

# PrintScreen

## The Next Presentation

SOON-TO-BE-RELEASED  
**Lotus 1-2-3**  
version 4

It's not a misprint, Lotus 1-2-3-4 is about to be released!

Notice that a few version numbers were skipped.

That's because this new version will be considered:

"The Next Generation of Spreadsheet Technology".

**Come See for Yourself!**

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**SPAUG** would like to thank:

## **PRACTICAL PERIPHERALS, INC.**

of Westlake Village, CA for their most generous help with a V32/42 modem for our BBS

**OCTAVE SYSTEMS** of Campbell for helping us with the hard drive for our BBS

## **SPAUG Member Info**

**Individual Member:** (\$35)

An Individual Member can vote in elections, is eligible for all club privileges, and if 18 years of age can hold elective office. Dues are based on one full year of membership.

Please see Beverly Altman or call her at (415) 329-8252 to become a member of the club!

Well, I got through my first planning meeting without being assassinated. That was the good news. However, we didn't have anywhere near enough members show up to accomplish very much so the meeting soon degenerated into a dominoes game and an interesting discussion on the recent history of rocket science. I love it when we can get Dave Altman going with a story. We did decide to give the BBS two more months of research and then make a decision on it at the general meeting. Brian has been doing some good work on it lately, Bob and Henry have pointed us in the right direction but the manual is terrible. After looking

at the manual and software myself I understand why everyone had been having so much trouble with the darn thing. Microsoft it ain't. It looks like the sort of thing that a dedicated enthusiast would have a wonderful time with for two hundred hours a week, and that's about what it might take. At the moment we don't really have a sysop but the board is going along fairly well. At this planning meeting Christine and I brought the goodies, way too much as it turned out. However we will need to rotate this task in the future. Any volunteers?

*Cookie*

## **INTERNET**

### **How to Join . . .**

InterNet is a world-wide computer network used to transfer files and mail to people all over the globe. Users can contact other users personally (EMail) or join a distribution list for a managed organization.

If you are interested in joining InterNet, write to:

NetCom Communications  
4000 Moorpark Ave., Suite 209  
San Jose, CA 95117

Their voice number is 554-UNIX.

The Fees? \$15.00 one time setup fee; \$19.50-1st month; then 17.50 the 2nd month on. There is no Connect Charge.

To Submit Articles, Editorials, Cartoons or other "news-worthy" items for the PRinTScreen, call, write, fax, or send a file via disk or BBS to:

Jennifer Wildman  
1224 Quarry Road  
Felton, CA 95018  
Home: (408)335-7892  
Work: (415)967-8612  
Fax: (415)967-0540

Please contact me at home first, whenever possible. Also include a "hard copy" of anything submitted on disk.

## **WELCOME TO THE FOLLOWING NEW MEMBERS**

Michael Drevno Sherm Garsha  
AND THANKS TO

### **RENEWING MEMBERS**

Wes Anderson	Jan Buxton
Adam Chamberlain	Arlan Kertz
John Larabie	Larry Mehl
Rich Madden	Martin Milman
Bob Mitchell	Jim Powell
Keith Smith	Kendric Smith
Bill Weber	

**June 2nd (1st Wednesday) at 7:30pm**  
*The location*

**1670 Oak Avenue, Menlo Park**

Help us to make decisions about the club. All members are welcome. You don't have to be a club officer to get your views heard.

# LAPLINK V

## A Product Review by Larry Mehl \*

### Product Specifications

**Description:** Software which moves or copies files or entire directories between PCs using networks, modems or cables connected to a serial or parallel port.

**The product includes**

- 3.5" (720K) and 5.25" (1.2MB) disks
- (5.25" (360K disks are available by mailing or faxing a request card)
- 4-headed serial cable
- High-speed parallel cable
- User's Guide
- Quick Start & Reference
- Accessories Catalog

For a complete list of Product Features, see page 4

Prices: LapLink V — \$169.95, upgrade — \$49.95;  
LapLinkV for NetWare — \$99.95

Call 800 / 343-8080 for information

\* If you are interested in reviewing a particular product, please contact Larry Turpen at the numbers listed below:

**Ph: (408)268-7200**  
**Fax: (408)268-7671**

Larry will try to secure the software program for review. After your review is printed here, you will, under most circumstances, be able to keep that software. Larry will be able to explain more of the details.  
Give him a call!

Installation proceeds smoothly, if slowly, after >A:INSTALL. An option for "Custom" installation allows for enhancement of performance under Windows. After installation you have the opportunity to view the "Latest about LapLink V" readme file (2/15/93 for this version).

RAM requirements are confusing: The package says it requires 460K available RAM "(520K recommended)". In the Options/System Information Menu I saw that "544K available needed for best copy performance." The index does not contain a RAM or memory entry and I didn't find a discussion in the manual of RAM requirements or an explanation of the 84 KB difference.

On my first attempt to run the program, I had SideKick installed (50K notepad size), and MapMem (v 2.9) indicated 470,976 Kbytes free (chkdsk indicated the same amount). It wouldn't run, and a message displayed "... 465K required ...", plus the choice "OK", which returned me to the DOS prompt. I reduced my SideKick notepad size to 30K (increased available RAM to 490,944) and it loaded.

The LL main screen is divided into two windows. The left one always displays the contents of the local computer (the one at which the user is sitting). At the start, the right window shows a list of the computers you can connect to, and always includes the local computer. Once you open the connection with one of these computers, the right window shows the contents of that computer's disk(s). The [Tab] and left- or right-arrow keys move between the windows.

The cursor moves slowly in the menus, the program was slow to update the local computer's contents of the directory the user is operating, and it was a little bit sluggish moving between screens. Maybe it was because I had vshield installed, or because the machine was a 286.

It is convenient to tag files using the SpaceBar or select by wildcards or date. The program doesn't clearly show the wildcard patterns you select or which files have been selected by wildcards in the source window. The files did, however, copy correctly, you can select individual files in addition to those selected by wildcards. The selection criteria is lost once the copy procedure is completed, or even after you navigate around the menus. Immediately after setting up a wildcard pattern, you can't use the File/Copy Size menu option which lets you confirm the size of the files to be copied and the space available on the target machine.

Though still a DOS program, it has a more graphical look and feel, so you can drag a file name from a host to a client window.

When using the Tree mode for displaying a drive, the directories are not sorted. LL re-built the tree after viewing a file, when there appeared no need to do so.

While selecting files on the source machine, the directory tree display above it disappeared.

(Continued, next page)



## LAPLINK REVIEW, continued

You must make a directory on the target machine if it doesn't already exist. LL doesn't do it for you automatically, using something like a "recurse directory" method like PKZip does. I mistakenly selected some files on D: and copied them to C:

Selecting "Newer Files Only" from the Options/Copy Options menu saves time by copying only newer files of the same name.

You can specify dates by current date, current date and a specified number of days before that, or by fixed beginning and ending dates. Copying by Date is handy for recording operations in which you make regular backups of files. By recording a copy operation using the Today option, future playbacks will copy files having the dates on which the playbacks occur. You can select entire directories or an entire drive to copy from.

The Copy an entire drive option is useful to transfer files between computers with different versions of DOS and avoid mixing the versions, or to use a

hard disk of your desktop computer for backup for your laptop, storing the backups in a special backup subdirectory.

The Disk/Clone Drive option replicates entire drives and is useful for systems administrators to set up computers with the same programs and data files. It will destroy all data on the target drive and then copy all data on the source to the target.

LapLink has some useful file management features (similar to XTREE): make/delete/rename directories, display directory structure, find subdirectory or a file, delete/move files, view and/or edit text files using LL's default text editor or a word processor/editor/spreadsheet of your choice, and Shell to DOS and run a program, then resume work in LapLink.

Miscellaneous comments—

LL's built-in editor seems fast, but requires an exit from LL and a re-entry when you are done.

Shell to DOS—if the screen is cleared, you lose the "Type EXIT to return to LapLink." prompt. It is slow to return to the program.

An error message appeared and I can't

remember what caused it: "You have tried to use an invalid object handle (65289 requested)". The message was not listed in the Appendix for Messages. It hung the machine and required a cold boot.

LL terminated the connection to the remote machine several times. I didn't pursue the cause.

The manual does not contain a glossary. It would be useful to have terms which might be unfamiliar to users listed in one place.

## Product features:

### LAPLINK PRO

- Intelligent file-transfer options—copying based on date, name, and other considerations
- Secures files via passwords and restriction of access to certain drives and directories
- Optional data compression before files are transferred
- Synchronize Directory lets you make files in two directories identical. It copies files both directions
- Clone Directory re-creates a source directory on the target drive
- Refresh Directory copies only the files from the source directory that exist on the target and are newer than the files on the target
- Interface includes Windows-like toolbar and drag-and-drop features
- View and edit files — can display text in large type on laptops
- Run other programs — shell to DOS or run program directly from LL screen
- Recorder and playback of scripts lets users record the sequence of executing a particular file transfer task, for playback at a later date.
- Works over cables, modem, or a Novell network minute (70 modems are supported)
- Automatic port sensing and speed maximization
- Network operation allows configuration of workstations at new users' sites, connecting them to network, then transferring all of the necessary files at 8MB or more per minute using "Clone Drive" command.
- Supports Novell's Service Advertising Protocol, enabling users to transfer files across IPX-based bridges and routers
- Windows file transfer performance is supposed to be faster because of some very smart Win communications drivers which replace the comm.drv file
- Works in background while you work on other tasks (requires Win 3.1 enhanced mode)
- Can be installed remotely from another computer (not tested)
- Help is abundant and context-sensitive, via [F1].



# Understanding Personal Computer Faxmodems

## How to get the best data and fax communications for your PC.

### Communicating with Everyone

Today's faxmodems are a growing class of PC enhancement that integrates data and fax communications into a single add-in product that handles both types of transmissions. By taking advantage of advances in digital signal processing technology and chip miniaturization, faxmodems provide more functionality than traditional data-only modems—with advances in technology continuing to drive down prices.

Because faxmodems connect you to other modem-equipped computers and to more than 20 million fax machines worldwide, a faxmodem gives you far more communications flexibility than a data-only modem.

But not all faxmodems are created equal. To ensure compatible, reliable, high-speed communications, faxmodems must clear a number of technical hurdles. This paper explains issues that affect how well a faxmodem performs, and also describes several technical issues that affect a faxmodem's overall usability.

### Compatible Communications: Implementing Standards

For two telecommunication products to work together smoothly, they need standards that specify how to get the job done—and each product must implement the standards fully and carefully. For example, the high-speed data modem market began its explosive expansion in the late 1980s, when the V.32 standard for 9600 bps communications was widely adopted. Before then, most high-speed modems used proprietary schemes that worked only with another modem from the same vendor.

#### Telecommunications standards can be:

Formal standards such as V.32 and V.42bis, which are developed by government and industrial organizations and specify the interactions between two modems or faxmodems; or De facto standards such as the Communicating Applications Specification (CAS) and the Hayes AT\* command set, which describe ways for communications software to

control the features of a modem or faxmodem.

#### Standards specify items such as:

Handshaking and modulation schemes for establishing communications and transmitting data.

Methods of compressing data to achieve higher throughput. Techniques to identify transmission errors and try to correct them.

Programming interfaces (APIs) between a software application and a faxmodem

Tables 1 and 2 (on the next page) provide a reference list of relevant standards.

For guaranteed compatible communications, faxmodems should conform fully to the appropriate standards and should be tested to verify connectivity with a variety of other modems and fax devices. Don't hesitate to ask a vendor what testing it performs to verify standards compliance and connectivity.

### Evolving Standards

When technology is rapidly advancing, standards must evolve to keep pace. Future standards now under development include the "V.fast" modulation standard and fax applications interface (API) standards:

V.fast is the working name of the proposal for the next-generation high-speed modem standard for ordinary phone lines. As of this writing, V.fast isn't far enough along the development path to have earned official nomenclature or for the CCITT to have determined what its top speed will be. So the 14,400 bps of V.32bis appears likely to reign as the high-speed king at least through 1993.

Fax API standards are still emerging. The CCITT's T.611 specification will be the first international fax/application software interface if it is approved as expected in late 1992.

Meanwhile, the Intel/DCA CAS interface is supported by over 100 applications and provides a comprehensive, high-level API for fax applications. The Class 1 standard (EIA 578), which extends the Hayes AT command set to allow control of a fax modem, is a new, low-level fax API that is quickly gaining in popularity among faxmodem vendors. The proposed Class 2 (PN2388) standard, which puts more of the intelligence on the faxmodem rather than in the PC, remains unrati ed at this time.

### Reliable Communications: Error Handling and Other Issues

Telephone lines were designed for transmitting voices, and the ordinary background noise or static on a phone line

can introduce errors in data and fax communications. Noise is a particular problem during high-speed transmissions, because each period of noise can damage so much data.

Faxmodems can use sophisticated methods to ensure accurate transmissions of both data and faxes, including the methods specified by international standards and features such as intelligent buffering and adaptive handshaking.

### Standard Methods for Error Control

For data communications, V.32 and V.32bis modems start with trellis-coded modulation (TCM), which attempts to identify errors and repair them as they come into the receiving modem.

In addition, the V.42 standard defines a method called the Link Access Procedure for Modems (LAPM), and the MNP protocols provide a more rudimentary approach to error control. V.42 and MNP error control can be used with slower modems, as well.

These methods vary in efficiency, but both provide for error-free data transfer between two modems. The T.30 fax standard specifies the ability to identify errors and indicate the need for a page to be retransmitted if errors reach a certain level. T.30 was later enhanced by the addition of an optional error correction mode (ECM) that defines techniques to ensure error-free faxing.

### Smart Data Buffering

Standards such as V.42 and T.30 ensure accurate data and fax transmission across phone lines. But today's modems must also make sure high-speed data isn't lost getting from the modem to the PC if the PC is busy with another application or otherwise unable to keep up with the flow of incoming data. To reduce this possibility, some PC serial ports (and some internal modems) provide a serial interface that incorporates a small character buffer. While this feature helps reduce risk of high-speed modem-to-PC data loss, more advanced designs are required to make sure the CPU has fetched the data waiting in the serial port interface before the modem overwrites it with additional data. This is a capability that Intel refers to as "Smart UART Buffering."

(Continued on page 7)



## Newsletter Editor Almost Loses Her Head

*Gotcha with a catchy title, eh? My mom always said that I'd forget my head if it wasn't attached. This month I was lucky enough to remember my head, but everything else (that wasn't attached) is long gone!*

I went to a Desktop Publishing seminar this week. It was great...they talked a lot about newsletter publishing! Hopefully, you will see a lot of improvements in upcoming newsletters. (Not this issue, however, which was published in an extreme hurry due to the fact that I am going out of town!)

One BIG THANK YOU to Jim Bailey who has taken over the mailing of the newsletter for us. Please give him a few "pats on the back" for taking over this big job. If you do not receive the newsletter one month, just give him or me a call. It happens from time to time, as the mailing list is oh so long! Jim has planned "mailing parties" to address and stamp the newsletters. If you'd like to help, and have the advantage of sharing information with your fellow computer users, give Jim a call. His number is (415) 494-0631. Thanks Jim!

I've had a number of people who sympathized greatly with my scanner problems. Lest you think they have all gone away, they haven't. But it is functioning 100% better since the last time I wrote about it. Now all I have to do is learn how to use the OCR package (Type Reader) so I can scan text. Does anyone out there have any experience using this program?

Last, but not least, thanks to the major contributors this month. The newsletter is fun to put together when there are a lot of articles and news. Brian Christopher sent me some of the "electronic" newsletters and some other articles. The one I used, about faxmodems, seemed really neat though pretty technical. The tables were hard to decipher. As any articles that are transferred electronically seem to come across with funny spacing, I had to guess which column went where and add my own tabs. If anything is out of place, let's blame it on my lack of technical expertise and not the writer's intent. Thanks to Nancy Helmy for the batch file at right and for mentioning the idea of featuring a batch file each month. Who will be next?

Have a great month! I'm off for Phoenix where I'll spend the weekend. I am not planning on thinking about computers, but I've said that before. Being married to a "techie" (techie not trekkie) means I can never be off-line!

Till next issue...

Jennifer

## BATCH FILES

One of Prez Paul's good ideas was a monthly batch file in the newsletter. I'd like to see this feature continued and am offering this batch. More sophisticated batches are probably in your own computer and why not pretty them up and submit them?

Nancy Helmy

Gotta computer? Gotta modem? Gotta telephone?  
Wanna call a person?

Don't touch that phone pad—try dialv.bat. No comm program, just keyboard.

```
::DIALV.BAT
echo off
cls
echo DIAL FOR VOICE %1
:DIAL
if %1!==! goto NOPARAM
echo ATDT%1 >com1
echo.
echo Pick up the phone, dearie.
echo.
pause
echo.
echo.
echo.
echo.
echo.
echo.
echo.
echo ATH > com1
goto END
:NOPARAM
echo.
echo Usage: Dialv %%1 (phone number, dummy)
:END
```

### CompuMentor

This non-profit organization matches volunteers with "needy" computer users.

Volunteers of varying skill levels are needed to help non-profit organizations like schools and churches set up databases, hook up to bulletin boards and networks, learn specific software programs, and more. If you want to more information, please contact them at the number below.

**(415)512-0473 (800)659-3579**

## Speed Optimization

High-speed modems have sophisticated methods of increasing both accuracy and performance by allowing the modems to operate at the fastest speeds that line conditions will safely permit. First, during the handshaking that occurs at the beginning of a connection, some high-speed modems can test line quality and use that information to help choose a line speed.

This "adaptive handshaking" ensures that the modems can complete the error control negotiation process and establish the fastest error-controlled connection possible—even over poor lines.

Second, once the connection is established, and transmission begins, some data modems can dynamically monitor the quality of the phone connection, slowing down (falling back) if too many errors occur. More advanced modems can also speed back up (fall forward) if conditions improve. Modems that support this feature vary in how quickly they are able to identify changes

in line quality.

## High-Speed Performance: Modulation, Compression, Architecture

In addition to features such as speed optimization and adaptive handshaking, communications throughput depends on what modulation and data compression

standards a faxmodem follows. Throughput also depends on how well its architecture meets the performance demands of handling massive quantities of data very rapidly.

## Modulation

Modulation is the method used to transform bits of information into an analog signal suitable for traveling over telephone lines. Modulation techniques have been on a rapidly rising curve since the early 1980s, when 300 bps was common. As we've seen, the fastest faxmodems standards today support transmitting data and faxes at 14,400 bps, with advanced data compression techniques raising effective throughput even higher.

Although a faxmodem has a single modem chipset, it uses different modulation techniques for data and fax transmissions. Data and fax speeds are relatively independent, so a faxmodem can offer 2400 bps data and 9600 bps fax rates, for example.

## Data Compression

Data compression increases effective throughput by recognizing patterns and reducing the data to a smaller number of bits without any loss of information.

For data communications, the V.42bis standard allows data to be compressed up to fourfold, making it possible for a

V.32bis modem to transmit data at effective rates of 57,600 bps. The MNP 5 protocol provides 2:1 compression, which, for example, gives a 2400 bps modem an effective throughput of up to 4800 bps.

On the fax side, the T.4 standard specifies one-dimensional (Modified Huffman) encoding, which compresses the data in each horizontal scan line. T.4 also allows an optional 2D (Modified Read or MR) encoding, which compresses the image vertically as well as horizontally and can reduce fax transmission times and associated costs by up to 25%. MR encoding is widespread in stand-alone fax machines and is beginning to appear in advanced PC fax products.

## Avoiding Bottlenecks, Providing Background Faxing

A faxmodem's actual throughput can vary considerably from the product's rated line speed. For example, keeping data flowing over the phone line at 14,400 bps means that a V.32bis faxmodem must execute compression algorithms up to four times that rate. Since V.32bis modems can send and receive simultaneously, that means the faxmodem has to be able to compress 57,600 bits and decompress another 57,600 bits each second.

Continued, next page

Table 1

## What are the standards for data communications?

Category	Developed By	Description
<b>Modulation</b>		
V.32bis	CCITT	Int'l standard for 14,400, 12,000, 9600, 7200 and 4800 bps
V.32	CCITT	Int'l standard for 9600 and 4800 bps
V.22bis	CCITT	Int'l standard for 2400 and 1200 bps
V.22	CCITT	Int'l standard for 1200 bps
V.21	CCITT	Int'l standard for 300 bps
"V.fast"	CCITT	Working name for the proposed next-generation high-speed communication standard
Bell 103	AT&T	US defacto standards 212A, etc for low-speed communications
<b>Error Correction/Data Compression</b>		
V.42bis	CCITT	Int'l standard for data compression (up to 4:1) protocols
V.42	CCITT	Int'l error control standard
MNP 1-5	Microcom*	Defacto standards for error control and data compression.
<b>Applications Interface</b>		
TIA-602	TIA/EIA2	US standard command set for modem software to control a Hayes AT-compatible modem

1 International Consultative Committee for Telephone and Telegraph (known as the CCITT after its French initials) - a United Nations-sponsored organization that is the primary international standard-setter for the telecommunications industry.

2 Telecommunications Industries Association /Electronic Industry Association - the main telecommunications standards-setting body for the U.S.



Bottle-necks occur and performance declines if the faxmodem isn't up to the job. So, look for a DTE rate that matches or exceeds the faxmodem's maximum throughput.

High-speed faxmodems provide coprocessing power to handle this workload efficiently. For example, some Intel SatisFAXtion faxmodems incorporate an Intel 80186 microprocessor, 512 Kbytes of on-board memory and a custom gate array to manage the flow of data between the faxmodem and the PC.

Not only does coprocessing enhance performance, it allows fax communications to proceed smoothly as a background task. This makes communications more reliable and transparent by ensuring that users can continue working without worrying about lockouts, line drops or performance slowdowns: faxing doesn't interrupt you, and you don't interrupt a fax.

#### Usability Issues for Faxmodems

In addition to providing reliable, compatible communications with high effective throughput, faxmodems may offer a number of other technical features that enhance the product's ease of use and effectiveness. These range from intelligent phone-line management to easy faxing from any application.

#### Internal or External?

Faxmodems are available as external devices and as boards that install in your PC. External products are easy to move from one computer to another, and their lights provide a convenient indicator of the faxmodem's activities. Internal products are better able to support the maximum throughput of the faxmodem architecture since they're not limited by the bandwidth of the PC's serial port.

#### Smart Line Sharing

Some faxmodems provide a smart line sharing capability that allows a single phone line to serve for data, fax and voice calls. By answering each incoming call and ringing the appropriate device, smart answering saves

the \$50 to \$100 cost of a "black box" or line switcher.

With distinctive ring service from your phone company, more than one phone number can be assigned to a single line. Calls are distinguished since they ring your phone in different ways. Some faxmodems can take advantage of this service with Smart Line Sharing.

#### Software and Ease of Use

Faxmodems vary in the software—and ease of use—that they provide. Most faxmodems come with fax software that

includes time-delayed faxing, broadcast faxing to a list of recipients, and other capabilities. A key function to look for is the ability to fax from within your DOS or Windows applications; Intel's WYPIWYF interface (What You Print Is What You Fax\*), for example, lets you send a fax in just a few keystrokes from within any application. It's also valuable to have data communications software included, to save the cost of purchasing it separately.

#### Printer Emulation and Fax Output Quality

Some PC fax products simply format faxed documents as ASCII text files, losing virtually all the formatting that today's programs can provide. Others emulate popular printers, but with widely varying accuracy. For best results, consider a faxmodem that emulates a richly featured printer like the printer you normally use. For example, if you use a LaserJet\* Series II or III printer, you'll want to look for a faxmodem with HP PCL 4 and 5 emulation.

Continued, Next Page

Table 2.

## What are the standards for fax communications?

Category	Developed By	Description
<b>Overall Fax Specifications</b>		
Group 3	CCITT	International standard for fax communications over ordinary phone lines
Group 4	CCITT	International standard for faxing over digital telephone networks
<b>Modulation</b>		
V.17	CCITT	International standard for
V.29	CCITT	International standard for 9600 and 7200 bps
V.27	CCITT	International standard for 4800 and 2400 bps
V.ch 2	CCITT	International standard for 300 bps
<b>Higher Level</b>		
T.30	CCITT	Int'l standard for establishing connections, negotiating protocols & controlling errors.
<b>Advanced error correction mode (ECM) added in 1988.</b>		
T.4	CCITT	Int'l standard for fax image format, 1D or 2D image compression and fax transmission
T.6	CCITT	Advanced 2D image coding scheme; formulated for Group 4 but also usable by Group 3 products with T.30 ECM
<b>Applications Interface (API)</b>		
Class 1	TIA TR 29.1	U.S. standard adding fax (EIA 578) Committee API commands to the AT command set. Implements T.4 on faxmodem, T.30 on host.
Class 2	TIA TR 29.2	Evolving U.S. standard (PN 2388) Committee adding fax API commands to the AT com
CAS	Intel, DCA*	Defacto standard high-level fax API
T.611	CCITT	Proposed international high-level fax API standard



## Scanner Support

Scanners make it possible to incorporate non-PC documents, photographs and other graphics into your faxes. Many faxmodems can send documents captured from leading full-page scanners, and a few offer an on-board hand-scanner interface that saves the need for a separate scanner interface board.

## Fax-to-Text Conversion

Ordinarily, received faxes are stored as bit-mapped images in a graphics file format such as TIFF or PCX. Fax software that incorporates optical character recognition (OCR) allows you to convert these faxes to character-based files that you can bring into your word processor and edit.

## Memory Usage

Even in PCs with plenty of memory, the first 640 Kbytes of

"conventional" PC memory is still a scarce resource. To monitor incoming calls, faxmodems rely on terminate and stay resident (TSR) programs that can require up to 130 Kbytes of conventional memory. If memory usage is a concern, look for a product that uses the Expanded Memory Specification (EMS) to reduce its use of conventional memory. This frees up conventional memory for use by other applications.

## In Conclusion

The right PC faxmodem - one that meets the technical challenges of compatibility, reliability, throughput and usability - can give you all the features of a data-only modem, plus the convenience and quality of full-featured faxing. And it provides unprecedented flexibility in communications - it puts you in touch with everyone. Intel offers a broad family of faxmodems that deliver high quality data and fax communications to fit any budget. Intel also provides a full line of data-only modems.

## INTEL SATISFACTION MODEM FEATURE GUIDE

MODEL	400	400e	200	100
TYPE	2/3 Length Board	External	2/3 Length Board	1/2 Length Board
Max Line Speed	14,400 bps/	14,400 bps/	2400 bps/	2400 bps
Max. Throughput	57,600 bps	57,600 bps	9600 bps	2400 bps
Max. DTE Rate	115,200 bps	115,200 bps	9600 bps	9600 bps
Data Compression	V.42bis	V.42bis	V.42bis	
	MNP5	MNP5	MNP5	
Error Control	V.42*	V.42	V.42	
	MNP4	MNP4	MNP4	Automatic

## WORD RAPPING With JAN ALTMAN

Jan is the Vice President of SPAUG and a certified Microsoft Trainer.

Send your questions on Windows products to  
3655 Pruneridge Avenue, No. 135, Santa Clara,  
95051, (408)243-5955.

## WHERE'S JAN?

Jan is out of town on business, but will be back next month with everything you wanted to know about COMDEX!

## DIGITAL WORLD

Analog Man in a

You're getting  
verrrry sleepppy



Ethel has a funny feeling that she's been working way too hard lately.



# THE SPAUG FUNDRAISER

**W**e have several great new items this month and more reductions on the old ones. If anything interests you, call Beverly at (415)329-8252 and it will be brought to the next meeting.

## CLASSIFIED ADS

Classified ads of a non-commercial nature are free to all members. The rates for commercial ones are:

Business card \$10  
Quarter page \$60  
Half page \$100  
Full page \$170

For further details contact:  
Beverly Altman (415) 329-8252  
or Jennifer Wildman (408)335-7892

TYPE	ITEM	DESCRIPTION	RETAIL	SPAUG
Software	AMAZON MS DOS Version	A new interactive cinema adventure game with full sound track	49.99	40.00
Software	BUDGET EXPRESS For LOTUS	Goal tracking, Instant summary q		20.00
Kit	COMPUTER CHECK Ordering Kit		39.95	7.50
Software	DESIGNER For Windows (by Micrografx)	A technical illustration program for Windows	399.99	80.00
Software	hDC FileApps for Windows	Undelete, view, search, encrypt, share, transfer files		10.00
Software	File F/X for Windows	Enhance File Management Utilities for Windows		10.00
Software	FOXPRO Version 2.5 by XTree	Relational Database Management System for Windows	339.00	250.00
Software	JUST WRITE	Fast Easy Word Processor		30.00
Software	LINKS 386 Pro MS-DOS Version	*State of the Art Golf Simulation*	49.00	40.00
Software	LAPLINK V	To transfer files between PC's	109.95	70.00
Software	MENUWORKS SECURITY	Complete data protection	99.99	25.00
Software	NORTON ANTIVIRUS For Windows and DOS	Comprehensive Virus Defense Detects over 1000 viruses		30.00
Software	NORTON BACKUP 1.2 For DOS	Backs up multiple drives; flexible and fast; award winner		30.00
Software	ON TIMES - For Windows	A calendar and list manager	99.99	30.00
Software	QUICKMENU III	Program Manager	25.00	5.00
Software	SYMANTEC GAME PACK	Fun for Windows: Jacks, Hangman, Pick Up Sticks, Code Breaker, etc		15.00
Software	SQZ! PLUS For Lotus	Spreadsheet File Utility System; compress spreadsheet files by up to 95%.		15.00
Software	VIRTUAL MONITORS	Desktop expansion for Windows	39.99	10.00



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San Jose CA 94126  
55.00 and up



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901 El Camino Real  
Mountain View CA 94040  
62.00 and up



**VALLEY PARK HOTEL**  
2404 Stevens Creek Blvd  
San Jose, CA 95128  
59.00 and up

**CO-Z 8 IMPERIAL**  
3945 El Camino Real  
Palo Alto CA 94306  
29.00 and up

**CO-Z 8 EXECUTIVE INN**  
2505 The Alameda  
Santa Clara CA 95050  
40.00 and up

**CO-Z 8 REDWOOD CITY**  
2610 El Camino Real  
Redwood City CA 94061  
34.00 and up

**CO-Z 8 MOTOR LODGE**  
64 El Camino Real  
Mountain View CA 94040  
39.00 and up

**CO-Z 8 MOTEL**  
1984 El Camino Real  
Mountain View CA 94040  
25.00 and up

**CO-Z 8 SUNNYVALE HOTEL**  
170 Sunnyvale Avenue  
Sunnyvale CA 94086  
45.00 and up

★ Items listed are available at most of our 9 locations  
Starting rates for single occupancy/tax not included

Not valid with any other offer or promotion  
All rates subject to change



# THE SPAUG RESOURCE CENTER

## OFFICERS

President	Cookie Cook	[415] 282-0474
Vice President	Jan Altman	[408] 243-5955
Treasurer	Bev Altman	[415] 329-8252

## MANAGERS

Bulletin Board (SPARC) Sysop	TBA
PRinT SScreen Editor	Jennifer Wildman [408] 335-7892
Resource Center	Rich Madden [408] 253 2075

*SPAUG members are encouraged to make themselves available to other members to answer questions about hardware or software. Your area may be general or specialized. If you are willing to have your name added to this list, please contact the Resource Center Manager, Rich Madden at [408] 253-2075.*

## SOFTWARE

Accounting	Larry Mehl [415] 329-6037
Lotus 1-2-3	Larry Mehl [415] 329-6037
Quicken	Floyd Kessler [415] 493-7780
Windows Products	Jan Altman [408] 243-5955
R:Base	Larry Mehl [415] 326-6037
Borland Products	Quinn Wildman [408] 335 7892

## LANGUAGES

C	John Watson [415] 325-7632
Fortran	John Watson [415] 325-7632
Pascal	John Watson [415] 325-7632
Smalltalk	John Watson [415] 325-7632

## Club Events in June

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

**May 26 Last Wednesday - GENERAL MEETING**  
**7:30pm Building 7 at Varian, 3075 Hansen Way, Palo Alto**  
*See the adjacent map for directions*  
**TOPIC: Lotus 1-2-3 v.4**

**June 2 First Wednesday - PLANNING MEETING**  
**7:30pm At Beverly Altman's house in Menlo Park**

**June 8 Second Tuesday - WORD FOR WINDOWS SIG**  
**7:30pm** We meet at Oakridge Appartments Rec. Room, 3655 Pruneridge Ave. Santa Clara: just west of Lawrence. The group is led by Jan Altman, a Certified Trainer in Word for Windows. For more information, please call Jan at [408] 243-5955.

### T.B.A. QUICKEN SIG

Floyd Kessler, [415] 493-7780  
 For the latest meeting information see the notice on the Bulletin Board System..

**June 15 Third Tuesday- PARADOX SIG**  
**7:30pm** This SIG has become a "joint" SIG with the Silicon Valley Users Group. The group meets at 10100 N. Tantau in Cupertino. Please contact Scott Jackson at (408)738-0424 for more information.

### June 23 Fourth Wednesday- MAILING PARTY

Call Jim at (415) 494-0631 for more information to verify the time and date. Show up at Wednesday's party and help mail the PrintScreen!

### June 28 Last Wednesday — GENERAL MEETING

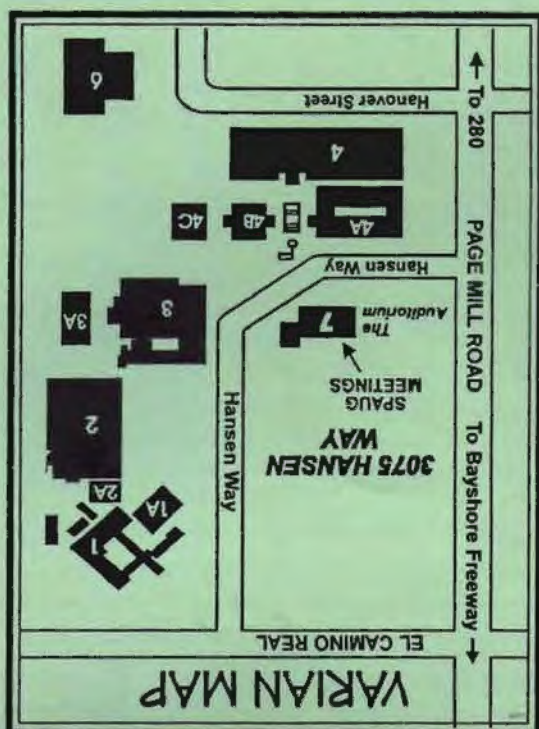
**7:30pm Building 7 at Varian, 3075 Hansen Way, Palo Alto.**

**BARRY A. SMITH**  
 SENIOR ACCOUNT EXECUTIVE  
 415-926-7696

## SMITH BARNEY

SMITH BARNEY, HARRIS UPHAM & CO. INC.  
 3000 SAND HILL ROAD  
 MENLO PARK, CA 94025  
 800-624-7248





SPAUG meets the last  
Wednesday of each month at  
Varian in Palo Alto. The ad-  
dress is 3075 Hansen Way,  
Building 7.

## SPAUG MEETING INFORMATION

### The Stanford/Palo Alto PC User Group



P.O. Box 3738  
Stanford, CA 94309



### CLUB INFORMATION

Meetings	Cookie Cook (415)282-0474
Membership	Beverly Altman (415) 329-8252 \$35 per year
Bulletin Board	(415) 321-4497
Newsletter	Jennifer Wildman (408) 335-7892

