Units = 44.08	
GrPrft	Price Fix
Help	Units Var

Now, slide the highlighter to the "GrPrft =" line, key in 0 and then move the highlighter to Units. Press **[SPACE]** and see "Units = 44.08" on the result line. That's it! Piece of cake!

Using the Solver Graph

To look at the graph, press **[ESC]** to quit Solver and press **[F10]** to start Function Plotting. Set XMIN = 0, XMAX = 100, YMIN = -1000, YMAX = 1000.

Press **[F9]** until the "Plot-variable" line shows "Units." Set the Resolution at 10. Press **[F4]** to Draw the graph.



What You See...

If you're used to Lotus graphs, the HP CALC graph may leave you scratching your head. It can only show one independent variable at a time, and nothing is labelled. However, in this graph, the vertical axis represents Profit. The horizontal

axis shows the number of Units. The dotted line is the break-even line, where Profit is zero.

Now press @ and see "COORD X=50.00 Y=0.00" on the top line of the graph. Press <SPACE> to solve for the root of the equation. You should see: "ROOT X=44.08 Y=0.00". That's the break-even point.

Playing "What If..."

To see how much Profit I'll make after 1000 people register their copy of "The Diversions Disk", press @ again. You should see "TRACE X=43.89 Y=- 4.60" on the top line of the display. Press - twice to re-scale the graph and then use the  to move the cross hair to X=883.33. Y will be 19,839.31. Now press ((open bracket). You'll see an * (asterisk) on the diagonal line. Press  again and then press) (close bracket) to complete the boundaries of a Zoom Box. The graph will explode and show you the area inside the Zoom Box.

Again, press  to get to the point where X=999.07. Then press  -  to nudge up to where X=1,000.62. At that point Y will be 22,611.82. Well, a kid can dream, can't he?

A Comparison

Solving this problem with either Lotus 1-2-3 or Solver takes about the same amount of effort. (It just takes more work to describe the process in 1-2-3 than it does in Solver.)

So what's the advantage to using one or the other?

Certainly Lotus 1-2-3 produces graphs that are more presentable. With a little effort they can be printed and framed. However, for my money, the power of the HP CALC graph outweighs the prettiness of the 1-2-3 graph - The advantage is Solver!

Moreover, if I want to see how much profit I'll make after 100 people have registered their copy of "The Diversions Disk", all I have to do, in Solver, is store 100 in Units and solve for GrPrft.

If I try the same thing in 1-2-3, it won't work. Trying to put 100 in cell D10 either gets me a warning that the cell is protected or the 100

overwrites the formula in the cell thereby destroying the worksheet. Again, advantage Solver.

Solver gives completely interchangeable solutions. With Solver it's possible to solve for any variable in terms of all the others. Lotus, all by itself, can't do this.

Why Compare?

Maybe my enthusiasm has clouded my judgment. It's based on only one example. Perhaps if I had chosen to examine a problem involving a budget analysis, my enthusiasm would be less. Certainly, for such an

analysis, the advantage would go to Lotus 1-2-3.

Finally, why even set up an either/or debate between Solver and 1-2-3? With the HP 95LX we don't have to choose between one or the other. We've got them both in the palms of our hands.

Until next time, Happy Porting!

[Ed Keefe is an author, programmer, computer science instructor, and long-time contributor to support publications for Hewlett-Packard computers. He is the president of the Fast Aid Company, 314 S.W. Logan, Ankeney, IA 50021. Ed's Compu-Serve ID# is [73277-1064].]

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Programmers Corner

Ed discusses programming tips and utilities that make writing programs on the 95LX somewhat easier.

By Ed Keefe

This month's Programmers' Corner contains tips and utilities that will make writing programs on the HP 95LX somewhat easier. All of the programmers' tools mentioned below are made available to the programming community free of charge.

Patching Turbo Pascal 3.02a

On page 31 of the Fall 1991 issue of *The HP Palmtop Paper* I described a procedure to modify Turbo Pascal (TP), version 3.02a, so it would run on the HP 95LX's sixteen-line display. Any program compiled with this modified version of TP 3.02, will also use a sixteen-line display by default.

There are other modifications that can be made to TP 3.02a. For instance, you can change the default colors, automate loading the error message file, and even add a new command to TP 3.02's menu. The new command is eXecute. "Execute lets the user "drop to DOS" and return to Turbo Pascal 3.02 by typing "exit."

To speed up and simplify the whole modification process, I found INSTX.COM (archieved in TP95-INST.ZIP below), a program that makes patching TP 3.02a a breeze. The process involves running the INSTX.COM program on a standard PC computer. INSTX makes a copy of TURBO.COM and modifies the copy, leaving the original file intact. I've enhanced INSTX so that it includes the patches for making TP 3.02a run on the HP 95LX.

The file, TP95INST.ZIP, contains a complete set of instructions for modifying Turbo Pascal 3.02a using INSTX.COM as well as the Borland TINST.COM program.

If you're looking for a copy of Turbo Pascal 3.02a, contact *Joe Wright, 711 Chatsworth Place, San Jose, CA 95128*. Joe has been licensed to distribute TP 3.02a. The price of the program is \$90. Another company, TurboPower

Software, has several add-on programs for TP 3.02a. Perhaps the best of these add-ons is TDEBUG, a dynamic debugger.

Another add-on, Turbo Optimizer, will reduce the size of a Pascal executable file to a mere shadow of its former self. It does this by weeding out parts of the run-time library that are not used. TDEBUG requires a full sized screen. Turbo Optimizer should run on the HP 95LX. If you're interested in either of these products, you can reach *Turbo Power Software in the U.S.A. at either 800-333-4160 or 719-260-6641*.

It Really Works

To convince myself of the practicality of using TP 3.02a on the HP 95LX, I took a copy of LIFEM2.PAS,

originally written by Neil Rubenking, and modified it to run on the 40x16 LCD display. My version, LIFE95.COM has given me hours of battery-wasting enjoyment. The source and executable files for LIFE-95 are available on CompuServe, in the HPSYS forum, the HP 95LX section (Library 14).

Programmers' Helper

PROHLP.EXE, The Programmers' Helper, is a simple program that does four tasks that ordinarily require paging through a book or using a computer calculator.

PROHLP will find the key codes for various keys. Also, at the touch of a key, it will let you find either the hexadecimal or decimal value of any ASCII character you desire. (On the HP 95LX, it shows the Code Page 850 characters.) Besides this, PROHLP will convert any number, to hex FFFF, from one base to another.

On The HP Palmtop Paper on Disk, Mar/Apr 92. up

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The Programmers' Helper program is available in the HPSYS, Library 14, forum. The source code (Turbo C 2.0) comes with the program. I have a reason for this beneficence. I'm hoping that some other programmer will explain to the rest of us, in relatively simple terms, how to get the computer to show the key codes for the blue application keys and the MENU key. I've tried various methods and none of them seem to work. This programmer needs help.

RUN95

Here's a problem. There are a number of UNIX-like programs that use switches and command line options. None of these programs can be run from FILER since there is no way to enter command line arguments. The only way to use GREP, for instance, is to press **[MENU]** **S** and key in the program name and its command line switches and arguments.

I have enough of these programs on my 95LX that it was becoming a nuisance to use them. So I wrote two programs, RUN **[F]** and EXEC **[F]** to solve the problem of how to use UNIX-like programs from FILER.

Both programs do essentially the same thing. They prompt for input, store it within the RUN or EXEC program and pass it along to another program. In short, RUN and EXEC act as shell programs for other programs.

RUN is more flexible. It uses just the file name of the program you want to run, e.g. GREP.RUN clones a copy of COMMAND.COM, which searches the DOS path for the GREP program and runs it.

EXEC, on the other hand, calls for the complete path of the child program (e.g. A:\BIN\GREP.COM).

EXEC does not waste time loading COMMAND.COM and searching the path. It's a tiny bit faster than

RUN. In either case, you need to write a small batch file that will drive RUN or EXEC. The batch file will look something like the one shown below.

```
rem run GREP.BAT
echo off
cls
run grep
```

Look for RUN95.ZIP **[F]** in the HPSYS forum. This archived file contains RUN.EXE, EXEC.EXE, and RUN95.DOC.

[Ed Keefe is an author, programmer, computer science instructor, and long-time contributor to support publications for Hewlett-Packard computers. He is the president of the Fast Aid Company, 314 S.W. Logan, Ankeney, IA 50021. Ed's Compu-Serve ID# is [73277-1064].]

 On The HP Palmtop Paper on Disk, Mar/Apr 92.

COLUMN: How Do You Do That?

How Do You Type Special Characters On The HP 95LX?

Bil. show how to create ®, ©, ¢, and other special characters using CHAR- and ALT-key combinations on the HP 95LX.

By Bil. Alvernaz

Who Needs Those !%#*&@ Characters?

For most people the HP 95LX has an adequate collection of characters in addition to the alphabet and numbers. The yellow shifted characters above the second row of keys and on the numeric keypad provide a wide variety of additional characters, including ' ~ ! # \$ % & ' \ [] { } ; : ' " < > ? ^ and %.

But there are less common special characters that occasionally come in handy: the numbers ½, ¼, and ¾ or ; the plus-over-minus or cents sign; the copyright, registered trademark symbols, for example. If you do business in different countries, you'll occasionally need to use an Ñ, ß, or ü. Fortunately these and

other special characters are easy to produce on your HP 95LX.

Generate special characters on your HP 95LX by pressing **[CHAR]** and any of the keys you see shown in Figure #1 or by holding **[ALT]** down and entering a 3-digit character code from the Character Code Set in Figure #2.

The only qualifying statement here is that your printer or the software on the PC to which you will transfer a 95LX-created file also must be able to generate special characters. Otherwise, you'll get strange looking characters (or nothing) in place of where you wanted the special characters.

Creating Special Characters Using **[CHAR]** and **[ALT]**

Create a special character using the

CHAR key by pressing and releasing **[CHAR]** once, and then pressing the desired keyboard key (see Figure 1 on the next page to see which keyboard keys produce special characters).

Create a special character using the ALT key by holding down **[ALT]** and entering a 2- or 3-number character code. (See Figure on the next page for the complete HP 95LX Character Set and code numbers. Note that any of the 95LX's characters can be created using the ALT method.)

Creating a special character using **[CHAR]** is faster than using an **[ALT]**-key combination. The CHAR key, located just to the left of the Space Bar, is a "sticky" key. Like the Shift keys, once you press it, it is activated. You don't need to hold it while you press the next key. In addition, using the CHAR key to create a special character requires fewer key strokes.

EXAMPLE 1: Using CHAR To Create ©, The Copyright Symbol

1. Go into MEMO.
2. Place the cursor where you



Figure 1

You can create any of the characters and symbols you see in here by first pressing the CHAR key (left of the Space Bar) and then pressing the appropriate key.

1. want the symbol to go.
2. Press CHAR down and lift up.
3. Press CHAR 123.
4. Press CHAR 123.
5. You should now see ©.

EXAMPLE 2: Using ALT To Create the German letter Ä.

1. Place the cursor where you want the symbol to go.
2. Hold down ALT and press 1 4 2 on the numeric keypad.
3. Let up on ALT.
4. You should now see the letter Ä.

EXAMPLE 3: Creating any accented letter you want using CHAR.

The 95LX allows you to generate a character with almost any type of accent using CHAR and the R, T, Y, U, and I keys. Look at Figure 1 and you'll notice an accent symbol above each one of these keys (R=´, T=ˆ, Y=^, U=¨, I=˜) When you press CHAR and any one of these keys, it prepares the 95LX to generate the corresponding accent above the next key you pressed.

Example 3A: we could also create the Ä we generated above by pressing CHAR u (to prepare for the accent mark) and A to create the Ä.

Example 3B: we could create the accented D in the French word "D'achat" by pressing CHAR r (to prepare for the accent mark) and D to create the D´.

The numbers 1, 2, and 3 on the numeric keypad do triple duty. Press CHAR first, and they produce the <, >, and ? symbols. Press CHAR first and they produce <<, >>, and ¢. Hold down CHAR, and press CHAR first and they produce the superscripted numbers 1, 2, and 3. These smaller numbers are ideal for footnote num-

bers, but it only works with the numbers 1, 2, and 3.

Even if you don't think you'll ever need these special characters, you should do some experimenting with them anyway. You owe it to yourself to open up a MEMO file and just fool around with creating several characters, using both the CHAR key and the ALT-key combinations. You never know just when you might need those !%#*&@ characters!

[Bil. Alvernaz has been working with palmtop computers for over two years. He has picked the HP 95LX as his preferred choice because he feels the 95LX sets the standard for palmtop computers. During the past decade Bil. has written about computers for USA TODAY, PC Magazine, United Feature Syndicate, and other publications. Bil. specializes in desktop publishing, as well as writing, media relations, and helping people get the most out of using computers. You can reach him at (209) 394-8188, MCI MAIL #207-8825, or FAX: 209.394.8918.]

Decimal Value	→	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
↓	Hex Value	0	1	2	3	4	5	6	7	8	9	A	B	C	D		
0	0		▶		0	@	P	ˆ	p	Ç	É	á	⋮	L	ž	Ö	-
1	1	☺	◀	!	A	Q	o	q	ü	œ	ı	⋮	⊥	Ð	B	±	
2	2	☹	:	"	2	B	R	b	r	è	Æ	ó	⋮	T	É	Ö	=
3	3	☺	||	#	3	C	S	c	s	ä	ö	ú	|	†	E	Ö	¾
4	4	♦	¶	§	4	D	T	d	t	á	ó	ñ	†	—	È	o	¶
5	5	+	§	%	5	E	U	e	u	á	ó	Ñ	Á	+	ı	Ö	§
6	6	+	—	&	6	F	V	f	v	á	ú	º	Á	á	i	µ	*
7	7	•	ˆ	ˆ	7	G	W	g	w	ç	ü	º	Á	Á	i	þ	.
8	8	◻	†	(	8	H	X	h	x	ë	ý	¿	©	⊥	i	þ	o
9	9	◊	↓	)	9	I	Y	i	y	é	ó	®	≡	⊥	J	Ú	..
10	A	◻	•	*		J	Z	j	z	è	u	ˆ	||	⊥	Γ	Ú	•
11	B	♂	•	+	.	K	(	k	l	i	ø	½	⊥	⊥	■	Ú	ı
12	C	♀	⊥	.	<	L	\	l	l	i	ε	¼	⊥	⊥	■	ÿ	3
13	D	♪	++	-	=	M	)	m	l	i	ø	i	c	=	:	ÿ	2
14	E	♪	▲		>	N	^	n	-	À	×	•	v	⊥	⊥	-	■
15	F	☼	▼	/	?	O		o	⌂	Á	f	•	⊥	o	■	•	

Figure 2

This table shows the complete HP 95LX Character Set and the code numbers for each character. To determine the character code needed to create a specific character or symbol, take the number from the top column the character is in and add it to the row number in which you find a character. (i.e. the character code for © is 184, which is the sum of 176—the number at the top of the column—and 8—the row number.)

User Defined Function Keys - An Advanced Lesson For Beginners

Press two keys and carry out ten keystrokes: It's possible with this 95LX function that lets you do less and accomplish more! However, use caution.

By Hal Goldstein

Programming is usually reserved for advanced users. However, you can easily use the built-in User Defined Function Key capability to program your HP 95LX to save repetitive keystrokes. As you'll see, you must do so carefully, with your eyes open.

If you read the first two of these columns, you understand the value and necessity of saving your files often. For example, if you added some names to your phone book in PHONE, those names don't become permanent until you save them to your C Drive RAM Disk. A savvy user saves his files frequently. (He also backs up his files to a desktop computer or RAM Card).

Saving your phone book is simple. Press **[MENU] File Save Return Yes** to replace the older version of your phone book with your revised phone book. It turns out this exact same **[MENU] File Save Return Yes** command is used to save APPT and MEMO files. Those five keystrokes may be just awkward enough to prevent you from saving as often as you should. We can reduce the number of keystrokes for this command to a single keystroke combination by creating a User Defined Function Key (also known as a "macro").

To automate saving a file by using a "User Defined Function Key" do the following:

1. Press **[PHONE]** to enter the built-in PHONE application.
2. Hold down **[^]** and **[CHAR]** and then press **[F10]**. You'll hear a musical, two-toned beep indicating the 95LX is ready to "memorize" the series of commands you want to automate. If you get a single-toned beep, a User Defined Function Key is already assigned to that key and you'll

have to go into Set Up to delete it before you can enter a new one. (See below for information on how to delete User Defined Function Keys.)

3. Press **[MENU] File Save [ENTER] Yes** (the series of commands you want to automate). With each key press, you'll hear a low-pitched beep.
4. Repeat step 2 to save the User Defined Function Key.

Now hold down **[CHAR]** and press **[F10]**. You'll see the HP 95LX automatically saving your file. (You can use the "sticky" CHAR feature. Press **[CHAR]**, let go, and press **[F10]**. Your file gets

saved. The Shift key is also "sticky". Hold down **[^]**, let go, and type any letter. This generates a capital letter.)

Let's create a written reminder that pressing the F10 User Defined Function Key saves a file.

1. Press **[^] - [FILER]** to see the SET UP menu.
2. Press **Char** to see the User Defined Function Key menu. (At the bottom next to **F10**, and next to it, **{MENU}FS{ENTER}y**, the commands you entered your User Defined Function Key above.)
3. Move the cursor to the F10 line and press **[ENTER]**.
4. Under "Comment" type **Save file. (Replace existing file.)** You can type any message you wish to remind you of what the User Defined Function Key does.
5. Press **[F10]** again. You will see that the comment you entered is now opposite F10, completely



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replacing (MENU)FS(ENTER)y that had been there before.

6. Type (ESC) and Quit

(Deleting a User Defined Function Key: After you are in the User Defined Function Key menu (step 2 above) you can delete any of the key definitions you've created by moving the cursor down to the F-key of the definition you desire to delete, and pressing (F3). You have to delete the user definition associated with a specific Function key before you can create a new one for that Function key.)

If you create a number of User Defined Function Keys, you can always press (F1)-(FILER) Char to go to the menu screen and see what the definitions are. I've created a User Defined Function Key (F1) to take me to the User Defined Function Key menu screen.

Warning

The Save File, User Defined Function Key described above has a danger. This danger illustrates the perils of programming at all levels. No matter how innocuous a User Defined Function Key seems, you must consider all possible scenarios.

Suppose you start a new MEMO. After a few minutes you want to save the MEMO using our newly created User Defined Function Key. *Don't do it!* (Remember our User Defined Function Key was designed to replace an existing file.)

Here's what can happen: If our Save File, User Defined Function Key is used on a new file, MEMO will save the new file to the first MEMO file it finds in the MEMO directory. It overwrites that file, erasing its contents!

Let's try it by hand. Go into MEMO and press (MENU) File New. Now type "test file", press (MENU) File Save, and take a look at your screen. Notice that the cursor is highlighting the first file in your directory. Press (ENTER) and you are asked whether you want to "Replace current file? (Y/N)". You MUST answer N here to cancel the Save. If you enter Y, the file that was high-

lighted by the cursor will be replaced (gone forever) by the new (test file) file you just created!

I solve this problem by creating a meaningless file, one-word file and saved it as AAAAAAAA.TXT. This way, if I space out and use my Save File, User Defined Function Key to save a new MEMO, I have saved it into AAAAAAAA.TXT without writing over any other .TXT file.

The real point here is that User Defined Function Keys gives you more power by permitting a single keystroke combination to stand for a specific series of keys. But if that power is not used wisely, bad things can happen. In particular examine your User Defined Function Keys to see if they have the capability of destroying something, as our Save File example does. Then consider carefully the various possibilities in which the User Defined Function Key might delete a file, either purposefully or accidentally. Make adjustments accordingly. You are now

thinking a little like a programmer.

Some uses of User Defined Function Keys

There are as many possible uses for User Defined Function Keys as there are keystrokes. Look at common commands you use on a day-to-day basis (similar to our (MENU) File Save Return Y example). Lotus users should consider making User Defined Function Keys for common keystrokes like @sum(or (MENU) Worksheet Column Set. MEMO users could create a User Defined Function Key with "Sincerely," followed by (ENTER) four times and your name. If you need to turn the sound on and off frequently you can create User Defined Function Keys to do so.

Most issues of *The HP Palmtop Paper* will contain examples. In the manual see page 21-14 for the discussion on creating User Defined Function Keys.

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New Non-HP Products designed to work with the HP 95LX

By Richard Hall and Hal Goldstein

In the last two issues we listed over 80 hardware and software products, and other 95LX-related services already available from third-party manufacturers and developers. We will continue to list 95LX hardware and software as we discover them. Vendors of 95LX-related products should send us information.

Hardware

Adapters/Converters

GA 935 Serial to Parallel Converter

This small, battery powered adapter connects to the 9-pin end of the HP Serial Cable for the 95LX. The other end of the GA 935 connects to your printer's parallel port or printer cable. Auto Power on/off conserves battery life, with an average of about 100 hours of battery life on a 9-volt battery.

Availability April 1, 1992
Pricing \$99.00
CONTACT: *Greenwich Instruments, 3401 Monroe Road, Charlotte, NC 20205 U.S.A.; Phone: 800-476-4070 or 704-376-1021; Fax: 704-335-8707.*

EUROPEAN CONTACT: *Greenwich Instruments, The Crescent, Main Road, Sidcup, Kent, DA14 6NW, U.K.; Phone: 81-302-4931; Fax: 81-302-4933.*

ATEN Serial to Parallel Converter

Convertor with 9 volt adapter. Lets you connect the 95LX to a parallel printer in the office or home. Not battery powered, you must have an AC outlet available to use this converter. (*SmartConverter, reported on page 41 of the Jan/Feb 92 issue is not available through EduCALC.*)
[See advertising, page 19.]

Availability NOW
Pricing \$119.00
CONTACT: *EduCALC, 27953 Cabot Road,*

Laguna Niguel, CA 92677, U.S.A.; Phone 800-677-7001 or 714-582-2637; Fax: 714-582-1445.

Communications

WorldPort Modems

Battery operated modems that work with the HP 95LX, including:

WorldPort Palmtop Fax/Data Modem — Contains all the software within the modem required to send a fax. Automatically converts standard ASCII text to Group III fax without additional software. Supports data transmission speeds from 300-2400 bps and fax transmission speeds of 2400-9600 bps.

WorldPort 9600 — Supports data speeds of 800-9600 bps. Includes MNP 4 error control and MNP 5 data compression for error-free throughput. Uses the standard communications software included with the 95LX. (WorldPort Technical support indicated that a "jumper" needs to be installed for this to work in battery-powered mode with the 95LX.)

WorldPort 2400 — Provides full functionality of a desktop modem. Supports data speeds from 300 to 2400 bps and is fully CCITT and Bell compliant. Earlier versions of this product, with a serial number less than 50,000, do not work with the 95LX.

Availability
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WorldPort 2400 NOW

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CONTACT: *U.S. Robotics, 8100 N. McCormick Blvd, Skokie, IL 60076-2999, U.S.A.; US phone: 800-342-5877; or 708-982-5010; Fax: 708-982-5235.*

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[See advertising, page 31.]

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RAM Cards

Included below are some additional RAM card vendors. For other vendors please see the Fall 1991 issue of *The HP Palmtop Paper*, page 40.

Imaging Supplies Express

Markets SRAM memory cards for the 95LX.
 [See advertising, page 38.]

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 1MB SRAM Card \$432.00
 2MB SRAM Card \$795.00
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 [See advertising, page 42.]

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Specialized Products

RAD95

RAD95 is a hardware and software package that allows the HP 95LX to

**Software Included on
 The HP Palmtop Paper ON DISK (Mar/Apr 1992)**

Product	Function	Type	Page
MESSG.ZIP	Application: automates CompuServe for 95LX users	Shareware	28
TAP4.EXE	Application: TAPCIS - automates CompuServe on PC	Shareware	28
TAPDOC.EXE	Application: TAPCIS documentation	Shareware	28
ZIP151.ZIP	Application: file transfer program	Shareware	16
BKUP95.ZIP	Batch file: automates ZIP151 file transfer on 95LX	Free	14
KLON.ZIP	Game: standard seven pile game of Klondike solitaire	Shareware	46
LIFE95.ZIP	Game: graphical diversion, watch objects grow	Free	38
BRKVAN.WK1	Spreadsheet: break-even analysis worksheet	Free	35
COSTS.WK1	Spreadsheet: costs breakdown worksheet	Free	34
ED.EQN	Spreadsheet: formulas for break-even analysis.	Free	34
CALRP.EXE	Utility: reads and prints out SideKick Plus files	Shareware	24
FINISH11.ZIP	Utility: finishes your keystrokes, saves time	Shareware	32
MACPBK.SIT	Utility: hypercard stack to convert PHONE to Mac files	Free	24
PKZ110.EXE	Utility: file compression program	Shareware	30
PROHLP.ZIP	Utility: programming tool	Free	38
RUN95.ZIP	Utility: shell programs (contains RUN and EXEC).	Free	39
SMCLOCK.ZIP	Utility: system manager clock for the 95LX	Free	20
SUNCAL95	Utility: converts APPT files to Sun Open Windows 3.0 Calendar Manager	Free	22
TIMOUT.ZIP	Utility: change auto shutoff time on 95LX	Free	20
TP95INST.ZIP	Utility: modify Turbo Pascal 3.02a for 16-line display	Free	38
TPATCH.ZIP	Utility: modify Turbo Pascal 3.02a for 16-line display	Free	na
UNZIP.EXE	Utility: decompresses .ZIP files	Free	na
ZIPPER.COM	Utility: decompresses .ZIP files	Free	30
HPSL14.LIS	Text: latest HP 95LX CompuServe library files listing	Free	na
HPSL15.LIS	Text: latest library files listing for programmer's section	Free	na
ADVERT.ZIP	Text: in-depth descriptions, products advertised this issue	na	na
PTP2.ZIP	Text: The HP Palmtop Paper, Mar/Apr, 1992	na	na
README.ZIP	Text: cover letter for HP Palmtop Paper ON DISK	na	na

Software mentioned in this issue and included in other issues of The HP Palmtop Paper On Disk.

AG.ZIP	(Jan/Feb 92) Chess and Space Invaders	Shareware	20
ATO68B.EXE	(Fall 91) automates CompuServe activity	Free	28
COMMO.ZIP	(Jan/Feb 92) small and robust communications program	Shareware	28
COMMO9.ZIP	(Jan/Feb 92) adaptation of COMMO for HP 95LX	Shareware	28
DIET	(Fall 91) file compression utility	Free	32
HPTRIX.ZIP	(Jan/Feb 92) a Tetris-like game	Free	20
VDE.ZIP	(Fall 91) compact, powerful text editor	Shareware	28

The Fall 1991 *HP Palmtop Paper ON DISK* consisted of over 20 files, including those mentioned on page 36 of the Fall 1991 issue of *The HP Palmtop Paper*.
 The Jan/Feb 1992 *HP Palmtop Paper ON DISK* consisted of over 24 files, including those mentioned on page 43 of the Jan/Feb issue of *The HP Palmtop Paper*.

monitor and record background radiation using a special interface/adaptor cable, the Radalert™ Geiger counter, and the HP 95LX. RAD95 also monitors RADON using any CW (continuous) Radon monitor. Interfaces for the Honeywell "Professional" and "Ad Ease" Radon monitors have been developed.

Availability NOW
 Software Medium Floppy Disk
 Runs under SysMgr No
 Pricing \$45.00
 (USA shipping paid; Canada add \$5, other international add \$10)
 CONTACT: RAD95, Harold Cole, 614 Cedar Hill Road, Albuquerque, NM 87122, U.S.A.; Phone: 505-293-6751; Fax: 505-296-2632.

Remote Power On/Off

A telephone-activated power control unit for your desktop PC computer. Set Remote Power to detect a specific number of phone rings. Remote Power On/Off activates power to the PC it is connected to. Remote Power On/Off could be useful for travelers who want to communicate with their home or office computer, but who don't want to leave the computer on all the time.

Availability NOW
 Pricing \$169.95
 CONTACT: Server Technology, 2332-B Walsh Avenue, Santa Clara, CA 95051, U.S.A.; Phone: 800-835-1515 or 408-988-0142; Fax: 408-738-0247.

Wireless Communications

Mobidem Wireless Modem

This portable wireless receiver attaches to the 95LX via the serial port and allows the HP Palmtop to access the public Mobitex wireless data networks operated by RAM Mobile Data in the U.S.A. and Rogers Cantel in Canada. The Mobitex provides two-way communications between the 95LX and the networks, allowing wireless E-mail, paging, dispatch, sales force management, and other mobile messaging and data communications applications to take place.

The Mobidem package comes with Viking Express: wireless E-mail software allowing Mobidem to interface with Mobitex networks throughout the U.S.A and Canada.

Availability 4/92
Pricing

Mobidem \$1,795
95LX with software \$2,949

CONTACT: *Ericsson GE Mobile Communications Inc., 15 E. Midland Avenue, Paramus, NJ 07652, USA; Phone: (201) 265-6600; Fax: (201) 265-9115.*

Notify! for the Apple Macintosh

Notify is a Apple Macintosh communications utility that enables many Mac application programs to deliver data, via wireless communications, to the HP 95LX. The utility transmits information from Mac calendar and phone book programs as well as spreadsheets and E-mail systems via SkyTel's SkyStream service to Motorola's NewsStream receiver. From there, HP's Mobile Data Link software can extract the information for use on the HP 95LX in Lotus 1-2-3, PHONE, APPT, and MEMO.

Availability NOW
Medium Floppy Disk
Runs under SysMgr N/A

AN APPLE MACINTOSH PROGRAM

Pricing \$149.00
CONTACT: *Ex Machina Inc., 45 East 89th Street, #39-A, New York, NY 10128, U.S.A.; Phone: 800-238-4738 or 718-965-0309; Fax: 718-832-5465.*

Software

Communications

AKTerm 95LX

PC datacommunications software that allows the 95LX automatic or manual access to BTX in Germany. Includes additional terminal configurations and high programming language for datacomm applications. Baud rate maximum 57,600. Supports all Hayes and CCITT-V25 modems.

Availability NOW
Medium Floppy disk
Runs under SysMgr No
Pricing Item 1 Not known
CONTACT: *André Koppel Software, MMS Communication, Eiffestrasse 596, 2000 Hamburg 26, GERMANY; Phone: +49 (40) 21 15 91; Fax: +49 (40) 21 15 98.*

Connectivity

IntelliLink/XLT

Add-in to the software that comes with the HP 95LX Connectivity Kit. This software provides additional translators for Borland Sidekick 2.0 PIM, WordPerfect Office, Calendar Creator Plus, and Paradox and dBASE databases, including field mapping of 95LX data.

According to IntelliLink, the field mapping capabilities will allow the back-and-forth transfer of information such as customer lists, order data, inventory, price lists, or patient information between the 95LX and Paradox or dBASE databases.

[See advertising, page 14.]

Availability 3/92
Medium floppy disk
Runs under SysMgr Yes*
*Add-ins to Connectivity Kit software
Pricing \$69.95**
**Plus shipping

CONTACT: *IntelliLink, Inc, One Tara Boulevard, Nashua, NH 03062; Phone: 603-888-0666; Fax: 603-888-9817.*

MacLink Plus PC

Connectivity program that enables your Mac and 95LX to translate certain Mac formatted files into the 95LX, and transfer the files between the two. Once set up, your 95LX

works as if it were another Mac drive. You can back up your 95LX onto your Mac's hard drive or a DOS-formatted diskette in the Mac's 1.4MB Superdrive. Does not come with the necessary HP to Mac cable HP 82209A).

Availability NOW
Medium Floppy Disk
Runs under SysMgr No
Retail Price \$199.00
CONTACT: *DataViz, Inc., 35 Corporate Drive, Trumbull, CT 06611, U.S.A.; Phone: 800-733-0030 or 203-268-0030; Fax: 203-268-4345.*

Contact Management

Head Office Coordinator

Software that supports multiple users of Pocket Sales Force, the sales management software described on page 41 of the Fall 1991 issue of *The HP Palmtop Paper*. This software enables organizations to exchange data with each PSF user and a central PC unit via RAM card drive. Includes a user-definable Report Generator with consolida-

Learn To Program In Forth On Your 95LX

Turn your HP 95LX into a portable software development system with UTIL, a System Manager compliant implementation of the Forth language.

- ✱ Includes Forth compiler / decompiler, 8086 assembler / disassembler, and user's guide with source code examples
- ✱ Creates compact, System Manager compliant executable files, and loaders for .COM or .EXE files
- ✱ Small kernel of under 11K maximizes space for data and programs
- ✱ Free games, music and graphics tools
- ✱ Uses text source files created and modified with the 95LX memo editor or any ASCII editor

At just \$70 (\$80 outside USA), UTIL lets you harness all the power of your 95LX. To order your copy, call today.

Essex Marketing Services Inc.
272 Old Farms Road
Simsbury CT 06070
(203) 651-8284

tions, a text processor and document filing system. Software allows for 40 user-definable data fields and uploading and downloading of external data files.

[See advertising, page 12.]

Availability April, 1992
 Medium Floppy disk
 Runs under SysMgr Yes
 Pricing £395.00
 CONTACT: Richard Hill, CM Software, Business Unit 1, 33 Sanford, Littlemore, Oxford, OX4 4XT, United Kingdom; (+44) 865-748875; Fax: (+44) 865-748873.

Financial Management

Bond, Options, MBS @analyst
 These add-ins for Lotus 1-2-3 help you analyze investments on your 95LX. Including:

bond @analyst - for working with US and foreign bonds, bills & CD's. Analyzes price/yield, duration, k convexity, accrued, Val32, ValBP, CBOT/FINEX factors, carry forward, tails, strips, data and after-tax calculations, and more. SIA & AIBD compatible.

options @analyst - for working with American & European options on stocks, futures, commodities, foreign exchange & bonds. Black-Scholes and binomial models. Holding cost and dividend adjustments. Sensitivities, historical & implied volatilities.

mbs @analyst - Mortgage-backed securities; Price/yield, duration, WAL, implied speed, factors, components. CPR, PSA, FHA and Custom speeds.

[See advertising, page 47.]

Availability NOW
 Medium Floppy Disk
 Runs under SysMgr (Lotus add-ins) .. Yes
 Pricing
 bond @analyst \$495.00
 options @analyst \$495.00
 mbs @analyst \$495.00

CONTACT: Tech Hackers, 50 Broad Street, New York, NY 10004, U.S.A.; Phone: 212-344-9500; Fax: 212-344-9519.

Le Monde de la Finance au Bout des Doigts

Three financial programs comprising different equations and Lotus solutions libraries for the HP 95LX,

including the following:

PG02-Financement des Entreprises et des Particuliers: Provides practical solutions for credit and leasing for personal and corporate finance.

PG03-Finance Epargne Placement: Provides multiple solutions for professionals and students, including: Bonds (bariation, volatility and duration), Matif, Options Black-Scholes valuation, Coefficient β , and many others.

PG04-Analyse Financière Entreprise: Provides a program of finance analysis based on French fiscal document (CERFA) and other solutions for corporate finance.

PG01-Solutions Financieres Generals: Complete package, including the three programs listed above.

Included in each of these programs is a translation into French of the macros used in the built-in CFLOW and STAT worksheets, courtesy of Hewlett-Packard.

Availability NOW
 Medium Floppy disk
 Runs under SysMgr No
 Pricing (plus tax)
 PG01 ff 2,087
 PG02 ff 835
 PG03 ff 835
 PG04 ff 835

CONTACT: Bruckert Diffusion, 25, Avenue Victor Hugo, 92170 Vanves, FRANCE; Phone: +33 (1) 40 21 24 08; Fax: +33 (1) 40 95 70 25.

Micro Hedge

Analyzes individual options with quick edit of underlying price, volatility, and time or interest rate. Specific changes in options prices are instantly generated. Also will define volatility skew, select major option pricing models, and provide easy viewing of corresponding sensitivities. Derivative management feature allows a wide variety of option parameters to be set for "what-if" scenarios.

Availability NOW
 Medium Floppy Disk
 Runs under SysMgr No
 Pricing \$1,900

CONTACT: Micro Hedge, 440 South LaSalle Street, Suite 1767, Chicago, IL 60605, U.S.A.; Phone: 312-362-3577; Fax: 312-362-2379; Contact: Valerie Attia.

Print to Parallel Printers from the HP 95LX

Paralink 3 is for those times you need to print to a parallel printer from the HP 95LX. Just connect one end of the Paralink 3 adapter to your printer's 36-pin female parallel port, and the other to the 95LX via the serial cable from the Connectivity Pack. Paralink 3 is battery powered and works with most parallel printers. It's light, small, and easy to carry.

Paralink 3 retails for £59.95.

To Order

Call: 011-44-438-815444

Fax: 011-44-438-815222

(AmEx, Visa, MasterCard Accepted)

WIDGET
 SOFTWARE

121 London Road, Knebworth, Herts SG3 6EX United Kingdom

Games

Klondike Solitaire-95

Supports a standard seven pile game of Klondike, without screen scrolling or other concessions to the small 95LX screen and keyboard. The program is shareware and is available on CompuServe, HPSYS forum, 95LX Library 14 as KLON95.ZIP. It is also available directly from its author.

Availability NOW
 Medium CIS/floppy disk
 Runs under SysMgr Yes
 Pricing \$11.00
 (Shareware fee, \$10 if you download from CompuServe.)

CONTACT: Edward W. Greenberg, Box 286-18, San Jose, CA, 95159, U.S.A.; Phone: 408-283-0184; CompuServe ID: [76703,1070]

ACE GAMEcard I

Fourteen games are provided on a ROM card for the 95LX, including: Blackjack, Checkers, HPtris, and Craps. Games selected from a "Windows" icon menu "popped up" from within built-in applications.

[See advertising, page 3.]

Availability 4/92
 Medium ROM Card
 Runs under SysMgr Yes
 Pricing \$79

On The HP Palmtop Paper on Disk, Mar/Apr 92.

CONTACT: ACE Technologies, Inc, 2880 Zanker Road, Suite 103, San Jose, CA 95134, U.S.A.; Phone: 800-825-9977 or 408-428-9722; Fax: 408-428-9721.

Programming

muLISP 90

A programming language used for implementing expert systems and other artificial intelligence applications. muLisp provides much of the functionality of common LISP, with over 400 built-in LISP functions, special forms, macros, and control variables. muLisp supports the 240 x 128 graphics mode of the HP 95LX.

[See advertising, page 36.]

Availability NOW
 Medium Floppy Disk
 Runs under SysMgr No
 Suggested Retail Price \$400
 CONTACT: Soft Warehouse, 3660 Waiialae Avenue, Suite 304, Honolulu, HI 96816, U.S.A.; Phone 808-734-5801; Fax: 808-735-1105.

Swift! Basic

BASIC programming language designed for the 95LX. A fast and modern implementation of Basic, that supports structured programming, different data types, virtual arrays, a complete set of graphics commands, sound and full access to all HP 95LX ports and interrupts. Develops System-Manager compliant programs.

Availability 3/92
 Medium Floppy disk
 Runs under SysMgr Yes
 (creates .EXM files)
 Pricing \$215.00
 CONTACT: Swift!, Neustiftgasse 56, A-1070 Vienna, AUSTRIA; Phone: +43 (222) 526 12 71; Fax: +43 (222) 526 12 72.

Specialized

Complete HP 95LX Palmtop Real Estate Kit

Includes real estate Lotus templates, buyer qualification, loan amortization, and CCIM-type investment analysis. More templates in development.

Availability NOW
 Medium Floppy Disk

Runs under SysMgr Yes
 (Lotus templates)
 Pricing \$585.00
 CONTACT: Real Estate Computers Solutions, 288 Clayton Street, Denver, CO 80206, U.S.A.; Phone: 303-321-3341.

Curve Fit

Linear regression software for the 95LX useful for scientists, engineers, physicians, and pharmacists. Lets you automate least-squares fit of 2-term curves for straight line, exponential, logarithmic or power equations, 4-term equations for cubic polynomials and for Fourier series. Save and retrieve data and equations to an ASCII file.

[See advertising, page 19.]

Availability NOW
 Medium Floppy disk or ROM card
 Runs under SysMgr No
 Pricing
 On Floppy disk \$169.00
 On ROM Card \$235.00
 CONTACT: EduCALC, 27953 Cabot Road, Laguna Niguel, CA 92677, U.S.A.; Phone 800-677-7001 or 714-582-2637; Fax: 714-582-1445.

Executive Companion Software Series

Four programs designed for professionals in the insurance and financial services industry. The programs generate charts, graphs, and reports. The following programs are available: Insurance Companion, Financial Companion, Business Companion, and Productivity Companion.

Availability NOW
 Medium Floppy Disk
 Runs under SysMgr No
 Pricing
 Insurance Companion \$399.00
 Financial Companion \$399.00
 Business Companion \$399.00
 Productivity Companion \$399.00
 CONTACT: Phoenix Systems, 77 NE Second Street, Corvallis, OR 97330, U.S.A.; Phone: 800-397-4179 or 503-742-0448; Fax: 503-752-0053.

Mechanical Engineer's Equation Library

The software pulls together generally recognized mechanical engineering equations and material property values from many sources, and includes equation (.EQN) files and 1-2-3 (.WK1) files. The .WK1 files are "database" files with unit conversions, geometric property equations,

Bonds • Options • MBS

Analyze Investments on Your Palmtop with @ Function Add-Ins for Lotus® 1-2-3®

bond @analyst
 US and Foreign Bonds, Bills & CD's. Price/Yield, Duration, Convexity, Accrued, Val32, ValBP, CBOT/FINEX Factors, Carry, Forward, Tails, Strips, Date and After-Tax Calculations. MORE! SIA & AIBD Compatible.

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 American & European options on stocks, futures, commodities, foreign exchange & bonds. Black-Scholes & Binomial Models. Holding cost & dividend adjustments. Sensitivities. Historical & Implied Volatilities.

mbs @analyst
 Mortgage-backed securities. Price/Yield, Duration, WAL, Implied Speed, Factors, Components. CPR, PSA, FHA & Custom Speeds.



Tech Hackers Inc.
 50 Broad Street
 New York, NY 10004
212-344-9500

and material properties.

Equations were selected for the library on the basis of general usefulness to mechanical engineers and applicability to HP CALC's solver (i.e., algebraic equations). Equations which require a high degree of visualization are avoided because graphical concepts are difficult to document in a clear fashion in HP CALC. The equations take up about 19K of disk space, the reference tables about 30K.

[See advertising, page 19.]

Availability NOW
 Medium Floppy Disk
 Runs under SysMgr Yes*
 HP Calc equations and Lotus spreadsheets.
 Pricing \$29.95
 CONTACT: EduCALC, 27953 Cabot Road, Laguna Niguel, CA 92677, USA; Phone: (800) 677-7001 or (714) 582-2637; Fax: (714) 582-1445.

Meeting Maker for the Mac

This Macintosh network application that helps plan, schedule, and confirm meetings. Its latest release has been upgraded to include new features, including the ability to export calendars to the HP 95LX.

Availability NOW
 Medium Floppy Disk
DOES NOT RUN ON THE 95LX!
 Pricing \$495
 CONTACT: On Technology, 155 Second Street, Cambridge, MA 02141, U.S.A.; Phone: 617-876-0900; Fax: 617-876-0391.

Smart Rounds

A physician's database and reference that can track hospital visits and procedures, print out or interface CPT4 codes and descriptions, and give finger-tip access to 700 commonly used diagnoses. Supports multiple physicians and hospitals or locations.

Requires at least 338K system RAM available in the 95LX plus a 512K or greater RAM card installed. [See advertising, page 19.]

Availability NOW
 Medium Floppy disk or RAM card
 Runs under SysMgr No
 Pricing

On Floppy disk \$459.00
 On RAM Card \$669.00

CONTACT: EduCALC, 27953 Cabot Road, Laguna Niguel, CA 92677, U.S.A.; Phone 800-677-7001 or 714-582-2637; Fax: 714-582-1445.

Other Products and Services

Publications

Memory Card Systems & Design

This bi-monthly magazine focuses on memory card related issues. The articles are targeted more towards people working in the memory card industry than end users.

Subscriptions in the U.S. are free to "qualified individuals."

Availability NOW
 Medium Magazine
 Pricing

U.S. Free
 Canada/Mexico \$38.00
 Other International \$40.00

(Payment in U.S. funds must accompany order)

CONTACT: Memory Card Systems and Design, Attn: Subscription Dept., 6300 S. Syracuse Way, Ste 650, Englewood, CO 80111 U.S.A.; Phone: (303) 220-0600; Fax: (303) 773-9716.

HP 95LX Palmtop PC mit Lotus 1-2-3

Written in German, this book is for the "advanced user/hobby programmer of the 95LX."

Availability NOW
 Medium Book
 Pricing n/a

Products Advertised in The Palmtop Paper

Company	Product	Page number
ACE	(RAM Memory Cards)	inside front
	(Game Card)	3
	(BATTman Battery Monitoring Software)	5
Active Data	(RAM Memory Cards)	outside back
Adtron	(RAM Card Drive)	41
	(RAM Memory Cards)	8
C M Software	(Pocket Sales Force)	12
Contact Software	(ACT Contact Management Software)	33
Databook	(RAM Card Drive)	42
Essex Marketing Services	(UTIL - Forth Programming)	45
	(HED - Hex Editor)	32
EduCALC	(95LX Accessories Catalog)	19
El Dorado Trading	(HP 95LX and Accessories)	21
Globalink	(Foreign Language Translation)	inside back
IntelliLink	(Windows/95LX Connectivity Software)	14
Imaging Supplies Express	(RAM Memory Cards)	38
Lighthouse	(Custom palmtop database)	20
Nuvotech	(MAC, Windows, DOS Connectivity Kits)	13
Pacific Software Supply	(Service of 95LX Software Distributors)	43
Palmtree Products	(Cases, RAM Cards, Serial-Parallel Adapters, Software)	9
Soft Warehouse	(DERIVE - Mathematical Assistant)	36
Sparcom	(RAM Memory Cards)	27
	(Station95 Docking Station)	29
	(Drive95 Floppy Disk Drive)	31
Tech Hackers	(Investment Analysis Software)	47
Thaddeus Computing	(The HP Palmtop Paper ON DISK)	23
Widget	(Parallel 3 Serial/Parallel Adapter)	46

CONTACT: Markt & Technik Verlag, Hans-Pinsel-Strasse 2, 8013 Haar b. München, GERMANY; Phone: +49 (89) 46 13-637; Fax: +49 (89) 46 12-689.

Drive, Hackettstown, NJ 07840; Phone: 800-248-2080 or 908-850-9700; Fax: 908-850-9618.

Inside CompuServe

Billed as "The easy start guide to on-line information and communications," this 290-page softbound book comes with communications programs and utilities on a 5.25" floppy disk and includes a coupon for \$12.50 in CompuServe usage credit.

Availability NOW
 Medium Softbound book
 Pricing

U.S. \$29.95
 Canada \$39.95
 U.K. £32.95

CONTACT: New Riders Publishing, 11711 N. College Avenue, P.O. Box 90, Carmel, IN 46032, U.S.A.; Phone: 800-428-5331 or 317-573-2500; Fax: 800-448-3804 or 317-573-2583 (outside U.S.). Accepts VISA, MasterCard, American Express cards.

Custom Palmtop Database Program

Lighthouse Software will develop, test, and document custom database applications in less than a month using a proprietary database engine.

[See advertising, page 20.]

Availability NOW
 Medium ROM card/floppy disk
 Runs under SysMgr No
 Pricing varies
 CONTACT: Lighthouse Software, 3001 Red Hill Avenue, Building 4, Suite 213, Costa Mesa, CA, 92626, U.S.A.; Phone: 714-850-1767.

DOS Programs on Memory Cards

Palmtop Resources converts standard DOS applications to PCMCIA memory cards as well as Flash and OTP ROM cards. Virtually any DOS application can be converted to memory cards.

Availability NOW
 Medium Memory Card
 Runs under SysMgr Yes
 Pricing Varies
 COMPANY: Palmtop Resources, 5910 North Central Expressway., Suite 1000, Dallas, TX 75206, U.S.A.; Phone: 214-891-2218.

Services

ID Tags for the 95LX

This company will make an I.D. tag to fit the recessed rectangle on the bottom of your 95LX.

Availability NOW
 Pricing n.a.
 CONTACT: Almetek Industries, Inc., 2 Joy

ForeignLanguage **TRANSLATION..**

on an IC CARD for the HP 95LX

IMPOSSIBLE! That's the reaction from virtually everyone. But, it's true! Fully automated, grammatical translation capability comparable to mainframes or PCs, all in economical IC Cards designed for the HP 95LX palmtop computer or compatible.

The **Globalink Translation System** gives you sentence-by-sentence translations with up to 90% accuracy. You can even load a file of 5 or 10 pages and have it translated while you read a book or watch a movie. Target language output may be post-edited one sentence at a time, or after an entire file has been translated. Some of the many amazing features the Globalink translation IC Cards include:



- Handling of idiomatic expressions.
- Multiple translations of a single word in a sentence based on part of speech (noun, verb, adjective).
- Comprehensive general dictionary of over 60,000 terms.
- Input of foreign language accents on the English keyboard.
- On-screen editing with 95LX Memo text editor.
- Interlinear translation file.
- These and many more.



ACTUAL SIZE

There are dozens of ways this low-cost, high-quality translation system can be useful to you, either for production, informational or educational purposes.

Whether you are at home, on an airplane, in a hotel, on vacation, in a meeting or in your office... high-quality foreign language translation is available to you in minutes.

In production: Available in Late November 1991*

(Suggested Retail Price)

- Spanish to/from English* \$299
- French to/from English* \$299
- German to/from English* \$299



9302 Lee Highway, Fourth Floor
Fairfax, Virginia 22031

Telephone: (703) 273-5600 • Telephone: (800) 255-5660 • FAX: (703) 273-3866

*Two IC Cards per product

MEMORY CARDS



Photo by ARTHUR ZIPPEL PHOTOGRAPHY, INC.

SAVE YOUR VALUABLE DATA WITH AN ACTIVE DATA MEMORY CARD!

Memory cards for the HP 95LX are our specialty. We have cards ranging from 128K to 2MB in stock now. With a memory card from Active Data you won't have to worry about losing your valuable data. All of our cards are designed and manufactured to the rigid JEIDA and PCMCIA specifications and come with an exclusive 14 month warranty. Before any memory card is shipped from our facility it is tested 100% and packaged with complete instructions.

Customer satisfaction is very important to us. When you call Active Data you will receive prompt service with honest answers to your questions and YOU WILL SAVE MONEY. A LOT OF MONEY.

Don't believe us? Why not call and find out for yourself. Don't waste time and money. When you need a memory card you need Active Data.



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