PRinT SCreen

**The Newsletter for the
Stanford/Palo Alto
PC Users' Group**

February 1988   Volume 6, Number 2

*Can Lotus 1-2-3 Solve
the Mysteries of the
Universe??*

*No, but check
out page 6 anyway*
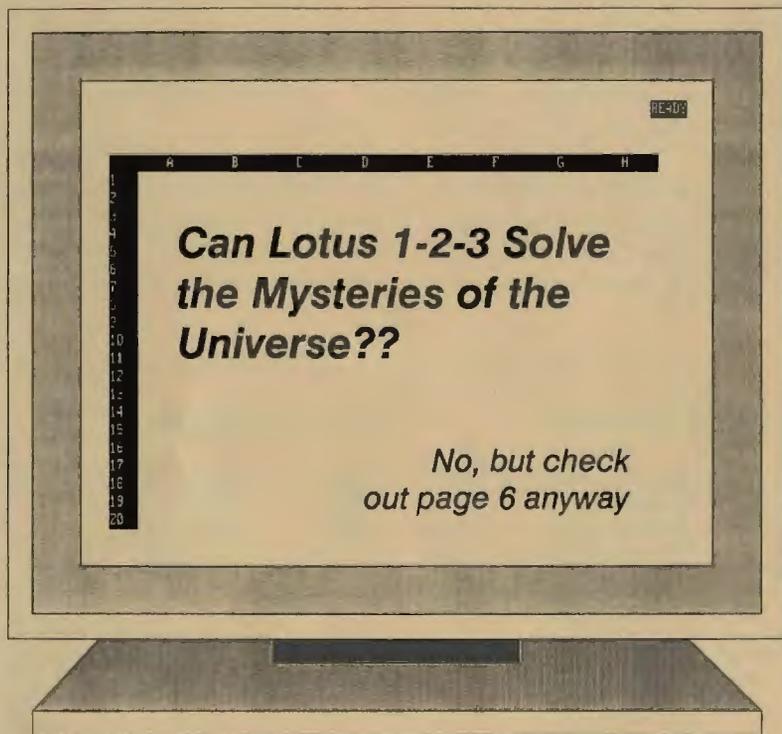
Disk of the Month

InstaCalc is our Disk of the Month which will be demonstrated at the February 24th meeting. The disks will be available at the back of the room for $1.

InstaCalc is a full power memory resident spreadsheet which you can pop up through application programs and which can share data with those programs. You can even directly import Lotus 1-2-3 worksheet files. This means you can now pull Lotus files into application programs without first exiting the program and creating print (text) files.

InstaCalc can also import data directly off the screen from any application program (word processor, data base, another spreadsheet, etc.).

InstaCalc is very fast and powerful, yet it is easy to learn and use. It provides many functions and features found only in very expensive spreadsheet programs, as well as features which can't be found elsewhere at any price!! For example:

- A full assortment of predefined functions is provided for you to use in your computations (Math, Trig, Statistics, Finance, Date, Time, Logical, Special, and Text categories).

- You can link to a range of cells in another spreadsheet.

- You can sort your data by rows or columns.

- You can create bar graphs from your data, and then export the graphs to your application program.

- You can lock title rows and columns on the screen.

February Calendar

February 24	Group Meeting	8:00
March 8	Novice SIG	7:00
March 14	MS Word SIG	7:30
March 16	Planning Meeting	8:00
March 30	Group Meeting	8:00

All members are welcome to attend the monthly planning meeting, where we make decisions on the future of the group. Call Corwin Nichols, 494-8640, for the location of the next meeting.

Next Meeting

Date:	Wednesday, February 24
Time:	8:00 p.m.
Place:	Polya Hall, Turing Aud.
	(Rm. 111)
	Stanford University

This month we will be visited by a representative from KnowledgeSet, who will introduce the exciting new concept of CD-ROM. You think that your hard disk holds a lot of data? CD-ROM gives new meaning to mass storage...

- A powerful Macro capability allows you to create your own little "programs" within a spreadsheet.

- You can confine the automatic recalculation to any range of cells. This can really speed things up in a large spreadsheet.

- You can completely hide a column from view.

You can run the program on a monochrome or color monitor and select your colors. InstaCalc is a shareware product produced by FormalSoft in Sandy, Utah. They ask $54.95 if you like and use the program.

Elections

Elections for club officers (President, Vice-President, and Treasurer) are coming up in April. Nominations will be taken at the February 24th meeting, or you can mail your nominations before March 15th to: Beverly Altman, 1670 Oak Avenue, Menlo Park, CA 94025. Rick and Beverly Altman are election co-officers.

January Meeting

Two different text editors were demonstrated at the January 27th meeting: Epsilon and KEDIT. Epsilon is the natural choice for those who have been using EMACS on a mainframe since Epsilon is the PC version of this text editor. KEDIT, on the other hand, was patterned after the mainframe editor, XEDIT.

Both of these programs offer windows and simultaneous viewing of multiple files. KEDIT, unlike Epsilon, can split the screen vertically. You can customize each program so that the commands (function keys, Ctrl and Alt key combinations) are suited to your personal taste.

Jeff Dean, who demonstrated Epsilon, stressed that text editors are not suitable for those who like menu-driven programs or who hate Ctrl and Alt key commands.

Epsilon lists for $195 and KEDIT is $125 retail.

While Epsilon has its own programming language similar to C, you need to purchase a separate command language program to work with KEDIT. This program, called REX, can be run inside a text editor or can run standalone. REX lists for $125.

Bulletin Board

The club's bulletin board, nicknamed SPARC, is available 24 hours/day, 7 days a week. The number is 723-7995. Use the following communication settings: 300, 1200, or 2400 baud; no parity; 8 bits; and 1 stop bit.

New members: Your password is your phone number without the area code. Be sure to use a dash after the prefix. For example, 321-1234. Your password will be your home phone number if we had one listed for you; otherwise, we used your business number. You will probably want to change your password once you have successfully logged onto the bulletin board. The main menu has an option for changing your password.

A View of the Top

by Corwin Nichols, Club President

This is the space where I normally write some words of wisdom (or lunacy) having something to do with PCs. This month I am doing something different. I am going to write about me. I have no choice in this matter actually. Not being a writer by nature or practice, I find that I can't always ignore the important stuff and write about the mundane. Not that PCs are inherently mundane, in fact a lot of what I am doing is tightly coupled with PCs, it's that PCs taken out of the context of my life are mundane. Here then is my context:

Where to start. How about my business? Most of us spend the largest percent of our waking hours at work. I am no exception. I run my own software/hardware business, which develops and sells diskette conversion systems for the IBM PC family. I've run it for eight years. That alone should classify it as a success. I haven't gotten rich, but it pays the bills. And yet the wind of real success is beginning to blow. My sales are triple from a year ago. Cash flow is good; I've hired a new technician, and I'm looking for a sales person and an office manager. I've completely outgrown my office and am about to move into a space seven times its current size. I'm also looking for consultants or small businesses to share the new space (and higher rent). And, I'm still the only one doing programming, marketing, and customer service. I' keeps me busy.

Then there is PeaceNet. It's really called The Institute for Global Communications. I am one of the founders of this organization and currently sit on the board of directors. This non-profit company has a goal of establishing itself as THE telecommunications company for peace and environmental groups and individuals. Sort of a Compuserve of the Left. There are about 2000 accounts now online and it's growing at a rate of about 7% each month. It employs six people full time and is currently looking for a director (CEO in for-profit terms). That's my task: find the new director. Now! I am also on the technical development strategic planning team. This means that I am helping evaluate 386 systems (ah ha!) which can run Unix and the entire PeaceNet telecommunications software package. The long range plan is to place these 386s (each running PeaceNet) around the globe, and have them all in communication. It's a very exciting project

Although the above doesn't leave much time, I still do have a personal life, mostly on weekends. I just completed a scuba diving class. I enjoyed it immensely and am looking forward to some diving in the local waters. Any potential diving buddies in the audience? Although the remaining ski season seems to look rather poor, white water rafting (my favorite pastime) is looking pretty good and I'd like to fit at least one run into March sometime. I am still active in

NEWS FROM THE SIGs

The Novice SIG

To err is computer, to forgive is fine
— Dr Who

"Into the breech, the day was saved, those who died were quit for the morrow"

— Shakespeare and others

Here to, we press on into the thicket. But, take heart. There are some leading, perhaps feebly as though with candle - nevertheless together we'll slay the dragons and maybe a trojan or two.

To business: In retrospect, the best meetings seem to have been when certain questions led to a chain reaction of further inquiries. This might be the nature of computer involvement. Prearranged ambitious topics didn't do well. Maybe they quell the element of surprise and discovery that's possible with these fabulous machines. Fixed agendas can curtail group participation. The trick is having education, entertainment, problems solving, participation, scope, fulfillment (at least from the refreshments, though, unfortunately, most are already full-filled with dinner).

A central topic does help to get matters rolling, therefore expect to discuss the differences between using commercial behemoths vs a conglomeration of shareware.

NEXT NOVICE SIG GROUP MEETING - March 8 (2nd Tuesday of the month). 7 pm, refreshments, and 5 minutes of Fred Astaire that you likely have never seen, at 3785 Farm Hill Blvd. Redwood City (on south side of street with Emerald Hill as closest cross street). Watch for blue & red light. (415) 365-6822 – an RSVP would be appreciated.

— Don Baird

Microsoft Word SIG

The Microsoft Word SIG meets the second Monday of every month. The next meeting will be Monday, March 14th at 7:30 p.m. For details on the meetings call Jeanie Treichel at home (851-0100) or work (326-7438). ¶

SEF (Software Entrepeneurs Forum) and of course here in the PC group.

And what's next? VACATION! My vacation (the first in three years) to Cozumel has been postponed (again) due to the office move.

So is this just like watching someone's home movies? Next month I promise to be more PC oriented. It'll be my last column (as president) and I'll talk about you instead of me. ¶

THE ANSWER MAN

Faking out Lotus 1-2-3

Q *UESTION: I use Lotus 1-2-3 often and it bothers me that I always have to enter the program and THEN load a worksheet. Is there any way I can instruct 1-2-3 which worksheet to load while I am starting from DOS?*

ANSWER: I assume that you are already aware of the AUTO123 worksheet which is automatically loaded after 1-2-3, and that you would like to be able to type "123 (filename)" and load the worksheet of your own choosing, not just AUTO123.

Available through the club library or the bulletin board is a very handy program called KEY-FAKE which effectively gives LOTUS 1-2-3 this capability. KEY-FAKE allows you to call a program from a batch file AND send a series of keystrokes to that application – a powerful capability considered impossible with traditional batch file techniques.

Let's say you create a batch file called TEXT.BAT that had the following two lines:

```
KEY-FAKE "text"
WORD
```

Running TEXT.BAT would take you into Microsoft Word and also type "text" as the first four characters of the untitled document.

But wait – there's more. KEY-FAKE also works peacefully with replaceable parameters, so you can personally instruct KEY-FAKE on what to send to an application and you can do it from a DOS prompt.

On to the task at hand – giving Lotus

QUESTION: Is there a way to load a 1-2-3 worksheet directly by typing C:\> 1-2-3 <worksheet>?

ANSWER: Yes.

a new front end. Let's say that in your worksheet directory you have three WK1 files, TAXES, PERSONAL and INCOME. You would like to be able to load any one of those as you start 1-2-3, rather than having to do the "/fr" routine. To load TAXES, you would like to be able to type "123 TAXES" from DOS.

Create a file called 123.BAT (if you already have a 123.BAT, rename it for now). Assuming you have obtained a copy of KEY-FAKE and have copied it to one of the directories in your PATH,

type in the following lines, using any ASCII text editor or word processor:

```
ECHO OFF
CD\123  (or your 1-2-3 directory)
KEY-FAKE "/FR%1
```

```
123
```

Now when you run 123.BAT, it will instruct KEY-FAKE to store the "/fr" keystrokes and whatever else you type on the command line (the %1) before running 1-2-3. Once in the program, KEY-FAKE then releases its keystrokes and 1-2-3 acts upon them. As long as you have spelled the name of the worksheet correctly, 123.BAT will load it along with 1-2-3.

123.BAT will flash a "Bad command or file name" while running, but you can ignore it – it is because of the lone quote mark on Line 4. The quote mark serves to include the carriage return as part of the keystrokes being stored by KEY-FAKE. Fastidious WordStar users can use the < Ctrl-P > M combination to place a carriage return without a line feed instead of the standard return.

What if sometimes you want to automatically load a worksheet and other times you want to start with a fresh worksheet. No problem – just edit 123.BAT so it looks like this:

```
ECHO OFF
CD\123
IF "%1"=="" GOTO NOFAKE
KEY-FAKE "/FR%1
"
:NOFAKE
123
```

Now if you don't specify a worksheet name (if %1 equals ""), the batch file will bypass the KEY-FAKE command altogether and merely run 1-2-3.

123.BAT will still work if there is an AUTO123.WK1 in your worksheet directory, although it no longer serves any purpose except to waste a couple of seconds. The AUTO123 worksheet will be loaded first and then the worksheet you have specified will be loaded immediately afterward.

Using Error Messages In Your 1-2-3 Macros

QUESTION: I am beginning to design worksheets for others and I have discovered that it is simple to write macros when they are just for me, because I know when to use them and when not to. But in the hands of someone else, a macro that is supposed to, say, erase an entire range could be a disaster.

I don't want to rewrite these macros all over again. Is there any way I can build a simple set of error or verification messages into the macros that I already have?

ANSWER: You won't get away completely untouched, but you can build simple error messages into your existing macros with a minimum of revision.

The easiest way is to use Lotus' {MENUCALL} command within your macros. While not specifically designed as an error message, the MENUCALL command will do a great job at it with very little fuss. Here's how:

Let's say that you have a macro that imports a file called DATA.PRN into your current worksheet at a range called IMPORT. Before importing

The Answer Man
From preceding page

DATA.PRN, the macro clears the range by erasing it. Your new macro, < Alt-I >, would look like this:

```
\I      {GOTO}IMPORT~
        {BLANK IMPORT}
        /FITDATA~
```

You realize that you cannot have any critical material in the range called IMPORT before running this macro, but will your workmates know that? One innocent < Alt-I > and they might lose a great deal of work. You need to do two things: 1) slip in a MENUCALL into < Alt-I >, and a little beep for good measure, and 2) build a menu that warns the user of what is about to occur

> *Using {MENUCALL} is an easy and effective way to add error messages to your Lotus applications.*

and offers an escape hatch.

First edit the macro, so that it now looks like this:

```
\I      {GOTO}IMPORT~
        {BEEP}{MENUCALL VERIFY}
        {BLANK IMPORT}
        /FITDATA~
```

Then build the VERIFY macro. In three successive rows, type:

ABORT
Stop command, return to READY mode
{QUIT}

Then in the column immediately to the right, create three more successive rows:

OVERWRITE
Overwrite IMPORT area with DATA.PRN
{RETURN}

On your screen, the first description ("Stop command, return to READY mode") will probably run into the second one. This is normal; in fact, it is necessary that the two menu choices be in adjacent columns. Now if the user chooses OVERWRITE, the < Alt-I > macro continues on its merry and destructive way, but if the user chooses ABORT, then the macro stops in its tracks and a potential disaster is averted.

Make sure to name the VERIFY macro. Also, if you keep the wording in the VERIFY macro general enough, you can use it as a verify/error message for several different macros that might be dangerous in the wrong hands. All you have to do to use the macro is place the {MENUCALL VERIFY} line in the appropriate place in other macros. And while the listing here has the command on its own line for clarity, you can insert it anywhere inside of a macro, including the middle of a long line. ¶

cking Up is Hard To Do

by Rick Altman

I wait patiently for a hard disk to be made that will never fail and never crash throughout its life expectancy, which will be rated at 23.7 years.

In the meantime, I scream, holler, cuss and generally agonize whenever it's time to back up my hard disk. Backing up is like figuring my income tax: I procrastinate forever and then waste an entire evening on it. During that evening, I become an expert on the subject, only to forget everything I learned and have to learn it all over in the next time.

Add hate to the list of all mothers of invention. When it comes to backing up my hard disk, I will look for any reason to get out of it or to make the process easier – except going broke on a streaming tape backup system. I lose all sense of rational thought; I desire only to be done with the task.

Now that I have spent three entire paragraphs explaining why I am wholly unqualified to speak on the subject, that

When it comes to backing up my hard disk, I lose all sense of rational thought.

is exactly what I am going to do. Backing up data is the most important insurance policy that you can take out on your computer system, and all screaming and hollering aside, it ranks right up there with death and taxes as a necessary evil.

But which tack should you take? Should you buy one of those mega-fast backup programs that takes your files and trash-compacts them into a few floppies? Should you fumble around with DOS' BACKUP program, or worse, COPY? There are probably as many answers as there are users, but there is a common goal: Make data backup painless enough so that it can be done regularly and frequently. If you procrastinate for a week, two weeks, three weeks, three months, the job becomes too big to even approach.

Sort of like putting off doing your laundry – suddenly, you can't even face the prospect of it and you finally haul it all off to the nearest cleaners and pay big bucks. If you had done it once a week, it would have been an easy 75 cents.

This month's Random Access discussions may call for my head, but the advice from here is to pitch the super-duper backup program that stores your data in unreadable form. They are only useful for when you intend to perform a system-wide restore, and the rest of the time they are big pains in the neck. Besides, they back up your entire disk, programs and all, when it's a good bet that your priority is to back up only your data, seeing how you have originals for all of your programs.

Instead, track down a public domain program called BAC, and if you are using DOS 3.2 or 3.3, drag out XCOPY from your DOS directory.

BAC, available in our club library or on our bulletin board, is like COPY, only smarter on two important counts. The first is that it doesn't bother to copy files if the destination already has the identical file, and the second count is that it prompt you for another diskette when you fill up the first one. BAC does not compare files bit for bit – it compares the size, the time and the date, so conceivably you could fool BAC into thinking that two files are identical by messing with their

date and time attributes, but it is not likely to happen by chance.

With BAC, you can effortlessly update any important subdirectory simply by typing **BAC \subdir*.*** a:. If you fill the disk, you drop in another one and continue (BAC will not format on the fly for you, so you will need to have a few formatted floppies on hand).

To streamline the process further, create a batch file called UP-

This prescription is for the thousands of us who do not do our 25 pushups every morning, do not floss our teeth regularly, leave the VCR on overnight...and who do not back up our data every week.

DATE.BAT that contains the following lines:

```
ECHO OFF
ECHO If you're in the right subdirectory,
ECHO place data disk in Drive A: and
PAUSE
BAC *.* A:
```

UPDATE will make sure that the entire current directory is backed up on Drive A:. If you are preparing extremely sensitive data, you can run this proce-( )e every 15 minutes quickly and painlessly. And you may not need to exit your application as UPDATE.BAT will run from any DOS shell.

BAC does not know how to delve below the current or the specified directory to lower-level directories. This is where XCOPY comes in. With XCOPY, DOS 3.2 and 3.3 users can issue the following instruction to DOS: "Copy to Drive A: every file that is on this directory or any directory below it."

XCOPY will recreate the directory structure on the floppy automatically. If you run out of room, XCOPY also lets you pick up where you left off, but in typically cryptic DOS fashion, XCOPY only notifies you of "insufficient disk space" and throws you out to the nearest DOS prompt. Don't fret – just repeat the command with a fresh diskette and XCOPY continues.

XCOPY does not selectively copy new files the way BAC does, however you can instruct XCOPY to copy only files that are dated later than a date of r choosing. Not as flexible as BAC but still useful.

Here are the two rules of thumb:

1) If you want to back up a single directory, no matter how large, use BAC and the UPDATE.BAT file.

2) If you intend to back up a parent directory and several subdirectories, and maintain the directory structure on the floppies, use XCOPY.

BAC for one directory; XCOPY for several.

There are a few users out there who use one of the super-fast, super-compacting backup program and are satisfied with the result. If you are among that select three percent of the PC population, don't change – you are more responsible and diligent than the rest of us. This prescription is for the thousands of us who do not do our 25 pushups every morning, do not floss our teeth regularly, leave the VCR on overnight...and who do not back up our data every week. Furthermore, this prescription assumes that we are not going to break these habits overnight.

But if you have a spare five minutes and you know that your C:\PRE-CIOUS\DATA directory has a bunch of new things in it, grab a few floppies, scribble some labels and run UPDATE. If you suspect that
\PRECIOUS\DATA
\PRECIOUS\FILES
and
\PRECIOUS\THINGS
all need to be backed up, XCOPY could handle that task with the simple command of **XCOPY \PRECIOUS A: /s.**

You certainly have our permission to continue your contempt for hard disk backup, and we welcome all new ideas on creative agonizing over this horrible process. But if you want to enjoy your loathing AND insure your sensitive data, BAC or XCOPY will let you have your cake and eat it too. ¶

Coming Events

Bay Area Computer Swap – Saturday, March 5, at the Cow Palace in San Francisco. 10-5. Admission is $5. For more information call Microshows (415) 340-9113.

Santa Clara Computer Show – Saturday, March 5, at the Santa Clara Convention Center. 10-5. Admission is $5. For more information call Golden Gate Show (415) 388-8893.

Oakland Computer Show – Saturday and Sunday, March 12 and 13, at the Oakland Coliseum. 10-5. Admission is $5. For more information call Golden Gate Show (415) 388-8893.

San Francisco Computer Show – Saturday, March 19, at the Fort Mason Center in San Francisco. 10-5. Admission is $5. For more information call Computer Swap, Inc. (408) 978-SWAP.

Turn Your PC into a Typewriter

There are several ways to use your computer like you would use a typewriter. This feature can be a great shortcut for addressing a few envelopes or typing some quick notes.

The redirection feature of DOS lets you route output directly from the keyboard to the printer one line at a time. At the DOS prompt type:

```
TYPE CON >PRN
```

The alternative method below does nearly the same thing, but prints all the lines of text at once after you press

<Ctrl-Z> to end input. At the DOS prompt type:

```
COPY CON PRN
[type line 1 here]
[type line 2 here]
[etc.]
Press Ctrl-Z to end
```

The COPY command is generally used for files, but it can also copy between devices. "CON" stands for console (keyboard and screen), and "PRN" stands for printer. After you type the COPY CON >PRN command, you can start typing. Press Enter at the end of each line. You can correct an error while you are on that line with the Backspace key, but once you hit Enter, that's it. When you press Ctrl-Z and Enter the text will print.

Clock/Calendar Chips

How many times have you booted DOS without entering the current date and time parameters and later couldn't find the most recent version of a program or file you had written to disk

While some systems have battery operated clock/calendars, most PCs and XTs do not. Until recently about the only option was to add an expansion board with a clock and a lot of other stuff you probably didn't need. Now there's a better way.

You can buy a clock/calendar chip and install it without using up one of the expansion slots on your motherboard. Just pull the chip from any socket and

replace it with the clock chip. The chip you removed from the ROM chip socket is then inserted piggy-back onto the clock chip. The entire installation takes ▌ut 30 seconds. There are no 28-pin ROM sockets on the motherboard of an IBM-PC, but the clock/calendar chip can be placed on a disk controller card.

Three companies that make the chips are:

Smartwatch Real Time Clock ($35); Zenith Data Systems/Heath Co., Benton Harbor, MI 49022

Smartwatch Clock Calendar Module ($44); RAM Technology, 427-3 Amherst St., Suite 265, Nashua, NH 03063

No-Slot Clock ($50); Systems Manufacturing Technology, 1145 Linda Vista Drive, San Marcos, CA 92069 ¶

Reprinted from Athens PC Users Group Newsletter, Sept. 1987

Club Information

Mailing Address	P.O. Box 3738 Stanford, CA 94305
Membership	Louise Greer Bolitho 322-3850 $25/year fee ($10 for students)
Bulletin Board	723-7995
Newsletter	Becky Bridges 326-8605 P.O Box 982 Palo Alto CA 94302

Advertising

If you are interested in advertising in *PRinT SCreen* send camera-ready art or copy to P.O Box 3738 Stanford CA 94302 before the 8th of the month. All ads are payable by check in advance. Rates per issue are:

Full Page (4 3/4 x 7 1/4)	$45
Half Page (4 3/4 x 3 1/2)	$30
Quarter Page (2 1/4 x 3 1/2)	$15

Classified ads are free to paying members.

Club News
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Library Additions

The following programs have been added to the Software library since the major revision of July 20, 1987.

Most of these files have been listed in previous issues of PRINT SCREEN. However, we thought you might want a refresher.

FILENAME	DISK	DESCRIPTION
KNOVICE	120	Artificial intelligence development tool for beginners to build systems.
PC-BOOKS	122	General ledger system, menu driven.
THEME2S	11C	Cross indexes music.
CASHMSTR	11F	Financial programs for home/business.
BOYAN	00D	Comm. package; 9600 - 300 baud; like Procom etc.
MA.ARC	124	MASS APPEAL mail list manager; Create reports; Print labels
AUTOMENU		11B Ver 4.0; Builder & file handler
HOMEMGR	123	Excellent system for home management with enhancements [budget/exp.etc.]
P&S	121	POINT & SHOOT files manager, very versatile; Use with hard disk.

PKX35A35	125	Fast archive/de-arc program w/ many enhancements.
QUBECALC	127	three dimension spreadsheet. Works like 123.
SEEKEASY	11D	Flexible match info retrieval; Searches for character or partial char. string.

Membership renewals

For the two months preceding the expiration of your membership you will find a renewal envelope enclosed in your newsletter. Use this envelope to promptly send in your $25 check ($10 for students) so that you won't miss an issue of the monthly newslet ter.

Goodie Coupons

Remember, the **"Goodie Coupon"** attached to your membership card is presently good for one free disk: the library catalog, Disk of the Month, or blank disk.

Floppy disks for sale

Xidex Precision disks are available for $6/box. High density floppies are 4 disks for $5. The catalog and the Disk of the Month will be offered for $1 a disk. ¶

The SPAUG Resource Center

Club Officers

President	Corwin Nichols	494-8640
Vice President	Kathy Carroll	325-0824
Treasurer/ASSU Rep	Mark Woodward	493-9150

Managers

Financial Manager	Beverly Altman	329-8252
Newsletter Editor	Becky Bridges	326-8605
Speakers' Bureau	Jim Wampler	323-7365

Library

Public Domain Software	Les Weil	321-5541
Soft Copy	Ralph Muraca	365-1659
	Turley Angle	369-1981

Software

Desktop Publishing	Rick Altman	581-7563
EZ Business Systems	Larry Mehl	326-6037
Framework	Jim Caldwell	692-7181
Lotus 1-2-3	Bruce Codding	367-8642
	Arthur Naman	408-879-9900
Microsoft Word	Jeanie Treichel	851-0100
	Hunter Jackson	408-446-4097
Q & A	Elaine Meyer	325-8057
Rbase System V	Jack Kahoun	349-4696
	Tony Pabon	408-866-4815
	Larry Mehl	326-6037
Symphony	Sally See	941-1378

Languages/Operating Systems

BASIC	Ralph Muraca	365-1659
C	Corwin Nichols	494-2043
DOS 3.x	Rick Altman	581-7563
Fortran, Pascal	John Watson	325-7632
Hard Disks	Jim Caldwell	692-7181
Toshiba Printers	Paul Berry	494-2043
Epson Printers	Jim Caldwell	692-7181
Panasonic Printers	Van Maulis	966-1306
XT/AT Systems	Van Maulis	966-1306
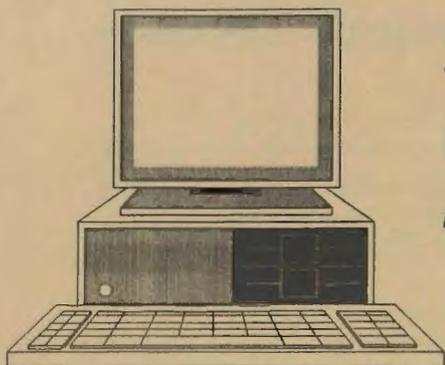
The Stanford / Palo Alto
PC User's Group

P.O. Box 3738, Stanford, CA 94309