

THE HP Palmtop Paper



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Four Extraordinarily Useful Software Packages — each under \$50

95Buddy and Switch! add a number of useful features to the HP 95LX, and make it easier to run system compliant and DOS programs. Useful Notes adds electronic "post-its" to your Palmtop and Useful Macros greatly expands the 95LX's macro capabilities.

Introduction by Hal Goldstein

During the last few months four inexpensive yet well-conceived and useful programs have come to our attention. Two of these programs, **95Buddy** and **Switch!**, were written specifically to remedy some of the limitations of the HP 95LX. The other two programs, **Useful Notes** (UNO) and **Useful Macros** (UMA) are programs originally written for the IBM PC but adapted to the 95LX.

95Buddy fixes many of the awkward keystroke combinations and inconsistencies of the HP 95LX. For example: It automatically saves and exits built-in applications when going from **FILER** to **DOS**. It lets **[MENU]** File open do the same thing across all built-in

(Continued on page 6)

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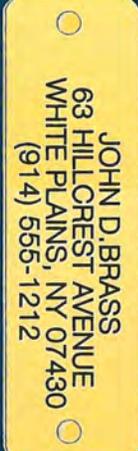
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Publisher's Message



Hal Goldstein

Every month the usefulness of the HP 95LX increases. To see what I mean, just read the lead story about four software packages, check out the User to User column about hardware advances, see this issue's New Products listing, and study the advertisements. We're all in for a treat these coming months as these and other products under development ship.

A number of you have written asking about battery alternatives for the HP 95LX. Mark Scardina did his usually thorough and to-the-heart-of-the-matter job in researching and writing about this subject. Mark compares four types of

double-As; two rechargeables, an alkaline, and a lithium-based battery.

Ed Keefe reviews Swift!Basic, a programming language for the rest of us that allows programmers in BASIC to create graphics and system compliant applications for the 95LX. At the same time we have not forgotten novices as you will see with our new "Basic Tips" page ("Basic" here means "fundamental").

Finally, both Thaddeus Computing (*The HP Palmtop Paper*) and Hewlett-Packard have small favors to ask – both with rewards to you:

If you like *The HP Palmtop Paper* and Subscribers Disk and plan to renew, please take a minute and fill out the enclosed card or call in your renewal. You'll avoid getting any of those annoying renewal notices, and we'll avoid the time and expense of sending them.

If you appreciate your HP 95LX, see page 19 and tell HP how you use it. As a thank you, HP will be giving away RAM cards to both the earliest and the best responses.

Hal Goldstein

Subscribers Disk Users

Based on initial feedback most of you appreciated and were able to install Subscribers Disk programs. However, others of you had problems. Please note the following:

1. 486 owners: The INSTALL program on the 1992 Subscribers Disk, Version 1.01, does not work on 486 machines. The simplest solution is to run INSTALL on a non-486 PC. Alternatively, see manual page 16 or mail us your disk with your name and address, stating "486 machine", and we'll mail you back a updated version of the disk.
2. If the INSTALL program does not work for you, follow instructions on page 16 in the manual which still greatly facilitates installation.
3. If you are still unsuccessful, you will have to study the documentation in DOCS.ZIP (the normal resource users have to make use of these programs.)

Countless hours went into our efforts to facilitate installation of these programs. We simply do not have the manpower to provide additional support to over 10,000 users on the installation and use of the 34 free programs that came on the disk. We truly regret any inconvenience this has caused you.

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.

Some User Problems

1. I have had to change batteries twice. On each occasion, the 95LX locked-up and I had to reformat the internal RAM drive. I'm not sure if I have done the wrong thing, or whether there is a bug in the low battery warning system.

[You should definitely send your unit in to HP for repair. This problem showed up on some of the early units produced - Hal.]

2. I keep nearly all my data, memos, etc., on a RAM card in the A drive and I would like to find a way to set the default directories for all of the built-in applications. 1-2-3 handles this OK. I've tried using an AUTOEXEC.BAT file, but it seems the System Manager overrides it.

[Check out reviews this issue on Switch and 95-Buddy. Also, use User Defined Function Key - see FALL MEMO Quick Tip or your manual - Hal.]

3. I need a database other than the standard Phone Book. PHONE would be more useful if it was more flexible and let you rename fields and modify the format to suit other purposes.

[Check out UNO review this issue or Pocket Sales Force reviewed last issue - Hal.]

4. I use the Only function in PHONE to select a subset of the entire Phone list. However, when I select Print File All, the whole Phone List is printed, not the subset I just selected. Why does this happen and what do I have to do to print the subset?

[After using Only, tag those entries. Then do a File Xtract and send those entries to a new file. Retrieve the new file to do what you wish with that subset - Hal.]

5. How about developing a Tag that steps down automatically?

[I agree. Maybe Jeffrey

Mattox, the 95Buddy author, is listening - Hal.]

6. Graphs displayed in 1-2-3 suffer from the small size of the screen that limits the Y-axis length and causes the scale labels to overwrite each other. I have found no way around this except to use manual scaling and select a range that makes the labels far enough apart to read (which probably doesn't suit the real data range). Is there a way around this problem, which I guess disappears on a full size screen?

[Don't think so, but maybe a reader can help - Hal.]

John Garrett
Ipswich, ENGLAND

Do Security Devices Damage the HP 95LX?

Thank you for your excellent publication! I have a few questions for you.

First, is anyone planning on starting an HP 95LX forum on America Online? I don't have the patience necessary to find my way around CompuServe, whereas AOL is very easy to get into, move around and find what you are looking for.

Next, in APPT's To Do list, is there an easy way to put the items within a given priority level in a specific order? I usually have five to ten items at each priority level and would like to arrange them better. The only way I have found to do that is to decide what order I want them, and then cut and paste each one in that order. This is rather clumsy.

I have heard rumors that security devices used in airports, stores, etc., may damage electronic devices such as the 95LX.

Is this the case? Does it make any difference whether the applications are suspended or completely turned off? What is a safe distance I should keep my HP (and diskettes) from these devices? When leaving our local library, I hold

my HP up in the air - while I walk through the detector. Is that adequate? Is any of this necessary?

As more people start carrying palmtops, I wonder if it would be appropriate or necessary to ask store managers to make the detectors more obvious or to put up signs to warn people about potential damage.

Earl Morton
Colorado Springs, USA
[I know nothing about America Online. CompuServe becomes easier if you use an automated program like MESSAGE for the HP 95LX reviewed last issue or any of the PC programs mentioned on page 28 of the Mar/Apr issue, although it still takes some patience. I don't have any APPT suggestions except to use User Defined Function Keys to speed up Cut and Paste operations. See example 6, page 12.]

For years I have heard discussions about the potential of security devices harming data on RAM drives such as on the HP 95LX. There have been all sorts of opinions. However, in all these years, I have never heard of anyone losing their data. We'll see what response this comment evokes. (Despite this knowledge, I always hand my HP 95LX to the airport security guard - why take chances?) - Hal.]

95LX Locks Up In Lotus While Printing

I was working with Lotus and decided to retrieve a file, make some modifications, and print it. I pressed **[MENU]** Print Printer Align Go. While I was viewing the WAIT message on the top right corner of the monitor, the printer started to print the file. After some time, I realized that the print range was not proper and I turned off the printer in order to reset it. I pressed **[CTRL]-[<Break>]** immediately after turning off the printer, but the WAIT message on my 95LX did not disap-

pear. I tried **[CTRL]-C** and **[ESC]**, with no success.

Finally, I disconnected the AC adapter and while the backup batteries were in the computer, I removed the MAIN batteries. As a result, the system reset itself, causing loss of everything. Now, the 95LX is working perfectly again, but I could not understand what caused this paralysis and I really want to know whether it will happen again or not and was there a way of saving the files in the system?

Ahmet G. OZISIK
Istanbul Turkey

*[I'm not sure why it locked up, but if it happens again, press **[CTRL]-[<Shift>]-[ON]** for a hard reboot, instead of pulling the batteries. Be sure and answer No when the hard reboot asks if you want to reinitialize the disk. This should get you out of a lock up without losing your files. Also, there is no reason to disconnect the AC adapter when changing batteries - Hal.]*

Complete Travel Kit

My ideal North American travel kit is by no means the solution for everyone. Yours may vary with the type of work you want to do with the 95LX, the length of your trip and the amount of money you want to spend.

The items listed below are best packed in two separate locations: 1) a briefcase or carry-on luggage for those things you may need frequently or in a hurry, and, 2) checked-in luggage for the items that you may only need at your destination. My travel kit includes the following:

- 2400 baud GVC Pocket Modem;
- Homemade 9-pin to 25-pin cable for above modem;
- RAM card for back-ups;
- modular phone jack adapter (2 from 1);
- 25 foot modular phone cable (phone jacks are sometimes far from the power source if

you are running on AC); ■ 8 foot extension cord; ■ Plug-in adapter for the modem and an adapter for the 95LX; ■ 95LX serial cable and DB-9 male to DB-25 female pin adapter; ■ Spare batteries for the 95LX, modem, battery back-up and the RAM card; ■ DB-9 male to DB-25 male adapter; ■ DB-9 male to DB-9 female null modem adapter; ■ Back-up disks and Eric Meyer's ZIP file transfer program from the Subscribers Disk; ■ Connectivity pack disk; ■ Swiss Army Knife (for getting into places you really shouldn't be).

A 4-pin to modular adapter cable with alligator clips on wires attached to the base of the two wider spaced pins. Use the modular adapter to connect to modular jacks. Otherwise, attach the alligator clips directly to the handset microphone spring contacts or to the phone wall jack in "unfriendly" hotels.

Solder two short lengths of hook-up wire to the base of the pins marked red and green (so you can still plug it into a socket if need be) and attach alligator clips to the wire ends.

One person also suggested that I consider bringing a second modem as a back-up. Good idea if you have the money. Same thing goes for the spare RAM card for back-ups.

Bill Noseworthy
Conception Bay South
Newfoundland, CANADA

Connecting the 95LX to Prodigy

Please advise me of the steps involved, and the hardware and software necessary to connect my 95LX to Prodigy. There's plenty information for connection to CompuServe, but none to Prodigy.

Dave Miller
Goodlettsville, TN, USA
[Prodigy requires a standard PC compatible graphics display. Therefore, the HP 95LX cannot directly make use of the Prodigy

service. However, if any PC prodigy user wants to send us a note about HP 95LX activity on this popular commercial bulletin board, please do so - Hal.]

Displayed Time Out Of Sync with Internal Time

If the 95LX is on for any extended period of time, by using the AC adapter, the time displayed on the screen gets out of sync with the internal clock time. By turning it off and on, the screen 1, adjusts" the time to that of the internal clock. There must be a way to

write a program to require the screen time display to update itself on a continuing basis, without having to turn the 95LX off and on to get the correct time.

Judson Freeman, Jr.
Jacksonville, FL, USA

Future HP Products

For as long as I've been with HP (22 years), not talking about the future in public has been a part our operating style. This is some of my personal interpretation of why HP takes that position.

If we talk about a future, we may jeopardize our patent position, alert our

competitors, and set the stage for serious customer satisfaction issues. There may be SEC issues as well (I'm not sure). Another issue is who has authority to speak for the company on unreleased products. Legally it may be only an officer. Practically it may be any employee who may not have the complete story or understand the uncertainties.

We have major accounts who sometimes commit their future strategies based on our product plans. We do discuss our plans with them, face to face, usually in one of our factories with confidential dis-

TAKE CONTROL and CUSTOMIZE YOUR HP95LX

Introducing SWITCH!™

Now take complete control of your HP95LX
The HP95LX Program Launcher and Control Panel

Look at these Features!

- ☛ Launches any DOS program directly without closing system manager applications
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- ☛ Change default directories of memo, phone book etc.
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- ☛ Allows you to turn off serial port to save power
- ☛ And much more....
- ☛ In addition, SWITCH! is a fully system manager compliant program

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SWITCH! 1.0 HP95LX Launcher and Control program (C1055) \$49

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closure agreements and an understanding that we are talking about goals not commitments. Pretty tough with consumer products.

Here is my own personal philosophy about buying high tech stuff (and I buy more than most people I know). You don't buy technology; you rent it. Your monthly rental is what you paid divided by how long you used it (my personal opinion). Others have said you can wait until you die to buy the best computer. I think HP has done some nice things in the upgrade world. The 512K to 1MB is one example. It's not possible to guarantee upgrades in the high tech consumer market (again my opinion). It sometimes simply doesn't work financially. When I buy, I look at the cost/benefit trade-off and realize something may change after my purchase.

Tom Anderson
Sunnyvale, CA, USA

Excel to Lotus

I use my 95LX mainly with Lotus 1-2-3. I run complex computer modeling applications that were originally developed under EXCEL 3.0 / Windows 3.0 and converted to LOTUS (Using "SAVE AS" under Excel). The converted sheets were then downloaded to my 95LX with the connectivity pack. They all work without any problem under the 95LX's Lotus, and they produce the same result as EXCEL !!!

Olivier SOKAL
France

Some Questions

1. Why is it not advisable to use rechargeable batteries? The maximum battery life for me is two weeks (not two months as in the user's guide) and using an adapter is limiting the portability in some cases.

[The only reason is that the battery low mechanism is designed for alkalines. Also, be careful that you insert the batteries in the correct direction. See battery article this issue - Hal.]

2. Is it possible to create a user definable format for PHONE menu? I tried to use my PHONE file as a data file for a BASIC program but, the result was annoying. If I can define fields or variables into my PHONE file, I may get nice outputs with the names on the first line, addresses on the second line, postal code and country on the next lines. Any of your readers succeed with this?

[A shareware program called PRT95 by Todd Cary does a nice job printing the PHONE book out in a variety of formats - Hal.]

3. Is it possible to add some functions, such as line delete, to MEMO?

[Use User Defined Function Keys (see reference in User's Guide) or the UMA program reviewed in this issue to extend MEMO's capabilities - Hal.]

4. When I run PC version of Lotus, date or file name information is seen on bottom left of the screen. However, this is not the case with the 95LX version. Can I make use of this ability on the 95LX?

[Don't think that is possible. One of the sacrifices of a smaller screen - Hal.]

5. How can I assign LICS characters to the keyboard without using Alt + decimal value? For example, I want to assign Turkish Ö to the "O" key of my 95LX so that when I press [CHAR] O I get Ö. Also, how can I create the Turkish characters Ğ, ğ, İ, ı, Ş and ş on my 95LX?

Ahmet G. Oezisik
Istanbul Turkey

[Maybe other readers can help - Hal.]

(Continued on page 37.)

On The HP Palmtop Paper on Disk, Jul/Aug, 92.

SAVE DATA! SAVE \$\$\$! SAVE EARTH!

Introducing **BATTman**™

Battery Management Software and
Nickel-Hydride rechargeable batteries
for your HP95LX

Features

- ☛ Turns off HP95LX automatically when batteries are low
- ☛ Prevents sudden data loss and allows you to use rechargeable batteries with your HP95LX
- ☛ Pop-up battery status every time HP95LX is turned on

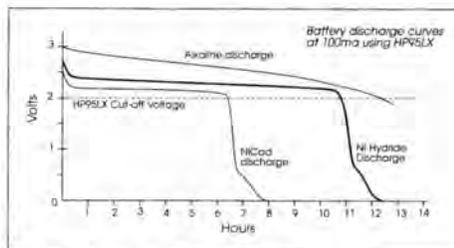
Predictive Algorithm

BATTman uses ACE's proprietary real-time Discharge Predictive Algorithm (DPA) to automatically turn off your HP95LX before your

batteries' sharp drop off. (see chart below). No more application crashes and data lost when your batteries go low. The powerful DPA algorithm works with any rechargeable, alkaline or lithium battery.

Nickel-Metal-Hydride Batteries

ACE introduces rechargeable NiMH AA batteries that last almost as long as your alkalines on every charge. They can be recharged up to a 1,000 times and unlike NiCads, are non-toxic and does not have any memory effects. Start using NiMH batteries to save money and help preserve the environment.



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BATTman software only (C1005)	\$49
BATTman with two matched 1100mAh Ni-metal-Hydride Batteries (C1007)	\$59
BATTman with two 650mAh Millennium NiCads and charger (C1006)	\$59
Two 1100mAh matched Ni-metal-Hydride batteries (C1015)	\$18
Two hi-capacity Millennium NiCad batteries with quick charger (C1016)	\$12

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(Continued from front cover.)

applications, makes `*.WK1` disappear from your directory, and allows you to choose the default directory you want for MEMO. 95Buddy lets you go into FILER, put your cursor on a TXT or WK1 file, and press a couple of keys to be editing that file in MEMO or 1-2-3.

SWITCH! helps you with new DOS and system compliant programs. Let's say you've got a RAM card, and a growing number of DOS programs and System Manager compliant programs. You are frustrated by the 95LX's limitation of 8 installed system compliant programs; you can't remember the hotkeys you assigned to the system compliant programs; you can't remember the names of all your DOS programs or where they're stored.

With **SWITCH!** you no longer have to fool around creating the undocumented, temperamental APNAME.LST file to install your hotkeys. You also don't have to remember where your DOS programs are, or be limited to 8 system compliant programs. Start **SWITCH!** and immediately you have access to any DOS or System Manager compliant program on your A drive. **SWITCH!** also includes utilities to check your battery, turn the Serial Port on and off, set the 95LX's auto time out feature, and much more.

Useful Notes (UNO) addresses the need of 95LX users to easily store and retrieve information. UNO is a free-form database. That means you put whatever information you like in computerized post-it-like notes. A file created in UNO consists of a pile of these notes. You can link these notes and access what information you need.

Finally, there's **Useful Macros (UMA)**. Suppose you feel limited by the HP user-defined function key (macro) capability. This capability is good as far as it goes. However, suppose you would like a user-defined function key to move you from one of the built-in applications to a DOS program, or for another to work in a DOS program, or for another to take you from a DOS program back to, say, MEMO. Suppose you need more than 10 keys defined, and want to use different key stroke

combinations, like **[ALT]-P**, for the macro key. Suppose you would like the macro to pause to let you type in some information and then continue when you tell it to. The solution is UMA, a powerful, easy-to-use macro program for the diminutive 95LX keyboard. UMA lets users avoid typing repetitive key strokes.

All four programs are inexpensive. The real price must be measured in terms of the amount of system resources used. UMA, UNO and 95Buddy normally stay resident in the background. That means in order to run these programs you will have to increase System RAM from SET UP. Uno demands almost 100K whereas UMA needs roughly 15K and 95Buddy needs 6K. In addition, these programs take up some disk space (when Dieted, the minimum required is: UMA-15K; UNO-30K; 95Buddy-7K). **SWITCH!** requires a RAM card and about 65K of disk space.

The nice thing about all four programs is that you start being productive with any of them in less than an hour – in some cases fifteen minutes – and that includes installation time.

95Buddy

This small utility adds a number of useful features to the 95LX, allowing you to launch an application from file in FILER, close and save all your built-in applications at once, change your default directories, and much more.

By Marty Mankins

From the first day I used it, I knew the 95LX was something that would change the way I worked, lived and thought. It had many features that made it perfect for keeping my life in order, and its size let me take it wherever I went. It appeared to be a perfect relationship.

Well, there were a few things I wanted to change. I wanted to delete the `.WK1` Lotus files from the root directory. I also wanted to be able to choose the default directory for my MEMO files. It looked like the only thing I could do was to put in an enhancement request to HP

and wait for HP & Lotus to update the ROM software. That was before I discovered 95Buddy, a new program that corrects many of the 95LX problems without having to wait for a ROM update.

95Buddy Installs Easily

95Buddy is a small (approx. 7K) device driver that links itself to all of the built-in programs and adds a number of much needed features that make using the 95LX easier than we imagined. Installation is easy. Simply copy 95BUDDY.SYS (the main Buddy file) to your C:\ drive and add the following line to your CONFIG.SYS file:

```
device=c:\95buddy.sys
```

Save the CONFIG.SYS file, reboot by pressing **[CTRL]-[ALT]-[DEL]**, and 95Buddy is installed. (If you don't have a CONFIG.SYS file, you'll have to create a two-line file.)

Tour of 95Buddy

We start our tour of 95Buddy by opening FILER. The first thing we notice in the middle of the top line of the screen is the serial port indicator ("ser on" or "ser off"), telling us if the port is on or off. This feature will save battery life by telling us if a program or action left the serial port on by mistake.

Cursor down to the bottom of the FILER screen and you'll notice something missing - the WK1 Lotus files. By default, 95Buddy will "blank out" those annoying files that we all have tried to delete at one point. The files are still there, as when we cursor down, each file shows up as it is highlighted.

Filer Local	ser on	Dirs	07/16/92	8:45 pm
C:\				
U-SOUNDS	COM	2645	06-03-92	6:15a
WEEKABK	EXM	11078	03-13-92	10:39p
ZIP	COM	6952	06-16-92	11:12a
ZIPPER	COM	11904	03-04-92	9:55a

HOMEBUY	WK1	4362	09-24-91	8:00z
Copy	Run	Remote	Rename	Move
Help	Delete	Goto	Split	Tag

On The HP Palmtop Paper on Disk, Jul/Aug 92.

```

File: 07/16/92 8:53 PM
Local Dirs
C:\
U-SOUNDS COM 2645 06-03-92 6:15a
WEEKBK EXM 11073 03-13-92 10:39p
ZIP COM 6953 06-16-92 9:56a
ZIPPER COM 11904 03-04-92 9:52p
95BUDDY ENV 3 07-16-92 8:52p
-CARLOAN WK1 5232 09-24-91 8:00a
-CFLOW WK1 4456 09-24-91 8:00a
-EXPENSE WK1 12406 09-24-91 8:00a
-HOMEBUY WK1 4362 09-24-91 8:00a
-SHRT WK1 5453 09-24-91 8:00a
Copy Run Remote Rename Move
Help Delete Goto Split Tag

```

FILER without Buddy, .WK1 files show

There's one more feature of the FILER that will make loading files easier than ever. Before, you could view a TXT file by moving the cursor to it and pressing **[ENTER]**. With 95Buddy installed, move the highlight bar to the filename, press **[ENTER]** to view the file. Press **[MEMO]** again and 95Buddy automatically starts MEMO with the highlighted file loaded. This is one of the more powerful features of 95Buddy. I use it quite often now.

Similarly, highlight a WK1, PBK, EQN, or ABK file, press **[ENTER]**, and then press the appropriate application button (**[LOTUS]**, **[PHONE]**, **[HPCALC]**, or **[APPT]**) and 95Buddy starts the application with the file loaded.

Let's look at 95Buddy's effect on SET UP. First of all, you don't have to take the usual route to get to SET UP. Just press **[FILER]** again from within FILER (instead of pressing **[<Shift>-FILER]**). 95Buddy causes the FILER key to act as a toggle, switching back and forth between FILER and SET UP. You'll notice that the screen has more options than before.

```

System Date Time International
Printer Char Owner Format Quit
System-wide Settings
Total Memory: 1024
RAM Disk 566
System RAM 458
Date: 07/16/92
Time: 8:51 pm
Power-off timer: 3.5 minutes
Plug-in device: Installed
Power source: Battery 2.9v 3.0v
Batt: 30.31 hrs
95BUDDY 1.0a Usage: 5 304
Help Timer Key

```

A new timer adjustment lets you increase (**[F8]**) and decrease (**[F9]**) the time before auto shut off. Also, the current voltage of both the main and backup batteries are now displayed to help you keep track of

your battery life.

Press **[F10]** to display the key-code value of any single key or key combination — a must for those who edit their APNAME.LST file to install system compliant applications.

Too good to be true? Well, there's more. One of the most difficult tasks on the 95LX is saving MEMO files to, or retrieving them from any place other than the dreaded C:_DAT default directory. 95Buddy makes this task a whole lot easier! First of all, when in MEMO you can now press **[MEMO]** once more to pop up a list of files in the MEMO default directory. This will save you a few keystrokes when you're looking for files. More importantly, you can change MEMO's default directory. Let's say you want to get your files from, and save them to A:\TEXT (the TEXT subdirectory on your RAM card). Just change the 95BUDDY.SYS line in the CONFIG.SYS file above to read `device=c:\95buddy.sys mdef=a:\text` and reboot. A:\TEXT becomes the default

directory and you save tons of key-strokes.

There's a more direct way to specify a new default directory path and/or file name for MEMO; follow these steps:

1. Press **[MEMO][MEMO]** to automatically take you to MEMO's file open menu.
2. Type in your new default directory and/or file name. You may use wildcards where appropriate. For example, try: C:*.*
3. Press **[<Shift>-<Tab>]** to save your new specification.

You can still press **[MENU]** File Open to get the C:_DAT directory of files. Pressing **[MEMO][MEMO]** takes you to C:\.

95Buddy gives you a quick save option and exit keystroke. Press **[MENU] @** to save your file and close the current application. This works great, unless you have another application open. If you want to exit all applications, press **[MENU][DEL]**.

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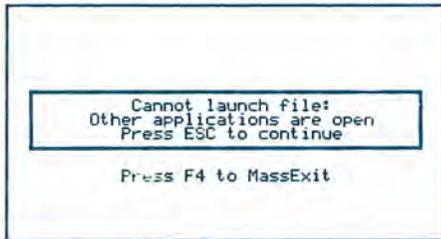
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This will save all open files and take you to the initial Topcard screen.

There's also a similar function in FILER for the times you want to quickly exit all built-in applications and run a DOS program. When you try to start the DOS program by pressing [F4] you'll get the usual "Cannot launch file:" message, but with 95Buddy installed, there will be an option to press [F4] again to mass exit all programs and launch the DOS program.



"Cannot launch file!" message

The list of improvements goes on. 95Buddy creates sticky CTRL and ALT keys (press and let go instead of holding down, just like the SHIFT key). When you open HP CALC, 95Buddy automatically selects the Math menu option and advances to the trigonometry functions. You can specify other menu options as the default.

95Buddy will correct some of your mistakes. For example, to create one of the symbols imbedded in the numeric keypad, you have to press [Shift] first. If you accidentally press [MENU] and then one of the grey keys, 95Buddy "knows" what you really meant to press, and turns the [MENU] you entered into [Shift].

95Buddy also adds features to 1-2-3 and DATACOMM, making them easier to use. It also adds an option to disable the Print Screen function ([Shift]-[ESC]) to avoid the temporary lockup when the 95LX is not connected to a printer.

Most options can be turned on or off with command line arguments in the CONFIG.SYS, making 95Buddy even more flexible. The documentation that comes with 95Buddy is very informative and gives some examples of how you modify 95Buddy to work the way you want it to.

Order Information

95Buddy - \$35

Shareware utility that fixes some of the problems with the 95LX and adds some useful functions. The current version only works on HP 95LXs with English-language displays.

95Buddy is available on the HP Palmtop Paper ON DISK, July/ Aug 92 issue. It is also available in Library 7 of CompuServe's HP Handheld forum. Lastly, it is available directly from the author.

CONTACT: Jeffrey Matfox, P.O. Box 45282, Madison, WI 53744-5282, USA.

SWITCH!

A utility that makes it easier to run system compliant and DOS programs on your 95LX, set up system options, and get system information.

By Larry Lefkowitz

SWITCH! is a utility program that introduces a new level of flexibility and ease of use to the HP 95LX. How can SWITCH! make working with your HP 95LX easier? A short background will clarify this.

System Manager

When you purchase an HP 95LX, you receive a suite of built-in applications and System Manager, the glue that ties them together. System Manager allows the built-in applications to be open at the same time, and enables you to switch effortlessly between them. This makes using the built-in applications very convenient, but it also presents challenges to users in three areas.

CHALLENGE 1 - Running System Manager Compliant Programs.

A programmer can create custom "System Manager" compliant programs that work in concert with the built-in applications. Just like the built-in programs, these custom "System Manager" programs are run by pressing a "hot-key", and can switch back and forth with the built-in programs.

Several of these programs are available on CompuServe's new HP Handhelds forum, library 7. (Type go hphand). Two examples are:

- WEEKABK.EXM [icon], gives a weekly view of the appointments which have been entered into the built-in APPT program.
- KLONDIKE.EXM [icon], a game of solitaire similar to the one provided with Windows.

The challenge with using "System Manager" programs is in proper setup. Before the program can be run, an undocumented file called APNAME.LST must be created and edited by the user. The entries required for this file are rather cryptic, and, if not entered properly, can cause the HP 95LX to freeze and even lose data.

Additionally, System Manager limits you to assigning 8 System Manager programs to hot-keys at any one time. If you have more than 8 System Manager programs on your HP 95LX at one time, you must shuffle them around in your APNAME.LST file before you can use them.

CHALLENGE 2 - Running DOS Applications.

In addition to the built-in applications, the HP 95LX is capable of running certain standard DOS programs. These may be the same DOS programs which run on your IBM or compatible desktop system. Or, they may be DOS programs specially written for the HP 95LX.

To run a DOS program on the HP 95LX, you must first close all built-in applications except FILER, then launch the DOS program using FILER's RUN command ([F4]). The requirement of closing all built-in applications to run a DOS program can really disturb the rhythm of using the 95LX. The more frequently you need to run a DOS program, the more inconvenient this is.

The inconvenience of using DOS programs has been partially circumvented by the development of "Loaders". "Loaders" were originally developed using the Util Forth development package, marketed by Essex Marketing Services, Inc. A Loader



On The HP Palmtop Paper ON DISK

KLONDIKE.EXM on the Mar/Apr 92 issue.

On The HP Palmtop Paper SUBSCRIBERS DISK

WEEKABK.EXM on the 1992 issue.

makes a program "System-Executable", which means you can assign the DOS program to a hot-key and run it without first closing the built-in applications. By pressing the hot-key combination, the DOS program pop-ups over the internal programs. You do, however, lose access to the built-in programs until you quit the DOS application.

Loaders are a great step forward in convenience for those who need to run DOS programs. However, there are some drawbacks. For example, a Loader may not be available for your favorite DOS program. Additionally, Loaders must be set up in the APNAME.LST file just like the System Manager programs mentioned above. And, remember, there is a limit of 8 programs that may be set up in APNAME.LST. (Loader Menu95  also averts some of this difficulty. However, Menu95 must be custom configured for each DOS application you use.)

Challenge 3 - Setting system options and getting system information.

Most computers allow the user to change important internal settings that affect the systems functions.

The HP 95LX is no exception. It comes with a simple built-in program called SET UP that lets you change selected system settings, including changing the alarm volume and setting the baud rate of the serial port.

However, certain important control functions can only be accomplished from the DOS command line, which is not available unless all built-in applications are closed. Other important settings cannot be changed at all unless you are an experienced programmer.

Several utility programs have been written by programmers which allow users to view and/or change these system settings on the 95LX.

Enter SWITCH!

SWITCH! presents a solution to the above three challenges in one program. It is presently the closest thing available to an all-in-one utility for the HP 95LX.

SWITCH! is a System Manager program, which means it is called

up with a hotkey, and you can move between it and the built-in programs with one keystroke.

SWITCH! has these features:

1. All DOS programs stored on your HP 95LX are automatically listed on a menu (up to 48 on each drive). You may run any of these DOS programs without closing your built-in applications first. (You do have to close 1-2-3.) When running, your DOS application "takes over" the HP 95LX which means you cannot use the built-in applications until you exit your DOS program.

When you copy a DOS program (any file ending in .EXE, .COM, .BAT) to your HP 95LX, it automatically appears on the SWITCH! menu. Also, SWITCH! has a menu selection that allows you to drop to the DOS command-line without first closing the built-in applications.

2. SWITCH! displays a menu of all the System Manager programs (programs that end in .EXM) that reside on your A drive (RAM card). SWITCH! can launch up to forty-eight System Manager programs on your A drive. Since SWITCH! will not recognize or launch any System Manager programs that reside on your built-in C drive, all System Manager programs you want to access with SWITCH! should be moved to the A drive.



SWITCH! Menu of Programs

From the displayed menu of System Manager programs, you can run any of them at the press of a key. Once a System Manager program is loaded by SWITCH!, you can normally move freely between it and the built-in applications. This menu selection feature of SWITCH! means you DO NOT have to first create an APNAME.LST file. Any time you add a System Manager program to your 95LX, it will immediately appear on this menu and be available to run, without further action on your part.

3. SWITCH! allows you to EASILY

assign six System Manager Compliant programs to "hot-keys", so they can be run at any time, just like the built-in applications. This saves you from the arcane task of editing the APNAME.LST file. SWITCH! creates APNAME.LST for you automatically and places it on your A drive (RAM card). I personally love this feature because I have never enjoyed editing the APNAME.LST file.

4. A great feature is the ability to create a "Loader" for any DOS program by just pressing a couple of keys! This will allow your DOS programs to pop up over any of the built-in applications (usually with the exception of Lotus 123). After you create a new "Loader" for your DOS program, you can use SWITCH! to assign it to a hot-key so you can run it without having to call SWITCH! first.

5. SWITCH! allows you to view and change important system parameters. A menu at the bottom of the screen shows you which function keys to press to do the following:

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- Change the default directory for the built-in MEMO, PHONE and APPT programs. Now you can choose which directory these applications will initially search for files in. This is most useful in the MEMO program. Many 95LX users have requested an easy way to do this;
- View voltage level of the main and backup batteries;
- Turn the serial port on/off;
- Set the alarm sound level;
- Set the serial port to wired or infrared;
- View free system memory with or without SWITCH! loaded;
- View the free disk space available on both the A and C drives;
- Allows you to erase the HP 95LX password, even if you don't know what it is;
- When operating on batteries, the 95LX turns itself off after 3 minutes (newer units). SWITCH! lets you specify the length of time from 0 to 60 minutes;
- Turn on/off cursor tracking and alt-key scrolling when DOS applications run.

6. SWITCH! comes with an updated version of SYSMGR.EXE, originally included in the 1992 Subscribers Disk. This version of SYSMGR is almost worth the price of SWITCH! by itself. With SYSMGR installed, the user can run any DOS program from FILER without having to quit the other built-in applications.

More About SWITCH!

SWITCH! is distributed on a floppy disk, and you will need access to a desktop or laptop PC to install the program on your HP 95LX. You will also need a cable to connect your PC to the HP 95LX. The cable that comes with the HP Connectivity Pack is the one most people will have. The installation program provided with SWITCH! makes it easy to get going, with simple on-screen instructions. SWITCH! requires that you have a RAM card installed on your HP 95LX.

SWITCH! is the first major program written in Swift!Basic, a version of the Basic programming language designed specifically for the HP 95LX. Programs written in Swift!Basic require the presence of the Swift!Basic run-time module, which takes up 40k of disk space. The SWITCH! program itself takes

up about 23k for a total of 63k. This may seem like a lot of space for a utility program, but it must be kept in perspective. I have been able to replace several other menu and utility programs from my 95 and replace them with one program. I deal with one interface, and gain valuable capabilities that I didn't have before. The only other downside is that SWITCH! takes a few seconds to load and a few seconds to find and list all DOS programs. Overall, SWITCH! garners high marks in installation, ease of use and features.

SWITCH! was authored by Palmtop Paper Editor Mark Scardina, who has created several other important and popular utilities for the HP 95LX.

SWITCH! comes with installation programs for Drive95 and non-PC compatible computers. It also supports G and H drives for DOS menus.

Order Information

Switch! - \$49.00
 Makes it easier to set up and run system compliant and DOS programs on your 95LX.
 CONTACT: ACE Technologies, Inc., 2880 Zanker Road, Suite 103, San Jose, CA 95134 USA; Phone: 800-825-9977 or 408-428-9722; Fax: 408-428-9721.

UNO: Database

This small, fast, freeform database lets you create notes that can be edited, searched, and indexed at any time, whether in DOS or the built-in applications.

By Mark Scardina

While the 95LX comes with a suite of applications, one that is certainly missing is a database for quick information gathering and note-taking. MEMO, of course can be used at a minimum cost of 512 bytes per file, but doing so does not give you cross file searching capability. Some have used the PHONE application for a structured database, but there are obvious limitations in field size and selection. (For more on using PHONE as a database, see May/June 92, page 36.)

This brings us to Useful Notes (UNO), a flexible database customized for the 95LX.

Description of UNO

UNO is a small, fast, freeform database similar in presentation to Info-Select by MicroLogic. Using UNO is like having a blank pad of "post-it" notes. The number of notes you can create is limited to 64K. Each time you want to make a note about something, you grab the top sheet and jot down the information.

Unlike paper post-its, UNO lets you easily edit, index, and search through the notes. This gives you better access to the random pieces of information on your notes.

UNO is provided in three forms:

- UNO95 - the stand-alone version that can be launched from FILER or from the DOS prompt, with all the other applications closed.
- UNORES95 - the TSR (terminate stay resident) version that can be launched by the AUTOEXEC.BAT file prior to the built-in applications. This version of UNO is always running in the background and can be popped up on top of the other applications as well as any DOS application.
- UNORUN95 - this version is designed to launch itself and a companion program as a child. (I find UNORUN95 of little use on the 95LX.)

The version I find most useful is UNORES95. I include its start-up command in my AUTOEXEC.BAT, file prior to launching System Manager. This allows instant access of UNO by pressing **CTRL-ALT-N**, during PHONE, Lotus, or any built-in application, or any DOS application.

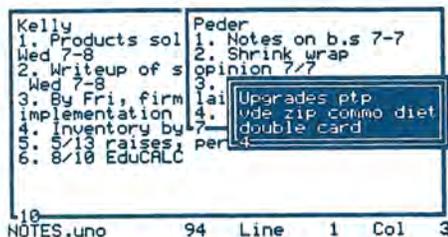
UNO employs pop-up menus to maximize screen usability. Most menu commands use mnemonic letters to access them (i.e. press **C** for Copy, **Q** for Quit, etc.). If you forget them, press **F1** to bring up a list of menu commands.

Multiple notes can be displayed at one time, with the note you're

 PC-compatible version on The HP Palmtop Paper on Disk, May/June, 92.

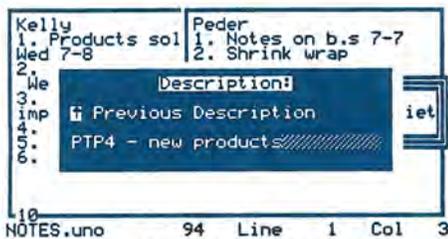
working in indicated as white text on a black background. While a single note can hold any amount of text, the window it is displayed in can be re-sized from a small box to the full 95LX screen.

The text wraps within the box, like most word processors, to keep all of the text visible. All notes are time and date stamped automatically. Text can be imported and exported in ASCII format easily. Notes can be formatted and cross-referenced to allow for an intelligent grouping of data.



Note windows can vary in size

The "other side" of a note consists of an automatic date stamp and its description, which you can enter by pressing [F7]. The other side of the note is not visible.



Date stamp and description

You can search notes for text patterns within them, or by description across your entire database.

Notes are time and date stamped automatically and can be ordered by date. Unfortunately, you cannot search by stamped date. However, by pressing [F7], the description window pops up and you can enter the date there. Descriptions can be searched for as text.

Example: Using UNO as a phone message pad.

You can create a form or "template" as the first note in your file, using a colon (:) wherever you want to input data. This allows you maintain a consistent structure to your notes.

You can even enter lines to prompt you for specific information. After you create the template note, it has the 'properties' of LOCK and NOWRAP, which prevent it from being changed. It now becomes your blank form.

To enter a new note or message you simply go to note 1, press C to create a copy of it. A blank copy appears on your screen, ready to input information. Pressing [Tab] or [Shift]-[Tab] moves between the data areas you created in the note using the colon(:).



Copying a "locked note" to use as a template

Other Examples

(Based on a CompuServe note from Fred Kaufman.)

Uno is great for grabbing quick notes of any kind and retrieving them as needed with a simple search routine not available under MEMO and available in a more limited form in PHONE. For example, you can keep track of:

- ideas from a meeting for playback at a later time
- product comparison, description, and pricing information for bicycle helmets, for when you go shopping
- battery replacement information
- the symphony schedule
- a great recipe for Lokchen Kogel found in the Tucson newspaper
- your new car's gas mileage
- great quotes from the Duke of Wellington: "A strategic withdrawal is often the first step toward a forward thrust of renewed vigor."

In other words, a myriad of unrelated tidbits.

Publisher of *The HP Palmtop Paper*, Hal Goldstein, uses UNO to keep track of what he asks the different members of his staff to do. The possibilities are really endless.

More Features

UNO also lets you import a file directly into a note. For example, if you have multiple Phone Books, you can print one to a file from within PHONE by pressing [MENU] Print File. Then you can import that file into an UNO note. This allows pop-up access to as many Phone Books as will fit into memory.

Finally, when in DOS you can 'execute' a DOS command from within UNO by inserting the DOS command line as the note's description. Whenever you want to run that command, you simply make that note active and press [ENTER]. UNO will shell to DOS and execute the command.

The ability to have instant access to UNO does not come without a price. I have to devote 98K of System Memory to it when using it as a TSR. Those who do not require pop-up capability can run the standalone version, UNO95, from FILER or DOS and only use the memory when they load it. The programs themselves can be DIETed down to around 30K.

Order Information

Useful Notes (UNO) - \$20

(Printed documentation - \$5 per copy.)
Small, fast, freeform database.

PC shareware version available on CompuServe in Library 7 of the IBMSYS forum (UNO13.ZIP). PC version also available on the May/June 92 issue of *The HP Palmtop Paper ON DISK*.

95LX version available directly from:
Useful Software, 340 Dale Circle, Waterloo, Ontario N2J 3Y3, CANADA.

UMA: Macros

This program lets you record and play back key sequences on your 95LX. You can create as many of these "macros" as you need, and assign them to any key combination you like.

By Mark Scardina

Entering a lot of keystrokes on the 95LX's small keyboard is annoying, and sometimes tiring. The ability to

PC-compatible version on *The HP Palmtop Paper on Disk, May/June, 92.*

Some Sample Macros

Listed below are some sample macros you can create using UMA. These can also be created using the 95LX's User Defined Character Key function.

1. Generic Default File Open if files use default extensions and are in the same subdirectory:

```
[Menu] F O [BKsp] times 9 A:\DATA\ [Enter]
```

2. Backup Macro for APPT file:

```
[Filer][F5]c:\_dat\daily.abk[Esc][F2]
a:\data[Enter]y[Menu]q
```

3. Startup Macro:

```
[Phone][Menu]foclient.pbk[Enter][Appt]
[Menu]fodaily.abk[Enter]
```

4. Update Macro and Switch to Weekabk:

```
[Appt][Menu]fs[Enter]y[Alt-Appt]
```

5. Configure Datacomm for Xmodem transfer:

```
[Comm][Menu]scpi1pb3ps1ppnpc8qq
[Menu]txs
```

6. Move a Todo from the current position to the bottom of a priority:

```
[F3][F8][Space][F10][F4][Up][F3][Home]
```

create "macros" (a recording of repetitive keystrokes assigned to a single key or key combination) is very important in that it speeds up your work and reduces fatigue. HP recognized this and provided the 95LX with 10 CHAR-Function Keys for that purpose (see page 41, Mar/April 92 issue). Although the User Defined Function Keys work well, you only have 10 of them and they cannot be used outside of System Manager.

UMA (Useful Macros) is from Mike Gardi, the author of Useful Notes reviewed above. UMA is a 1 memory-resident macro program originally designed for the PC, but at my urging, adapted to the 95LX and its unique keyboard. UMA works across DOS and the System Manager and can store up to 64K of macros in one file. Macros can be stored under any key combination

and can contain all of the 95LX keys, including the blue application keys.

Keystrokes can be recorded live from within any application or entered into a text file to be converted to a macro file with TXT2UMA, a utility supplied for that purpose. The ability to convert from a macro to text file is also supported for ease of editing.

Creating and Playing Back Macros

UMA lets you create a macro from within any application by first pressing **[CTRL]-[ALT]-M**. A menu bar at the top of the screen is displayed. Pressing **R** for record starts the process whereby UMA "memorizes" the keystrokes you enter. First, you are prompted to enter the hotkey by which you would like the macro activated. You are returned to the application you were originally in and the recording of keystrokes begins.

Enter the keystrokes you want memorized. You can enter a sequence of commands or text. Press **[CTRL]-[ALT]-M** at any time to pause the recording process. From pause you can restart recording, or stop it completely. Additional functions from the main menu include Clear, Load, and Save.

To play back your macro, press the hotkey(s) you assigned to it. Each keystroke or command you entered will be carried out (starting at your current cursor position).

Loading UMA

UMA, comes in two forms (UMARES95, and UMARUN95). The first is a TSR version always resident, and the second an application launch version of the same program. This gives you quite a bit of flexibility in using UMA.

I used the following strategy to maximize memory efficiency when using UMA on the 95LX. In my AUTOEXEC.BAT file I included a command to start the TSR version (UMARES95). This command loads UMA with a specific macro file that defines all the general macros I use, (i.e. all of my cross application and

System Manager macros). Be sure to use the /F command line switch.

Then, if I want to start another application that does not have any built-in macro capability, I use the UMARUN95 program to launch the application and attach to the already-running UMA a new set of macros specific to that application. These new macros override the general macros I originally loaded with UMARES95 until I exit the application.

Doing things this way allows me to keep a number of smaller macro files instead of a single huge one. It minimizes the amount of memory used when UMA is running. In addition, it also lets me use the same key combinations to activate macros for different programs, and allows me to develop a more consistent interface.

UMA has the powerful ability to create macros that can work across both System Manager and DOS applications. It can vastly increase the efficiency of moving between programs, updating files, and automating routines. UMA includes an auto-start macro capability for initializing your applications. One such use would be to configure the display of a DOS program for the 95LX on start up.

Additional features include programmable delays, shift key status support, and synchronization with on-screen events. All in all, UMA is as full-featured a macro program as I have seen, and a steal at its \$10 price.

Order Information

Useful Macros (UMA) – \$10

(Printed documentation – \$5 per copy.)

Record and playback key sequences on the 95LX. Create as many macros as you need.

PC shareware version available on CompuServe in Library 7 of the IBMSYS forum (UMA10.ZIP). PC version also available on the May/June 92 issue of *The HP Palmtop Paper ON DISK*.

95LX version available directly from:
Useful Software, 340 Dale Circle, Waterloo,
Ontario N2J 3Y3, CANADA.

Which Batteries Are The Best?

Mark Scardina compares the life and cost of Alkaline, NiCd, NMH, and Lithium AA batteries, and gives you other information to help you decide which batteries are best for you. Mark also reviews BATTman, a utility that monitors your batteries, no matter what the type.

By Mark Scardina

There appear to be two main camps of opinion concerning 95LX batteries. One side, used to working with calculators, feels that the battery life is too short. The other side, familiar with portable computers, is amazed by the battery life provided by the 95LX. The fact that there are a number of different types of AA batteries for the 95LX further complicates the discussion.

This article explores the battery types and provides test results that you may find useful in determining the respective uses of the different

types of batteries.

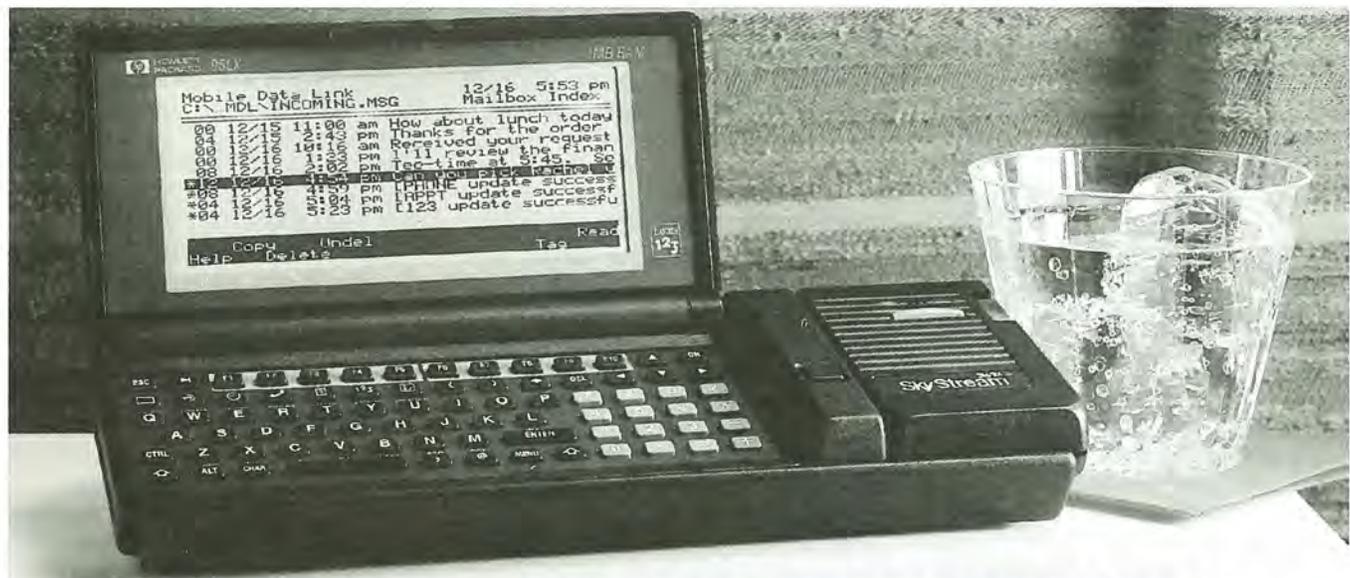
There are four different types of AA batteries that can be effectively used in the 95LX; alkaline, nickel-cadmium (NiCd), nickel-metal-hydrate (NMH), and lithium. The latter two are brand new and represent some exciting possibilities.

The HP 95LX User's Guide only recommends the use of alkaline batteries. There is a sound reason for this. The battery management software in the 95LX is designed to give you a warning when the charge on the two batteries decreases from 3.0v (volts) to 2.0v, and to shut down the machine at 1.8v. This

provides an average user with a wide operating range and time to respond to the low battery warning before the machine shuts down.

Testing Batteries in the 95LX

In order to examine other battery alternatives, we must first get an idea of what the current usage (battery drain) is while using the 95LX. This is not as easy as it sounds because there are a wide range of operating conditions on the 95LX. While it is off, the 95LX consumes approximately 0.7-0.8 milliamps of current. If it is turned on but not performing any operations, it consumes 30-40 milliamps when the serial port is off and 40-50 milliamps when the port is powered. While the 95LX is actually computing, the current consumption jumps to 100ma-200ma. The exact amount depends on whether the 95LX is performing memory only operations or disk access operations. Since this represents quite a range of values,



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the determination of an absolute battery life figure is impossible.

Since we are looking at the suitability of various technologies, we are really only interested in their relative performance. Therefore, for the purpose of this discussion I have picked 50 milliamps as an average consumption figure for a RAM card equipped 95LX.

In order to provide a repeatable test for the different battery types, I used a program that caused the 95LX to consume a relatively constant amount of current. Further, the program tracked results by monitoring the 95LX's internal battery management system and writing data to a file any time there was a change in battery level. The 95LX has an Analog-to-Digital convertor built into its battery management system. This convertor divides the 0-to-5 volt charge up into 256 discrete voltage levels. The ability to detect when the battery charge decreased one level and then write the results to a file allowed me to create a test that could be reliably repeated with the various battery types.

Since the low battery warning appears at 2.0v, this voltage represents the end of the useful life of batteries on the 95LX. This is a significantly higher value than is commonly used in the battery industry for comparison testing; therefore, some of the battery life estimates you'll see are not always relevant to the 95LX.

An example will help clarify this. A typical 1.5v alkaline battery is rated at 2200 milliamps-hours. This means that if you were to run a 3.0v device that consumed 2200 milliamps, it would run for an hour before the two batteries it required would be considered dead. Using our average consumption figure for the 3.0 volt 95LX of 50 milliamps, this means that the Palmtop would run for 44 hours on a pair of 2200 ma batteries. Unfortunately, most battery companies consider a pair of batteries 'dead' at approximately 1.4v, instead of the 2.0v used by HP. In my tests, this decreases the battery life estimate of a pair of 2200-ma batteries to approximately 30 hours (at the 50 milliamps rate).

Alkaline and Lithium Batteries

Given this baseline, let us look at the various battery types. The alkaline and lithium are non-rechargeable while nickel-cadmium (NiCd) and nickel-metal-hydride (NMH) are rechargeable. Another important distinction is that the alkalines and lithiums are 1.5v batteries, while the NiCds and NMHs are only 1.2 volts. This latter figure sharply reduces the 95LX's operating range.

The lithium technology is brand new to AA size batteries. It has advantages over alkalines in terms of capacity, weight, shelf life and operating temperature range. Its increased capacity is the advantage most relevant to 95LX users - 52 hours of use as compared to 30 hours for alkalines. This is a major increase in performance, but it does come at a price. The batteries will cost \$5-\$7 a pair and be made available in the USA by Eveready under the "Energizer" name (previously referred to as "LithEon" batteries). Considering that alkalines are available at less than \$1 a pair, there is no financial advantage to using lithiums yet. However, their greater life makes them more convenient to use. If this is important to you, they are definitely a good value.

Nickel-Cadmium and Nickel-Hydride Batteries

The operating characteristics of rechargeable batteries make them more difficult to evaluate. Not only do they start out at a lower voltage, but they die very rapidly at the end of their charge. My tests show that NiCds start at 2.5v and very rapidly fall off below 2.2v. This can cause a significant problem for the battery management circuit. It was not unusual for me to never see the low battery warning. My 95LX would drop right into the backup mode, which means that I would lose any files that had not been saved. (This is why HP does not recommend rechargables.) However, by faithfully adhering to a regimen of swapping batteries at 2.3v, you can safely use them. The new high capacity NiCds, such as the Gates batteries marketed by Millennium, tested to 12 hours of useful life on the 95LX.

The hottest rechargeable tech-

nology on the market is nickel-metal-hydride. These batteries are rated at almost twice the capacity of NiCds - 1100 milliamps-hours and a 0.1 volt higher average operating voltage. Unfortunately, NMHs also have a very steep fall off rate below 2.3 volts. They did yield 21 hours of average life, which provides a good compromise since they can be charged 500 times. Even though they have a high initial price of \$18 per pair, that translates into 0.2 cents per hour compared to 3 cents per hour for alkalines.

Battery Test Results

The following chart represents a summary of my findings. Capacity is rated by the manufacturer in milliamp hours (mhr). A rating of 2200 mhr means that a device operating on an average of 2200 milliamps would deplete the batteries in one hour.

Unfortunately, as mentioned earlier, most manufacturers consider batteries "dead" at a lower voltage than the 2.0 volts the 95LX's

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low battery warning is set to. This means that the actual battery life you get in the 95LX is about 70% of what you would expect based on the battery's milliamp hour rating.

Battery Type	Capacity /mhr	95LX Avg Life	Cost /pair	Cost /hour
Alkaline	2200	30 hr	\$1	\$.03
Lithium	3300	52 hr	\$5	\$.10
NiCd	600	12 hr	\$6	\$.001
NMH	1100	22 hr	\$18	\$.002

Battery Comparison Table

The figures above reflect a constant drain on the battery under test with one recovery period at approximately the 50% point in the test. The recovery period involved stopping the test and turning off the 95LX for approximately one hour. This was done to simulate the way the 95LX is actually used.

Lithium batteries remain above 2.0 volts for virtually their entire life. Once the low battery warning appears, you should change them as quickly as possible because the drop off to 1.8 volts will be very quick.

WARNING! – The following warning should be heeded when using alternative battery types on the 95LX. There is an internal circuit to protect the 95LX against backward batteries; however, this circuit was designed for alkalines. NiCds and NMHs will overload that circuit and damage the 95LX if put in backwards. Since you will be changing rechargeable batteries more often, set up the habit of always holding the 95LX in left hand, bottom up, with battery opening on right. Insert the batteries with tip (plus sign) up.

I used Eveready and Toshiba brand alkaline batteries. The lithium batteries were manufactured by Eveready. The nickel-metal-hydride's were by Harding (both lithium and NMH batteries are available through ACE, 800-825-9977, and many retail outlets). The NiCds were by Millennium.

The way you use your 95LX probably differs dramatically from the way the 95LX was used in the test. Hence, you would probably get different usage figures. The figures above should be viewed as relative readings. A pair of lithium batteries

may not last exactly 52 hours for you, but they should last almost twice as long as a pair of alkalines.

In the coming months, I shall be reporting on the results of specific brands of batteries in an effort to find the best for use on the 95LX.

BATTman

During my battery tests, I was given a new 95LX battery utility. BATTman, from ACE Technologies, is a much more sophisticated battery life management tool than the 95LX's built-in system.

BATTman, which runs as a memory resident (TSR) program, is installed with a command line in your AUTOEXEC.BAT file. It is provided with an automatic installation program that runs on an IBM Compatible PC and transfers the necessary files to your 95LX. Only a serial cable is required. Once you've transferred the files, you run a set-up program on your 95LX to create or edit your startup files. The set-up program asks you which of four battery types (NiCd, alkaline, lithium, or NMH) you normally use. Once set up is completed, you reboot your 95LX and the opening BATTman screen appears, providing your battery status as well as some set up options.

Every time you turn on your 95LX, you will be greeted with a pop-up BATTman window showing the type of battery selected as well as its voltage. You may change the battery type at any time from the main BATTman menu: Type **battman** from the DOS command line and the menu will reappear. BATTman works both in System Manager and DOS applications. BATTman takes 5K of disk space

BATTman's real value becomes apparent when your batteries begin to get low. Contained within the BATTman program is a predictive formula unique to each battery type. This formula lets BATTman correctly judge when a pair of batteries are going to fall below the 1.8 volt battery level that puts the 95LX in backup mode.

As the steep voltage fall off is about to occur, BATTman pops up a warning and turns off your 95LX. You then should do one of two things; change your batteries or

plug in the AC adaptor. Do either one of these and you will not lose any files. When you turn on the machine, you will be right back where you were. The instructions warn you to not attempt to save your files before taking action. Writing a file to disk is battery-intensive action that may cause the 95LX to go into backup mode. This would result in the loss of all open files.

I tried very hard to trip up BATTman, and the only way I discovered was to put a set of weak NiCds into a 95LX with BATTman configured for NMHs. This caused BATTman to turn the machine off every time I turned it on because the NiCds' voltage was below the threshold set for the NMHs. Every other combination worked flawlessly and I never once lost data, as long as I replaced batteries when the warning and shutoff came. If you are tired of throwing away batteries, BATTman will allow safe hassle-free use of rechargables on your 95LX.

Order Information

BATTman – a battery monitoring software utility from ACE Technologies. BATTman comes with a pair of nickel-metal-hydride batteries and retails for \$59. For more information, see display ad, page 5.

Alkaline Batteries – are quite common and available at most convenience stores. Radio Shack sells a 4-pack for \$2.89.

Lithium Batteries – will be marketed in the USA by Eveready under the "Energizer" name. Look for them in September in the camera departments of discount stores such as K-Mart for around \$5-7 a pair.

International users may also find these marketed under the "LithEon" product name.

Nickel-Metal-Hydride (NMH) Rechargeable Batteries – a pair from ACE Technologies retails for \$18. A company called "Real Goods" also sells them.

Nickel-Cadmium (NiCd) Rechargeable Batteries – are commonly available, with varying retail prices. Radio Shack sells a pair for \$4.69.

CONTACT INFORMATION

ACE Technologies – 800-825-9977 or 408-428-9722; Fax: 408-428-9721.

Real Goods – 800-762-7325; Fax: 707-468-0301

Physician Keeps On Top Of Practice With The HP 95LX

This doctor uses APPT to schedule, MEMO to edit correspondence and reference patient data, PHONE to keep track of lab text information, Lotus to track patients in Intensive Care, and HP CALC to use 25 common medical equations.

By Robert S. Williams, MD

Many doctors see the general advantage of having a palmtop computer, but have a difficult time integrating one into their daily activities. It's yet another thing they have to spend time learning, and the mostly general applications that come with the computer don't appear to be immediately useful in a clinical setting. Here are some of the ways I discovered to use the 95LX's built-in applications to make daily clinical practice a little easier.

Effortless Scheduling with APPT

My secretary/receptionist uses the HP Connectivity Pack software on the office PC to help me maintain an up-to-date schedule. I enter changes in my 95LX's Appointment Book as the day progresses and set aside specific times for my personal activities.

Since my secretary has a copy of my APPT schedule file on the office PC, she can update it at any time as people call the office to schedule appointments with me. At the end of day she downloads my APPT file to her desktop computer, merges her schedule with mine, and consults me as necessary to resolve any time conflicts. I then upload a copy of the reconciled schedule.

This procedure lets me keep a running record of all my activities for future planning purposes, and ensures that I am aware of all appointments scheduled for me. It works so well, I've thrown away our old paper appointment book (with all of its erasures and illegible scribbles).

I also use the prioritized to-do list function of APPT to make sure I



Robert Williams

no longer forget little details that pop up throughout the day.

Use MEMO for Editing Correspondence and Referencing Patient Data

I use MEMO to edit outgoing letters and record entries transcribed from microcassette tape by my office. My office downloads all the documents I need to review/approve into my 95LX, before printing! I save money, and both my secretary and I save time. I can review the documents at any time, and at any location during the day. At the end of the day I hand the 95LX to my secretary and she retrieves all the documents for final printing (in addition to reconciling our APPT files).

My office also keeps patient records on computer. I can download and carry around the records for each patient I must visit, ensuring that I have all the reference facts I need when I walk into the hospital each morning.

PHONE Keeps Addresses and Lab Test Information

My Phone Book application serves double duty. I use it as it was intended to keep my address book. In addition, I keep a mini database of laboratory test results.

I have entered the names of about 60 different lab tests in the "Name" area of the Phone Book card. In the "Phone Number" area I have entered the Normal values for each lab test. Finally, in the "address" slot, I put a list of possible causes for abnormal values. I saved the whole collection under the name LAB.PBK; now when I want to transform the 95LX's Phone Book into a diagnostic tool, I just load LAB.PBK into PHONE.

This kind of information is particularly important to a physician. We occasionally see patients whose charts have several unexplained, unusual lab tests attached to them. With this database, I can instantly know what the lab study was about.

HP 95LX Palmtop Software

Pocket Sales Force!

A powerful, flexible and interactive database program.

Simple to use, Pocket Sales Force will instantly control and plan the vital areas of sales activity, lead and enquiry maintenance, contact follow-up dates, letters and mailshots. Improves customer servicing, reporting and strategic marketing.

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- Hot-key access, compliant with 95LX built-in applications.
- Lotus 1-2-3 interface.

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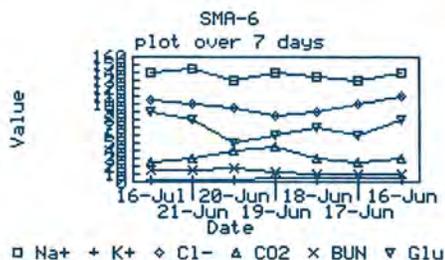
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Also, when faced with several slightly abnormal lab values on a single patient, it's helpful to be able to flip from one "laundry list" to another, looking for some disease common to the abnormal lab values. I have more than once caught a diagnosis early this way; even before the classical serum abnormalities and symptomatology emerged. It works a lot faster than my memory too.

Finally, there are times when you have a patient who is not responding to treatment. With the push of a few buttons, you can have a short list of other possibilities.

When using this scheme, the quickest way to look up information on a particular lab test is to type in the first three letters of the lab test name. The cursor will automatically jump to that section of the lab name list. Then I just press [ESC] twice and use the cursor arrow keys to move the highlight bar to the lab test of interest. Then I press [ENTER] for the full display of possible causes. If I want to view the next full display without returning to the index, I just press the Page Down key (press [Shift]-[Down]).



PHONE: Lab Reference

Lotus 123 for Doctors

I have discovered a couple of uses for Lotus. First, I keep a spreadsheet for each patient I have in Intensive Care. The spreadsheet has places to enter all their lab test values, and this allows me to follow trends in electrolytes and fluid balance. A plot of selected ranges in the data can be most enlightening for planning the course of treatment, and trends developing over weeks can easily be detected and corrected before they reach critical

proportions. For example, slow alterations in potassium levels and I/O can be easily seen when plotted as a graph, yielding a better understanding of the patient's status.

```

Edit card          07/16/92 10:25 pm
Enter the name
Name: Uric acid
Number: M:210-480 F:150-390 micromol/l
Address:
Increased: gout, renal failure,
leukemia, anemia, chemotherapy, toxemia
of pregnancy, diuretics, lactic
acidosis, hypothyroidism, polycystic
kidney disease, parathyroid diseases.
Decreased: uricosuric drugs
(salicylates, probenecid, allopurinol),
Wilson's
Help              Insert Index
                  Find
  
```

1-2-3: Lab Test

The second use for Lotus is as a look-up table for drip rates according to dosage for a variety of cardioactive drugs. It is easy to make a

simple mistake in arithmetic that would be trivial in another profession, but disastrous or even fatal when you're dealing with critically ill human beings. This spreadsheet allows me to be confident, even at two a.m., that I am not making any stupid mistakes. It is quicker than doing it by hand, too.

I have just finished a third use for Lotus. It is a drug interaction database that will find conflicts when I type in a list of patient medications. I have the data imported on over 810 different drug interactions, but still have the programming and macro automation to do.

Using Solve in HP CALC

I have a set of about 25 common medical equations for instant use with HP CALC. For example, I can

About MEDSTF.ZIP:

There are seven files archived in MEDSTF.ZIP. Each is designed to make life easier for doctors who want the power of the 95LX, but don't want to spend a lot of time programming the 95LX, or learning Lotus 1-2-3.

LABTEMPL.WK1

All you have to know about Lotus is how to load the file with the 1-2-3 [MENU] File Retrieve command sequence. Once loaded, use the arrow keys and select the feature you want from the custom menus. To enter your patient lab data, highlight the word ENTER and press [ENTER]; the cursor will pop down to the column where the data should be entered. When finished entering lab values, press [ENTER] to take you back to the menus.

You can graph the entered values by highlighting GRAPH and pressing [ENTER]. This will give you another set of menus to select the study you want graphed.

Be sure you change the file name to something new when you exit the spreadsheet. This is so you won't overwrite your empty template with the data. You should keep one file for each patient. You could name each file with the patient's initials so you can find it again in the future. You can use the template over and over again each time you get a new patient. Each day you should enter a new column in the spreadsheet. This is done using the menus in the spreadsheet and automatically time and date stamps the new column.

DRUGINTR.WK1

This spreadsheet allows you to enter a list of up to 20 drug names and then search for matches in a database of 812 different known drug interactions. It is handy to do a quick check. The search is case insensitive, so capitalization of words won't upset it. The program will automatically shuffle your list into all possible combinations of two drug pairs. The database contains the generic and the single most popular trade name of each drug.

DRIPS.WK1

Yet another spreadsheet. This one lets you determine the drip rate in cc/hour for a given dose (in mg/min) of a variety of cardioactive drugs. Just use the arrow keys to steer through the columns and rows. It is very easy to use.

LABUSA.PBK and LABUK.PBK

These are files to be loaded into the Phone Book application. They give you the handy lab reference that I mentioned in the article. The USA version contains over 100 common lab studies.

H&PTEMPL.TXT

Here is the History and physical form I use to do my initial patient work-up. To Print a nice 1.5 page summary just set the wrap to 80 columns and then print it after loading the document into MEMO. It is pre-formatted for neat results. Each time you save an edited version, rename it to the patient's name for later reference.

LABREAD.ME

This is the documentation for the collection. A simple text file for reference. Please read it.

MED.EQN

HP CALC equation file containing about 25 medical formulas used in a clinical setting.

Robert S. Williams, M.D.

Available on The HP Palmtop Paper ON DISK, Jul/Aug 92.
(Also available in Library 7 of the CompuServe HP Handhelds forum and Library 12 of the MEDSIG forum.)

estimate body surface area by typing in height and weight. Gestational age and due date for deliveries can be rapidly calculated. The last variable will be calculated for me by the Solver. All formulas are saved in a file for future reference at the touch of a button.

Datacomm to Link with the Office

No matter where I am, as long as I am near a telephone, I can get data and exchange files with my office. I purchased a cheap pocket modem and use it with the 95LX to dial up my office computer and send or receive files over the phone lines. This lets me get my office work done whether I'm waiting around for a lab test, or for Admissions to finish their registration procedures. I go to the nearest phone, plug in my modem and link up with the office computer. Then I can send or receive any files I like, without wasting any time.

In The Operating Room

I have used a zip-lock bag to protect the 95LX while in the Operating Theater. Provides a clean, less contaminated surface and protects the unit from blood, fluid splashes, etc.

I suppose it would be possible to render the 95LX surgically sterile if a sterile plastic bag was used. I can think of many neat things that could be done if the IR Port was used for two-way transfers via a PC two-way interface. Too bad there isn't a little interface unit on the market that plugs into a desktop and talks to the 95LX's IR port.

Conclusion

Each of the applications can be used by a busy clinician to improve efficiency by handling data and information better. In order to reduce the amount of time spent getting the 95LX customized for clinical work, David E. Goodman and I have put together a set of files to instantly implement the above applications. These files are freely available from Compuserve in the HP Handhelds forum, Library 7 (95LX

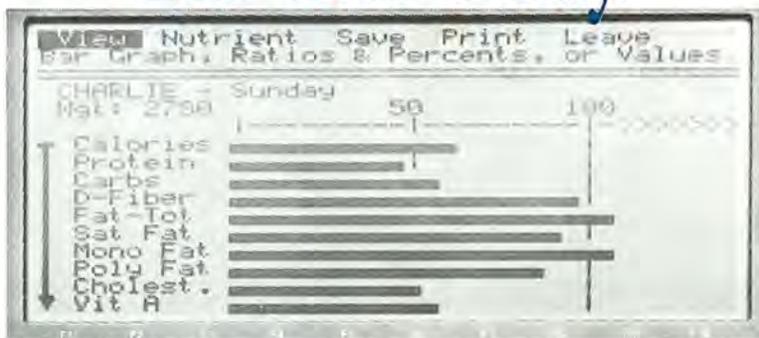
Users), and the MEDSIG forum, Library 12 under the name MEDSTF.ZIP []; Included in this archive are the laboratory database (one with USA normal values and one with UK units), three spreadsheet templates, an equation file with 25 commonly used formulas, and a blank history and physical text template. As improvements are made to these files, I will regularly update the archive. This collection should serve as a foundation to get other busy physicians up and running on the 95LX.

[Robert S. Williams received his M.D. in December 1991 after medical training at Medical College of

Virginia, The American University of the Caribbean, Oldchurch Hospital (an affiliate of The London University School of Medicine) and Eastern Virginia Medical School. He is currently looking for a Residency position while doing part-time work as a Medical Systems Consultant with Technology Consulting, Ltd. (in order to "stay out of trouble"). He also holds a BS in biology from Virginia Commonwealth University, and spent six long years as a Hospital Corpsman in the U.S. Navy. His CIS ID is [76167,2773] and Internet address is jwill@cabell.vcu.edu .]

On The HP Palmtop Paper on Disk, Jul/Aug, 92.

Think Of It As A Turbo For Your Body.



Any machine runs stronger when you give it an extra boost. So does your body. The Personal Food Analyst, the first professional level nutritional software for the consumer, will give you that boost. PFA was designed exclusively for the HP95LX. With a built-in database of over 4,000 foods and 27 nutrients, the Personal Food Analyst will record and analyze your daily food intake to help you modify and improve your eating habits. PFA will display the nutritional and caloric values of your food intake throughout the day — numerically or graphically — and compare it to dietary goals created specifically for you. The user friendly software also enables you to print reports for a permanent record of your progress.

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HP News

HP Tech Support gives you some tips on backing up your files. We take a look at HP's new 1.3-inch 20MB hard drive — it's sure to set standards for size, power consumption, and economy, but will we see it in a 95LX any time soon? The new SkyStream Mobile Data Link Receiver is shipping. And you can win a FREE RAM Card by telling HP your story!

By HP Palmtop Support

From the Factory

Backing Up Your Files: An Insurance Policy

In technical support, our least favorite calls are from customers who have lost data. It doesn't happen often, but on any product that has memory, it's possible to lose your data. And if it does happen, it can be devastating.

The HP 95LX is a PC and all PCs are subject to crashes, power losses, drops, or bumps. If you've backed up your data, you can take memory loss in stride, maybe even congratulate yourself on being well prepared.

We've all lost data. The most diligent file backer-uppers are usually people who understand computers very well, or who have suffered a great loss.

The good news is you can easily protect yourself from being in this unenviable situation by backing up your data.

HP provides two ways to back up the HP 95LX: the Connectivity Pack and RAM cards. Each method has its advantages.

The Connectivity Pack

Using the Connectivity Pack is an inexpensive way to back up an unlimited amount of data. The Connectivity Pack includes an RS-232 serial cable, an adapter, and floppy disks. The software included is for your desktop PC. It duplicates the FILER and PIM software found on the HP 95LX. After you install the Connectivity Pack, it is quick and easy to transfer files between your desktop and the 95LX.

A common way to copy files

from the HP 95LX to a desktop PC is to move the highlight bar to the remote side of the display, highlight the file you want to copy, or tag several files you want to copy, and press **[F2]** (COPY).

Once the files have been copied to your desktop PC, you can transfer them to floppy disks. More experienced users can copy files directly from the HP 95LX to a floppy automatically by using DOS Connect and a batch file on the PC.

RAM Cards

A RAM card is the quickest, most portable way to back up data. You simply insert a formatted RAM card in the 95LX, and copy highlighted or tagged files to the a: drive.

There are additional ways you can use third party products to back up your files. You could use the Kermit communications software and a serial cable to back up to a PC. You could attach a portable disk drive (like the Sparcom Drive-95) to the 95LX and back up directly to a floppy disk. Or you could connect a RAM card drive to your PC and transfer files from your 95LX to your PC via a RAM card. You really have lots of flexibility in choosing a back-up regime that works for you.

A Common Back-up Regime

You can protect yourself and your data by using both the Connectivity Pack and a RAM card back-up regime. You can back up files using the Connectivity Pack regularly, perhaps once a week. Then you can group your weekly backups by month and store the files on floppies. This establishes a record of what you did and when you did it.

Because you can keep a RAM

card in your 95LX, you can back up important files several times a day, or more often if what you're working on is critical. A prudent guide is to back up your 95LX as often as you would your desk top PC if you were carrying it around with you.

Sound simple? It is. And it's insurance well worth buying.

Free RAM Card!

Just Tell HP Your Story

Hewlett-Packard would love to hear how you've benefited from your 95LX. Send your 800- to 1500-word story to HP (address below), post-marked no later than Oct. 15, 1992.

To the authors of the first 50 stories we receive, we'll send a free HP 128K RAM card (HP F1002A).



First 50 stories get FREE 128K RAM Card!

With Hal Goldstein's help, we'll choose three stories for publication in *The HP Palmtop Paper* AND send their authors a free HP 1MB RAM card (HP F1004A).

We are especially interested in HP 95LX applications in these fields: small business, insurance, medicine, health care, law, veterinary medicine, management, sales, service support, real estate, and education (including students).

Here's the format to follow:

1. Name and mailing address
2. Profession
3. Industry
4. Why I bought the HP 95LX
5. How I use my palmtop
6. Ways that I or my business has benefited from the HP 95LX

7. How I describe my palmtop to friends and associates

Send us your story today! A free 128K RAM card for the first 50 that we receive (one per person; one per address). We can't wait to read "Tales of the Palmtop!"

Send your story to: Rhonda Rick, Palmtop Profiles, Hewlett-Packard, Mailstop 5UP5, 1000 NE Circle Blvd, Corvallis, OR 97330.

Hewlett Packard Develops A Rugged 1.3" Hard Disk Drive

By Richard Hall

Hewlett-Packard has introduced the world's first 1.3" hard disk drive, a device the size of a small matchbox. The initial version of what HP is calling the "Kittyhawk Personal Storage Module" (PSM) has a formatted capacity of 21.4 MB, equivalent to 14,389 typed pages. HP hopes to begin shipping the Kittyhawk to OEM clients in August (OEMs use HP and other manufacturers parts to make their computers).

Although the Kittyhawk looks like a conventional hard disk, its small size and durability make it an attractive alternative to the more expensive solid-state technology. Those of you who have purchased



Kittyhawk PSM Hard Drive

RAM cards realize that solid-state memory technology is expensive — approximately five times more expensive than the rotating disk technology used in the HP Kittyhawk PSM. Twenty MBs of solid-state memory currently has a minimum OEM price of about \$1,000, or \$50 per MB. The HP Kittyhawk PSM offers an initial OEM cost of about \$12 per MB. OEM clients will be able to purchase the initial version of the Kittyhawk in quantity for around \$250 per drive.

The HP Kittyhawk PSM can be used in many applications, including palmtop, pen-based and sub-notebook computers; printers, fax machines; medical equipment; and communications and digital-imaging devices. It also can be used in consumer products such as cartridges for video-game machines and in mobile products such as on-board voice/imaging mail for cellular phones and office products like digital copiers.

Development

The module was developed with the cooperation of several companies, including AT&T Microelectronics and the Citizen Watch Company of Japan. HP and AT&T engineers worked together to reduce the number of integrated chips used to control the Kittyhawk to just seven. (A typical 1.8" disk drive has 20 to 30 chips.) The reduced number of chips created a less expensive module that was lighter (1 oz or 28 grams) and used less power than conventional 2.5" and 1.8" drives.

Citizen Watch Company was chosen as a partner because of their experience in manufacturing disk drives and very small, high-quality watches. Citizen has the technology to drive screws you can't even see with the naked eye, and this miniaturization capability was needed with the Kittyhawk.

The HP Kittyhawk PSM is housed in a rugged package measuring 0.4 x 2 x 1.44 inches. It is less than one-half the size of 1.8" disk drive. The PSM's rugged design, modeled after the HP 95LX, can withstand an operating shock of 10 times that of the larger disk drives. HP developed a technology that acts much like an air-bag collision sen-

sor on an automobile. It detects impending impact and causes the drive to revert instantly to a mode that protects against data loss. This technology increases the impact the HP Kittyhawk PSM can take while in operation.

The Kittyhawk PSM was designed to provide a minimum of 5 years of operation in the harshest climate. The storage device offers 21.4 MB of storage with an 18 millisecond average seek time and supports active, idle, standby, and sleep modes. HP believes that the technology developed for Kittyhawk will allow the HP Kittyhawk PSM to reach up to 200 MB of capacity by the middle of the decade.

Potential Applications

Its compact dimensions allow the device to be used as a modular, removable data-storage medium for wide range of applications including subnotebook and palmtop computers, font cartridges for printers, medical patient-monitoring systems, scientific instruments, cellular telephones and replacement memory for high-cost, solid-state circuitry in video game cards.

The HP Kittyhawk PSM also may be used as a smart storage card that carries operating systems as well as application software for use in new stand-alone public-computer systems designed into the backs of airline passenger seats, hotel rooms and "computer booth" kiosks. For example, a user could simply take a loaded HP Kittyhawk PSM on a plane and activate their seat-back computer using the software programs brought on board.

An HP Kittyhawk PSM also can be integrated into a range of other portable, scientific, data-gathering instruments, where large amounts of data can be collected daily and analyzed in the field immediately or brought back to a central system for analysis.

Subnotebook computers will reach even lighter weights and retain the power and functionality found in notebook and laptop computers. The size of the HP Kittyhawk PSM allows for multiple modules to be embedded within a notebook in an array fashion or as a multiple-module card that appears

as a single storage device to the system.

Used in Future 95LXs?

The HP press release did mention palmtops as a potential use for the Kittyhawk. It must certainly be something that HP is considering, but there are some problems to overcome.

The first version of KittyHawk requires a single 5 volt power supply, and the 95LX is 3 volts. Others have speculated that Kittyhawk might drain batteries quickly, unless power-saving software was developed for the 95LX. (See "User to User," page 23, for one suggestion on how Kittyhawk might be used with the 95LX soon.)

CompuServe Section for Kittyhawk Drive

Comments and further information on Kittyhawk will be available in the Mass Storage section of the HP Peripherals Forum of CompuServe (type `go hpper` at the opening CompuServe prompt).

SkyStream Receiver

HP introduced the SkyStream Receiver with Mobile Data Link (part# HP F1009B) July 1, 1992. It includes a cradle, software, and receiver. The 95LX slides into one side of the cradle, and the SkyStream receiver into the other.

Once you have SkyStream, you

need to subscribe to SkyTel's nationwide and regional text messaging service. Then you can receive messages and electronic mail, voice mail notification, database information, file updates and travel information at any time in thousands of cities throughout the USA.

The SkyStream receiver, with its 32K of RAM memory, lets you receive and store messages, even when it's not connected to your 95LX. SkyStream's blinking green light alerts you that messages are waiting.

Call HP's automated information service at 800-443-1254 to find out which retailers will carry the SkyStream Receiver.

HP 95LX SUPPORT: CompuServe

CompuServe Opens New HP Handhelds Forum

The success of the 95LX and the general popularity of HP handhelds has prompted CompuServe to create a new forum for HP Handheld devices.

By Ted Dickens

CompuServe, in early July, started a new forum just for HP palmtop and handheld users! There has been so much 95LX activity on CompuServe that HPSYS was bursting at the seams. The new HP Handhelds Forum, which opened in early July, gives HP handheld users some elbow room. To enter the new forum, type `GO HPHAND`.

New Forum Sections for the HP 95LX

CompuServe still has a general 95LX section and a separate section for programmers, but now its added three other sections.

The first is for new users. CompuServe members new to the 95LX were getting overwhelmed by the number and complexity of messages posted in the old section. When you're new and trying to figure out how to set up a repeating

appointment, all those messages about modifying `APNAME.LST` and creating loaders can be daunting! The new user's section is set aside for those who are just getting their feet wet. The accompanying library will have only those files that forum members think will help new users get up to speed quickly and easily.

The second new section focuses on data communications issues. Based on current forum traffic, datacomm is a hot topic: FAX modems, cellular modems, the Motorola NewsStream pager, GE Mobidem, and packet radio are all being used with the 95LX. This section will support the 95LX's use with these devices, as well as more basic modem and PC-to-95LX communications.

The third new section is for 3rd party products. Any company that sells products for HP handhelds and wants to use CompuServe to provide technical support will be able to use this section (and library) for that

purpose. Users should benefit from this "one-stop shopping" approach to product support.

The complete list of sections is given below. CompuServe veterans will recognize that we have a number of unused sections. Rather than start out with all sections used, only to have to reorganize after a few months, I'm holding some sections back so we can more easily adapt to the changing needs of forum members. Note too that the forum includes support for the HP calculators and other handheld computers.

Below is a list of sections in the HP Handhelds Forum

1. General
2. Business calculators
3. Scientific calculators
4. Advanced Handhelds (HP-41, 42, 48, 71, 75, and 94 calculators)
5. 95LX New Users
6. 95LX Datacomm
7. 95LX Users
8. 95LX Programmers
9. Third-party products for HP handhelds

If you are already a CompuServe member, stop by and check out our new home. There may be a few unpacked boxes left sitting in the corners, but by the time you read this, we should at least have all the furniture in place.

If you aren't a CompuServe member, there's no time like the present to join! Subscribers to *The*

HP Palmtop Paper can get a free introductory subscription just by calling 800-848-8199 or 614-457-0802 and asking for operator 231. That will get you an account and \$15 of free access time. (See page 15 of the May/June 92 issue for a more complete listing of CompuServe international numbers.)

New, Tiny Hard Disk Drive From Hewlett Packard

In other news, I have actually held the "Kittyhawk Personal Storage Module" — that's the official name for HP's new 1.3" hard disk drive. I'll freely admit that this is one product that is just plain exciting. It is going to show up in places that will surprise us all. The product manager for Kittyhawk will be on-line on July 8 and 9 to answer questions from forum members. While it's too late for readers to participate, be sure to look for the transcript of all the messages! The initial thread will be KHAWK.THLD in the Mass Storage library (2)

of the HP Peripherals Forum (GO HPPER). [See page 20, this issue, for more on Kittyhawk — Editor.]

Another Way to Automatically Access CompuServe, Saving Time and Money

By Thomas Rundel

AcCIS  is a powerful freeware tool for automated CompuServe Information Service access. (Editor's Note: AcCIS is similar to the MES-SAGE program described on pages 14-16 of the May/June issue.)

AcCIS allows you to download CompuServe Mail and forum messages, read and reply offline, send binary mail, scan forum libraries, browse catalogs offline, mark files for download at next session. Session activities can be fully controlled. AcCIS runs external macros. Up to 39 DOS programs can be invoked with a single keystroke. A battery gauge is always visible. AcCIS requires COMMO and an editor.

The next release, which should be ready before the beginning of August, has several enhancements, including: More setup options; clock display; ability to send mail and binary mail to several users with only one upload (multiple mails); the ability, when replying to a forum message or writing a new forum message, to choose to post the reply either public or private or send it via E-Mail; return receipts for E-Mail messages; bug fixes.

AcCIS maintains its own telephone list now, which can hold an unlimited number of entries. They contain phone number, comm parameters, modem "init" string and log-on macro. So you can have the setup for different modems and different CompuServe nodes always ready for use. In Setup you specify which entry is to be used. Nice for people who travel a lot or use several modems.

 On The HP Palmtop Paper on Disk, Jul/Aug, 92.

Thaddeus Computing News: User To User

User To User: Small Companies Produce Exciting New Products!

By Hal Goldstein

The Palmtop marketplace is providing new opportunities for creative engineers throughout the world. Interestingly enough, it is the smaller companies coming out with most of the exciting, new hardware and software for the HP Palmtop.

Perhaps it's easy to understand. Larger, more established software companies already have their resources stretched to the limit. They must decide whether to write their applications for DOS, Windows, OS/2, or Unix. To allocate further resources to modify their software to run under the 95LX's sparsely documented HP/Lotus System Manager may be low on their priority list. That leaves a vacuum for smaller companies to fill, and a platform for them to express their creativity.

The small software developer, even without access to Lotus/HP

System Manager specifications, is already coming up with many ingenious applications for the 95LX. Take a look at the four products we review in our lead story and you'll see some prime examples of this.

Also expect to find many new hardware products supporting the 95LX. Hardware development has always led software development, and this is especially the case with the 95LX, given its new System Manager software platform.

Analysts agree that the palmtop market will be huge. The 95LX is the first really successful palmtop, and the way third-party developers contribute to, and profit from this success warrants close and careful scrutiny by the computer industry.

How to Get the Word Out?

One of the challenges for developers of 95LX-related products is how to reach the end user. *The HP Palmtop*

Paper is the leading way to get the word out. However, probably 10% at most of the world's 95LX users subscribe, or have access to *The HP Palmtop Paper*. We are making a concerted effort over the coming months to increase that number. Word-of-mouth advertising is the most effective way, and we appreciate your help.

This still leaves the developer with the challenge of reaching his end user. In the U.S. market, two companies seem to have invested the most time and effort in developing and distributing products: Sparcom and ACE.

Many developers have arranged to have these two companies distribute their product. For example, Sparcom is now distributing the Globalink foreign translation cards, the Austrian-originated Swift!Basic programming language reviewed in this issue, and Pocket Sales Force discussed in the last issue.

ACE not only distributes its Stacker-based Double Card and regular RAM cards, it is selling software

like the **BATTman** and **Switch!** utilities discussed in this issue. According to **Andy Fu, President of ACE**, and **Steve Bares, President of Sparcom**, both companies are planning to broaden their HP 95LX line of products in the coming months.

In the meantime, **EduCALC**, a mail order retailer, has the most complete range of products for the 95LX user in the U.S.. International distributors of *The HP Palmtop Paper* (England, France, Germany, The Netherlands, and Belgium) are another possible distribution channel for 95LX-related products. (We welcome **Supplyline** as our new U.K. distributor: Phone: 081-744-0022; Fax: 081-744-0045).

The New PCMCIA Standard

Contributing editor Mark Scardina and I attended a **PCMCIA** conference several months ago in the San Francisco Bay Area. PCMCIA is a nonprofit group that sets standards for RAM cards and other devices that fit in the 95LX slot. Fortunately for the industry, **Hewlett Packard** and other progressive vendors realized several years back that standards were necessary if these cards were to ever catch on. In the next few years, you will see an increasingly number of computer and consumer-based products that use the PCMCIA standards.

The HP 95LX conforms to PCMCIA level 1 standard. Recently, specifications for level 2 PCMCIA compatibility were published. This standard will make it possible to not only include RAM memory cards, ROM cards, and other memory cards in devices sporting a slot, but will also allow the development of devices (FAX, Modems, Scanners, and Wireless devices) that will fit in a PCMCIA defined slot.

Speakers at the conference were very excited and optimistic about the future of this card-based technology. For example, in the future you'll be able to take your PCMCIA card out of your Palmtop, stick it in a public phone, automatically dial a number which connects you to a computer, and have the data you need put on that card. You then can make use of the updated data in your Palmtop. Or you might be able to go to an ATM machine, stick in

your PCMCIA card, withdraw your money, and have a data file updated that you can access in your Palmtop about your current balance. The possibilities are really endless.

New Products Coming Our Way

The bad news for 95LX users is that the current version of the 95LX was created before this level two standard was published. The good news is that certain hardware manufacturers decided not to wait.

Fax / Modem Card Fits In 95LX Card Slot

Due out by the end of this summer is a fax/modem card that fits into the 95LX slot. This fax/modem card from **New Media** works in conjunction with its own communications and fax software. Not only will a 9600 baud fax / 2400 baud modem fit in the card slot, but you can order additional RAM for the card, especially useful for downloading lots of data.

Stock Quotes Wherever You Go

Metriplex is taking advantage of the **SkyStream** receiver which we reviewed as the **Motorola NewsStream** receiver in the Fall 1991 issue. For a subscription price of \$300 a month, you can have instant access to stock prices wherever you are.

20 MB Flash ROM Memory for the 95LX

At the PCMCIA show we saw the demo of a **SunDisk 20MB Flash ROM** card that will work inside the 95LX card slot. At the time of the show, it was only possible to read information stored on the card. To change data on the card you need a RAM card drive that attaches to your PC, like the ones produced by **Databook** or **Atron**.

Since then, **SunDisk** has apparently developed a technology which will allow users of the 95LX to write directly to Flash ROM. This is an incredible breakthrough for 95LX users. It will mean that you can have 20MB worth of data on your 95LX. (There are some limitations which we will be discussing in future issues — read and write time will be slower than with a RAM card, and the number of times you can write to the Flash ROM card is limited.) One ideal application for Flash ROM technology is databases, needed by physicians, lawyers, sales

Easy Printing From Your Palmtop!

The GA935 Printer Converter lets you print directly from your HP 95LX on virtually any parallel printer. It uses the standard HP cable.

The Printer Converter is battery powered and totally portable.

Available from most HP dealers. For your nearest dealer contact:



Tel: (704) 376-1021
Fax: (704) 335-8707
Toll Free: 1-800-476-4070

reps and other professionals.

A Box for More Products

Hewlett Packard designed a cradle to allow **Motorola's SkyStream** receiver to attach to the 95LX (see below).

We understand that **Sparcom** is developing a generic box designed to fit in that cradle. Developers can use their creativity to come up with devices to go in that box. One obvious possibility would be HP's new **Kittyhawk 20MB hard drive** described elsewhere in this issue. Other companies could put a fax, modem, or other wireless units in the box. There are lots of possibilities, and if you're a developer and have an idea for the box, contact **Sparcom** at 503-757-8416.

Satellite Tracking

Palmtree is another company working on becoming a major distributor for HP Palmtop products. They will be the US distributor of the **GPS Pac** satellite system. **Greg Brasso, President of Palmtree**, tells me his company will be soon releasing additional products for the 95LX. (See page 39 for more on **GPS Pac**.)

From High Tech to Low Tech: A 95LX Nameplate

One of my greatest fears is that I will absent-mindedly lay down my

(Continued on page 26.)

You want . . .

More memory.

RAM Cards

Sparcom's battery-backed RAM cards give your palmtop the memory and capability of a desktop PC. They give you the power to run additional software, store entire data bases, and improve speed and performance. Long-life lithium batteries protect data and will deliver the durability and reliability necessary for the most demanding palmtop applications. Available in 2Mb, 1Mb, 512K and 256K.



More connections.

Station95™

The Sparcom Station95™ links your HP 95LX to your desktop PC for instant communication. This compact palmtop docking station replaces the usual web of loose cables and plugs with a permanent, 4-pin serial connector. Saves battery power too. Simply slide your palmtop onto the Station95; it clips securely into place and you are instantly in touch with your PC. DB 9 serial connector and AC adapter are included.



More convenience.

Pocket Professional™ Organizer

Crafted from fine leather, Sparcom's Pocket Professional™ Organizer has been carefully designed to carry and protect your HP 95LX. The Organizer has fourteen pockets for storing RAM cards, program cards, or credit cards; a pen holder, checkbook holder, and a special zippered pocket for keeping documents. The Pocket Professional Organizer makes the portability of your palmtop ultimately convenient.



More portable.

Drive95™

Drive95™, the portable floppy disk drive for the HP 95LX, provides a new method of communication and data transfer/storage. Read/write and store data, execute applications and save money—by using standard DOS format 3 1/2" diskettes (720K or 1.44Mb) with your palmtop computer. A single charge powers the Drive95 for up to 15 hours of portable use. AC adapter, serial cable and software are included.



More Software

PodiumPal

Automated speech and presentation software for your 95LX.

DataExchange

Macintosh connectivity kit.

Games95

Five challenging games: Chess, Checkers, Tetris, Space Invaders & Backgammon.

For more information call (800) 827-8416

Dealer/Distributor inquiries welcome.

We deliver.

Swift! Basic.

Quickly enter and run system compliant Basic programs on your HP 95LX

Swift!Basic is a modern and structured programming language that was especially designed to meet the needs of the HP 95LX users. It is fully integrated in the System Manager environment and has the same well known user interface like the internal applications. Even for the inexperienced user the handling is simple and easy to learn. The built-in editor assists with its automatic check of the syntax and makes programming the HP 95LX a joy.

Swift!

Globalink

Foreign language translator . . . 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.

The Globalink Translation System gives you sentence-by sentence translations with up to 90% accuracy. Target language output may be post-edited one sentence at a time or after an entire file has been translated.



Spanish to/from English
French to/from English
German to/from English

NEW
LOWER
PRICES

PocketSalesForce - ExecutiveDataManager

Information management software for the HP 95LX

Simple to use, Pocket Sales Force will instantly control and automate the vital areas of your sales activity or any other generic data.

Features include:

- Twenty fully user-definable fields, plus full contact history.
- Single and multiple-criteria search fields
- Generic database option
- Lotus 123 interface
- PC emulator included

Developed in cooperation with CM Software



Sparcom

(Continued from page 23.)

95LX at some conference or show and forget where I put it. So instead of putting my company on my Topcard screen, I have, "If found, call 515-472-6330."

Unfortunately, if I misplace my 95LX and am lucky enough to have a good samaritan find it, there's no guarantee that he will be able to bring up the Topcard screen.

When Bernie Sadow of IBB Limited told me that his company made nameplates for the 95LX, I was a bit skeptical. But he sent me one of his black and gold labels for the back of my 95LX, and I really like it. It looks very sharp and I no longer worry about someone locating my name and address if they find my 95LX (see ad, page 1).

System Compliant MEMO Substitute
Craig Finseth, author of Subscribers Disk MEMUTIL, has written a UNIX-based EMACS-type editor, FREYJA for the HP 95LX. FREYJA is free, takes about 40K, contains a full slate of word processing features, and works well in conjunction with the built-in applications. Unfortunately, the user interface leaves much to be desired unless you are familiar with the editor. The good news is that Craig tells me he is working on a MEMO-like interface for a future update (destined for the 1993 Subscribers Disk).

We have included with the current FREYJA version, 650K worth of C source code and programming tools from Craig on this issue's Palmtop Paper On Disk.

Contact Information

Globalink, SWIFTBasic, Pocket Sales Force, Custom Box Sparcom - call 800-827-8416 or 503-757-8416; fax: 503-753-7821

DoubleCard, BATTman, Switch ACE Technologies - call: 800-825-9977 or 408-428-9722; Fax: 408-428-9721

EduCALC - call: 800-677-7001 or 714-582-2637; fax: 714-582-1445

Fax/Modem Card New Media - call: 800-453-0550 or 714-453-0100; Fax: 714-453-0114

Stock Quotes Metriplex - call: 617-494-9393; Fax: 617-494-8735

RAM Card Drives Databook - call: 716-889-4204

Adtron - call: 602-926-9324; fax: 602-926-9359

GPS Pac Palmtree Products - 617-871-7050; fax: 617-871-6018

Nameplate IBB Limited - see ad, page 1
FREYJA Jul/Aug 92 Palmtop Paper ON DISK

COLUMN: Looking Glass

Through The Looking Glass

Ed automates file backup and restoration using ZIP.COM from the 1992 Subscribers Disk and some clever batch files. He also gives advice on file backup and battery replacement when you get the "LOW CARD BATTERY" message on your HP 95LX.

By Ed Keefe

Backing Up The HP 95LX

Among the many programs on the 1992 Subscribers Disk, ZIP.COM gets my top honors.

If you used the automated INSTALL program on the Subscribers Disk, you've seen a small sample of what ZIP.COM can do.

Hopefully, the following instructions will give you more ideas on how you can benefit from ZIP.COM. They describe how to use ZIP.COM and a couple of batch files to make backing up your 95LX almost fun.

Automating Backups

To automate the backup process, you'll need to spend some time keying in two or three batch files described in this article. (The batch files are available on the July/August issue of *The HP Palmtop Paper ON DISK*.) You may have to spend some additional time fine-tuning these batch files for your machine. Give yourself about an hour to get up and running.

First create two new directories on a blank, formatted floppy disk in your desktop PC, create one or two new directories. I'll use the B drive designator B: in these instructions to indicate the floppy drive. You may change this to A: if you wish.

1. Insert the floppy disk and switch to the B drive. Use the DOS command **MD C** to create the "\C" subdirectory on your floppy disk. This will hold the files from the 95LX's C drive.
2. (Optional, use only if you have a RAM card on the 95LX.) Key in the DOS command **MD A**.
3. Change to the C subdirectory (type **CD \C** and press **ENTER**) and then make a subdirectory

called **_DAT** (key in **MD _DAT** and then press **ENTER**).

If you have any other subdirectories on your 95LX, create duplicate directories on your backup disk.

(Note that you don't have to create a subdirectory for the files in the hidden C:_SYS directory since they are permanent ROM files.)

If you have created the optional \A directory, change to that directory on the floppy disk (type **CD \A** and press **ENTER**). Create matching directories for any subdirectories on the RAM card of your 95LX.

Install ZIP.COM On Your Computer and On Your HP 95LX

If ZIP.COM is not on your 95LX, transfer it to the Palmtop using the INSTALL program from the Subscribers Disk, or use APP95 from the HP Connectivity Pac. In any case, ZIP.COM should go in the root directory of the C drive.

Also, copy ZIP.COM onto the hard disk of your desktop PC.

ZIP.COM must be configured to use the correct serial port on both machines. The Subscribers Disk version of ZIP.COM is configured to use COM1 as the default serial port. However, if you're using COM1 on your PC to run a mouse, then ZIP must be told to use COM2 or COM3.

Ordinarily, ZIP.COM comes with a companion program, ZIPCFG.COM, that lets you configure ZIP.COM so it will use COM 2, COM3, or COM4 automatically, every time it is run.

If you register ZIP.COM, you'll

On The HP Palmtop Paper on Disk
FREYJA - Jul/Aug, 92, ON DISK
ZIP.COM - 1992 Subscribers Disk.

get the full package of ZIP files. The directions for using ZIPCFG will come with the package. (On the other hand, if you have version 1.51 of ZIP.COM, the ZIPCFG.COM file from that version will also work with the newer version of ZIP.COM that came on the Subscribers Disk).

Even without ZIPCFG.COM, you can still run ZIP.COM on your PC. The batch files in this article contain a command line option which will tell ZIP to use a particular COM port.

BKUPC.BAT and BKUPA.BAT
Use a text editor on your PC to key in the following batch files.

In these batch files, you should replace any occurrence of XXXX with the name of the directory, on your PC, where you've put ZIP.COM.

The /n, in the same line of the batch files, stands for /2 (/3 or /4) where "2", "3", or "4" is the number of the PC serial port you are using. Eliminate /n if you are using COM1.

Here is the first batch file. As you key it in, make the necessary changes indicated above and save it as B:\BKUPC.BAT. (Any indented line is a continuation of the previous line, NOT a separate line.)

```
ECHO OFF
REM BKUPC.BAT
CLS
SET E=AGN
ECHO Backing up C:\
C:\XXXX\ZIP C:\%.* /n /FT[B:\C] > NUL
FOR %%E IN ( 1 4 8 16 128 ) DO IF
    ERRORLEVEL=%%E SET E=%%E
GOTO %E%
:AGN
ECHO Backing up C:\%1
C:\XXXX\ZIP C:\%1%.* /n /FT[B:\C\%1] > NUL
FOR %%E IN ( 0 1 4 8 16 128 ) DO IF
    ERRORLEVEL=%%E SET E=%%E
GOTO %E%
:0
SHIFT
IF NOT (%1)=() GOTO AGN
GOTO EXIT
:1
ECHO Argument Error
GOTO EXIT
:2
ECHO Out of memory--too many files
GOTO EXIT
:4
ECHO Connection error
GOTO EXIT
:8
ECHO Transmission error
GOTO EXIT
:16
ECHO Disk error (full?)
GOTO EXIT
```

```
:128
ECHO At user's request
:exit
ECHO Communication halted
set E=
c:\XXXX\zip /u > nul
ECHO Server is unlinked.
```

I'll briefly explain what's going on at the end of the article. It's not as complicated as it looks.

The second batch file is similar to the first, and only needed if you are using a RAM card A drive.

To save yourself some typing, make a copy of the first BKUPC.BAT file and modify it. At the DOS B\> prompt, issue the DOS command, **copy bkupc.bat bkupa.bat**. Then use a text editor to modify the BKUPA.BAT file. Modify as follows:

```
Line 2 - change BKUPC.BAT to BKUPA.BAT
Line 5 - change C:\ to A:\
Line 6 - change C:\%.* to A:\%.* and change B:\C to B:\A
Line 10 - change C:\%1 to A:\%1
Line 11 - change C:\% to A:\% and change B:\C\ to B:\A\
DELETE - last three lines
MODIFY - new last line. Change "ECHO Communication
halted" to ECHO Communication interrupted
```

The third batch file will be used to drive one or both of the first two batch files. This batch file will be somewhat unique to your individual situation and you will have to write it yourself. Use the following .BAT file as a template when writing your own .BAT file. (It must be modified and will not work as is.)

```
ECHO OFF
REM BKUP95.BAT
CLS
CALL BIBKUPA DIR1a DIR2a DIRna
BIBKUPC _DAT DIR2c DIR3c DIRnc
```

Replace DIR1a...DIRna with the full names of the directories on the A drive of your 95LX. Replace DIR2c DIR3c DIRnc with the full names of the directories on the C drive of your 95LX.

If you don't have an A drive on your 95LX, delete the fourth line in the batch file.

(If you're using MS-DOS 2.1 or earlier, the "CALL" command should be replaced with **COMMAND /C** in the above batch file.)



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Save your customized batch file as B:\BKUP95.BAT.

This file will drive one or both of the BKUPC.BAT and BKUPA.BAT files. It will pass the names of your directories to the other two batch files, which will use them to transfer the files from your 95LX to the appropriate hard disk directories.

Testing Out The Setup

Once all the files have been installed, you're ready to test them. Before running the backup routine for the first time, make doubly sure that the batteries in your HP 95LX are fresh (or connect your 95LX to its AC adapter). The file transfer process eats batteries during the first run of the program. Depending on how many files you have on your 95LX, the initial backup may run for several minutes.

When you're ready, run ZIP on the HP 95LX. Once it is running, press v to put the program in serVer mode. The word **Waiting** should appear on the screen.

Log on to your desktop's B drive, issue the DOS command **bkup95**, and press **[ENTER]**.

If all is working correctly, you should see a series of messages appear on the screen of your desktop, "Backing up C:\", "Backing up C:_DAT", etc. On the 95LX you should see the names of the files being transferred.

The last line of the BKUPC.BAT file will run ZIP one last time to break the connection with the ZIP program on the HP 95LX.

Incremental Backups

Once you've completed the initial backup of the 95LX, subsequent backups will take place much more quickly. Only those files that are new or changed will be transferred. The whole process should take less than a minute.

When you want to do a backup, just run ZIP.COM on your 95LX and put it in serVer mode. Then change to the B drive on your desktop PC. Type **bkup95**, press **[ENTER]** and watch the backup process "zip by."

The use of the B drive for backup may seem strange. Why not backup to the hard disk?

For the answer to that question, let me tell you about an experience

from my 95LX "Gotcha" annals.

Gotcha!

A "gotcha," in computer-speak, is a surprise event, perpetrated by a computer, in full accordance with Murphy's Laws.

This Gotcha happened because I began to trust the process of backing up my 95LX too much.

I'd been using a 1 MB RAM card for about three months, during which time my 95LX had crashed on several occasions. More than once I had to completely reformat the C drive. (Thank goodness I'd written those backup routines!)

Not once, in all that time, did the A drive ever lose any information, so I began to put all my critical files on the RAM card. This included all the grades for the six courses I was teaching. Of course, being a believer of Murphy's Laws, I kept a backup of this information.

Then, on the last day of the semester, just as I was about to enter the last set of grades, I turned on my 95LX and was greeted with the following message:

CARD BATTERY LOW.

That was hard to believe. After all, the battery was supposed to last for a year. I ran the BATTCK.COM program (available on the Subscribers Disk) and, sure enough, the voltage on the RAM card showed 0.7 volts. I ran DOS ChkDsk utility on the RAM card (type **chkdsk a:** from the DOS prompt and press **[ENTER]**). The disk seemed to be working fine. I turned the 95LX off and went to class.

Before going across town to get a new card battery, I took the extra precaution of turning the 95LX on and backing up all my files to a micro disk. The "Card Battery Low" message did not appear this time and the backup proceeded normally.

I was able to find a replacement battery and a clerk with long, hard fingernails. Together we were able to extract the old battery and replace it with a fresh one.

Once the new card battery was installed, I ran BATTCK and found that the RAM card was now operating at full voltage. I started to run my 1-2-3 Automated Gradebook Program and the "gotcha" struck.

Lotus reported that there was some data missing from its files. I pressed **[ESC]** to override the error message and saw an empty gradebook. I ran **chkdsk a:** again and was presented with a series of messages telling me that every other file was "cross linked" to some other file. Oh-oh! I tried the DOS Copy command (**copy *.* nul**) and was immediately told "Data error reading drive A: Abort, Retry, Ignore" I switched to the C drive and then tried to switch back to the A drive and was told that A:\ was an "Invalid drive designator." Say what?

The only way to recover was to reformat the A drive and start over. I thought to myself: "thank goodness for backups."

I tried to use APP95 to transfer the files from my backup disk to the A drive of the 95LX. That's when the "gotcha" landed on me like a Sumo wrestler. All of the files on the backup disk were corrupt, the File Allocation Table of the disk had been blown away. APP95 could not transfer the files.

Apparently, my last backup had transferred files that were already corrupt. The backup disk was corrupted and unusable. All the programs that I been working on for the past three months were lost. Worse yet, the entire semester's grades were blown away. That's tantamount to a banker losing the combination to the safe.

After recovering from a panic attack, I spent a sleepless night reconstructing all the grades.

I won't go into the details, but it involved some tricky operations with DEBUG and the Norton utilities, and digging through printouts of midterm grades.

I consoled myself with the thought that I had only lost 1.44 MB of files. Disastrous as that was, it was better than losing 40MBs, which could have happened if the backup of the bad RAM card files had corrupted my desktop's hard disk. If I had backed up my 95LX onto my hard disk instead of a micro disk... No, I don't even want to think about that!

Preventing the Gotcha!

The next day I called the RAM card manufacturer to complain. The

technician could not tell me why a battery that was supposed to last for a year, died after only three months of use. He did offer the information that the battery warning device in the 95LX was set too low. By the time "LOW CARD BATTERY" appeared on the screen, the A drive had already lost data.

I asked what I could do to prevent such a gotcha from happening again. Here are the instructions as I recall them.

1. If you see a LOW CARD BATTERY message on the 95LX, believe it. It's no joke.
2. If, or when, the message appears, do NOT turn the 95LX off. Keep it on. The main batteries will supply enough electricity to the card to prevent any further damage.
3. Do NOT remove the card from the 95LX. Do NOT perform a backup or any other operation that drain the main batteries.
4. Replace the RAM card battery ASAP, with the 95LX still ON.
5. Once the RAM card battery is replaced, test all the files on the A drive. For a quick test use the DOS command, COPY filename NUL, to see if each file can be copied to the NUL device (computer nowhere land). Delete any files that don't copy. Copy the remaining files to another disk - not your backup disk.
6. Format the RAM card using the Format command in SETUP (or use the Format program that came with your RAM card). Then restore the A disk from your backup disk and add any new or changed files from the other disk.

For the Interminably Curious
Just in case you're curious, here's a brief explanation of what the BKUPx.BAT batch files do.

Line 6, in each of the BKUPx.BAT files, backs up the 95LX's C or A disk root directory. The /FT (Fetch Timed) option ensures that only those files with a later date than similar files on the backup disk, will be transferred.

The second time ZIP is called, in line 11 of the batch files, it gets the

name of a directory from BKUP95.BAT and transfers the files in that directory. It then "shifts" to the next directory in BKUP95.BAT and repeats the process until there are no more directories.

The "FOR %%E in () DO" statements are designed to pick up any error codes from the ZIP program and to display an error message on the screen of the desktop.

The final time that ZIP is called, it /Unlinks the ZIP program on the 95LX. This kicks the ZIP program out of server mode.

A Companion Restore Routine
The flip side of the Backup files is a

set of Restore Files. You will find these with an explanation in BACKUP.ZIP on the Jul/Aug 92 issue of *The HP Palmtop Paper ON DISK*.

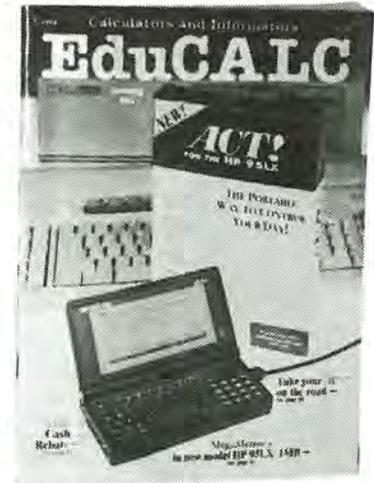
[Ed Keefe is an author, programmer, computer science instructor, and long-time contributor to support publications for Hewlett-Packard computers. He is the president of the FastAid Company, 314 S.W. Logan, Ankeny, IA 50021. Ed's CompuServe ID# is [73277-1064].]

On The HP Palmtop Paper on Disk, Jul/Aug, 92.

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The Savvy User

Tom talks about when not to use the 95LX, describes a clever way to transfer Solver equations to Lotus, and relates his experience with the new lithium batteries.

By Tom Page

Modern technology affects the way we live our lives and sometimes results in actions that do not make a lot of sense. For example, many people hop into their cars and drive to the park so they can take a walk. The effect of computers on our lives is no better — and may be a little worse. The very structure of a computer affects our approach to solving problems. Sometimes, because we have a computer on our desk or in our shirt pocket, we may overlook a more effective way of solving our problems.

Brute force computing capability is often substituted for critical, insightful analysis. I am guilty of this sometimes. It is easy to substitute different values in a computer model until one is found that produces the desired result. Unfortunately this kind of number crunching often obscures important relationships between variables in a system.

Lotus 1-2-3 encourages ledger-like "rows and columns" thinking. This works fine if you're balancing a checkbook, but often there are better approaches to solving problems. Some of these approaches require thinking in a different way, with a different medium.

Alternative approaches can actually improve the usefulness of the 95LX. A more efficient way of representing a problem can produce results in 10 seconds instead of 10 minutes. The key to quick results is understanding the problem, and there is no method better for analyzing a problem than reducing it to an algebraic equation and solving (analyzing) the equation.

Try Algebra First?

I know! I used the "A" word. Algebra conjures up the horrors of high school and college math classes. However, the benefits of such an analysis will more than compensate

for any minor discomfort you may feel.

One of the nice things about algebraic equations is that they can be simplified by identifying and canceling out nonessential variables.

$$\frac{[(3+2-4)N]}{N} \text{ simplifies to } 1$$

A short formula is better than a long one; they are easier to enter into 1-2-3 or Solver equations; they calculate faster; and they use less memory.

Another event that can occur as you simplify an algebraic equation is that related terms will tend to combine.

$$2N+3N-1N \text{ combines to } 1$$

This will help you identify key sub-components of an equation.

Algebraic manipulation of equations is an essentially fractional process. Computers and calculators decimalize fractions, and this can hide the true relationship of numbers. To understand this concept, take a look at the following numbers:

0.5
0.3333333
30.416666
0.03287671

The first decimal is pretty obvious. $0.5 = 1/2$. Even 0.3333333 is recognizable as (approximately) $= 1/3$. You may be saying, "Wait a minute, what's the deal?" Consider the third and fourth examples: What does 30.416666* and 0.03287671** represent?

In the first example, the fraction and decimal are exactly equivalent. However, in the remaining examples, the decimal does not express with 100% accuracy the exact fraction.

There is another advantage to thinking fractionally. Often fractions can be entered with many

fewer key strokes than their decimal equivalents. For example, using the HP Calculator in RPN (Reverse Polish Notation) mode, keying in 30.416666 and pressing **[ENTER]** requires 10 key strokes. Keying in 365, pressing **[ENTER]**, and then keying in /12 requires 7 keystrokes. Of course the computer is going to turn the fraction into a decimal, but it will be stated to the maximum accuracy possible of the computer.

Turn the 95LX Off and Put On Your Thinking Cap

Computers cannot replace a human brain. Often the best way to use 95LX is to first turn it off and take a look at what you want to accomplish. Although I have on more than one occasion received valuable insight from solving the wrong problem, the fact is that solving the wrong problem usually is a big waste of time. A little time spent thinking about a problem pays for itself.

Transferring Solver Equations to 1-2-3

1-2-3's named range feature makes transferring equations from Solver to a 1-2-3 spreadsheet pretty simple. Equations may be imported into 1-2-3, one-at-a-time, from the Solver catalog using the 95LX's clipboard. An entire equation file may be imported into 1-2-3 by pressing **[MENU]** File Import Text filename.eqn and pressing **[ENTER]**. Be sure to state the (EQN) extension of the Solver equation file. If you don't, 1-2-3 will assume the extension is .PRN and tell you that the file does not exist.

Now that your equations are in 1-2-3, examine them to determine if each equation occupies a single cell. There is a good chance an equation will be split on two lines. If this happens, make a copy of the .EQN file and use MEMO or another text editor to edit the copy and remove the characters causing the equations to break and occupy more than one line. Then import the edited copy, not the original .EQN file.

* 30.416666 = (approx.) 365/ 12, the number of days in a year divided by the number of months, or the approximate length (in days) of a month.

** 0.03287671 = (approx.) 12/365, the reciprocal of the number of days in an average month. This fraction is common in time series analysis.

If you are using the clipboard, be sure to put the edited equation on the clipboard.

After importing equations into 1-2-3, named ranges identifying the equations variables must be created. An efficient way to do this is to list the variable names in a column and use the **[MENU] Range Name Labels Right** command to assign each variable name to the cell on its right.

Now go to the cell containing the equation. Assuming you have the result on the left side of the equation, remove the equal sign and everything to its left, including the label prefix character. If you have assigned a named range to each of the equations variable, you should now have a working 1-2-3 formula. If you're getting an error and cannot get out of edit, perhaps you have not assigned a named range to every variable in the equation. If this is so, add a label identifier at the beginning of the equation to turn it back into a label. Finish naming ranges and re-edit the formula.

If you are still having difficulty, make sure the equation is valid in Lotus. For example, HP CALC allows extra spaces between operators (3 * 4), but 1-2-3 does not. If an equation starts with a variable (e.g. FEET), put a plus sign in front of the variable (+FEET).

Using the 95LX to Develop Lotus Spreadsheets for My Desktop PC

Now that I've had my 95LX for over a year, I find that I'm using it differently than how I had initially expected to do. Originally, I thought I'd download to the 95LX spreadsheets developed on my desktop PC. Now I find that I'm using the 95LX as "scratch pad" to develop spreadsheets for the bigger computer. This is one of the more interesting features of hardware/software development — the actual use of the product is often different from the planned use. There is absolutely nothing wrong with this, in fact sophisticated users are always finding different ways to use their machines.

Subscribers Disk

The 1992 *The HP Palmtop Paper Subscribers Disk* contains some excellent examples of how the 95LX's features and programs can be

combined in extraordinary ways. One of the most interesting of these, developed by Ed Keefe, uses the Phone Book program to implement a pop-up help function for HP CALC's Solver. Ed was able to do this because he saw Phone Book as a generic data base program, not a single purpose telephone directory.

I was really pleased with the preview copy I received of the Subscribers Disk. I think you will find it interesting and educational. Ed Keefe's Menu95 program itself is worth the price of admission. From me, that is quite a complement. I generally don't like menu programs, but this really simplifies the process of accessing DOS programs on the 95LX. Now if Ed will just create a companion menu program to load .EXM programs, I'll be satisfied (for a while). This is something really needed. I can remember only so many hot-keys, and a decent menu program might be a way around the limitations of APNAME.LST. (See page 8, this issue, for a review of SWITCH! — Editor.)

Lithium Batteries

I installed a pair of lithium batteries in my 95LX on April 9. I replaced them 18 gruelling days later. Almost every day I checked the fuel gage and never saw a reading of less than 100%. I wondered if these batteries would last forever — they didn't! On day 18 they went down like a one-egg pudding. [Editor's Note: Other 95LX users have reported that the Lithium batteries drop very rapidly at the end.]

Since the time I used the lithium batteries was punishing, I can confidently say they will last two to three times as long as regular alkalines. If you get the opportunity to use these batteries, keep a spare set handy since you may get little warning that they are near failure.

[Tom works for a natural gas pipeline company in Houston, Texas, and was one of the first to use PC's in the natural gas industry. He has been a regular contributor to support publications of Hewlett-Packard computers for many years. Tom's CompuServe ID# is [76011,3655].]

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Swift!Basic Programming Language for The HP 95LX

Ed gives a brief overview of BASIC and then reviews Swift!BASIC, a programming language developed specifically for the 95LX.

By Ed Keefe

Swift!BASIC

We've discussed Swift!BASIC from Zemanek/Weber, Vienna, Austria in previous editions of *The HP Palmtop Paper* (page 47 of the Mar/Apr issue and page 34 of the May/June issue). Swift!BASIC is now being sold, in the USA, by Sparcom (800-827-8416).

This article presents a closer look at Swift!BASIC along with a general overview of BASIC. Hopefully, with this information, you'll be able to make a more informed decision about getting and using Swift!BASIC on your HP 95LX.

Swift!BASIC: Its Historical Context

BASIC was created in 1964 at Dartmouth University. The first version of BASIC was very limited in what it could do. But because it was easy to learn and very forgiving of errors, it became the favorite computing language at many universities.

I got my first taste of BASIC in 1968. The experience of interacting with a computer was so addictive that I actually dropped a graduate physics course so I could spend time on an old, teletype machine learning this great "new" way to program.

With the arrival of microcomputers, BASIC became popular with hobbyists and professionals alike. Many people had their first taste of programming with Apple BASIC, MBASIC on CP/M computers, or later, BASICA on an IBM-PC or GWBASIC on an IBM clone.

Along the way, however, BASIC got a bad reputation. Since BASIC programs could be written and tested one line at a time, they tended to be written in a haphazard fashion. Programmers didn't have to think a program through. They could start throwing BASIC code at their computer. If the code didn't work, they could erase it, or use a GOTO com-

mand to jump over the faulty code. Programs might work once and then crash for no apparent reason. Trying to fix such programs was nigh unto impossible.

Many programmers switched to Pascal or C to insure better program design. Programs written in these structured languages ran faster and were easier to maintain.

However, the authors of BASIC couldn't let their language die. Professors Kemeny and Kurtz, the original authors of BASIC, completely rewrote the language and called it True BASIC. Microsoft finally retired BASICA in favor of QuickBASIC and Visual BASIC.

All of these modern BASICs have many of the same language capabilities as Pascal and C. They all allow the competent programmer to write structured code with nary a single GOTO.

Swift!BASIC is in a class with True BASIC and QuickBASIC. Like other versions of modern BASIC, it supports the use of functions and procedures. All functions and procedures use local variables. Swift!BASIC also contains several types of loops (WHILE..WEND, REPEAT..UNTIL, etc.) and even a CASE control structure.

Here are some of the other features of Swift!BASIC. Most of these features have positive aspects. Some of them have side effects that are not so positive.

Swift!BASIC: Strictly a 95LX Programming Language
First and foremost, Swift!BASIC is System-Manager compliant. It can pop-up on top of all the built-in applications (FILER, MEMO, etc.) If

UTIL Forth Version 2.4 The 95LX Toolkit For Programmers And Non-Programmers

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UTIL includes a Forth compiler, 8086 assembler, decompiler and disassembler, to turn your 95LX into a portable software development system. Create compact, System Manager compliant executable applications and standalone .COM programs. Or use the tools to access the built-in graphics capability of your 95LX, explore memory and much more.

Here's what a few of the current users (who can upgrade to Version 2.4 for only \$10) say about UTIL:

*"The loader capability is a real bonus on the 95LX" • "Good job!"
"Worth it for the examples alone" • "Thank you for a fine program"
"I love this package" • "Great software package! Thanks"*

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Swift!BASIC is loaded prior to 1-2-3, it's possible to switch back and forth between these two applications at the touch of a hot-key.

The only drawback to this feature is that Swift!BASIC cannot be run from the DOS command line. Nor can it be run on a desktop PC. It's strictly an HP 95LX development tool, designed for the 95LX and meant to be used exclusively on this palmtop.

Swift!BASIC takes full advantage of the HP 95LX's graphics and sound capabilities. It also uses the serial printer port for the LPRINT command. (If you try GWBASIC or QuickBASIC on the 95LX to do graphics, sound, or printing, you'll lock up the computer very quickly.)

The down side to using a lot of graphics in a Swift!BASIC program is that the program will run slowly. But this is true of most forms of BASIC and is not peculiar to Swift!BASIC.

In a Class by Itself

The one feature that puts Swift!BASIC in a class by itself is its ability to create system-compliant programs "automagically."

Once you've written and saved a Swift!BASIC program, you merely press **[ALT]-[MENU]** to save the program as an EXM file. On the disk will be a program that you can add to your APNAME.LST file.

Once you reset the 95LX, you can press the hot-key and watch your program pop up on top of the other built-in applications.

What could be simpler?! The user's manual states that this whole process is "automagic": I believe it!

However, not everything is magic. You won't find a simple command to help you design function-key menus, such as those used in SOLVE or PhoneBook. Similarly, there's no simple command that will let you add a clipboard feature to your program. You'll have to write these yourself.

Swift!BASIC's Integrated Development Environment

Swift!BASIC comes with its own menu-system, and its editor and debugger work hand-in-hand to give immediate syntax checking.

If you type in a line of incorrect code and press **[ENTER]**, the line will

start to blink and the computer will beep twice. You can't proceed until you correct the mistake. This is great for catching typing mistakes or misused BASIC commands. However, if you don't know BASIC, you could be very frustrated. No error message appears on the screen and the cursor does not always move to the place where the error occurs.

The debugger also detects runtime errors. It has the usual trace-on and trace-off functions of other BASICs but, since there are no line numbers in the code, the display of a series of line numbers on the screen is less than helpful. On the other hand, the debugger will let you single-step through a program. Error messages are displayed on the screen and, when you enter the editor, the cursor moves to the line that has the error.

Beyond this, Swift!BASIC's debugger will also let you do remote debugging. All you need is another HP 95LX. With the two palmtops connected, you can watch your program execute on one while you observe the BASIC code on the other. The same thing can be done with a 95LX connected to a desktop PC. However, 95LX graphics commands will not display properly on the desktop computer.

Swift!BASIC's built-in editor is very functional, although limited. It lacks any ability to move, copy or delete blocks of code. It does not have any search and replace function. It does have the ability to jump to a specific line, and to search for labels.

Swift!BASIC has its own menu system, available at the touch of **[MENU]**. The menu system is simple. It lets you load and save files created with Swift!BASIC. It also lets you import and export files in ASCII format. If you have BASIC files created in another form of BASIC, you can convert them to ASCII files and import them into Swift!BASIC. You'll still have to modify imported programs to make them run correctly under Swift!BASIC.

Due to memory limitations, there is no on-line help function in Swift!BASIC. However, this shortcoming could be overcome by creating a PhoneBook file containing a list of BASIC commands. Since both PhoneBook and Swift!BASIC are

system compliant, a home-made help file would only be a keystroke away. Anyone who wants to create such a feature will get lots of keyboard practice; there are 77 pages of BASIC commands in the Swift!BASIC Users Manual.

Accessing the Hardware and Firmware

Swift!BASIC lets the experienced programmer extend the language by making calls to the operating system of the computer. The **SYSTEM()** command in Swift!BASIC is very well implemented and easy to use. The downside to this is that you need to know exactly what you're doing. A good book on MS-DOS internal functions (interrupts) will help get you started. It will take some trial and error, and several system crashes, before you get the hang of this feature.

In addition to DOS, the HP 95LX has another operating environment: SYSMGR. Swift!BASIC handles calls to this operating environment as adroitly as it handles calls to DOS and the BIOS. However, the same admonition applies; you've got to know exactly what you're doing. You must also have the HP Independent System Developers' Manual to incorporate such features as "clipboard" and "menu" in your programs. (See sidebar, page 43 of the Fall 91 issue for more information.)

For really experienced BASIC programmers, there's nothing like the thrill of POKE-ing hex numbers into memory. This is the way to get the computer to "sing and dance" (or crash and burn quickly). Swift!BASIC provides this capability as well. It is one of the more dangerous capabilities of any BASIC interpreter and should only be used if you've backed up everything in sight.

Who is Swift!BASIC For?

Swift!BASIC appears to be aimed at two categories of HP 95LX users.

It is designed first and foremost for the casual programmer. This might be someone who has programmed in BASIC in the past — someone who has a desire to write one or more programs for the HP 95LX, but who doesn't have the time to learn C or assembler.

If you fit into this category,

Swift!BASIC will let you write programs for your 95LX using only the palmtop. No other computer is needed. You'll even be able to create system compliant applications and add them to your APNAME.LST file.

You can write quick and dirty hacks, or elaborate, structured programs; take your pick. The only limitation is your imagination and a 60K limit on the size of your code.

Swift!BASIC may also prove a useful tool for professional system developers. It's a great way to prototype single, small applications or parts of a larger application. It might be especially useful for trying out 95LX function calls to see how they will behave before implementing them in C or assembler. Since Swift!BASIC is an interpreted language, you can go directly from coding to testing without compiling.

On the other hand, I would not normally recommend Swift!BASIC for beginning computer users. For one thing, the Swift!BASIC manual is more of a reference booklet than a user's guide. You can't use it alone to learn how to write programs in BASIC. However, with

persistence and a good BASIC programming book, Swift!BASIC could become your first programming language.

If your plan is to write programs that may be distributed to other users, you should also be aware of one of the restrictions of Swift!BASIC.

With any program you distribute, you'll need to include the 44K SWIFT!.OVL file. This rather large file contains the run-time library for all Swift!BASIC programs. Without it, your program won't work. The positive aspect is that several Swift!BASIC programs can all use the same OVL file.

Even though there are no royalty payments for the distribution of the SWIFT!.OVL file, there's the hassle of designing an installation routine. The installation routine will have to make sure that the SWIFT!.OVL file resides in the root directory of the A or C drive on the 95LX.

A Question of Value

If you're looking for a quick way to create system compliant programs,

you'll undoubtedly consider Swift!BASIC a wise investment.

In and of itself, Swift!BASIC is a remarkable product for the HP 95LX. It works as advertised and is a good value for the money.

As with any new language product, using the first edition is somewhat risky. Undiscovered bugs may lurk somewhere in the program. These are the kind of bugs that show themselves only to early users of the language. However, if enough people learn use the language, it will grow and mature through several revisions. Hopefully, you'll find yourself growing along with it.

Order Information

Swift!BASIC — \$179.95

BASIC programming language designed for the 95LX.

Available in the USA through Sparcom Corp., 897 NW Grant Ave., Corvallis, OR 97330; Phone: 800-827-8416 or 503-757-8416; Fax: 503-753-7821.

Available in Europe through Swift!, Neustiftgasse 56, A-1070 Vienna, AUSTRIA; Phone: +43 (222) 526 12 71; Fax: +43 (222) 526 12 72.

[See Ed's bio at the end of "Looking Glass, page 29.]

COLUMN: Getting Started

Getting Started: DOS Fundamentals — Directories

By Hal Goldstein

We mentioned in the last issue that the HP 95LX is an "MS DOS" machine. This means that it functions similarly to an IBM PC compatible computer in that many of the same programs will run on both machines, and the "file structure" on these machines are the same.

This article will continue our discussion of "file structure" from last issue (see pages 39-41, May/June 92 issue). Remember, when you save information created using a built-in 95LX application such as PHONE, APPT, or MEMO, that information is stored in files. Learning how a DOS machine deals with files is really learning how to intelligently and efficiently store and safe-

guard your data.

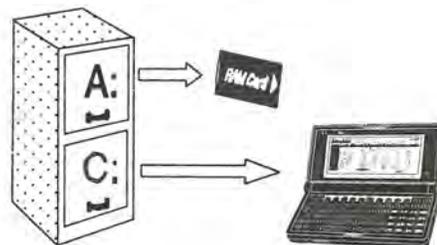
The analogy we made last issue (page 41) between a file cabinet and a DOS directory structure is a good one. The 95LX, with its built-in C drive and RAM card slot, is like a two-drawer file cabinet in that you can store your files in two different places. (If you don't have a RAM Card, you're missing a file drawer.)

File drawers in a cabinet are analogous to the disk drives on a computer. If we have a file cabinet with two drawers, we could label one drawer "C:" and the other drawer "A:". Likewise, the 95LX has an internal disk drive labeled "C:" and a RAM

card slot labeled "A:".

If we store files in a file cabinet, we can put them in either drawer. Files on the 95LX can be stored on either the C: drive or on the A: drive (if we have a RAM card).

When you store a file in a file cabinet, you give it a name (i.e. you put a label on the file folder). In the same way, when you store a PHONE, MEMO, APPT, or 1-2-3 file, you give it a name. As we discussed in the last issue, DOS lays out strict



The file storage capability of the 95LX is like a two-drawer file cabinet.

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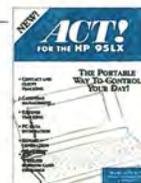
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rules governing legal file names. A file name consists of 1 to 8 characters, followed by an optional period and 1 to 3 more characters. These characters can be numbers, letters, and many of the special symbols, such as underline or dash.

Subdirectories

We can put a file in the A: drawer or C: drawer of our file cabinet. Similarly, we can store a file on the 95LX in the A: or C: drives. We store them in the "root directory", designated as A:\ or C:\ (note the backslash).

We can create in a file cabinet a thick file with a number of different, but related files in it. The fat file has a name and each of the related files have their own name. We can do the same thing in DOS by creating a "subdirectory" (sometimes simply referred to as a "directory"). A subdirectory is like the fat file among the normal files in our file cabinet.

Subdirectories are given names under the same conventions as a regular file. That means that a directory can have up to 12 characters including a period and a 3 character extension. In practice you will seldom find directories more than 8 characters long.

The 95LX comes with a built-in C drive subdirectory with the name `_DAT`. This is an arbitrary name. (HP seems to have named many of the HP 95LX's built-in files with the `_` symbol as the first character. For example, if you look in `FILER`, at the bottom of the list of files, you'll see `_STAT.WK1`. This tells you that it is a built-in spreadsheet that Hewlett Packard included as an unadvertised extra. We can assume that `_DAT` simply stands for data.

Whenever you save a `MEMO`, `APPT`, `PHONE`, or `HP CALC` equation file, by default you save it to the `_DAT` subdirectory. That means all your `MEMO` (`TXT` files), unless you otherwise designate, are automatically saved to your `_DAT` directory. Similarly, your `PHONE` and `APPT` files will be found in this subdirectory. If you had a RAM card, you could choose to store 1-2-3, `MEMO`, `APPT`, or your `PHONE` files on to the A drive.

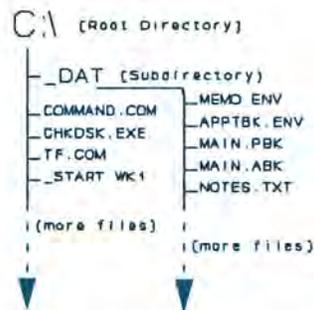
The PATH

Suppose we saved a `MEMO` file and

gave it the name `NOTES`. It turns out that although we just gave it the name `NOTES`, the "real" name of the file is `C:_DATNOTES.TXT`. This gives you complete information about the name of the file and its "path" (where you'll find the file stored). In other words, the whole file name of any given file consists of the 8 character name you gave it plus its 3 character extension (`.TXT` in the case of `MEMO` files), plus its location or "path".

The path describes how you would get from the main or root directory to the file. The main or root directory of a disk is designated with a backslash symbol (`\`). Therefore, the main or root C drive directory is designated as `C:\` and the A drive root directory is designated as `A:\`. Sometimes DOS lets you abbreviate. So at times, you could designate the root C drive as simply `C:` and the root drive as simply `A:`, but until you understand how to use these abbreviations, it is much safer to use the actual names (`A:\` or `C:\`) when referring to a directory.

The path traversed to get to `NOTES.TXT` is `C:_DAT`.



Path Structure showing C:\ Root Directory with files, `_DAT` subdirectory, and its files.

So what!

All this may seem a bit tedious and confusing, but it's worth knowing. Actually once you get used to the whole notion of a tree structured directory, the whole thing is really quite simple.

When you develop a filing system for your filing cabinet, two important considerations predominate. First, you want to make sure the information you store in your file cabinet is safe, and secondly you want to be able to find it quickly.

We are taking this journey into

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MS-DOS directory structure for exactly these same two reasons. Understanding how files and directories are named and how they relate to each other greatly increases your ability to safeguard your data and how to find it.

Safeguarding your data

The best way to safeguard your data is to create backup copies of your files. For example, you could back up your phone book from the `_DAT` subdirectory to either the root (`C:\`) directory, the RAM card (`A:\`) directory, or a hard or floppy disk on your desktop computer. To back it up, you have to know where to find it. You have to be able to tell the computer where you want to send it. And you have to understand file naming conventions.

Even before backing up a file you must understand the necessity of saving your work to a file as discussed in these past columns.

Finding data

`FILER` provides an excellent means for finding, renaming, and backing up files. You can also use `FILER`'s `[MENU] Directory Create` command to create new subdirectories. Once created, you can store files in the new subdirectory. Next time we'll go more deeply into `FILER`'s capabilities, and we'll see how to better organize and safeguard our precious data with `FILER`.

Using MEMO as a Phone Book

My heart went out to the cop who wrote in asking how to break the 47K PhoneBook limit. His experiences were mine exactly. I would never have switched from my CASIO to the 95LX if I'd known about this limit, and that would have been a shame.

My own solution to the PhoneBook limit has since been to use MEMO instead of PHONE. I would have had to break PHONE into at least 3 or 4 parts to accommodate my info. Using MEMO, I only have to break it in 2. Its only defect is that it doesn't insert items in lexicographical order. I solve that by putting a header on all items that begin with the same letter, for example, HHH as header for all items that begin with H. Then do my own insertions. (Inserting roughly in order is all that one needs to do since the Find key lets one find whatever one wants anyway.)

After you pointed out that LOTUS might be a good place to put large files in order to have a single "PhoneBook," I imported my files into a spreadsheet and discovered that 75K of text files turns into 93K of spreadsheet.

A major annoyance with

a spreadsheet of this size (smaller spreadsheets are better) is that it takes 17 seconds to save it and 12 seconds to retrieve it. On the other hand, the 8 seconds that it takes to find an item is relatively acceptable. A wonderful thing about the spreadsheet, besides the very important fact that it can hold all my data in one single place, is that it can be programmed... and I find that very useful. I originally tried to figure out how to divide the PhoneBook information among the columns in order to make proper use of LOTUS, and it took me a while to realize that it's okay just to put all the data into cells A1, A2, A3, ... in order and not to use any other cells for data.

[Most people use Lotus 1-2-3 as a data base by allotting 1 row of cells per record. So, for example, you might set up your phone book as follows: Column A - Last name, B - First name, C - Company, D - Address, E - ZIP, F - Country, G - Codes, H - Comments. Using the Menu Data Sort command, one could sort the names by any field such as Last name, ZIP, Country, or Codes - Hal.]

**Manuel Blum
U.C. Berkeley
California, USA**

HP and Lotus Should Publish 95LX Specs

I wish HP and Lotus would be a bit more responsive to the specific requests and feedback of end users. I would like to see more coordinated efforts between HP and Lotus to support their proprietary command interpreter system (SYSMGR). I don't have any scoop on either company. I am just a regular user who needs a good sysmgr-compliant Editor and "can't get no satisfaction". Programmers can't get the info they need from Lotus and users get caught in a run-around between Lotus and HP.

R. Williams, MD

The reason why there are few System Manager applications available is the lack of support that HP and Lotus has shown to SYS-MGR since the 95 came out. I thought HP and Lotus would push developers to create system compliant programs by giving them whatever tools needed to make it happen.

The 95LX is so similar to the HP-110 in terms of concept, hardware, and now support that it scares me.

**Bob Bernardino
Materials Engineer**

I have run into a stone wall trying to get specs for the

built-in communications capabilities of the Filer that are used by Connectivity Pack.

**Rick Kapur
DataViz, Publishers
of Macintosh to 95LX
Connectivity Software**

Yeah, you and all of us programmers whose heads are now sore and flat from the stonewalling.

**Dave Goodman
Software
Engineer**

Psion hampers its users and developers by sharply limiting the available tools. Unfortunately, HP and Lotus are nearly as bad. They hamper us by sharply limiting the available information. There should be no restrictions on who has access to the technical reference manual, and the technical reference manual needs to be complete.

**Ted Dickens
(HP Forum Sysop)**

Thank you for recently speaking out more strongly about the Lotus/HP failure to make available to talented programmers, the information they need to write applications which make this little machine even more valuable.

**Fred Kaufman
Admin. Law Judge
CIS ID: [72560,36]**

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CARDS

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

By Richard Hall and Hal Goldstein

In the last four issues we have listed over 130 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 it. Vendors of 95LX-related products should send us information about their products and services.

Hardware

Accessories

TimeBoss Leather Case

Exclusive leather case for your HP 95LX Palmtop PC from TimeBoss includes: HP 95LX case with Velcro (TM) fastener; Note pad; TimeBoss pencil; Three packets for credit cards; Pocket for HP 95LX card; Pocket for paper money.

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Comes with 9 volt battery box, special serial cable, software, and users manual.

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12240 Indian Creek Court, Beltsville, MD 20705, USA.; Phone: (301) 498-5400; Fax: 301-498-6498.

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Memory Cards

Dual Battery Memory Cards

SRAM memory cards for the HP 95LX manufactured by Magic RAM. Cards come with dual battery protection, preventing loss of data during replacement of the primary battery.

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capacity of a standard memory card. Also, with version 2.0's new Double-RAM feature, 95LX users can now compress their internal RAM disk in addition to doubling their RAM card capacity. See "DoubleCard Software," page 40, for upgrade information. [See advertising, inside front cover.]

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- DoubleCard 2M w Double RAM . \$469
- DoubleCard 3M w Double RAM . \$599
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Modems

PalmModem 2400/PalmFax

This PCMCIA-compatible 2400 baud modem card fits in the card slot of the 95LX. Resident in the PalmModem is PalmTerm, a terminal emulation program optimized for palmtop computer use. A variety of upload and download protocols are provided with the terminal emulation program.

PalmModem comes with resident facsimile processing and transmitting software. 128K of on-board RAM is available on PalmModem for conversion of text to fax transmittable data without using the 95LX's resources.

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Without 95LX Call
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GPS Pac

Global Positioning System (GPS) transforms the 95LX into a portable satellite receiver for the GPS system, allowing the user to determine position, direction, speed anywhere in the world. GPS includes complete satellite receiver with own antenna and batteries. The GPS software integrates with the built-in applications of the 95LX to display the signals received. For marine, aviation, surveying, and expedition application.

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RAM Card Drives

MEL-PCJ Station

MEL-PCJ Station is a universal card drive for PCMCIA standard 68 pin memory cards. It may be used to read from or write to RAM, EEPROM, and Flash EPROM cards and can be used for data exchange between the 95LX and a desktop PC computer. The data transfer takes place via standard RS-232 interface with 115,000 baud.

The MEL-PCJ Station comes with software that allows it to be installed as an additional DOS drive for the PC or the 95LX.

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Voice Recognition

MicroDyn II

This small, stand-alone voice recognition and synthesis system provides voice recognition of 1,000 words with better than 98% accuracy, and unlimited text-to-speech synthesis. MicroDyn II connects to the 95LX via the serial port. It listens to command or

data input, and sends keystrokes to the 95LX, and text to an on-board synthesizer for audio prompting, verification, or other user-specified action. MicroDyn II can be battery powered, or operate off a standard AC adapter.

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CONTACT: Voice Dynamics Corporation, 17835 Skypark Circle, Suite C, Irvine, CA 92714, USA; Phone: 714-252-1211; Fax: 714-261-8563.

SOFTWARE

Battery Utilities

BATTman Battery Management Software

BATTman 1.1 is a real-time battery management software for the 95LX that will safely turn off your 95LX when your batteries are low. This prevents sudden data loss and allows users to use rechargeable batteries in their 95LX. Rechargeable batteries

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have a very sharp drop off at the end of their discharge cycle. As a result, the 95LX does not have enough time to provide warning for the users to save their work before valuable data is lost. BATTman uses a proprietary Predictive Discharge Algorithm (PDA) which predicts the drop off point long before this happens. This allows users ample time to save their work and replace their batteries.

Once BATTman is installed, a pop-up window appears every time you power-up your 95LX. The pop-up window reports your real-time battery status. BATTman also monitors your backup batteries, both inside your HP 95LX and on your RAM card. In addition, BATTman's PDA supports Ni-Cds, NiMH (Nickel Metal Hydride), Alkaline and Lithium batteries.

[See Advertising, page 5.]

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BATTman \$49
With 2 NiCds and Charger \$59
With 2 Nickel-Metal Hydrides ... \$49
CONTACT: ACE Technologies, Inc., 2880 Zanker Road, San Jose, CA 95134, USA; Phone: 800-825-9977 or 408-428-9722; Fax: 408-428-9721.

Database

QAPALM

A database application builder for the HP 95LX and other DOS compatible palmtop computers. The system consists of an application generator which runs on a PC and a runtime program for the 95LX. Once installed, the runtime module can run any number of QAPALM custom applications.

QAPALM files can be translated into Lotus file format at the touch of a hotkey, allowing you to use the 95LX's built-in version of Lotus to analyze data collected with QAPALM applications.

Availability NOW
Medium Floppy Disk
Runs under SysMgr No
Pricing \$495
CONTACT: QA Systems, Inc., 220 East 42nd Street, New York, NY 10017, USA; Phone: 800-945-1717 or 212-599-1717; Fax: 212-599-2614.

File Compression

DoubleCard 2.0 Software

This software allows users of the 95LX to upgrade their RAM card to a DoubleCard providing them twice their original storage capacity.

HP95LX PalmModem™



- PCMCIA Credit Card Size Format
- 2400, 1200, and 300 bit/sec Data Rates
- Integrated Terminal and Facsimile Software
- 4800, 2400 bit/sec PalmFax™
- Compatible with CompuServe, Genie, Dow Jones, and MCI
- Lifetime Guarantee



15375 Barranca B-101
Irvine, California 92718
1 800 252 0550

CompuServe, Genie, Dow Jones, and MCI are trademarks or tradenames of their respective entities

In addition, users will also be able to double their 95LX's internal RAM disk with the unique DoubleRAM feature. For example, users of a 1MB 95LX with a standard 1MB RAM card will be able to store up to a total of 3MB of data on the 95LX and memory card.

[See advertising, inside front cover.]

Availability NOW
Medium Floppy disk
Pricing

Retail \$149
Upgrade \$89
(If you already own an ACE card)
CONTACT: ACE Technologies, Inc., 2880 Zanker Road, San Jose, CA 95134, USA; Phone: 800-825-9977 or 408-428-9722; Fax: 408-428-9721.

Financial / Real Estate

LoanSTAR

This mortgage finance program for mortgage originators or real estate sales personnel sets the 95LX up to do a number of useful loan calculations. LoanSTAR calculates total monthly payment and maximum allowable

loan amount, as well as buyer's costs and seller's net proceeds. LoneSTAR produces reports on Buyer Qualifications, VA Prequalification, FHA Prequalification, and Qualifying Income. The program also compares Rent vs. Purchase price, Fixed vs ARM loans, and Amortization schedules.

A demo disk for desktop PCs is available free of charge.

Availability NOW
Medium Floppy disk
Runs under SysMgr No
Pricing \$295
CONTACT: Personal Computer Systems, 505 S.E. 15th Street, Gresham, OR 97080, USA; Phone (503) 655-6990.

Lane Bond Trader

Provides professionals access to the tools needed to calculate bond prices and yields, and manage portfolios.

Availability NOW
European version end of third quarter
Medium RAM Card
Runs under SysMgr No
Pricing \$399
CONTACT: Lane Business Systems, 87 Hibernia Ave., Rockaway, NJ 07866, USA; Phone 800-444-5263 or 201-586-9760; Fax: 201-586-0929.

Property Mate

This software program can hold full information on all properties listed by an agency as well as a listing of potential buyers. The listings can be searched and selected according to a combination of criteria. Property Mate lets you cross-link buyers to properties, and vice versa.

Property Mate uses about 214K on the C drive, and a file of about 300 properties and 40 potential buyers occupies another 128K. Property Mate works on the 95LX or a desktop PC.

Availability NOW
Medium Floppy disk
Runs under SysMgr No
Pricing Call
AUSTRALIAN CONTACT: *John Thompson, c/o Tarion Agencies, P.O. Box 1632, Caboolture, 4510, AUSTRALIA; Phone 074 958 131; Fax: 074 958 633.*

HP Calc Related

My Best Solvers

A Solver (EQN) file containing what the author considers the "missing" financial functions from the HP-19BII financial calculator. The functions include cash flow analysis, depreciation calculations, bond yield and price calculations, and temp conversions.

This is a shareware program available on CompuServe in the 95LX Library of HPSYS..

Availability NOW
Medium Floppy Disk
Runs under SysMgr Yes
Pricing \$25
CONTACT: *Dr. Richard L. Taylor, 3505 Old Post Drive, Baltimore, MD 21208-3012, USA.*

Specialized

Palm Reference

Journal reference tracking for medical professionals. Palm Reference is a full-fledged relational database which organizes articles for instant retrieval and allows a search by any field. The search feature allows you to select "AND" & "OR" type functions on these fields. In addition, the product allows you an area for brief annotation. This product requires 70K disk space and 100K of RAM.

Both a PC and 95LX version are provided with order. The HP version uses 100K of System RAM.

Availability NOW
Medium ROM card or Card and floppy disk
Runs under SysMgr No
Pricing
Floppy disk only \$95.00

ROM Card & Floppy \$149.00
CONTACT: *Lighthouse Software, 3001 Red Hill Avenue, Building 4, Suite 213, Costa Mesa, CA 92626, USA; Phone: 714-850-1767; Fax: 714-850-0843.*

Personal Food Analyst

Consumer oriented software program that helps you track, analyze and modify your eating habits. Create your nutritional profile based on your age, height, activity level, sex and desired weight. Records what you eat during the day and continuously recalculates how many calories (and nutrients) your have remaining.

Personal Food Analyst uses a database of 4,127 food items to analyze what you eat. It lets you preview food for nutritional content before you eat analyzes food for 27 different nutrients, including calories, protein, fats, carbohydrates, and cholesterol.

Availability NOW
Medium ROM Card
Runs under SysMgr No
Pricing \$289
CONTACT: *Mirical Nutrition Corp, 4606 Northpark Drive, Colorado Springs, CO 80918, USA; Phone: 800-732-7707 or 719-598-5276; Fax: 719-598-5790.*

Thoroughbred Handicapping on the 95LX

PONIES.WK1 is a 95LX/Lotus 2.2 worksheet for handicapping thoroughbred horse races. Input raw data from the Daily Racing Form in less than five minutes - between races. Program outputs an odds-line, which you use to select profitable betting opportunities. Registered shareware version includes detailed hardcopy documentation, advanced handicapping advice, and telephone support.

Available in Library 7 of CompuServe's HP Handhelds forum, or directly from the author.

Availability NOW
Medium Floppy disk
Runs under SysMgr Yes
Shareware registration fee \$25
(Add \$5 if you need a disk.)
CONTACT: *David Marans, 877 NE 195 Street, #218, Miami, FL 33179, USA; Phone: 305-651-2580.*

Utilities

myREMOTE

This software program lets you use your 95LX as a universal remote control for infrared-controllable audio and video equipment. MyREMOTE

On The HP Palmtop Paper on Disk, Jul/Aug, 92.

allows your 95LX to memorize and store commands from any compatible remote. MyREMOTE's programmable macro commands allow you to operate many components with a single key-press. A built-in timer function provides for unattended operation.

Availability NOW
Medium Floppy disk
Pricing \$29
CONTACT: *ACE Technologies, Inc., 2880 Zanker Road, San Jose, CA 95134, USA; Phone: 800-825-9977 or 408-428-9722; Fax: 408-428-9721.*

Other Products and Services

Publications

The Forth Corner: The UTIL Newsletter

This newsletter provides a forum where UTIL users can find answers to everyday questions, and other useful information about Forth in general, and specifically UTIL Forth on the HP 95LX and Atari Portfolio palmtop computers. Text will be uploaded from



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ALL MAJOR CREDIT CARDS HONORED

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time to time on CompuServe at no charge (Library 7 of the HP Handheld forum, issue #1 is UNEWS1.ZIP). A printed subscription is also available.

Availability Issue #1 NOW
 Pricing (on CompuServe) Free
 Hard copy, per year \$10
 CONTACT: Uri Thier or Chris Smith, Essex Marketing Services Inc., 272 Old Farms Rd., Simsbury CT 06070, USA; Fax: (203) 651-7926, CompuServe: [70413,2546].

Services

EMBARC

This is a nationwide, wireless information transmission service that provides data delivery via a Motorola NewsStream Receiver to remote laptop, notebook, or palmtop personal computers located within an EMBARC service region.

To receive messages on your HP 95LX you will need the EMBARC subscription package, which includes a Motorola NewsStream receiver, HP's Mobile Data Link cradle (HP# F1006A), EMBARC software on RAM card, an EMBARC User's Manual, and a cable. In addition, you will need the basic EMBARC subscription, which costs \$15 per month. This allows you to receive unlimited E-mail. Usage fees for sending messages are billed on a monthly basis and vary depending on number of messages you send, priority and length of message, number of receivers message sent to, and requested geographic coverage. As an example, a 300-word message sent nation-wide in the USA within 3 hours would cost approx. \$2.00. Information Services may be added to the basic service at fixed monthly rates.

EMBARC is available in over 70 market areas, including most major cities and metropolitan areas in the United States.

Availability Fall, 92
 Pricing

Basic package \$458
 CONTACT: For more information contact Brad Davis, Strategic Marketing Manager, EMBARC/Motorola, 1500 N.W. 22nd Street, Boynton Beach, FL 33426, U.S.A.; 407-364-2000; Fax: 407-364-3683.

Palmtop Resources

Palmtop Resources provides a service to convert standard DOS applications to run on the HP 95LX, and has achieved varying levels of success with close to 100 of the top DOS programs, including WordPerfect, Quick-en, Foxbase Plus, PFS: Professional

Write, dBASE III Plus, DAC-Easy Light, Grandview, PC Anywhere, Microsoft Works, Turbo Pascal, MCI Mail, ACT! (HP version + pop-up), Memory Mate, and more.

Users are required to send their original disk to Palmtop Resources and the program is customized and placed on a RAM card, One Time Programmable ROM card, Flash card, or a floppy disk with instructions on copying the program to the internal RAM disk or memory card.

Many older versions of popular software work better on the 95LX. Palmtop Resources works with a dealer of pre-owned older versions of many software programs. If the program you want is not available, call us and we will try to locate it for you.

The price of the service varies, but listed below are the base prices:

Customizing DOS program..... \$159.00
 (returned on floppy disk)
 Customized DOS program
 with loader \$199.00
 (pop-up) and/or 80 x 25 driver
 1MB OTP Program Card \$195.00*
 (Allows loading up to 1MB program/ROM)
 1MB Flash Card \$349.00*

* Pricing and availability subject to change without notice (probably lower).

Palmtop Resources is also a dealer of floppy disk drives, Memory/Flash card drives, serial printers, fax modems, software and books.

CONTACT: Palmtop Resources, 5910 North Central Expwy #1000, Dallas, Texas 75206, USA; Phone: (214) 891-2218.

Publish Card

This service is available to software manufacturers and others needing to store large amounts of data on memory cards. These custom Flash RAM cards come with advanced data compression/decompression technology, allowing them to store up to 100 MB of data on a single card. Publish Cards are configured at the factory, utilizing the optimal compression algorithm based upon the type of data it will store.

[See Advertising, page 40.]

Availability NOW
 Medium Memory cards
 Pricing Varies, Call
 CONTACT: New Media Corporation, Irvine Spectrum, 15375 Barranca Parkway, Building B-101, Irvine, CA 92718, USA; Phone: 800-453-0550 or 714-453-0100; Fax: 714-453-0114.

SkyStream Receiver and Mobile Data Link

SkyTel's new wireless data receiver bundled with HP's Mobile Data Link

PALM REFERENCE

PHYSICIANS & MEDICAL PROFESSIONALS

Now!- There is a tool that gives you the flexibility and instant access you need to manage all of your journal references using less than 100K of memory on your HP 95LX.

PALM REFERENCE-Take control of your references today for only

! \$95 (disk version)
 ! \$149 (ROM version)

To order, call or FAX

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 Software

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 3001 Red Hill Ave. Bldg. 4 Ste. 213
 Costa Mesa, CA 92626

cradle and software. For a more thorough description of the receiver, take a look at page 4 of the Fall 1991 issue of *The HP Palmtop Paper*.

Once you have SkyStream and Mobile Data Link, you have to subscribe to SkyTel's nationwide messaging service. (See SkyTel ad, page 13.)

Availability NOW
 Pricing \$525
 CONTACT: Hewlett-Packard Co.: Phone: 800-443-1254.

Training

Palmtop Training Classes - Learn 95LX tips, techniques, and short-cuts in these compact one day seminars:

Introduction to the HP 95LX - Overview of System Manager, APPT, PHONE, MEMO, Lotus, HP CALC and connectivity.

Lotus 1-2-3 for the Palmtop - Create spreadsheets, what-if scenarios, formulas, graphs, databases, and macros.

Want to connect your HP 95LX to a Macintosh???



MacLinkPlus for the HP 95LX

“...makes file transfer between the machines trivially easy and includes all the regular DataViz translators.”

-David Ramsey, MacWEEK (6/29/92)

“...automates conversions of 95LX Lotus 1-2-3 WK1 and Memo.TXT files to and from a number of Macintosh formats including MacWrite, MS Works, MS Word, WordPerfect, and Excel. Once connected, your 95LX appears as if it were another MAC drive and with a few clicks, you can back up, transfer, and translate files.”

-Hal Goldstein, Executive Editor
The HP Palmtop Paper (May/June 92')

NOW WITH NEW TRANSLATORS FOR HP 95LX PHONE AND APPOINTMENT BOOK FILES

MacLinkPlus for the HP 95LX is the **complete** solution for backing up, transferring and translating files between your 95LX and the Macintosh. It provides conversions for your 95LX Lotus 1-2-3, MEMO, APPT and PHONE to and from over 40 file formats for the Mac and IBM PC compatibles. It even allows you to share your files with PC users by accessing DOS disks in your Mac FDHD SuperDrive.

LIKE ALL GOOD THINGS, THIS SPECIAL OFFER WILL NOT LAST LONG...

Order your MacLinkPlus for the HP 95LX today at a SPECIAL INTRODUCTORY PRICE of \$99.00 (shipping included if within the US). You'll get the award-winning, tried and proven, MacLinkPlus technology with the additional HP 95LX connectivity capabilities. We accept Visa/MasterCard or Check. (All checks must be in US currency and drawn on a US bank). Just fax or mail us your order.

MacLinkPlus for the HP 95LX includes:

Direct connect cable for the HP 95LX to the Mac
Direct connect cable for the Mac to the IBM
Software for the HP 95LX and Macintosh
Software for the IBM and the Macintosh
DOS Mounter software for the Macintosh

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- ☛ Programmable macro commands
- ☛ Timer control for unattended operation
- ☛ Works with a wide variety of remote controls

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(800) 825-9977



myREMOTE

Remote Control Software (C1065) \$29

ACT! for the Palmtop

Track your contacts and clients. Integrate your sales force using ACT!. Beeps to remind you of calls, meetings, and things to do.

Bring your own 95LX or try one out at the seminar (purchasable after class if you desire). Classes run 9 a.m. to 5 p.m. with one hour for lunch.

Customized training classes available for your company upon request. [See Advertising, page 9.]

Availability

Aug 24 - Washington, DC Sept 7 - Boston, MA
Aug 26 - Baltimore, MD Sept 9 - Orlando, FL
Aug 31 - Philadelphia, PA Sept 14 - Chicago, IL
Sept 2 - New York City Sept 16 - Dallas, TX

Medium Seminar
Pricing (per day) \$295
CONTACT: Computer Instructors Company;
Phone: 800-487-5040 or 202-829-4444; Fax:
202-722-5195.

Upgrade/Update Information; Special Notices

COMMO 5.3 ☐ - New Version

This full-featured communications program is described fully on page 24

of the Jan/Feb 92 issue.

New features in this release include Ymodem Batch and Ymodem-G internal protocols, swapping to disk, more macro control during dialing, improved screens for the HP 95LX and many other new features and improvements. Specify 95LX version when ordering.

Availability NOW
Medium Floppy disk
Runs under SysMgr No
Pricing

License only \$35
License and disk \$40
Printed manual, license and disk . \$53
CONTACT: Fred Brucker, P.O. Box 9103,
Santa Rosa, CA 95405, USA; Phone: 707-
573-1065.

Fall HP Handheld Users' Conference Confirmed

The Fall, 1992 "Anniversary Conference" will take place in London, England, on the weekend of September 19 and 20. Conference fee will be £35 for two days and £20 for one day. (See page 44 of the Jan/ Feb 92 issue for more information.)

CONTACT: Handheld and Portable Computer Club, c/o Dr. Wlodek Mier-Jędrzejowicz, Space & Admospheric Physics, Imperial College, London SW7 2BZ, United Kingdom.

Pocket Sales Force Looking for VARs

CM Software is looking for specialist Value Added Resellers to work with them in developing specific project-oriented solutions involving their sales management software. CM is currently working with a number of international corporations in this capacity.

CONTACT: Richard Hill or Andrew Cook, CM Software, Business Unit 1, 33 Sanford, Littlemore, Oxford, OX4 4XT, UK; (+44) 865-748875; Fax: (+44) 865-748873.

WorldPort Palmtop Fax/Data Modem Now Shipping

We described this portable, battery-powered modem on page 43 of the Mar/Apr 92 issue. U.S. Robotics informs us that it is now shipping.

Availability Now
Pricing \$249.00
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.

Non-English

The following products are available in non-English form only. They are described in the language in which they are available.

ADFIN

(French - financial functions for Lotus 1-2-3)

ADFIN est un bibliothèque de fonctions financières pour Lotus 1-2-3 qui permet aux professionnels des marchés financiers de réaliser des calculs sur les obligations et les options. ADFIN est opérationnel sur une large gamme de supports financiers français et européens et propose les méthodes de calcul les plus utilisées.

CONTACT: Marvin S.A., 3, rue Montauban, 75015 Paris, France, Tel: (+33) 1/42 50 34 34, Fax: (+33) 1/45 30 19 33.

☐ On The HP Palmtop Paper on Disk, Jul/Aug, 92.

PALMTOP DATABASE

Improve **your** productivity with palmtop software built to satisfy **your** specific needs. We create database solutions for the tracking of products, people and resources on the HP 95LX. Our relational database is so small, you won't need a RAM card!

We provide:

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- ▮ Custom reports
- ▮ User documentation
- ▮ Training & support

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LIGHTHOUSE
Software

(714) 850-1767 • FAX (714) 850-0843
3001 Red Hill Ave. Bldg. 4 Ste. 213
Costa Mesa, CA 92626

••• BASIC TIPS •••

This section focuses on the 95LX's built-in applications, giving tips of a more basic level. We are interested in your feedback on this section. Is it useful? Do you have any tips? Please write: *The Editor, The HP Palmtop Paper, Thaddeus Computing, 57 E. Broadway, Fairfield, IA 52556.*

📅 Appointment Book

IMPORTANT KEYS

[F10], **[F8]**, and **[ESC]** are the most important and most used keys within APPT. **[F10]** switches (toggles) you between your schedule of appointments and your to-do list. Press **[F8]** to insert new items in your to-do list and your appointment list. Press **[ESC]** to see a calendar.

Appointment Book 07.07.92 12:54 pm
rich.abk Todo

Tuesday July 7th, 1992
1st Priority: Check the water level
Call Rita for stock quote
Develop agenda for meeting
2nd Priority: Go over list of contacts
Call Robie for tickets

Copy Paste Note Insert Day
Help Cut Goto Find Watch

APPT's Todo list

Insert Todo 07.07.92 12:55 pm
Enter the Todo item

Item: _____
Priority: 1st
Carry forward: yes
Date: 07.07.1992

Help Insert Done
Watch

Todo list insert screen

Appointment Book 07.07.92 1:23 pm
rich.abk Calendar

	M	T	W	T	F	S	S
1992 July			1	2	3	4	5
	16	14	13	12	11	10	9
	27	26	25	24	23	22	21
1992 August						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16

Help Goto Day
Find Watch

APPT's Calendar screen

📠 HP Calc

FIGURING A 20% DISCOUNT

Suppose you walked into a store that advertised that all items could be sold for 20% off its sticker price. Rather than trying to compute the new price in your head, pull out your trusty 95LX and go into HP CALC. Now press **[MENU]** Bus% (Business Percentages) and use the up arrow key to move the cursor to "Percent of total...", the last line on the screen. Type in **100 - 20** and press **[ENTER]**. "Percent of total..." will now = 80%. You want to find 80% of the marked price to determine the sale

price. Move the cursor two lines up to "Total amount...." Type in the total, say **97** dollars, and press **[ENTER]**. Now simply press **[F8]** (PART) and you'll see that the part of the total (the actual sale price) is 77.60.

Try another item. Say the original price is \$52.95. Type 52.95 in at the Total amount line and again press (F8). You'll see the new total: 42.36. If you don't have two decimal points showing, press **[MENU]** Options Format Fix 2.

```

-----Business Percentages-----
Old value..... OLD = 200.00
New value..... NEW = 250.00
Percent change..... %CHG = 25.00

Total amount..... TOTAL = 52.95
Part of total..... PART = 42.36
Percent of total..... %TOTAL = 80.00
    
```

PART = 42.36

Help OLD %CHG TOTAL %TOTAL More

Figuring a discount in HP Calc

📞 Phone

KEY WORD IN ADDRESS AREA HELPS FIND INFORMATION

When entering new names and addresses in your Phone Book, be sure to include a key word or two in the address area. This is an especially good idea if you feel you might forget the name of the person or company. For example, suppose you were shopping for a new automobile. You could enter the contact and his phone number and company and put the word "CAR" in the address field.

Edit card 07.07.92 12:22 pm
Enter the name

Name: Maxwell, Rich
Number: (515) 472-5031
Address:
CAR

Help Insert Index
Find

Put key word in Phone address area

Similarly, suppose you did a lot of business with Hewlett Packard. Every time you entered an HP name in your Phone Book, you would be sure to include "HP" in the address field.

Now you could use either the **[F7]** (FIND) command or the **[F5]** (ONLY) command to find instances of what you're looking for. If you typed **[F5] HP [ENTER]** you would find all instances of Hewlett Packard employees. If you typed **[F7] CAR**, you would find the first car salesman you encountered in the data base. To find the next one just press **[F7]** again, or **[F5]** (ONLY) to find all instances of CAR.

1-2-3 Lotus

PRESS F1 FOR HELP

You should really get used to pressing **[F1]** to use the help facility built into Lotus 1-2-3. Once you have learned the Lotus basics, Help will enable you to accelerate your speed of learning. Pressing **[F1]** not only gives you immediate, specific help, but it also exposes you to Lotus capabilities you might not have known were there. Press **[F1]** for help.

```

-----1-2-3 Help Index-----
About 1-2-3 Help      F1: Main Menu
Cell Range Reference  F2: Add-In
Function Keys         F3: Copy
@Functions            F4: Data
Macro Commands       F5: File
W Commands           F6: Graph
                     F7: Move
                     F8: Print
                     F9: Quit
                     F10: Range
                     F11: Worksheet
    
```

Highlight a topic and press ENTER.
To exit Help, press ESC.

Lotus F1 Help screen

📝 Memo Pad

CUTTING AND PASTING

Copying or cutting text in MEMO is easy. Simply move your cursor to the point right before the beginning of the text you wish to cut or copy and press **[F9]** to Mark the beginning. Now move the cursor down to the point right after the end of the text you wish to cut or copy. When you have found that spot, press **[F2]** to COPY or **[F3]** to CUT the block of text.

The text that you just cut or copied remains in the 95LX's memory (in an area called a "buffer") until you replace it with other cut or copied material, or until you reboot the 95LX (press **[CTRL]-[ALT]-[DEL]**). To retrieve that buffer of text, simply move the cursor to where you want to put that information contained in the buffer and press **[F4]** to (PASTE) it back into the document.

As long as you do not quit MEMO, or cut or copy again, that same text remains in the buffer. That means you can press **[F4]** to PASTE the contents of the buffer into the current file, into another MEMO file, or in a new MEMO file. You can paste the contents of the buffer as many times as you wish by pressing **[F4]** again and again.

```

Memo 07.07.92 12:45 pm
TEST.txt*  Mrk Ins Line:6 Col:37
-----
This is a test document for the MEMO
built-in application to show how you
can use the CUT and PASTE functions.
This is a test document for the MEMO
built-in application to show how you
can use the CUT and PASTE functions.
This is a test document for the MEMO
built-in application to show how you
can use the CUT and PASTE functions.
This is a test document for the MEMO
built-in application to show how you
can use the CUT and PASTE functions.
-----
Copy
Help Cut Find Mark
    
```

Cutting and pasting in MEMO

Appt

FINDING APPOINTMENTS QUICKLY

This technique lets me quickly find APPT items relating to a specific individual. Whenever I enter an appointment, I end it with a "/" followed by the initials of the individual the appointment relates to. For example, if I had to review a marketing plan with Victor Matkins I might enter the following:

Review Marketing Plan/vm

Whenever I wish to find all appointments relating to Victor, I press **[F7]** (FIND), type in /vm and press **[ENTER]**. I use the Note (F6) feature to provide further details on the item.

I have found that this approach eliminates the need to use the in-built priority system to track to-do's.

Vincent Vanderpool-Wallace
Nassau, BAHAMAS

123 Lotus

CHANGE 1-2-3 DEFAULT DIRECTORY

To stop those built-in Lotus spreadsheets from showing up every time you are in Lotus 1-2-3, move your spreadsheets to the C:_DAT subdirectory. Then go into Lotus and issue the following keystrokes to change the default directory for Lotus files: Press **[MENU]** Worksheet Global Default Directory. Type in _dat and press **[ENTER]** Quit. From then on, Lotus will only "see" the files in the C:_DAT subdirectory that have .WK1 extensions.

Robert S. Williams, MD
CompuServe ID: [76167,2773]

Battery

WHAT RAM CARDS DRAW FROM THE MAIN BATTERIES

I recently examined a number of RAM cards to see the amount of current being drawn from the 95LX's main batteries.

Data was taken in 3 modes: Off, Lite sleep, and during a file copy from C: to A:. A large file was used to allow the ammeter (measuring device) to stabilize.

The 95LX does not power the RAM cards when it is off. The other

data showed that the three different cards were very similar and only had a small effect on battery consumption in the 95LX.

Power Consumption Comparisons (all measurements in milliamps)

Card	Off	Lite Sleep	File Copy
None	0.7	30-37	
HP 512K	0.7	32-40	130 ma
ACE 1.5MB	0.7	36-42	142 ma
Sparcom 2MB	0.7	32-39	130 ma

Victor D. Roberts
CompuServe ID: [70413,1423]

CHANGE MAIN BATTERIES WITHOUT BACKUP BATTERY

You can accomplish this without losing the contents of your C drive. Just keep the 95LX connected to an AC adapter (and the AC adapter plugged in) while you change the batteries.

Matthey Lief
American Society for Testing and Materials
Philadelphia, PA, USA

AVOID OVERNIGHT BATTERY DRAIN

The 95LX turns itself on momentarily every night at midnight to do some internal housekeeping chores. It will automatically turn itself off when finished with these chores, except in one case!

If you were running a DOS program earlier and did not exit the program prior to pressing **[OFF]**, the 95LX might fail to turn itself off. If this happens, your 95LX will run all night, draining the batteries in the process.

Larry Lefkowitz
CompuServe ID: [76137,155]

Connectivity

BETTER VERSION OF KERMIT

When using COMM's built-in VT100 emulation, the terminal cursor keys are provided by **[F7]** through **[F10]**. (Strange but true.)

If you need better VT100 emulation, download KERM2.ZIP from Library 7 of CompuServe's new HP Handheld forum (HPHAND). This is Kermit 2.29 from Columbia. It has VT102 emulation, uses the cursor keys to control the cursor (how novel!) and allows you to use **[F1]** to **[F10]** in combination with **[ALT]**

and **[CTRL]** to emulate the full VT100 keypad.

Victor D. Roberts
CompuServe ID: [70413,1423]

USING DCS95 TO TRANSFER FILES BETWEEN A COMPUTER WITH WINDOWS 3.1

My favorite file transfer software for the HP 95LX is the DC95/DCS95 software that comes with the HP Connectivity Pack. I have recently started using DC95 along with Windows 3.1. This allows me to transfer files from the 95LX to my PC (or vice versa) using the Windows File Manager program.

The way I do this is to run DC95 on the PC and DCS95 on the 95LX in the normal manner, as if I was going to conduct a normal file transfer session from DOS. I then run Windows on the PC, and bring up the File Manager program. The HP 95LX A: and C: drives appear as the D: and E: drives within the Windows File Manager. I can then transfer files using the normal File Manager techniques, or even use the Notepad to examine files on the 95LX.

However, there are a couple of caveats. Some people have reported having trouble making this DC-95/Windows combination work at all. Some have had success only when Windows is running in Standard mode (startup Windows by typing WIN /S), but not Enhanced mode (Enhanced mode works only on 386 and higher machines, and allows multiple DOS sessions and background processing).

I have had good luck using the above mentioned procedure with the Windows File Manager, but when I tried accessing a file on my 95LX with Microsoft Word 2.0, my whole system froze and had to be turned off to get it working again. I would recommend experimenting with your own system to see what will work for you and what will not.

Larry Lefkowitz
CompuServe ID: [76137,155]

MOVING CONNECTIVITY PACK'S MERGE TO YOUR 95LX

Go to the directory on your desktop PC where you installed the HP Connectivity Pack. Find MMERGE.EXE and MERGE_US.HLP and transfer them to your 95LX.

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

TURNING SERIAL PORT OFF

The new 1 MB units will always turn the serial port on when ANY program is executed from within the FILER (highlight and press **[F4]**). If you go to DOS, run SERCTL /O, to turn the serial port off. So it seems that I now can no longer run any program directly from within the FILER without first turning the serial port off. In other words, it is now necessary to execute all programs from within the FILER with batch files that begin with SERCTL /O!

Michael Ashman
CompuServe ID: [76010,543]

Memo

LINE DELETE MACRO FOR MEMO

MEMO is one of my favorite functions of 95LX. Since I am using it frequently, I need the standard function of a word processor. Line delete is one of the most usable functions of a word processor. However, in MEMO there is no line delete function. I wrote a small macro by using the MARK and CUT functions of MEMO. It works well. Whenever you need to delete a line just place the cursor on the line and press the defined [CHAR] F-key. You can place the cursor wherever you like on the line and you can assign this function to one of the ten macro keys.

Here is the procedure;

1. Enter into SETUP and then CHAR.
2. Choose one of the functions keys (my preference is F9).
3. Fill the COMMENT line with a descriptive information such as MEMO LINE DELETE.
4. Write the below macro to the CONTENTS: {HOME}{F9}{END}{F3}
5. Exit with INDEX and quit the SETUP menu.
6. Enter into MEMO to use your new function.
7. Write or retrieve a text and choose a line to delete. Carry the cursor to that line. Simply press the defined macro key combination such as [CHAR]-[F9] for line delete in MEMO. The line is deleted!

On The HP Palmtop Paper on Disk, Jul/Aug, 92.

Since the CUT function of MEMO is used, you can paste the deleted line to somewhere else afterwards. If the cursor is at the first column, a beep sound will be sounded indicating the border of the screen.

Ahmet G. Oezisik
Istanbul, TURKEY

WORDSTAR 4.0 WORKS ON THE 95LX

I'm running Wordstar 4.0 on my 95LX. Leave off the print overlay to save space — keep the dictionary.

Victor D. Roberts
CompuServe ID: [70413,1423]

Filer

USING FILER WITH MODEM TO COMMUNICATE WITH PC RUNNING APP95

A little known and even less documented capability within FILER is the ability to use a modem to communicate with a PC running the APP95 software contained in the HP Connectivity Pack. This feature allows all functions within Filer to be used across phone lines.

Making the connection is surprisingly easy, but requires that your PC to be left on, running APP95. On your PC, do the following:

1. With a communications program, put your modem in the auto-answer mode.
2. Start APP95 on your PC and enter FILER.
3. Press **[ALT]-[F10]** Remote-Set Config and set the port and baud rate to your modem.
4. Press **[ESC]** and return to FILER.

Perform the following steps on your 95LX:

1. Hook up 95LX to a modem.
2. Open FILER, press **[MENU]** Remote-Set Config Baud.
3. Set the baud rate of your 95LX's modem the same as your PC's.
4. Enter the telephone number that your PC is hooked up to.
5. Set Tone/Pulse as applicable and return to FILER.
6. Press **[F7]** to split the screen.
7. Press **[F6]** (Remote). You will connect in about 20 seconds.

At this point your PC will be in Server mode and you can perform all of FILER's tasks except remotely running a program.

Please note, if you use FILER later in a direct connection mode, don't keep a number in the DIAL option. This will increase the time to make a connection.

Mark Scardina
CompuServe ID: [71551,467]

HP Calc

ADDING NON-CURRENCY FACTORS TO CURRENCY CONVERSION

The 95LX is weaker at converting technical units than the HP 48SX Calculator. However, you can improve the situation by using HP CALC's Currency Conversion function. Insert your favorite non-currency conversion factors into the currency conversion menu of HP CALC. From HP CALC press **[MENU]** Conv Currency. Then press **[F2]** to Edit the list and **[F10]** for More. You can add up to 5 more conversion factors to the list. If you still want to add more conversion factors, you can replace some of the existing ones that you don't use (e.g. Peseta, Yen, etc.).

[Editor's Example: I like to be able to convert the number of words in a submitted article to the number of formatted pages the article will take up in The HP Palmtop Paper. This lets me keep a running count of how much material we have for each issue. The normal 3-column layout for the majority of the newsletter has an average of 850 words per page. The 4-column layout for the Letters and Quick Tips sections have an average of 1,170 words per page.]

I have added the following three conversions to my Currency Conversion screen:

```
Pages . . . . RATE = 1.00
3-Column . . RATE = 850.00
4-Column . . RATE = 1170.00
```

When I get an article, I use my word processor to do a word count, and enter the number of words in the 3- or 4-column items to see how many pages I have.

Some meaningless conversions take place with this arrangement. 850 words equals one page, but according to the conversion table it also equals \$2.45 (US) — Rich.]

Hermann Schmitt
Winnweiler, GERMANY

& Misc

INTERNATIONAL 95LX EASIER TO GENERATE SPECIAL CHARACTERS

I like the international version of the HP 95LX better than the English version because it has the special characters described on page E-3 of the HP 95LX User's Guide indicated on the keyboard, above the appropriate key.

Jay Siena
Japan/Pacific Environment Monitor
Miyagi, JAPAN

LEFT HINGE LOOSE

If you open the 95LX and wiggle the display screen you'll notice that the left side seems looser than the right. This is normal.

Larry Lefkowitz
CompuServe ID: [76137,155]

MAKE YOUR OWN LOADER

A "loader" is a program that lets you run an EXE, COM, or BAT file while the 95LX's built-in applications are open. You cannot use a loader to run a program on top of Lotus, and you may not start one of the built-in applications on top of a loader-run program.

You can make your own loader by using LoadMaker by David Goodman. Download LDRMKR.ZIP from Lib 7 of CompuServe's HP Handheld forum. I used Dave's program to make a loader to run Infoselect from MicroLogic. My loader calls IS.BAT, instead of IS.EXE directly. This batch file then calls Infoselect. The contents of my IS.BAT are as follows:

```
dispctl -c
a:
cd \is
is n
cd \
dispcl +c
```

The loader is created as an EXM file. I named the loader IS.EXM and put it in the C:\DEV subdirectory.

The line in my APNAME.LST file reads:

```
c:\dev\is.exm,2400,infoselect
```

2400 is the scan code for **[ALT]-J**, so starting Infoselect is as simple as pressing the **[ALT]-J** hotkey.

Victor D. Roberts
CompuServe ID: [70413,1423]

LIKES GERMAN VERSION OF POCKET SALES FORCE

I have used a German language version of Pocket Sales Force for more than 5 months now and I love it. I have over 900 addresses in it. Even on my 1MB Card with Stacker compressed files, a search through the 250K file is very fast.

A main advantage for me is that it's in German! (See Pocket Sales Force review, page 8, May/ Jun 92 issue. PSF is available in English and German.)

Tom Bergemann
CompuServe ID: [100034,3643]

Memory

STORING FILES ON THE A DRIVE

If you like to push your 95LX to the limit, the A drive (Memory Card) is a lot safer place to store files. I have never lost a file on the A

drive. It is easy to have a 40K phone book and 40K Appt book if you use the To-Do list and Note function extensively. What I've done so far is:

- Move my data over to A;
- Set up macros to automatically open files on A;
- From SET UP increase System RAM leaving room for .ENV & .CNF files on C:.

Mark Scardina
CompuServe ID: [71551,467]

DIFFERENT MEMORY CARDS

The 95LX can read/write to SRAM (RAM) cards just like you would write information to, or retrieve information from, a floppy disk. SRAM cards have batteries inside of the card that apply power to the memory circuit. Power (a small amount) must be applied to the memory cells in order for the cells to retain the data written to them. SRAM technology has been around since the beginning of time (well, maybe not that long).

Flash ROM memory technology is new, cheaper, and due to decline in price even further at a very rapid pace. The current problem with flash memory and the 95LX is that in order to "write" data to the flash card you must have access to 12 volts (the 95LX is a 3 volt system). At this time, the only way to use flash in the 95LX is if the card has been programmed with data by some other system. The flash card is then a "read only" card, you can not add data to the card.

In the future (next year) you will see 3 volt flash cards (at a premium price to start out with). Your choice of technologies depends on what you will be using the card for, but a card that is read only seems like a real waste.

Tim McCloskey
CompuServe ID: [75230,1026]

NO REASON TO USE A RAM CARD'S WRITE-PROTECT SWITCH

There is not a compelling reason to leave the switch on write-protect as the only threat to the security of the card, dead battery, would not be avoided with the switch. Nothing that I have ever done on the 95LX (and I have digitally abused it) has ever caused data to be lost that a write protect switch would have prevented.

Mark Scardina
CompuServe ID: [71551,467]

On The HP Palmtop Paper on Disk, Jul/Aug, 92.

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:

Thaddeus Computing, Inc.
The HP Palmtop Paper
PO Box 869 or 57 E. Broadway
Fairfield, IA 52556, U.S.A.

Fax #:515-472-1879
Phone: 515-472-6330
or 800-373-6114

CompuServe ID:
Hal Goldstein, [75300,2443]

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).

Technical Support

HP offers these options:

- **90-DAYS FREE SUPPORT**— is offered to all 95LX users and is available by calling (503) 757-2004.
- **FREE AUTOMATED SUPPORT**— is offered 24 hours a day by calling (800) 443-1254.
- **6-MONTH SUPPORT CONTRACT**— for \$149 you get a toll-free number and 6 months of unlimited support. Call (800) 443-1254.
- **900-NUMBER SUPPORT**— available on a pay-as-you-go basis (first minute free, \$2.00 per minute thereafter). Call (900) 288-0025.

The HP Palmtop Paper is 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.

How to submit an article

The richness of *The HP Palmtop Paper* comes from the contributions of 95LX users. We and your fellow users welcome your submissions. (We do not offer payment for articles; your reward is knowing that you've helped others.)

If you have a good idea and want to "go for it," send it in via CompuServe EMail or send disk or hard copy to Hal Goldstein or Rich Hall at the above address. Alternatively you can send an outline of your idea. We will try to guide you as to when and whether we would use the article and contact you if we need clarification or have any suggestions. We may want to use an article but for a variety of reasons you may not see it for many months. Also, please understand that we cannot promise to run any article.

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

Products Advertised in *The HP Palmtop Paper*

Company	Product	Page number
ACE	(RAM Memory Cards)	inside front
	(Switch)	4
	(BATMan Battery Monitoring Software)	5
	(myREMOTE)	44
	(RAM Memory Cards)	outside back
	(Card Drive, RAM Memory Cards)	27, 37
	(Pocket Sales Force)	16
	(95LX, Lotus, ACT! Training Classes)	9
	(ACT Contact Management Software)	35
	(Memory Card Drive)	38
Active Data	(MacLink Plus)	43
	(UTIL - Forth Programming)	32
	(95LX Accessories Catalog)	29
	(HP 95LX and Accessories)	7
	(Serial-to-Parallel converter)	23
	(Nameplate for 95LX)	1
	(RAM Memory Cards)	31
	(Windows/95LX Connectivity Software)	14
	(Palmtop Database)	44
	(Palm Reference)	42
Adtron	(Personal Food Analyst Software)	18
	(Card Modem)	40
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	(QA Palm custom database builder)	36
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CM Software		
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Contact Software		
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DataViz		
Essex Marketing Services		
EduCALC		
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Imaging Supplies Express		
IntelliLink		
Lighthouse		
Mirical		
New Media		
Pouch		
Q/A Systems		
Silicon Disk		
SkyTel		
Sparcom		
Tech Hackers		
Thaddeus Computing		
Widget		

Software on The HP Palmtop Paper ON DISK (July/August 1992)

Product	Function	Type	Page
COMMO.ZIP	Application: latest PC version of this small, robust communications program	Shareware	44
COMMO0.ZIP	Application: Latest 95LX version of COMMO	Shareware	44
FREYJA.ZIP	Application: UNIX-based EMACS-type editor for the 95LX with 650K of C source code and tools	Free	26
KERM2.ZIP	Application: Comm program with VT102 emulation	Shareware	46
BACKUP.ZIP	Batch Files: Backup routines	Free	29
SOLVERS.ZIP	HP CALC Files: Solver equations	Shareware	41
MEDSTF.ZIP	Spreadsheets and PhoneBook: Medical related	Free	17
PONIES.ZIP	Spreadsheet: Thoroughbred handicapping	Shareware	41
PTR95.ZIP	Utility: Prints out Phone Book in variety of formats	Shareware	5
95BUDDY.ZIP	Utility: Fixes problems, adds useful functions	Shareware	6
LDRMKR.ZIP	Utility: Run EXE, COM, or BAT files without closing built-in applications	Shareware	47
UNZIP.EXE	Utility: decompresses .ZIP files	Free	na
HPSL14.LIS	Text: latest HP 95LX CompuServe library files listing	Free	na
HPSL15.LIS	Text: latest library 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, May/June, 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 or the 1992 Subscribers Disk.

KLON.ZIP	(Mar/Apr 92) 7-pile Klondike solitaire	Shareware	8
MENU95	(92 Subs Disk) run DOS programs without exiting built-in applications	Shareware	9
UMA10.ZIP	(May/June 92) Macro key program	Shareware	11
UNO13.ZIP	(May/June 92) Database program	Shareware	10
WEEKABK.EXM	(92 Subs Disk) gives weekly view of APPTs	Freeware	8
ZIP.COM	(92 Subs Disk) file transfer program	Shareware	26

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 January/February 1992 *HP Palmtop Paper ON DISK* consisted of over 24 files, including those mentioned on page 43 of the January/February issue of *The HP Palmtop Paper*.

The March/April 1992 *HP Palmtop Paper ON DISK* consisted of 28 files, including those mentioned on page 44 of the March/April issue of *The HP Palmtop Paper*.

The May/June 1992 *HP Palmtop Paper ON DISK* consisted of 29 files, including those mentioned on page 48 of the May/June issue of *The HP Palmtop Paper*.

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To give you an idea just how useful these programs can be, we've summarized the contents of recent issues — see box at right.

Please note:

1. If you decide to use a shareware program, you are required to pay the shareware author his fee. Fees usually range from \$5 to \$45 — a fraction of the

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To give you an idea of the tremendous value this represents, here are just a few of the highlights of the software included in recent issues of *The HP Palmtop Paper ON DISK*:

Instructions and utilities for accessing all programs are included on each disk.

WORD PROCESSING

VDE: Compact, powerful text editor — a great alternative to MEMO.

VDE-LX.ZIP: Makes VDE work like WordPerfect.

COMMUNICATIONS

COMMO.ZIP: Full-featured communications program — richer scripting language than the 95LX's built-in program — easier to automate your activities.

UTILITIES

95BUDDY: Lets you launch an application by selecting its data file in FILER, change default directories, and more.

OUTLINE PLUS: Outliner and text editor.

LOADMAKER: Run EXE, COM, or BAT files while in a built-in application.

FINISH ZIP: Completes word after you type first few letters.

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

GAMES

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

KLONDIKE: 7 pile game of Klondike Solitaire

DIVDSK: Checkers, Go-Moku, Tetris, Othello, Mastermind, Adventure, and 9 other games. Enjoy!

Plus travel organizer, language compilers, screen printing utilities, other games, and lots more! (See Issue #1, p.36, Issue #2 p.43, Issue #3 p.44, Issue #4, p.48, and Issue #5, p.48 for complete listings.)

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Each 1992 subscription to *The HP Palmtop Paper ON DISK* includes Issue #1 (Fall 1991) — absolutely FREE!

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MEMORY CARDS



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