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Washington Apple Pi

Volume 4 April 1982 Number 4

Highlights

SORT ROUTINES - A USER'S GUIDE
LISTING FORMATTER
A SIMPLE CLIENT BILLING SYSTEM
DUMB TERMINAL ROUTINE FOR
THE SSM AIO INTERFACE CARD

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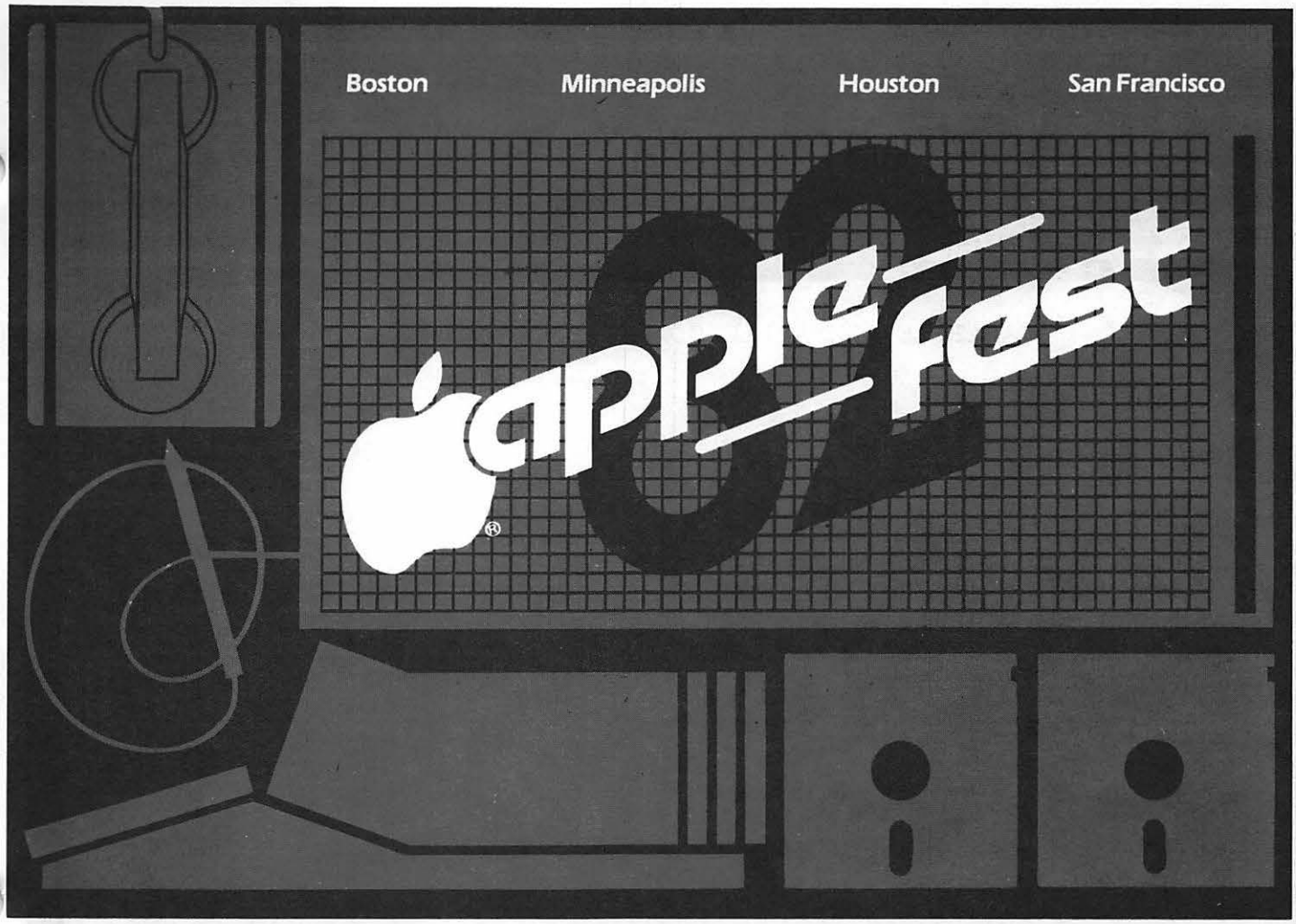

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Ticket & Hotel Information
Send your check and a note indicating the specific show you wish to attend. Tickets and hotel information will be mailed back to you. Tickets can also be purchased at the show. Make all checks payable to Northeast Expositions Inc. 824 Boylston Street, Chestnut Hill, Mass. 02167 Tel: 617 739 2000.

Exhibitor Information
For specific exhibitor information on one or all of the Applefest '82 shows call Northeast Expositions at the telephone number above.

Applefest/Boston
Fri-Sun May 14-16, 1982
Hynes Auditorium
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Applefest/Minneapolis
Thurs-Sun Sept 16-19, 1982
Minnesota Auditorium and Convention Hall
Show Hours: 11 AM to 6 PM Daily
Admission: $5 per day or $8 for 2 days, $12 for 3 days, $15 for 4 days

Applefest/Houston
Fri-Sun Nov 19-21, 1982
Albert Thomas Convention Center
Show Hours: 1PM to 10PM Daily
Admission: $5 per day or $8 for 2 days, $12 for 3 days

Applefest/San Francisco
Fri-Sun Dec 3-5, 1982
Moscone Center
Show Hours: 1PM to 10PM Daily
Admission: $5 per day or $8 for 2 days, $12 for 3 days

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Apple Disk II, Controller & DOS 3.3	645.00	529.00
Apple Disk II Add Drive	525.00	449.00
Zenith 12" B/Green Monitor	179.00	129.00
Amdek 13" Color Monitor	449.00	399.00
Amdek Video 300 Monitor	249.00	199.00
Joystick II	49.95	45.00
D. C. Hayes Micro Modem II	379.00	299.00
Apple Silentype Printer/Cable/Board	395.00	345.00
NEC 8023A Printer	645.00	529.00
Epson MX-80 (tractor only)	645.00	499.00
Epson MX-80 F/T	745.00	579.00
Epson Graphtrax PROM Set	95.00	85.00
Parallel Board/Cable (graphics)	169.00	149.00
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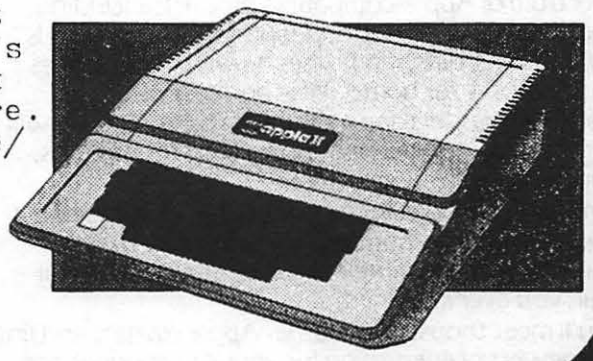

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	-Rich Wasserstrom	(703) 893-9147
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ASMSIG	-Robert Palus	(301) 776-3075
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CP/M	-Dave Neumann	(301) 776-6133
EDSIG	-Peter Combes	(301) 871-1455
NEWSIG	-Bernie Benson	(202) 546-0076
Pascal (PIG)	-Tom Woteki	(202) 547-0984
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Apple user groups may reprint without prior permission any portion of the contents herein, provided proper author, title and publication credits are given.

Membership dues for Washington Apple Pi are $18.00 per year, beginning in the month joined. If you would like to join, please call the club phone and leave your name and address, or write to the PO Box above. A membership application will be mailed to you.

Subscriptions to the Washington Apple Pi Newsletter are not available. The newsletter is distributed as a benefit of membership.

Members who would like to sign onto the Washington Apple Pi ABBS system should call the club phone and leave your name (first and last), WAP number and phone number. You will be assigned a password and John Moon will take care of signing you on.

ELECTIONS

An Elections Committe has been formed for the annual election, which will take place in late May and early June. Walt Francis and Chuck Philipp have agreed to head this committee. If you would like to serve the Pi by becoming an officer, or if you would like to nominate someone (with consent), please get in touch with Walt (966-5742) or Chuck (924-2354).

EDITORIAL

Bear with us folks. After witnessing the chaotic hustle and bustle at our first two meetings at USUHS, we did something about it. Last month's session was still chaotic, but for a different reason...we estimate that more than 450 people showed. We have devised a "system" which we are trying to hone still further. David Morganstein's "President's Corner" covers some of our plans and I will not repeat them here, but I will cover the rest as I know them.

We will have tables with signs set up along one wall at the entrance to the auditorium. There will be a table for general information and one for providing information and application forms to newcomers. If they choose to join, they can pay their membership fees at that table, receive the current issue of the WAP Newsletter and material which comprises the new member kit. At a different table(s) you may pick up your issue of the newsletter by choosing the line which serves your zipcode. Remember, zipcode first, then name. Please minimize requests for additional information here. We try to keep the lines moving quickly. At a different table, you can pick up your previously ordered diskettes or equipment purchased from the club store. No purchases can be made at this table... only deliveries. Finally, there will be a section set up where you may purchase library disks, back issues, Inside Apple Pi, and equipment from the club store. Transactions here will be painfully slow and you will have to pay the "cashiers" by check for all purchases over $25.

We have attempted to streamline the procedures for handling members who either are not interested in making "spontaneous" purchases or who have made their purchases by mail. This large majority of attendees is given preferential treatment so that they can move on to the bulletin boards and to the "Help" session which is scheduled to run in the auditorium prior to the main meeting, and so that new arrivals can be served quickly.

Certainly we shall not totally eliminate the "chaos", especially if the number of attendees continues to grow. Maybe that's not so bad, since APPLE enthusiasts enjoy rubbing shoulders with their counterparts. Next year in Constitution Hall!!!

```
##########################################
# There will be a special meeting of     #
# Washington Apple Pi on Saturday,       #
# April 17, at 9:30 AM, USHUHS, Audi-    #
# torium D.  See details in "Event       #
# Queue".                                #
##########################################
```

PRESIDENT'S CORNER

by David Morganstein

"We only serve, those who stand and wait". Is this to be the motto of our Saturday morning pre-meeting activities? With your help and a few changes, we hope not!!! First, the lines were longest for the spontaneous purchasers of library disks. Those waiting cast envious eyes at the pre-order "line", which usually contained at most one person. If you can send your order in by the first of the month, an envelope with your disks will be waiting for you in the "short" line thereby saving you the delay. Not only will you be spared the wait, but you can assure that ALL the disks you want to purchase will be available. The spontaneous buyer often has to wait a month anyway since we can not possibly stock enough disks for all buyers.

Second, we can shorten the main meeting by changing the agenda slightly. The calls for help which have been discussed during the main meeting will be handled during the 9:00 to 10:00 period in the auditorium. Martha Eggers has volunteered to lead a help session during that hour for those with questions or seeking assistance. We will try to get a few owners of long standing to participate and give Martha some support in that endeavor.

The meeting can be shortened further by writing meeting announcements on the blackboard instead of calling on SIG chairmen.

Third, the large crowds may be due, in part, to the SIG meetings held at the same time. I will discuss with the SIG chairmen the possibility of moving some of the meetings to another day. There is the added advantage of permitting members to attend more than one SIG if they are held on different days.

• • • • •

A reminder about the upcoming tutorials. A single morning session on Visicalc, taught by Ernie Foreman, will be given on April 3. A four part session on Pascal and the UCSD system will be given during May by Tom Woteki. To register complete the application included in the magazine and mail it in quickly. If the previous tutorials are any indication, there is great interest.

• • • • •

I was pleased to see the Pi receive some national publicity. One of our members, Bill Cook, is a writer for a major newsweek(ly) magazine. Using his Apple, Superscribe and a modem, he co-authored a piece on microcomputers which appeared in the February 22 issue. After completing it, the article was downloaded to the typesetters. The Pi was mentioned prominently...

• • • • •

Elections will be upon us before long. Chuck Philipp and Walt Francis have agreed to serve on an Elections Committee. Please consider participating in the Pi by serving as one of the elected officials. If any of the positions are of interest, or if you have questions about the responsibilities, please contact the Elections Committee.

WAP HOTLINE

Have a problem? The following club members have agreed to help. PLEASE, respect all telephone restrictions, where listed, and no calls after 10:00 PM.

General		
	Ben Acton	972-1533
	Robert Fretwell	971-2621
	Dave Harvey	527-2704
	Tom Jones	460-8773
	Robert Martin	498-6074
Operating Systems		
APPLE DOS	Richard Untied (weekends only)	241-8678
CP/M	Robert Fretwell	971-2621
Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine)		
A	Peter Combes	871-1455
A,I	Jeff Dillon	422-6458
A,I	Tom Jones	460-8773
A	Mark Pankin	370-9219
A,I,P,M	Bill Schultheis (except Tue., Thurs.)	538-4575
A,I,M	Richard Untied	241-8678
P	Robert Fretwell	971-2621
DB Master	Dave Einhorn	593-8420
Printers	Walt Francis	966-5742
Word Processors	Walt Francis	966-5742
	Ben Acton	972-1533
Superscribe II	Peter Combes	871-1455
VisiCalc	Ben Acton	972-1533
	Walt Francis	966-5742
Time-Sharing	Chuck Reinbrecht	299-6810
	Dave Harvey	527-2704
Graphics	Bill Schultheis (except Tue., Thurs.)	538-4575
Games	Jim Eatherly	232-6046
Mem. Expansion	Fred Schulz	223-1397
Other Disk Drives	Fred Schulz	223-1397

CLASSIFIEDS

FOR SALE: CPS multifunction card - original documentation and parts - $150. Also have the CP/M and Pascal driver disks, $8.00 each. Used Comprint 912 printer - in good condition - asking $150, but will consider reasonable offers. APPLE cool stack - $50. Call Al at 946-2585.

FOR SALE: Southwestern Data Systems compiler SPEEDSTAR (3.3). Unused - don't want 'chip' type protected disk; very fast compiling, 1200 lines/min.; unlimited user backup copies. $100 or best reasonable offer (list $134.95). Call Bob Schmidt, (301) 736-4698.

FOR SALE: Two games. Both are on the original disks with original documentation. Neither have been copied. Hadron, $22 (list $35); Wizard and Princess, $18 (list $30). Call Eric, 229-3458.

INTRODUCING

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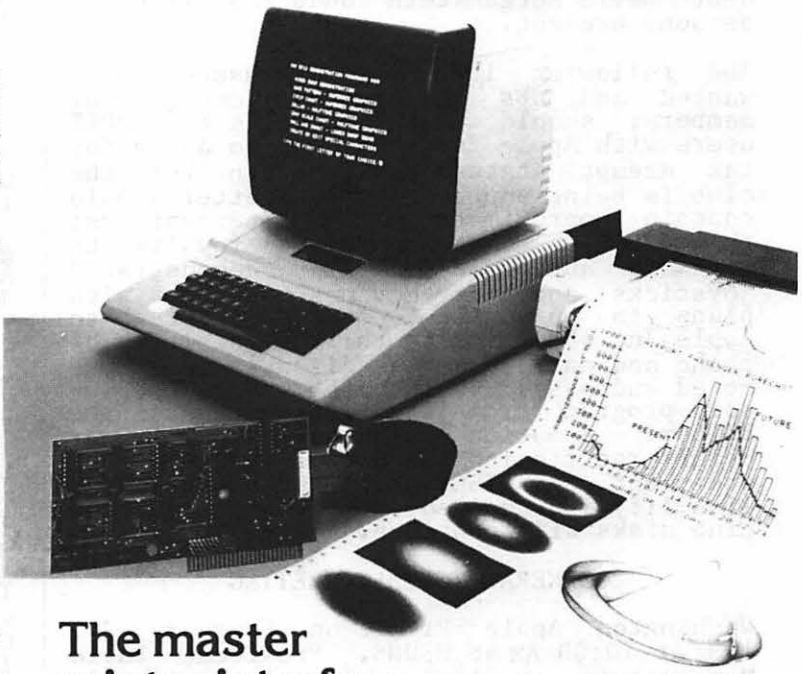

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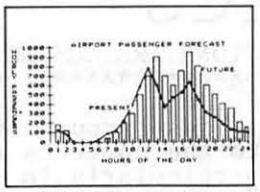

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MINUTES

EXECUTIVE BOARD MEETING

Washington Apple Pi Board met on February 10, 1982 at 7:30 PM at the Urbans. President David Morganstein conducted, with 22 persons present.

The following items were discussed: help wanted and jobs available services to our members; should IAC be the voice of APPLE users with Apple Inc; best way to apply for tax exempt status; an accountant for the club is being sought; the Newsletter should contain approximately 25 - 33 percent ads; the idea of the club paying royalty to software authors. Tom Riley demonstrated joysticks and other devices together with plans to build them. A draft letter to Apple Inc objecting to their prohibition of phone and mail sales was discussed. It was moved and passed to transfer a word processor program from the club store to the Editor. A motion was defeated to lift our prior restriction on use of funds to buy equipment for SYSOP until our possible tax liability is resolved. Efforts to document club disks will continue.

GENERAL MONTHLY MEETING

Washington Apple Pi met on February 27, 1982 at 10:00 AM at USUHS. President David Morganstein presided, with approximately 450 people present.

The following items of business were presented: Pascal and VisiCalc tutorials will be taught; Elections Committee is being formed; motion passed that the letter drafted by the Board be sent to Apple Inc., objecting to their prohibition of phone and mail sales; SIG announcements were made; some SIGs will be holding elections.

An informative presentation on assembly languaage was made by Bill Schultheis.

NOTICES

ELECTIONS ARE COMING UP
****

Elections are "just around the corner". Please refer to the comments elsewhere in this issue, particularly in the "President's Corner". Your interest and support will benefit the club.

SPECIAL MEETING OF WASHINGTON APPLE PI
****

There will be a special meeting of WAP on Saturday, April 17, at 9:30 Am, to discuss future directions of the club. Please see the notice near the front of this newsletter for further details.

LISP SPECIAL INTEREST GROUP?
****

Is anyone interested in a LISP SIG? We have had an inquiry from one of our members, Ron Nilson, who lives in Vancouver, Washington. Ron is one of our very first members. Though he now lives a distance away, if anyone is interested, drop a note to the P.O. Box and we will pass it on.

JOB MART

HELP WANTED

Instructors wanted to teach beginning to advanced courses on APPLE and other personal computers. Call 340-2220 after 7 PM or on Saturdays, or write:
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CONSULTANT/PROGRAMMER/TUTOR - Let me solve your problems. Math Ph.D. with over 10 years experience on computers (APPLE II+ and others - micro to mainframe). Application experience includes management science, operations and financial analysis, university teaching in Math and Computer Science. Mark Pankin, (703) 370-9219.

TUTOR FOR KIDS: Basic Programming for school children, grades 3 - 8. Classes this Spring and Summer on APPLE II Plus. In my home, just off beltway in Annandale/Springfield area. Experienced programmer-tutor. Judy Lucianovic, (703) 321-7670.

EVENT QUEUE

Washington Apple Pi meets on the 4th Saturday of each month at the Uniformed Services University of the Health Sciences (USUHS), Building B, 4301 Jones Bridge Road, Bethesda, MD, on the campus of the National Naval Medical Center. Sales, library transactions, newsletter pickup, etc. are from 8:30 - 10:00 AM. From 9:00 to 10:00 AM there will be an informal "Help" session in the auditorium. The main meeting starts promptly at 10:00, at which time all sales and services close so that those volunteers can attend the meeting.

Following are the meeting dates for the next two months, with their topics and speakers.

April 24 - Telecommunications
DC Hayes, Novation Cat
Ben Acton and John Moon
May 22 - Data Bases - Martha Eggers

There will be a special meeting on Saturday, April 17, at 9:30 AM, at USUHS, in Auditorium D. This meeting is being held to give all who are interested a chance to discuss the future directions of WAP, including growth, budget, membership dues, initiation fees for new members, etc. You are encouraged to come and express your opinions and listen to those of your fellow club members.

Also, on April 17, there is a special contest for Appleseeds, at 9:30 Am, at USUHS, in the Cafeteria. Details are given elsewhere in this issue.

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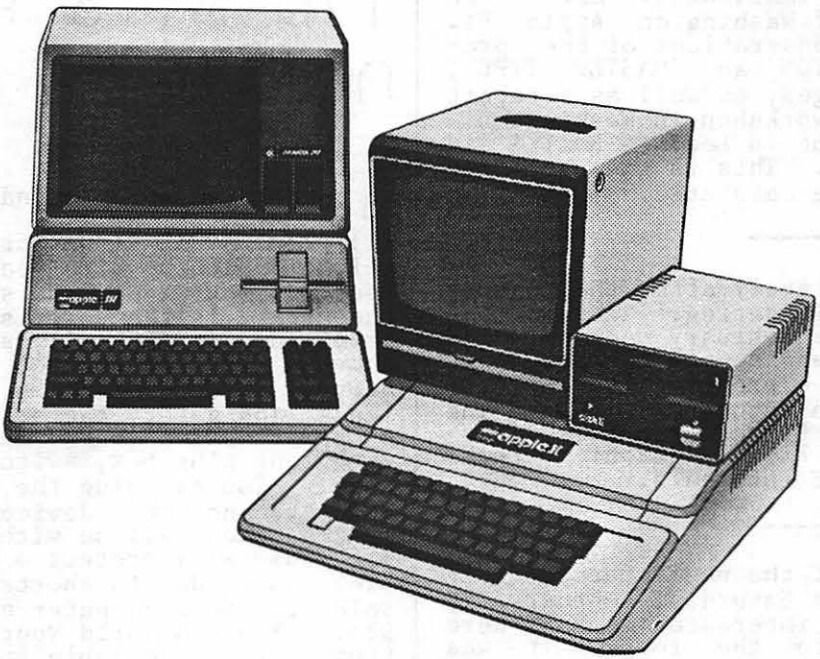

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SIG-NEWS

SIGAMES is the special interest group of computer hobbyists interested in using their APPLEs for entertainment. They meet immediately following the monthly meeting of Washington Apple Pi.

This month's newsletter features the regular SIGAMES NEWS column by John Alden. This column presents the agenda for the current month's SIGAMES meeting, the next month's agenda, a synopsis of the prior month's meeting and a review of one or two new games.

PIG, the Pascal Interest Group, meets on the third Thursday of each month at 7:30 PM at the Uniformed Services University of the Health Sciences, Bldg. A, Room 2054 (2nd floor), on the campus of the National Naval Medical Center at 4301 Jones Bridge Road, Bethesda, MD.

EDSIG will meet immediately after the regular meeting of Washington Apple Pi. There will be demonstrations of the programs, "ISAAC NEWTON" and "MASTER TYPE", and of Hi-res packages, as well as a report on the recent LOGO workshop in Washington. The meeting will be in Lecture Hall A in Building A, USUHS. This is the building you can see from the cafeteria.

ASMSIG meets immediately after the regular Washington Apple Pi meeting. Twelve members showed at the February meeting, and Bob Palus was elected the new Chairman. It was decided to have a presentation on various topics at each future meeting. The topic for March is Hi-res graphics addressing; for April, Hi-res graphics techniques; for May, DOS internals.

The first meeting of the newly formed APPLE /// SIG was held on Saturday, February 27, at USUHS. Fourteen interested members were there to inaugurate the group. It was agreed that future meetings would be held on at least a monthly basis, but on an evening or weekend other than the regular Apple Pi monthly meeting. Since most or all of the /// owners also have owned or still own an APPLE II, we wanted to be able to participate in the regular club meetings and also other SIG's.

For at least the near future our meetings will rotate between a location in Virginia (northern, that is) and, through the courtesy of Dr. Richard N. Miller, at the Walter Reed Army Medical Center, Building 40, Room 404. Meeting time has been set for 7:30 PM, on the second Thursday of each month, with the April meeting at Walter Reed. The Virginia location will be at the Universal Computer Store, 1701 Fern Street, Alexandria, VA at 7:30 PM, on the second Thursday of May.

APPLE ///'s are available at each of these locations, which will be of outstanding benefit to our users group. All interested members of Washington Apple Pi are cordially invited to attend.

NEWSIG will meet just after the regular Washington Apple Pi meeting. We will answer questions and try to help new owners get their systems up and running. We will also explain how our club operates.

The following members have agreed to answer questions over the phone when someone gets stuck and needs help between meetings:

Bob Chesley	560-0120
Paul Hoffman	831-7433
Sarah Lavilla	926-6355
Boris Levine	229-5730
John H. Smith	439-4388
Steve Sondag	281-5392

TID-BITS From NEWSIG

by Bernie Benson

We have three more reminders this month.

(1) The APPLE II has proven to be a very reliable machine with years of good service records. However, one slight weakness in the APPLE is the power switch. With abuse or overuse it can fail, sometimes resulting in the need to replace the entire power supply. To avoid this, and as a convenience and safety factor, I recommend using a power strip (heavy duty extension cord with long plug box, switch, and fuse on the end). You can plug the computer, monitor, printer, and other devices into the box and switch them all on with just one switch. The fuse will protect a device from possible damage due to shorts, etc. These are sold in most computer stores for around $25. You can build your own much cheaper from parts available in a hardware store (the old noncomputer hardware store).

(2) To the few who use cassette storage, a couple of hints. Place the recorder as far away from the TV monitor as possible when loading and storing programs. TVs and fluorescent lights seem to generate interfering signals which many recorders are very sensitive to. Setting the tone to maximum treble can also help. Always save a program twice on the tape; this is both convenient if a second loading is needed, and safer if one copy will not load.

(3) Disk care: The APPLE II disk drives record data on the under side of the diskette. It is this side that must be kept very clean and free of dust and dirt. In other words, it is more important to consider what you lay the diskette on than what gets laid on it. For more information on disk care and double sided recording see the February 1982 SOFTALK and April CREATIVE COMPUTING magazines.

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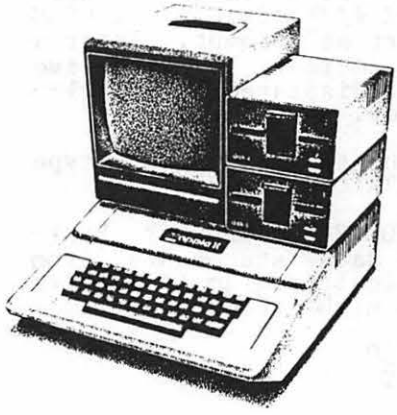

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A PAGE FROM THE STACK

by Jill and Vance Giboney

We have two new disks for the library again this month. The first is Disk 112 - UTILITIES C, and the second is Disk 113 - BUSINESS B.

The UTILITIES C disk contains programs contributed indirectly by Dave Juett (WAP newsletter, December 1981), and programs from Apple-Dayton, as well as utilities contributed directly to Washington Apple Pi.

APPLESOFT RELOCATE - Locates Applesoft programs above the page one Hires graphics memory area.

APPLETEST - Color bar test and paddle test.

ASCII DISASSEMBLER - Disassembles memory into HEX LOCATION/HEX #/MNEMONIC/ASCII CODE in response to "start at" prompt. Enter a memory location in decimal. Successive locations will be displayed. Ctrl-S scrolls, RESET escapes.

CATALOG TO DIR - Run this one, then type "DIR" instead of "CATALOG".

DATA STATEMENTS FROM RAM - Another POKE-writer. Generates data statements from machine code. A typical program to utilize such data statements might read:

```
10 FOR X = 768 TO 950
20 READ Y : POKE X,Y
30 NEXT
```

The program is self prompting.

DAYTON MENU - The Hello/Menu program used by Apple-Dayton for their disks.

DISK DOCUMENTATION - Tells whether the disk is a master or slave, gives the volume number and free sectors.

EMBED ASSY IN A'SOFT - Explains one way to embed short machine language routines in an Applesoft program.

EXEC FILER - Allows you to create, read, write and edit EXEC files.

EXEC WRITER - Similar to EXEC FILER.

FAST PRIMES - Calculates prime numbers within a given range.

FIELD INPUT - Input routines for Applesoft programs using the ampersand (&) instruction. FIELD INPUT INSTRUCTIONS gives the syntax requirements. Examples are presented in FIELD INPUT DEMO and FIELD INPUT TESTER.

FLOATING POINT ROUTINES - Converts an input number to its floating point representation.

HEX-DECIMAL-HEX CONVERSION - Converts hex to decimal and decimal to hex.

HI-RES SKETCHER - Allows you to sketch on the Hires screen using either a paddle or the keyboard.

LETTER TYPER - Facilitates the printing of large-scale signs, documents, etc., by allowing you to type large letters on the Hires screen.

MAGIC PAINTBRUSH - Allows you to draw in Hires using paddles and buttons.

PI - Calculates pi to any length up to 32767 digits.

PROTECT - Renders programs unlistable for security, if desired.

REM LINE FORMATTER - Aids in formatting Applesoft REM statements for clear display.

RESET TO MONITOR - For APPLE II+, sends system into Monitor when RESET is hit.

SCREEN WRITE/FILE HEX - Allows you to write a display screen that can then be loaded and displayed quickly from a Basic program. SCREEN WRITE/FILE DOC. gives instructions.

SCRUNCH - Allows you to squeeze four Hires pictures onto a single screen.

SHAPE OMNI - Create and save shapes using the keyboard.

SLOW SCROLL - Integer Basic subroutine that allows display of text at different scrolling speeds.

TXFILER - Allows you to use Apple Writer to write/edit text files. Documentation in TXFILER INFO. See June 1981 WAP Newsletter.

VERTICAL BANNER PRINTER - Prints large vertical headings of less than 21 words.

The BUSINESS B disk is a package called "Computer Assisted Analysis for Managers". It is described as follows:

The C.A.A.M. software package is designed to meet the needs of managers and analysts for easy-to-use, time-sensitive computer support. The package does not include every analysis technique, but it does include three of the most useful: regression analysis, linear programming, and matrix decision aid.

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QUESTIONS, QUESTIONS, QUESTIONS

by Bruce F. Field

Beginning this month Mark Crosby is "retiring" as author of this column. We all appreciate the fine job he has done and hope he will continue to contribute to the newsletter.

As Mark noted last month, the number of questions submitted to this column is slim (i.e. almost non-existent). I realize that generally one needs an immediate answer, and that questions answered in the column are subjected to a one month turnaround. BUT, one purpose of this column is to disseminate information, and if one person has a question it is likely that others do also. Therefore I urge you to submit questions of general interest even if you have already found the answer. Now on to this month's questions.

Q. I have tried BRUNning the binary RELOCATE DOS TO MEMORY CARD program on Library disk #101 in my Apple II Plus, but I get a LANGUAGE NOT AVAILABLE error. What's happening?

A. The problem here is the version of Basic used for the HELLO program; the HELLO program on Library disk #101 is written in Integer Basic. The RELOCATED DOS TO MEMORY CARD program should be moved to a diskette with an Applesoft HELLO program, and then it will work properly in your Apple Plus. This is because the relocation program moves DOS into the memory (Language) card, sets up a few pointers in memory at $BF00 to $BFFF to allow the relocated DOS to communicate with the motherboard ROMs, and does a cold start to the relocated DOS. The relocated DOS then tries to execute a greeting program with the name HELLO. If the HELLO program is not written in the same language as the language on the motherboard, you get a LANGUAGE NOT AVAILABLE error message. An important point to note is that the greeting program for the relocated DOS must be named HELLO; this is true even if the diskette was initialized with a greeting program with a different name. More information about this program can be found in the July/August 1981 issue of CALL A.P.P.L.E.

Q. I'm a new member of the club with a 48K Apple II Plus and I would like to run Integer Basic programs. Can I do this without a Language card?

A. Yes. As you mentioned, one way to run Integer Basic programs in a Plus is to buy a Language card or an Integer Basic ROM card, but there is another way. Library disk #14 contains a binary program called "INTEGER BASIC-DISK". BRUN this program and you will get the Integer Basic prompt ">" and be up and running Integer Basic. If at any time you lose the ">" prompt (for example the Applesoft prompt appears) you will probably have to BRUN INTEGER BASIC-DISK again.

Q. But when I bought my system it came with a disk called BASICS, can't I use this to run Integer Basic programs?

A. No. You are understandably confused because Apple chose to call this disk BASICS, when in fact it really has nothing to do with the Basic languages. Before there was a DOS 3.3 (the version of the Disk Operating System you are probably using), there was DOS 3.2. The major difference between these two versions is that 3.2 stores information on the diskette in 13 pie-shaped sectors. DOS 3.3 on the other hand stores the information in 16 sectors, with the same number of bytes per sector, thus allowing the user to store considerably more information on one diskette. Unfortunately this produces a compatability problem between the two DOS's. An Apple configured for one DOS is unable to read diskettes in the other format; trying to do this will result in an I/O ERROR. The BASICS disk may be used to boot 3.2 diskettes on an Apple with DOS 3.3. Insert the BASICS disk in drive 1 and turn on (or "boot up") your Apple. Shortly a message should appear telling you to insert a 13-sector diskette and press return. When you do this the DOS 3.2 from the 13-sector diskette will be loaded into memory and run. Now you can perform any of the standard DOS commands, but data will be read from and written to the disk in 13-sector format.

Q. I have problems "booting" or running some of the Library disks. What's wrong?

A. Using the wrong DOS is one the major cause of complaints with our Library disks. To use disk volumes 1 through 40 or 180 through 192 DOS 3.2 must be used. If you get an I/O ERROR when booting a Library disk, double check to make sure you are using the correct version of DOS. Also, sometimes when a diskette is inserted and the door closed the diskette does not get centered properly on the spindle. To correct this, remove and carefully reinsert the diskette and gently close and open the door a couple of times to center the diskette.

Q. I'm working on an inventory program written in Applesoft and am using text files to store data to the disk, but I always get an END OF DATA error when I try to read the data back in. What am I doing wrong?

A. I have reproduced the relevant parts of your program below.

For writing:

```
300 PRINT CHR$(4);"OPEN DATAFILE"
310 PRINT CHR$(4);"WRITE DATAFILE"
320 PRINT A,B,C
330 PRINT CHR$(4);"CLOSE DATAFILE"
```

contd.

For reading:

```
400 PRINT CHR$(4);"OPEN DATAFILE"
410 PRINT CHR$(4);"READ DATAFILE"
420 INPUT A,B,C
430 PRINT CHR$(4);"CLOSE DATAFILE"
```

The problem is that when you input numbers (or strings) from the disk you need some sort of a "marker" or delimiter to indicate where one number ends and the next begins. If you do a PRINT A, B, C, to the screen the numbers are separated by spaces, but the Applesoft INPUT command does not recognize the space as a delimiter. Even if spaces were valid delimiters this situation wouldn't work because DOS strips away all the spaces leaving the numbers bunched together when written to the disk. The solution is to explicitly provide a delimiter between the numbers. One way to do this is to "print" a carriage return after each number.

```
320 PRINT A:PRINT B:PRINT C
```

Each PRINT command results in a number and a carriage return being written to the disk. Another equally valid way of doing this is to print a commma between the numbers.

```
320 PRINT A;",";B;",";C
```

Or, since semicolons are not needed between variable names and literal strings, this also works.

```
320 PRINT A","B","C
```

The easiest way to track down these kinds of problems is to use the DOS command MON I,C,O so that all data read from or written to the disk will be printed on the screen.

VISICALC AS A WORD PROCESSOR? by Jack Warner

I have just discovered VisiCalc as a word processor...primitive, but it works. Perhaps the following examples will demonstrate this and also amuse you.

THIS PROGRAM DEMONSTRATES THAT YOU CAN HAVE UP TO 37 SPACES WIDE ON VISICALC
THIS IS COLUMN A 37 SPACES WIDE THIS IS COLUMN B 37 SPACES WIDE

"THE BATTLE OF THE SPREAD SHEETS" - A BALLAD TO BE SUNG MOURNFULLY

1.

I'VE SEEN NINETEEN DIFFERENT SPREADSHEETS,
WON'T YOU TELL ME WHICH TO CHOOSE?
YES I'VE SEEN NINETEEN DIFFERENT SPREAD SHEETS,
PLEASE, PLEASE TELL ME WHICH TO CHOOSE.
YOU KNOW I CAN'T TELL THEM APART...
I'VE GOT THE SPREADSHEET SIMULATION BLUES!

(SECOND VERSE SHOULD BE AT A PICKED UP TEMPO -- THAT OF A GILBERT AND SULLIVAN'S MODERN MAJOR GENERAL...A LA TOM LEHRER'S ELEMENTS SONG)

2.

YOU'VE GOT SUPERCALC AND VISICALC AND DIGICALC AND LOGICALC
EXECUPLAN AND MULTIPLAN AND MICROPLAN AND MAGICALC
YOU'VE GOT FORCASTER AND T-MAKER AND TARGET AND CALCSTAR.....
(ALSO PLAN 80, VIEWCOMP, MICROFINESSE, REPORT MANAGER, VICTORCALC,
ULTRACALC, MBA, MICRO-DDS/FINANCE, SCRATCHPAD AND MODEL-I (YOU CAN LET ME KNOW IF ANY CALC IS OUT!)

(NOW BACK TO BLUES TEMPO...)

YOU'VE BEEN PLANNED AND CALC'D UNTIL YOU CAN'T REMEMBER WHO YOU ARE,
THESE SPREADSHEETS ARE A MYSTERY AND YOU HAVEN'T GOT A CLUE...
YOU'VE GOT THE SPREADSHEET SIMULATION BLUES.

3.

ONE DAY I WILL RETIRE
YOU'LL READ ABOUT IT IN THE NEWS,
I'LL TRADE IN MY OLD APPLE
ON A CASE OR TWO OF BOOZE.
BUT TILL THEN I CAN'T ESCAPE THE SPREADSHEET SIMULATION BLUES...OH YEAH!
I'VE GOT THE SPREADSHEET SIMULATION BLUES!

This used 1 K of VisiCalc..... From March 15,1982 INFOWORLD...

KEEPING TABS ON YOUR PRINTOUT

by David Morganstein

If you have ever tried to line up program output on your printer, you may have discovered that the obvious "PRINT TAB(column);" doesn't appear to live up to its promise. When the column number is less than 40, everything is fine. When it is greater than 40, however, many printer owners discover that the tab is ignored. The problem is not in the Applesoft command, rather, it is in the interface card being used to communicate with the printer. I use an SSM AIO card at home and it handles PRINT TAB(70) just fine. At the office, an Apple parallel interface card ignores the same command. I don't know the reason for the difference, but I do know a solution to the problem: POKE 36,column.

As a simple test, try the following program:

```
100 FOR I = 40 TO 80 STEP 10
110 PRINT TAB(I)I
120 NEXT I
```

This simple loop should yield five lines of printout (after you activate your printer with PR # slot), with the number 40, 50, 60, 70, and 80 displayed in columns 40, 50, etc. If it doesn't, your interface card suffers from the above mentioned problem. To avoid this situation, replace line 110 with:

```
110 POKE 36,I:PRINT I
```

BINARY AND EXECUTIVE GREETINGS

Ever want your disk to boot-up and run something other than a Basic program? If so, try the following modifications to the DOS.

Location $9E42 in the DOS will contain one of four values. Depending on the contents, the DOS seeks a different file type for the greetings program. The values and file types are:

$06	run a Basic program on boot-up
$14	Exec a text file on boot-up
$34	Brun a binary program on boot-up
$20	do a catalog on boot-up

To change from booting to a Basic program, a change must be made to the DOS on the disk to be booted. This can be done, as most DOS changes, in one of two ways: change the DOS in memory and then INIT a disk (resulting in a modified DOS on the disk), or use a disk editor program, like Disk Zap, to change the DOS on an existing disk. Simply POKEing $9E42 (converted to decimal) with one of the values above will accomplish the first method. The byte of interest is found on track 1, sector 0 for a 3.2.1 disk and on track 0, sector D for a 3.3 disk, for those willing to Zap a disk instead...

("the byte of interest"....Hmmm - Ed.)

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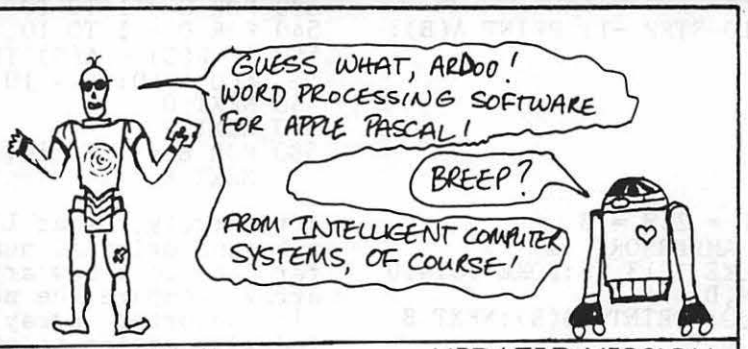

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SORT ROUTINES - A USER'S GUIDE

by Peter E. Rosden

The novice and mid-level programmer quickly realize the need for compact, efficient sort algorithms in their programs. Problems arise, however, due to 1) the difficulty in even locating printouts or files containing such routine; 2) omissions and errors frequently contained in such documents; and 3) the absence of comprehensible instructions on how to use these sort routines. This article summarizes my research into this area and recommends various avenues the programmer may follow.

Luckily, WAP members have available to them on Library Disk No. 37 a copy of Ampersort II, a machine language sort routine. Unfortunately, the disk contains no instructions on how to implement the program. Listings No. 1 and No. 2 below show, respectively, how to move from an Applesoft program into Ampersort and back out again after sorting numeric and string data.

Listing No. 1

```
 10 HIMEM:36864
 20 DIM A(Y)
 30 D$ = CHR$(4)
500 X = 10:Y = 100
510 PRINT D$;"BLOAD AMPERSORT II"
520 POKE 1015,144:POKE 1013,76:POKE 1014,0
530 &SRT#(A,X,Y)
540 FOR B = 100 TO 10 STEP -1: PRINT A(B):
    NEXT B
```

Listing No. 2

```
 10 HIMEM:36864
 20 DIM A$(Y)
 30 D$ = CHR$(4)
500 X = 10:Y = 100:L = 2:M = 3
510 PRINT D$;"BLOAD AMPERSORT II"
520 POKE 1015,144:POKE 1013,76:POKE 1014,0
530 &SRT#(A$,X,Y,L,M,D)
540 FOR B = 10 TO 100: PRINT A$(B):NEXT B
```

It is important to use the HIMEM statement in Line 10 (for a 48K machine). Without it, Ampersort may wreak havoc with strings and arrays generated by your program. The lines between 30 and 500 may be used to generate your numeric or string arrays. Line 520 contains a series of POKEs which may be confusing to those, such as myself, uninitiated in such esoterica. What it does is to tell the machine to go to address $300, which happens to be the "ampersand vector". So when the machine encounters an ampersand (&) in Line 530, it goes to this address and finds the Ampersort routine which was previously "BLOADED" at Line 510. (For further details on the use of ampersands, see Call-A.P.P.L.E. in Depth, Number One, 1981, p.123.) Note that the Ampersort parameters (contained between the parentheses in Line 530) allow the use of real numbers, variables or expressions.

The first parameter in each example denotes the name of the array to be sorted; the second item, the starting point of the sort; and the third item the ending point of the sort. Variable Y also represents, in this example, the largest total number of items in the array (appropriately dimensioned). The fourth and fifth items in Line 530 of Listing No. 2 show at which elements within the string to start and stop sorting. When sorting numerical data, Ampersort will only sort in ascending order. To get output in descending order, use the approach in Line 530 of Listing No. 1, i.e. step backwards. In contrast, Ampersort allows sorting in either direction (A or D) for string data; hence an explanation for the last parameter in Line 530 of Listing No. 2.

Suppose you have string and numeric data which are linked to each other and you want to sort them based on their numeric value ....not so easy. One solution is contained in Listing No. 3.

Listing No. 3

```
 10 HIMEM:36864
 20 DIM A(10), A$(10), B(10), B$(10)
 30 D$ = CHR$(4)
490 FOR C = 1 TO 10: B(C) = A(C): NEXT C
500 PRINT D$;"BLOAD AMPERSORT II"
510 POKE 1015,144:POKE 1013,76:POKE 1014,0
520 &SRT#(B,1,10)
530 FOR C = 1 TO 10
540 FOR D = 1 TO 10
550 IF B(C) = A(D) THEN B$(C) = A$(D):
    A(D) = 0: D = 10
560 NEXT D
570 NEXT C
580 FOR E = 1 TO 10: PRINT B$(E)"="B(E):
    NEXT E
```

Effectively, what Listing No. 3 does is to take the original numeric array (A); transfer it to a new array (B); sort the new array; compare the new, sorted array to the old unsorted array (which is used as an index); assign to a new, properly ordered string array the corresponding, unsorted data in the old string array; and short circuit the rest of the loop to start searching for the next ordered element in the array. It is important to dispose of the old numeric data (A(D)) in some fashion after it has been used as an index marker to prevent confusion which may arise from duplicate values.

The Ampersort routine really is lightning fast. (For more details on Ampersort, see Micro-The 6502 Journal, July, 1979, p.39.) But when doing an operation like the one described in Listing No. 3, you are slowed down considerably by the search/ index operation, not to mention the rest of your program. One way to overcome that drawback would be to compile your program with one of the commercially available compilers. (Incidentally, I strongly recommend using Tasc, as opposed to other compilers, but more about that in another article.) Alas, the Ampersort routine will not accept compilation, since it is de designed to accept strings in an Applesoft format.

contd.

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The fallback position is to use one of the many recognized Applesoft sort routines and compile it. But which, and where to find it? The October 1980 issue of Call-A.P.P.L.E., p.13, contains a long informative article entitled "Comparing Ten Sort Algorithms", by David Weston. It discusses the advantages and disadvantages of various sort algorithms and, in addition, gives charts on the relative speeds of each sort in handling different kinds of problems. Unfortunately, the article also omits a large chunk of code from the routine listings which took two subsequent issues of the magazine to supply and correct. Regardless, the article contains valuable information. It concludes that, in general, "Quicksort" (Listing No. 4) is the fastest all-around routine for arrays involving more than 300 elements, while the "Shell Sort" (Listing No. 5) is best for smaller arrays.

Listing No. 4 (Quicksort)

```
 10 DIM A(300), B(322)
500 I = 0:J = 0:K = 0:K1 = 0:K2 = 0:
    K3 = 0:K4 = 0:K5 = 0
502 N = X:REM X IS NUMBER OF ITEMS IN ARRAY
504 A(N+1) = 9E + 37:K1 = 0:K2 = N:K3 =0
506 IF K1 >= K2 THEN 528
508 J = K2 + 1:I = K1:K5 = INT((K2-K1)/2) +
    K1:K4 = A(K5):A(K5) = A(K1):A(K1) = K4
510 I = I + 1: IF A(I) < K4 THEN 510
512 J = J - 1: IF A(J) > K4 THEN 512
514 IF J <= 1 THEN 518
516 K = A(I):A(I) = A(J):A(J) = K:GOTO 510
518 A(K1) = A(J):A(J) = K4
520 IF J - K1 < K2 - J THEN 524
522 B(K3 + 1) = K1:B(K3 + 2) = J - 1:
    K1 = J + 1: GOTO 526
524 B(K3 + 1) = J + 1:B(K3 + 2) = K2:
    K2 = J - 1
526 K3 = K3 + 2: GOTO 506
528 IF K3 = 0 THEN 532
530 K2 = B(K3):K1 = B(K3 - 1):K3 = K3 - 2:
    GOTO 506
532 FOR I = 1 TO N:PRINT A(I): NEXT I
```

Listing No. 5 (Shell Sort)

```
 10 DIM A(100),B(106)
490 I = 0:K = 0:K1 = 0:K2 = 0
492 N = X:REM X IS NUMBER OF ITEMS IN ARRAY
500 FOR I = 1 TO 6:B(I) = B(I-1) * 4 +1:
    IF B(I) <= N/2 THEN K1 = I
502 NEXT I:B(K1) = INT(N/5) + 1:B(1) = 1:
    FOR I = K1 TO 1 STEP -1:K1 = B(I)
504 FOR J = K1 TO N:K2 = A(J)
506 FOR K = J - K1 TO 0 STEP -K1:
    IF K2 > A(K) THEN 510
508 A(K + K1) = A(K): NEXT K
510 A(K + K1) = K2: NEXT J: NEXT I
512 FOR B = 1 TO 100: PRINT A(B): NEXT B
```

These sort programs do work (barring a transcription error). Note the amount by which, in Listings No. 3 and 4, the dimension figure for B exceeds that for A. This is based on calculations of needed overhead (for sorts of up to 2000 items) and is explained in the David Weston article cited above. These listings contain some improvements which were developed by Mr. Weston in the previously used algorithms by the same name. They also compile and run very fast. The following table gives results of my own time trials of the various programs and combinations of programs.

Program Description	Time in Secs 76 Items	309 Items
Exchange Sort	75	1592
Shell Sort (Applesoft)	12	77
Quicksort (Applesoft)	14	58
Index/Swap (Applesoft)	26	442
Ampersort	5	8
Shell Sort (Compiled)	2	13
Quicksort (Compiled)	2	7
Index/Swap (Compiled)	10	134

The exchange sort is the very simplest type and the one given to APPLE owners as an illustration of sort procedures in the Applesoft Tutorial. As used in my test, it sorts and swaps both the numeric and string elements simultaneously (and slowly). Clearly, the path of choice for string/numeric sorts, if available, is use of the appropriate compiled program. The index/swap portion of each program will otherwise consume entirely too much time. Use of the fastest sort (Ampersort) in a compiled program is theoretically possible, but would require some fancy calculation of pointer locations to circumvent the Ampersand vector's expectation of dealing with Applesoft characters. Conversely, if no index/swap is necessary, Ampersand is the way to go. Actually, the real sort time for Ampersort is even faster than indicated in the above table since my timing started from the disk access initiated by line 510 in Listings No. 1 and 2. Whichever way you choose, happy sorting!!!

ADDENDUM: The manual for the Expediter compiler claims that it supports the ampersand command. However, I have not been able to successfully compile a program incorporating Ampersort with either Expediter or Tasc. Also, be aware that, although the Shell Sort (Listing No. 5) will work in Applesoft, it will not compile (probably due to the placement of the NEXT statements.)

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INTERNATIONAL COMPUTER PROBLEM SOLVING CONTEST

by Bill Thomas

On Saturday, April 17th, WAP and the Appleseeds will sponsor local participation in the International Computer Problem Solving Contest. This is a team competition for elementary and secondary school students. Contestants may participate as individuals or in teams of up to three students. There are separate competitions for elementary (4 - 6), junior high (7 - 9), and senior high (10 - 12) students. Each team will have two hours to program and solve five problems. Results will be judged immediately after the competition and prizes awarded to the winners in each division. Local winners will be entered in the national contest, which is coordinated by Dr. D. T. Piele of the University of Wisconsin.

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All contestants should report at 9:30 AM to the Cafeteria of the Uniformed Services University of the Health Sciences (USUHS), 4301 Jones Bridge Road, Bethesda, MD. Contestants should send a note with (1) names of team members, (2) the division you will enter, and (3) an address and phone number of one member to:

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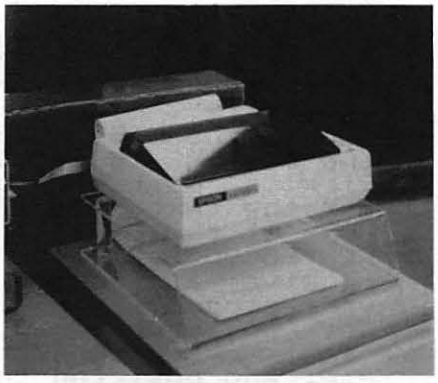

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LISTING FORMATTER

by R.A. Untied

I was looking for a program that would help me format BASIC listings to submit to WASHINGTON APPLE PI. PI requires columns 3.5 inches wide for magazine articles. If you go

```
POKE 33,35 : PR#1 : LIST
```

words and numbers get broken apart at the end of the line, and some lines run beyond 35 columns anyhow! I tried several listing formatters, but they fell short of the mark. Two wouldn't handle 35 columns, and another did too much formatting... one line per expression. I tried "capturing" a basic program into a text file and loading that into SUPERSCRIBE, but formatting each and every line for proper indentation was a real pain in the neck (anyone have some pointers?).

The program presented here does the trick. It includes line counting to skip over fanfold perforations, an optional margin setting, a provision to list just part of a program, and will handle Integer or Applesoft listings. It's not very fast, but it keeps the printer busy. A short demo accompanies the listing to show how it works. Step by step:

1. Load the Applesoft or Integer program you want to list.
2. Add a CAPTURE routine to the program. See lines 50000-50080 in the listing for Applesoft, or make equivalent Integer statements. This should be placed at either end of your program. If in doubt, see the section in the DOS manual titled "Capturing Programs In a Text File".
3. Adjust the LIST command so that the CAPTURE is not included.
4. Pick a suitable program name for the text file (line 50020).
5. RUN at the CAPTURE line (here, RUN 50000). The disk will receive a text file image of your program.
6. Set up your printer for the right character size, spacing, etc. and position the paper for the first line.
7. LOAD and RUN the LISTING FORMATTER.

With the MX-80, the 80 column, emphasized, 8 lines per inch setup works well for PI articles. Set the TEXT WIDTH at 35 for 80 column, or 60 for 132 column to yield the 3.5 inch wide listings. INDENTATION sets the tab from the margin for wraparound lines. FORM LENGTH should be 66 for 6 lines per inch, and 88 for 8 lines per inch, when using standard 11 inch fanfold. Pick a TEXT PAGE LENGTH suitably smaller than the FORM LENGTH for page borders to skip over the perforations.

The program is easily modifiable: Delete 290 for listing to the screen; Add page numbering, titles, etc.

Oh, note the PRINT CHR$(0) in line 50060. I heartily recommend including this before the CLOSE when writing to sequential text files. It ensures that there is an end-of-file mark at the actual end of your text. This is especially important when you are writing into an existing text file, and the file is shorter than before.

```
]RUN 50000 : REM MAKE TEXT FILE

]RUN
FILE NAME = CAPTURE.TEXT
TEXT WIDTH (COLS) 35
LEFT MARGIN       0
INDENTATION TAB   5
TEXT PAGE LENGTH  78
FORM LENGTH       88
START LINE NUMBER 0
 END  LINE NUMBER 99999


100  REM "
      BASIC LISTING FORMATTER
          TEXT FILES ONLY
      R.A. UNTIED     MAR '82
     << WASHINGTON APPLE PI >>

200  INPUT "FILE NAME = ";FI$
210  INPUT "TEXT WIDTH (COLS) ";WW
220  INPUT "LEFT MARGIN       ";X
230  INPUT "INDENTATION TAB   ";T
240  INPUT "TEXT PAGE LENGTH  ";TL
250  INPUT "FORM LENGTH       ";FL
251  IF FL < TL THEN 240
260  INPUT "START LINE NUMBER ";SL
270  INPUT " END  LINE NUMBER ";EL
280  PRINT
290  PRINT  CHR$ (4)"PR#1"
300  PRINT  CHR$ (4)"OPEN"FI$
310  PRINT  CHR$ (4)"READ"FI$
320  ONERR  GOTO 800
400 L$ = ""
410  GET C$: IF  ASC (C$) <  > 13
     THEN L$ = L$ + C$: GOTO 410
420  PRINT :L =  FRE (L)
430 L =  LEN (L$):N =  VAL (L$)
440  IF N = 0 AND A > 0 THEN 500
450  IF N < SL THEN 400
460  IF N > EL THEN 800
500 A = 1
510 W = L - A + 1:T1 = T * (A > 1)
520  IF (W + T1) <  = WW THEN
     GOSUB 700: GOTO 400
600 B = A + WW - T1 - 1:B0 = B
605  IF  MID$ (L$,B + 1,1) = " "
     THEN 640
610 X$ =  MID$ (L$,B,1): IF " " =
     X$ THEN 640
620  IF X$ = "," OR X$ = ":" THEN
     640
630  IF (B > (A + WW / 2)) THEN B =
      B - 1: GOTO 610
635 B = B0
640 B = B + 1:W = B - A: GOSUB 700
650 A = B: GOTO 510
700  IF W < 1 THEN  PRINT : RETURN
710  IF X THEN  PRINT  SPC( X)
720  IF A > 1 THEN  PRINT  SPC( T)
730  PRINT  MID$ (L$,A,W)
740 Y = Y + 1
750  IF Y >  = TL THEN  FOR I = Y +
      1 TO FL: PRINT : NEXT :Y = 0
760  RETURN
```

contd. on pg 29

A SIMPLE CLIENT BILLING SYSTEM by J. Philip Childress

After two years of free-lance consulting I finally got tired of the monthly ratrace to get the client bills out by the hunt, peck, tear up and start over method. Each invoice took almost an hour, and sloppy corrections over white-out were the rule. When my client/project combinations began to top 5, it became almost a day's work to get the monthly billings out. So I spent a Sunday afternoon cooking up the attached simplified billing system, which does the job for me in less than ten minutes per bill processed.

Several things are needed in such a system: 1) A method of keeping backup data in addition to the bill copies, in case the old bill is lost; 2) Project/client/month definition; 3) Envelope address printing capability; 4) Rounding to two decimal places and dollar signs; 5) Previous balance forward and payment records.

But what is NOT necessary is complicated data file maintenance and unwieldy software. So what I do is to keep the "data" in Applesoft Basic statement numbers 80 - 210 in the listing. Each client/project/month gets one 14-line file of these Basic statements, with a name like "CLTNM.PRJNM.FEB82.DATA" using only three sectors. The rest of the program is kept in a master file, "BILLPRT". I then merge the two files using the &H(old) and &M(erge) commands of the LOADAPA prgram of the APPLE TOOL KIT, which Apple should have their wrists slapped for not providing on ROM gratis. Alternatively, the data files may be kept as text with Basic statements, edited with a text editor or word processor, and "EXEC'ed".

The month's billing consists of editing the last month's data file and saving it as a new file, merging it with BILLPRT, test printing the invoice on tractor feed paper (the final run of which becomes my file copy), saving the merged program on a junk file for later use, and repeating the procedure for the next bill. Final copy of all bills to my letterhead paper is then done by removing the tractor feed paper and running the junk files twice - once for the invoice and once for the envelope. The junk files may then be deleted.

As I said, what used to take almost an hour on my correctible electric typewriter now takes about 10 minutes, and results in a far more professional looking invoice, even using my Centronics 737-1 microdot printer.

Some printer/system dependency is implied in the program, which you may have to alter:

1) Lines 60, 630 and 660 assume printer is in slot #1 and video is in slot #3.

2) Line 310 sets E$ to a vertical bar which is used to make vertical lines. CHR$(124) works on the Centronics.

3) Line 580 uses CHR$(155); CHR$(138) for reverse line feed, the Centronics control. You might have to modify this for your printer.

Lines 10000 - 10620 are the formatting routine printed in the November 1981 issue of WAP with one bug patched.

There you have it - the K.I.S.S. approach to useful software which has saved me countless hours and hassles.

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```
 LIST
10 L% = 21
20  INPUT "ENTER ENV=0(BILL) OR 1(ENVELOPE)";ENV
30  FOR J = 1 TO 65:U$ = U$ +  CHR$ (95): NEXT J
40  IF ENV = 1 GOTO 80
50  INPUT "TURN ON PRINTER AND PRESS RETURN...";DM$
60  PRINT  CHR$ (4);"PR#1"
70  PRINT ""
75  REM --------BEGIN DATA-----------------------
80 PJ$ = "EPAU COAL MODEL PROJECT"
90 AD$(1) = "A.B. Smith and Associates,Inc."
100 AD$(2) = "4458 Whatsit Lane"
110 AD$(3) = "Springfield,Virginia 22151"
120 CH = 20.5: REM  CURRENT HOURS SPENT ON PROJECT
130 DT$ = "March 7,1982": REM  TODAY'S DATE
140 EX = 25.50: REM  EXPENSES
150 RT = 50.00: REM   HOURLY RATE
160 CK = 1:CN = 297:PMT = 1529.98: REM      CK=1 IF CK RECD,CN=#,PMT=AMT.
170 PB = 1529.98: REM  PREVIOUS BALANCE FORWARD
180 N1$ = "Terms-Net 30 Days": REM     NOTES
190 MO$ = "February"
200 YR$ = "1982"
210 CT$ = "ABSA Contact:Mr. Art Smith"
215  REM ---------END DATA-----------------------
220  IF ENV = 1 THEN  GOTO 620
230  PRINT "Accounts Payable Department";: POKE 36,46: PRINT DT$
240  FOR K = 1 TO 3: PRINT AD$(K): NEXT K
250  PRINT "Project Reference:";PJ$
260  POKE 36,18: PRINT CT$
270  PRINT " "
280  PRINT "Statement for ";MO$;",";YR$
290  PRINT " "
300  PRINT U$
310 E$ =  CHR$ (124)
320  POKE 36,38: PRINT "Debit";: POKE 36,51: PRINT "Credit"
330  PRINT " "
340  PRINT  CHR$ (155); CHR$ (138)
350  PRINT U$
360 AMT = CH * RT
370  GOSUB 9999
380  PRINT " "
390  PRINT "Previous Balance....";: POKE 36,38:N = PB: GOSUB 10000: PRINT
     D$
400  IF CK = 0 THEN PM = 0
410  PRINT "Checks Received,Ck#";CN;: POKE 36,50:N = PM: GOSUB 10000: PRINT
     D$
420  PRINT " "
430 TT = PM - PB
440  IF TT <  = 0 THEN  POKE 36,5: PRINT "Balance Forward";: POKE 36,38:N =
      ABS (TT): GOSUB 10000: PRINT D$
450  IF TT > 0 THEN  POKE 36,5: PRINT "Balance Forward";: POKE 36,50:N =  ABS
     (TT): GOSUB 10000: PRINT D$
460  PRINT " "
470  PRINT MO$;" Consulting Services:": POKE 36,5: PRINT CH;" Hours @ ";RT
     ;" per Hr.";: POKE 36,38:N = CH * RT: GOSUB 10000: PRINT D$
480  PRINT " ": PRINT MO$;" Expenses:";: POKE 36,38:N = EX: GOSUB 10000: PRINT
     D$
490  PRINT " ": PRINT " ": PRINT " ": PRINT " "
500  PRINT U$
510 TD = PM - PB - CH * RT - EX
520  PRINT "Total Due";
```

contd.

```
530  IF TD <  = 0 THEN  POKE 36,38:N =  ABS (TD): GOSUB 10000: PRINT D$
540  IF TD > 0 THEN  POKE 36,50:N = TD: GOSUB 10000: PRINT D$
550  PRINT U$
560  PRINT " "
570  PRINT N1$
580  FOR K = 1 TO L%: PRINT  CHR$ (155); CHR$ (138): NEXT K
590  FOR K = 1 TO L% - 2: POKE 36,36: PRINT E$;: POKE 36,49: PRINT E$: NEXT
     K
600  PRINT  CHR$ (4);"PR#3"
610  END
620  INPUT "INSERT ENVELOPE& HIT RETURN";DM$
630  PRINT  CHR$ (4);"PR#1": PRINT ""
640  POKE 36,15: PRINT "Accounts Payable Department"
650  FOR K = 1 TO 3: POKE 36,15: PRINT AD$(K): NEXT K
660  PRINT  CHR$ (4);"PR#3"
670  END
9999 FM(1) = 11:FM(2) = 2:FM(3) = 1:FM(4) = 1:FM(5) = 1: RETURN
10000  REM    SUBROUTINE TO RIGHT JUSTIFY,ROUND,ADD COMMAS & FIX OR FLOAT
10010  REM   A "-" AND "$" SIGN. IF NUMBER OVERFLOWS FIELD,THEN "****"
10020  REM  IS PRINTED.INPUTS N,THE NUMBER.OUTPUTS D$, A STRING EQUIVALENT

10030  REM   FM(K) ARE THE CONTROLS-PUT THEM IN MAIN PROGRAM.
10040  REM   BY PHIL CHILDRESS,WASHINGTON,D.C.AUGUST 31,81.
10050  REM   (IT'S SLOW,BUT IT WORKS)
10060  REM  FM(X) IS FORMAT-1=FIELD,2=DEC PLCS,3=$IF 1,4=FIX IF 1,5=, IF 1

10070 D$ = ""
10080 T$(1) = " "
10090 T$(2) = ""
10100 LK = 1
10110 R(5) = 10 ^ FM(2)
10115  IF FM(2) < 0 THEN R(5) = 1
10120 R(4) =  ABS (N) + 0.5 / R(5)
10130 IP =  INT (R(4))
10140 T$(3) =  STR$ (IP)
10150  IF FM(5) = 1 THEN  GOSUB 10500:T$(3) = T$(5)
10160 R(2) =  INT (R(5) * (R(4) - IP)) + R(5)
10170  IF FM(2) > 0 THEN T$(2) =  RIGHT$ ( STR$ (R(2)),FM(2))
10180 D$ = T$(3) + "." + T$(2)
10190  IF FM(2) < 0 THEN D$ = T$(3)
10200 LL =  LEN (D$)
10210  IF FM(3) = 1 THEN LK = 2
10220  IF LL + LK > FM(1) THEN D$ = "": FOR WW = 1 TO FM(1):D$ = D$ + "*":
     NEXT WW: RETURN
10230 R(1) = FM(1) - LL - LK
10240  IF FM(3) <  > 1 THEN 10380
10250  IF FM(4) <  > 1 THEN 10320
10260  REM      -$bbbb52.5843  FIXED -$.
10270  REM    R(1)IS NO OF BLANKS TO PAD OUT WITH
10280  IF R(1) < 1 THEN 10300
10290  FOR WW = 1 TO R(1):D$ = T$(1) + D$: NEXT WW
10300  IF N >  = 0 THEN D$ = " $" + D$: RETURN
10310 D$ = "-$" + D$: RETURN
10320  REM     FLOAT -$ THE LEFT OF DIGITS
10330  IF N >  = 0 THEN D$ = " $" + D$
10340  IF N < 0 THEN D$ = "-$" + D$
10350  IF R(1) < 1 THEN  RETURN
10360  FOR WW = 1 TO R(1):D$ = T$(1) + D$: NEXT WW
10370  RETURN
10380  REM  NO DOLLAR SIGN IF HERE
```

contd.

```
10390  IF FM(4) <  > 1 THEN 10450
10400  REM      -bbbb52.5843 FIXED --NO $
10410  IF R(1) < 1 THEN 10430
10420  FOR WW = 1 TO R(1):D$ = T$(1) + D$: NEXT WW
10430  IF N >  = 0 THEN D$ = T$(1) + D$: RETURN
10440 D$ = "-" + D$: RETURN
10450  REM       FLOAT A MINUS SIGN
10460  IF N >  = 0 THEN D$ = T$(1) + D$
10470  IF N < 0 THEN D$ = "-" + D$
10480  IF R(1) < 1 THEN  RETURN
10490  FOR WW = 1 TO R(1):D$ = T$(1) + D$: NEXT WW: RETURN
10500  REM   SUB TO PUT IN COMMAS
10510 LL =  LEN (T$(3))
10520  REM   IF E FORMAT PUNT
10530  IF  MID$ (T$(3),2,1) = "E" THEN T$(5) = T$(3): RETURN
10540  IF LL < 4 THEN T$(5) = T$(3): RETURN
10550  FOR WW = 1 TO  INT ((LL - 1) / 3)
10560 T$(4) =  MID$ (T$(3),LL - 3 * WW + 1,3)
10570  IF WW = 1 THEN T$(5) = T$(4): GOTO 10590
10580 T$(5) = T$(4) + "," + T$(5)
10590  NEXT WW
10600 T$(6) =  STR$ ( INT ((IP + .00001) * .001 ^ (WW - 1)))
10610 T$(5) = T$(6) + "," + T$(5)
10620  RETURN
]
```

SAMPLE OUTPUT: BILLPRT PROGRAM

```
Accounts Payable Department                        March 7,1982
A.B. Smith and Associates,Inc.
4458 Whatsit Lane
Springfield,Virginia 22151
Project Reference:EPAU COAL MODEL PROJECT
                  ABSA Contact:Mr. Art Smith

Statement for February,1982
```

	Debit	Credit
Previous Balance....	$ 1,529.98	
Checks Received,Ck#297		$ 1,529.98
Balance Forward	$ 0.00	
February Consulting Services: 20.5 Hours @ 50 per Hr.	$ 1,025.00	
February Expenses:	$ 25.50	
Total Due	$ 1,050.50	

Terms-Net 30 Days

DUMB TERMINAL ROUTINE FOR USE WITH THE SSM AIO INTERFACE CARD

by George Kinal

Here's a little program which lets you use a plain 103 type modem (the kind with no firmware) and the serial interface port of the popular SSM AIO card for "dumb" terminal communications.

The SSM AIO uses a 6850 serial interface chip, so other interfaces with this chip should also function, with minor address changes. Specifically, when installed in the recommended slot #2, the AIO's 6850 is accessed by the following APPLE address locations:

C0A4 is the status register when read; it is the control register when written to.

C0A5 is the received data register when read from; it is the location to which data should be written for output (transmit data).

Shown are an Applesoft "POKEing" program, and the resulting machine language program in memory after the program is run, if the answer to the "echo" question is "Y" (this is the case for the ABBS and most CBBSs). You can revise the program to do the series of POKEs in a FOR NEXT loop, so that the word "POKE" doesn't have to be typed over and over.

Applesoft Program

```
 10 REM DUMB TERMINAL PGM
 15 PRINT "DUMB TERMINAL PROGRAM": PRINT
 16 PRINT "7 OR 8 BIT ASCII. PARITY
    IGNORED": PRINT
 17 PRINT "TYPE 'ESC' TO EXIT.": PRINT
 20 POKE 779,173:POKE 780,164:POKE 781,192
    :POKE 782,106:POKE 783,144:POKE 784,16
 30 POKE 785,173:POKE 786,165:POKE 787,192
    :POKE 788,9:POKE 789,128:POKE 790,201
 40 POKE 791,224:POKE 792,48: POKE 793,4:
    POKE 794,56: POKE 795,233:POKE 796,32
 50 POKE 797,234:POKE 798,32:POKE 799,246:
    POKE 800,253:POKE 801,44:POKE 802,0:
 60 POKE 803,192:POKE 804,16:POKE 805,25:
    POKE 806,173:POKE 807,0:POKE 808,192
 70 POKE 809,44:POKE 810,16:POKE 811,192:
    POKE 812,201:POKE 813,155:POKE 814,240
 80 POKE 815,18:POKE 816,72:POKE 817,173:
    POKE 818,164:POKE 819,192:POKE 820,41
 90 POKE 821,2:POKE 822,240:POKE 823,249:
    POKE 824,104:POKE 825,141:POKE 826,165
 95 POKE 827,192
 96 PRINT "WILL OTHER END ECHO YOUR":INPUT
    "KEYBOARD INPUT ?? (Y/N) ---";E$
 97 IF E$ = "Y" THEN POKE 828,234:POKE
    829,234:POKE 830,234: GOTO 100
 98 POKE 828,32:POKE 829,240: POKE 830,253
100 POKE 831,76:POKE 832,11:POKE 833,3:
    POKE 834,96
500 PR# 2: PRINT " ": IN# 2
1000 CALL 779
2000 END
```

From Monitor (after runnning Applesoft program, and answering "Yes" to echo question):

```
030B-  AD A4 C0    LDA  $C0A4
030E-  6A          ROR
030F-  90 10       BCC  $0321
0311-  AD A5 C0    LDA  $C0A5
0314-  09 80       ORA  #$80
0316-  C9 E0       CMP  #$E0
0318-  30 04       BMI  $031E
031A-  38          SEC
031B-  E9 20       SBC  #$20
031D-  EA          NOP
031E-  20 F6 FD    JSR  $FDF6
0321-  2C 00 C0    BIT  $C000
0324-  10 19       BPL  $033F
0326-  AD 00 C0    LDA  $C000
0329-  2C 10 C0    BIT  $C010
032C-  C9 9B       CMP  #$9B
032E-  F0 12       BEQ  $0342
0330-  48          PHA
0331-  AD A4 C0    LDA  $C0A4
0334-  29 02       AND  #$02
0336-  F0 F9       BEQ  $0331
0338-  68          PLA
0339-  8D A5 C0    STA  $C0A5
033C-  EA          NOP
033D-  EA          NOP
033E-  EA          NOP
033F-  4C 0B 03    JMP  $030B
0342-  60          RTS
```


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SIGAMES NEWS

by John Alden (Associated with Columbia Computer Systems)

Theron Fuller presented an evaluation of graphic adventure games at the February meeting. As usual, Theron's presentation was outstanding.

John Alden (no relation) will present the March program.

Flash - Due to other obligations, our beloved Al Gass is resigning from the Chair of the SIGAMES group. As a result, the time he will have to devote to WAP and SIGAMES will be severely curtailed. We will miss his outstanding contributions to WAP and to SIGAMES. Best wishes to him in his future endeavors. Al has promised to remain as a consultant to SIGAMES members. For example, he has solved Cranston Manor and will tell us where the Crystal Skull is hidden.

Official Notice - With Al Gass' departure, the Chair of the SIGAMES group is open for nominations. All parties wishing to run for the Chair should be nominated by a second party at the March meeting. Elections will be held immediately after the nominations. The new Chairman will be announced and installed at the April meeting.

Do you have a game you would like demonstrated or explained? Let's hear from you. This is your meeting and we want to help people make educated decisions when purchasing software.

For the benefit of those members who could not attend last month, the second version of Wizardry corrects several minor flaws in the first version. Your old version can be updated by a utility option on the new version. There is a risk, however. You may lose one or more characters. There is a safeguard. Copy your old characters onto a backup disk before you update. If you lose any characters Sir-Tech will recreate them for you.

If you wish to update the original disk of your version to the new one, I will be happy to do it for you at the March 27th meeting. I will be available with my computer from 10:00 AM to 11:30 AM in the small cafeteria room where the SIGAMES will meet. You must make a backup copy of your characters before I will update your version. If you do not know how to backup your characters, bring a blank DOS 3.3 initialized disk. Also, bring a second DOS 3.3 initialized disk and I will make a copy of your scenario (this is now possible with the new versions). The copy of the scenario is used to store extra characters. It requires two drives to update old versions or to create extra scenarios.

Please note that I cannot be responsible for any lost characters, so make sure that you have a current backup copy of your characters.

The new utility functions are: recover lost characters without any aging penalty; upgrade previous versions to the current version; and make additional scenario disks.

The errors eliminated are: the fourth level room where you are teleported now has a door so you can leave; the same error on the eighth level has been eliminated; the latumofis potions will now work only once; and the low level of encounters on the seventh, eight, and ninth levels has been changed. The layouts of each floor have not been changed.

RECENTLY RELEASED SOFTWARE

From Avalon Hill: Galaxy and Dnieper River Line.

From Broderbund: Star Blazer.

From California Pacific: Hungry Boy.

From Datamost: Dung Beetles.

From Micro Lab: Peeping Tom.

From Mind Toys: Ricochet.

From On-Line: Time Zone and Ultima II (approx. April 1).

From Sirius Software: Cyclod, Jellyfish, Minotaur, and Kabul Spy.

From Strategic Simulations: Road to Gettysburg and Grafspree (new Bismark).

From Sir-Tech: Wizardry II (approx. March 31).

From Turnkey Software: The Gauntlet.

THE DEMONSTRATIONS:

For March:

Track Attack
Richochet
Dung Beetles
Star Blazer
Voyager
and
Snake Byte

THE CATEGORIES

A highly recommended purchase. This software is outstanding. You play it many times and it still is interesting and fun.

contd.

A recommended purchase. An outstanding program but has a few flaws. A very fine line exists between this and "a highly recommended purchase".

A suggested purchase. Better than average but I wouldn't go out of my way to buy it.

Average. Speaks for itself.

Poor. Avoid any programs which received this category.

THE REVIEWS:

'Peeping Tom' is a turkey. This has to be one of the worst games I have seen since Copts and Robbers. The game screen shows your ship at the bottom of a closed window divided into sections. You open the window by shooting an alien behind it. The animation is excellent but the concept of the game is absurd. This must be the author's first game. I hope in the future that Mike Livesay devotes more time to making his games challenging and avoids using gimmicks. Poor. From Micro Lab for $34.95.

'Dung Beetles' is fantastic. It is the best PacMan type game yet. The object of the game is to move your little white critter around a maze and clear away all the white dots. As you move around the screen you leave a trail of red dots behind you. Eight vicious Dung Beetles wander the maze randomly until they cross your trail. Dung Beetles will follow these trails eating the red dots as they move. If you can avoid them and clear the maze you are rewarded with a harder maze, more white dots, and eight new Dung Beetles. Dung Beetles are not very smart (you are what you eat - pun, not mine, regrettably!). Once they start eating they cannot tell the difference between an old trail and a new trail. This gives you a chance to avoid them. Dung Beetles are slow (half your speed) but persistent. You can easily outrun them. Doesn't this sound easy? What could be easier than avoiding eight beetles on a 20 by 30 maze? Surprise! You can't see the whole maze. There is a magnifying section which shows a 3 by 3 section of the maze. This magnifier covers about 10 by 10 of the maze. Good luck. You may need it. I'm still lost in the maze. Those dirty bugs around my creature won't let me escape. A highly recommended purchase. From Datamost for $29.95.

'Time Zone' is far out. It is one of the most spectacular Hi-res adventure games I have yet seen. It is also the largest game I have seen. It is 6 double-sided disks. Where to start is perplexing. There are 9 times, 7 continents, 2 prehistoric times and 1 extra-terrestial adventure. In all, there are 37 separate adventures to solve before you can solve the final two. You can go from 400,000,000 BC to 4082 AD. However, On-Line Systems doesn't let you flounder too much. They give you the map of the first adventure to solve. There is only one item you need from that adventure. The second adventure is as easy to solve. But, once you solve the second, where do you go from there? Good Luck!!! I'll see you in a year when you solve Time Zone. A highly recommended purchase. From On-Line Systems for $99.95.

'Star Blazer' is tough. You have five missions to perform. They are: 1) Destroy the radar; 2) Waste the tank; 3) Bomb the ICBM; 4) Demolish the tank again; and 5) Wipe out Bungling Headquarters. Simple, right? Wrong. The radar is easy, but the tank can outrun your vintage WW III jet. You cannot destroy the tank without help (no further hints). To destroy the ICBM, you must fly through air-mines and missiles and other (as yet, nameless) obstacles. Then, you go after the tank again. But, watch out! This one has heat seeking missiles. I wish you well. After I escape from the Dung Beetles, I will destroy the headquarters. Maybe. A highly recommended purchase. From Broderbund for $31.95.

Listing Formatter contd. from pg. 22

```
800   PRINT
810   PRINT   CHR$ (4)"CLOSE"
820   PRINT   CHR$ (4)"PR#0"
830   END : REM    ---- EXIT
50000   REM   ------TEXT CAPTURE
50010   POKE 33,33
50020 FI$ = "CAPTURE.TEXT"
50030   PRINT   CHR$ (4)"OPEN"FI$
50040   PRINT   CHR$ (4)"WRITE"FI$
50050   LIST 0,59999
50060   PRINT   CHR$ (0)
50070   PRINT   CHR$ (4)"CLOSE"
50080   TEXT : END
```


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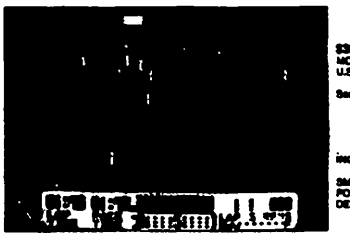

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*TRADEMARK MUSE CO., BALT. MD. ★★APPLE COMPUTER, INC., CUPERTINO, CA.

MY TRIALS AND TRIBULATIONS WITH MY HOME COMPUTER

by Helga B. Fagg

Burdened by the details of my business, the slowness of hand-editing of our copious training texts and proposals, and the expense of contracted word processing, I became intrigued with the promise of speed and accuracy - the TIME SAVINGS - of computerized bookkeeping, accounting and editing. Moreover, my reading indicates that I will be obsolete in 3 to 5 years if I am not computer literate. Resolved: On to the computer age! But, start easy with a home computer.

I sought out a vendor and found one who was also an educator. He enhanced an APPLE II to a 64K with 8 centerboards to have the capacity I needed. Since our nine-year old took one five-week Basic course and has vast experience with PACMAN, Galaxions, Copts and Robbers and other assorted delights, he loves the APPLE II and can write his own programs and follow the self-instructional materials. Hence, I was confident that I - with at least quadruple the years of general education - could master the APPLE too.

However, the "I can read, therefore, I can master anything" attitude did me in. As an educator, I must constantly educate myself, but with my APPLE, it's a different ballgame.

First, there is fear. Fear, I might destroy the innards of the machine. I have overcome that, seeing that it has survived me for a couple of months. Fear, I might destroy a program. With the help of master disks safely stored out of my reach, I am working on that one. Fear, I might spend hours writing a program, and then lose it. Well!

My APPLE and I have an advisory relationship. First, I began my editing lessons. Since totally mechanical, it was a boring task until I did one of - I was assured - a thousand things I could have done, and wiped out my practice program: Mr. Lincoln's Gettysburg Address. Not knowing that I had wiped the speech out, I tried again and again for the screen to produce it. I couldn't get past the line with a non-sensical bunch of numbers. Syntax error! Syntax error! If you are so smart, you dumb machine, tell me what I did wrong! I followed the blessed directions in my easy-to-use self-tutoring book. Still, no progress. On to the telephone list. Several tries. Eureka! All the commands worked. I confidently entered my entire Rollodex, 147 names and numbers. On to save the program!

You guessed it. Somehow I destroyed the entire program! Not only 147 names. Not only 147 numbers. No, the telephone list is gone. It is not even on the menu anymore!

The APPLE was unimpressed by my sulking and my ignoring it for days on end. I don't trust it. I got a tutor.

How can I trust him? He knows how to work my APPLE. Maybe osmosis will help. So, I join a club of APPLE home computer owners, the Washington Apple Pi.

My first Apple Pi meeting. Nice looking people. Nice people. Families with babes in arms. But they talk in strange tongues. The only computer word I thoroughly grasped - DOSing - pained me. I know I need to learn how to DOS (whatever that means!), but I don't know how to do it. My tutor is jovially confident. I do follow directions to the T now. I have accepted the reality of another computer expression: GIGO (Garbage In. Garbage Out). I am progressing. So far I am capable of GI (Garbage In). I'm working on the GO (Garbage Out) part.

BUGS AND OTHER PARASITES

THE SYSTEM: APPLE II, IDS 460 Printer, Supertext II.

THE PROBLEM: Dropping an occasional character in the printout. It turned out to be a character that occurred only once in every page or two, but at intervals of multiples of 256 characters.

THE SOLUTION: After six or seven trips to both the seller and the local Apple dealer, the problem turned out to be the Apple parallel card, whose timing was slightly off. The diagnosis was thrown off by an early replacement of the first parallel output card without it solving the problem. It was not until the motherboard on the printer had been replaced twice that we got back to the parallel output card in the computer. The second replacement solved the problem.

Both Mesa (who sold the printer) and Computerland of Tysons Corner (who sold the card, among other things) offered excellent support, under warranty, for the many frustrating return trips.

(Ed. Note: The above was submitted by Bob Chesley, and is the first entry in our new monthly (we hope) column. Please submit any "bugs" you may have found, along with their solutions if available. Incidentally, Bob also submitted several comments, "....The tutorial Dave gave last month was excellent! There was something there for everyone, experienced and novice alike. ...Apple Pi is the best reason I can cite for buying an APPLE computer. Keep it up.")

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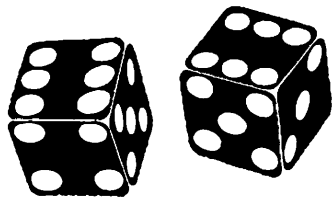

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February 10, 1982

Mr. Steven Jobs
Chairman
Apple Computer Inc.
10260 Bandley Drive
Cupertino, CA 95014

Dear Mr. Jobs:

Apple Computer Inc. recently announced a policy which effectively prohibits mail order sales of Apple products. According to press accounts, such as that appearing in the December 4, 1981 Wall Street Journal, Apple adopted this policy to ensure that customers receive "personal service" which Apple believes necessary for consumer satisfaction. The Washington Apple Pi Club, which consists of over 1200 Apple owners, objects to this policy and urges that it be rescinded.

We object for three reasons. First, the policy is based on the false premise that mail order houses are incapable of rendering the support necessary for customer satisfaction. Second, the policy erroneously assumes that all current or prospective Apple owners require the same level of personal support. Finally, the policy will likely result in reduced price competition and thereby create disincentives for "full service" dealers to maintain the level of support Apple believes necessary. Thus, the policy may well achieve results contrary to Apple's stated objectives.

Apple's presumption that mail order vendors do not render consumer support services and, conversely, that all retail vendors provide such services, is simply incorrect. Our collective experience tells us that there exist both competent and incompetent mail order houses and retail stores. Although there are many excellent retail Apple dealers, a store front and a salesman no more guarantee good support than a mail order house assures poor support.

Moreover, Apple's policy incorrectly presumes that all Apple customers require personal dealer assistance. While new Apple customers may well need personal contact with a retailer, old hands may not. We see no reason why an Apple owner who merely wants to purchase an additional disk drive, for example, needs to visit a retail store instead of ordering by phone and perhaps saving some money. In addition, there are many areas where Apple products are not available locally. On occasion, local retailers may not have an Apple product in stock. It seems senseless to require consumers to either travel long distances to purchase Apple products or to delay computer projects while their local dealer replenishes his stock.

PO Box 34511 Bethesda, MD 20817

Finally, Apple's new policy may well undercut the very objective Apple seeks. The traditional focus of competition between mail order and retail sales is discounts vs. personal contact. Apple's abolition of mail order sales will, however, remove an important part of the competitive equation. Without the powerful price competition of mail order vendors, retail dealers may well be encouraged to reduce support levels no longer necessary to counter their mail order competitors' price advantage. If this occurs, then Apple consumers lose both ways; they lose ready mail order discount pricing and they lose the support which Apple's new policy presumes is available only from retail stores.

The Washington Apple Pi Club believes that Apple customers should be able to choose whether to purchase Apple products from mail order vendors or from retail dealers. The marketplace will weed out the bad dealers, be they mail order or retail.

For all of these reasons, Washington Apple Pi urges Apple Computer, Inc. to abandon its no mail order policy and return to the open marketing policy which helped make Apple what it is today.

Sincerely yours,

David Morganstein

David Morganstein
President

The above letter which had been drafted by a member of the Executive Board was reviewed by members attending the February 27 meeting at USUHS and approved by voice vote for submission to Apple Computer, Inc.

WEST COAST FAIRE - some initial thoughts by Bernie Urban

It grows bigger every year. Booths were set up in the corridors and on the second floor. Lectures everywhere. Less clowning and fewer "playmates". Fewer kids, too. They did this by charging everyone the same fee of $15...and threatened to evict rowdies. Despite the crowds and the additional exhibits, it seemed better controlled and easier to navigate through the wide aisles.

Some cameo, kaliedoscopic recollections... Security guards on roller skates with walkie talkies glued to their ears. A magician going through his act at one of the booths. Roger Wagner autographing copies of his new book at the large Softalk booth. David Ahl of Creative Computing, manning his booth wearing a white T-shirt sporting a large APPLE logo. The "La Coste" alligator wandering through the halls handing out promotional literature. Dave Gordon holding court to one side of his Datamost booth. The IAC and Call A.P.P.L.E. representatives, curiously placed right across the aisle from each other, vying for the attention of the faire goers without really needing to. A prominent booth overflowing with San Francisco Apple Corps folks. A small table in the corridor with Earl Rand, Herb Schulsinger et al representing the Original Apple Corps from Los Angeles.

Large crowds at the Apple-related exhibits, smaller or no crowds at the others. Occasional bursts of sound from the Alpha Centauri and Soundchaser booths. Walking past booths with vendors hawking schlock in the furtherest corners of the halls. Terrapin and Krell side by side demo'ing the Logo System for the Apple...Terrapin courteous and informative, Krell brusque and disinterested. Computer camps for the kids. A robot arm in action, but barely. Squawking voice synthesizers and hushed discussions of great deals in the works. Show specials which were not so special. Specials which were.

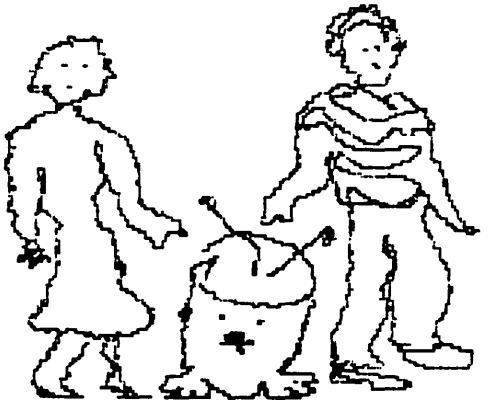
Dave Alpert of Illinois-based Omega (you know, Locksmith) masquerading as a grey bearded cowboy. Clean shaven Peter Weiglin (editor of the Apple Orchard) towering over the dimunitive, elfishly-bearded Val Golding (editor of Call A.P.P.L.E). Laid-back dapper Auby Mandell from Toronto, Canada suddenly appearing from out of nowhere on Saturday AM. Steve Pierce from the Florida contingent announcing his new venture. Jerry Vitt squiring his attractive daughter Brandy through the exhibit, gently complaining about the two-day delay on his trip from Dallas and telling plans for the imminent opening of his third shop in Texas. Jim Simpson, our inveterate policeman from Santa Monica, dressed in thin yellow short sleeved sport shirt, apparently withstanding the abnormally cold temperatures.

Above all, there were the people - all kinds, all sizes, from all over the world - asking, discussing, collecting literature, resting on the stairs, on the ramps at the food concessions, wherever they could find a place to rest their weary feet. From bright eyed youngsters to folks in battery driven wheel chairs, to what appeared to be a turbaned sicch. Somehow the word is spreading...this is where the action is.

Some New Products - Several new RGB color monitors (e.g. Amdek, Electrohome), controllers, higher graphics programs and hardware. A very interesting light pen by Gibson Laboratories which works wonders on a color screen. A tablet/software combination which does the same. Several new entries in the voice sysnthesis area. High quality refurbished daisy wheel keyboard/send/receive (KSR) terminals at relatively low cost. An astounding multi floppy disk "juke box" that is compact and can handle 7 megabytes, and the 5 pac (sorry, it's not 6) cartridge is removable. Videx with its enhancer has enhanced that by means of a strip of 10 keys which fits between the keyboard and the cover of the APPLE and can be individually programmer defined, just like in the IBM PC. One major use is to enhance the already powerful operations of word processors for the APPLE. A firmware peripheral card which emulates the IBM PC and for only $750. More and better packaged business software, including many for the physician and dentist.

It just goes on and on. Power supplies which protect the computer and its peripherals and which allow you to save your work in the event of a power failure. Printer software and firmware which allow dual printing and computing, to enhance your throughput. Ingenuity abounds...Attractive furniture, locking devices, both physical and internally programmed.

Nope...I didn't see any new APPLE computers, but there were more openly discussed rumors re the 68000 APPLE.



Reprinted from Micro America

Apple Makes Change to Board in Apple II

Apple Computers has recently made a change to the Apple II motherboard to conform to new RFI regulations, thereby increasing internal noise levels. Specifically, Apple Computer widened the traces in the RAM area and isolated the power supply. This change has intermittently affected the operation of the Microsoft Z80 Softcard and the Tymac PPC-1 Printer Card. Users will only occasionally experience the symptoms described below when using either the Softcard or Printer Card. These symptoms only occur when using the revision "C" of the Apple II motherboard. This board can be identified by part number **820-0044-C** (located on the left-hand side of the board next to column "F"). A simple field repair to the Softcard board or Printer Card board will eradicate operating difficulties.

Symptoms when using the Microsoft Z80 Softcard with the Apple II are indicated by the following:

1. Softcard will fail to "boot"
2. Softcard will fail to "boot" in 56K.
3. Softcard will experience a sudden shutdown. Recovery is possible only by reloading the software.

Soldering a 220pf 50vdc (or higher voltage) capacitator between pins 10 and 11 of the 74LS373 at U15 on the Softcard, accomodates the Apple II change. For further details and diagrams depicting the recommended change, please contact Microsoft Consumer Products/ 400 108th Avenue NE/ Bellevue, WA 98004 and request a copy of the Technical Field Service Bulletin RE: Field Change Order—Softcard.

The Tymac PPC-1 Printer card will occasionally hang up when printing Hires Graphics on an Epson with the Graftrax ROMS installed. The boards can be simply repaired in the field by soldering a 220pf 50vdc capacitator on the PPC-100 board. The capacitators will be supplied at no charge from Tymac, or Radio Shack Part #272-124 can be used. Tymac will make arrangements to replace or repair these boards. Please call them at (201) 838-9027 for further assistance.

Both MicroSoft and Tymac have modified all boards shipped after January 1982 to accomodate the change in the Apple II.

TECHNICAL FIELD SERVICE BULLETIN

FROM: MICROSOFT CONSUMER PRODUCTS

SUBJECT: FIELD CHANGE ORDER - SOFTCARD

PROBLEM:

Recently, a change was made by Apple Computer, Inc., in their Apple II motherboard, which without their knowledge had a serious effect on the operation of the SoftCard, (and any other Z-80 card as well). The specific change made by Apple Computer, Inc., was to widen the traces in the RAM area on the motherboard and isolate the power supply to the bus. This change, done to decrease the RFI of the Apple II, had the effect of increasing the noise level on the clock 0 input to U15 on the SoftCard. Since U15 is a 74LS373, a level trigger device, noise spikes on this line cause the 373 to trigger earlier than it was designed to do.

At the present time, the problem appears limited to Apple's Revision 'C' motherboard, which was the revision that included the above changes; even on this revision of the motherboard the failure rate is not 100%. We do not yet have good statistics on how large the failure rate is, but it is significant. The noticeable effect to you will be one of three things: 1. The SoftCard will fail to boot at all, 2. The SoftCard will fail to boot in 56K, or 3. The SoftCard will experience sudden shut downs with no recovery except a complete reboot. The problem also appears to be position sensitive and load sensitive, that is to say that the slot number the SoftCard is in and the other cards present in the Apple may determine whether or not the problem is seen.

This revision of the Apple II motherboard cannot be identified by Apple II serial number. However you can determine if you have a Rev 'C' board by examining the board surface for its part number located above and to the left of the rows of RAM. A Rev 'C' Apple II motherboard will have the part number 820-0044-C. D's ALSO

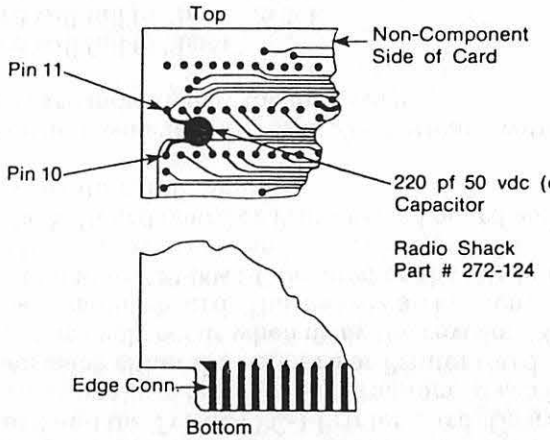
contd.

SOLUTION:

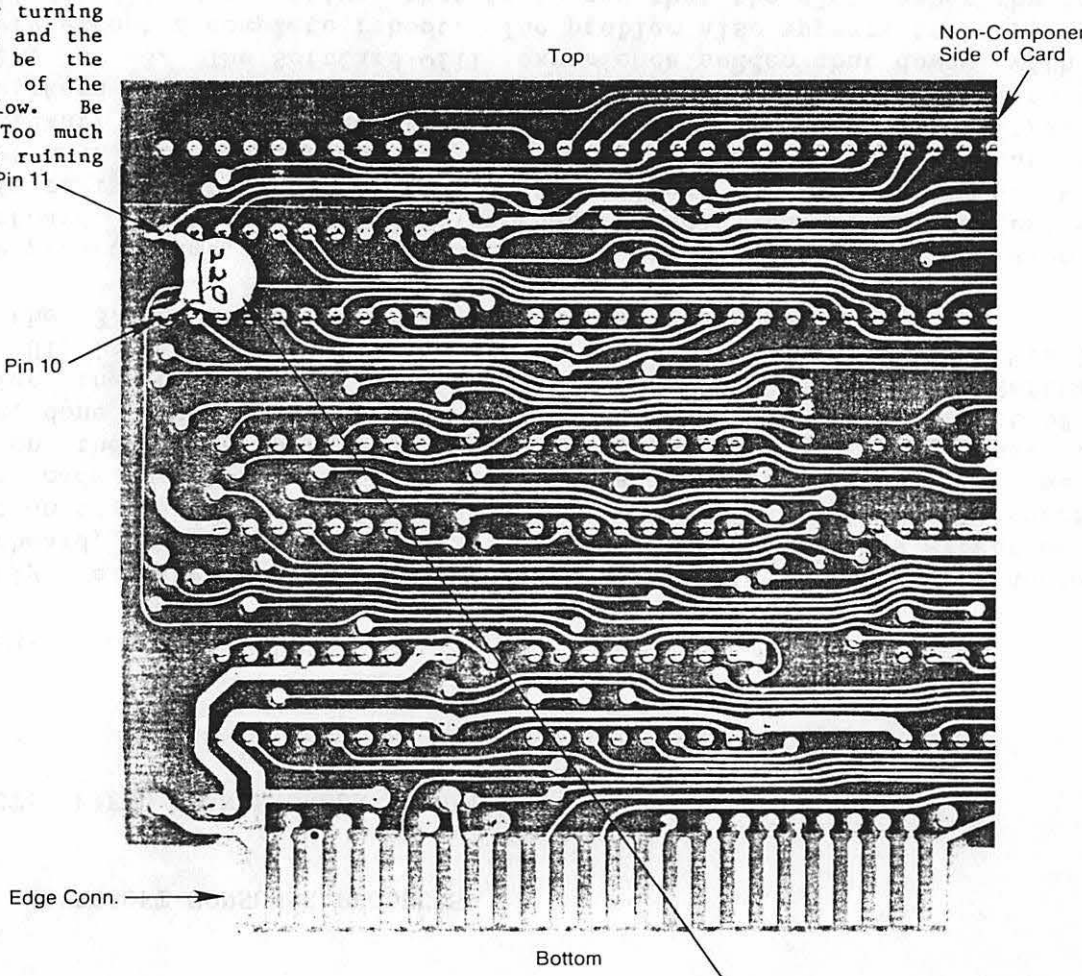
In conjunction with Apple Computer, Inc., we are recommending the following field fix:

The problem identified above can be corrected by soldering a 220pf 50vdc, (or higher voltage), capacitor between pins 10 and 11 of the 74LS373 at U15 on the SoftCard. Holding the SoftCard with the component side toward you and the edge connector facing down, U15 is a 20 pin Integrated Circuit on the upper right corner of the card. Pins 10 and 11 are the two pins directly across from each other on the extreme right end of this IC. The capacitor mentioned will have to be soldered in on the non-component side of the board to avoid drilling through the board itself. Consequently, the two points you will solder the capacitor to can be seen by turning the board over so that the non-component side is facing you and the edge connector is pointing down. In this position they will be the second and third visible pins counting down the left-hand side of the card from the top. Their position is shown in the diagram below. Be careful in your application of the soldering iron to the card. Too much heat applied can lift the traces, which will have the effect of ruining the SoftCard.

Diagram of Capacitor Placement



CLOSE-UP OF MODIFIED SOFTCARD



WAP TUTORIAL REGISTRATION

A WAP tutorial on VisiCalc will be taught by Dr. Ernie Forman, who is a Professor at George Washington University. It will be held on Saturday April 3, 1982, 9:00 AM to 12:30 PM, in Room 2017A, at USUHS on Jones Bridge Road (on the campus of the National Naval Medical Center) in Bethesda, MD. Check the ABBS and club phone for any changes in details. An outline of the session is shown below.

9:00 - 9:15	Set up computer
9:15 - 10:45	VisiCalc instructions, manual and data interchange format
10:45 - 11:00	Non-maskable interrupt
11:00 - 12:30	Specific applications, overlays and iterative solutions

The fee is $10 if you bring an APPLE, disk drive and monitor; $20 if you do not.

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WAP TUTORIAL REGISTRATION

A WAP tutorial on Pascal will be taught by Dr. Thomas Woteki (Dr. Wo). This tutorial will be similar to the one given by him at George Washington University. It will be held from 9:00 AM to 12:00 Noon on four Saturdays in May, 1982, in Room 2017A, at USUHS on Jones Bridge Road (on the campus of the National Naval Medical Center) in Bethesda, MD. Check the ABBS and club phone for any changes in details. An outline of the sessions is shown below.

May 1 -	Introduction to UCSD System Filer, Editor and Compiler
May 8 -	Structure of a program, introduction to Pascal, comparison with Basic
May 15 -	Data types: Boolean, integer, real and strings, writing an elementary program with input and output
May 29 -	Procedures, their use and advantages, using the System library

The fee is $45 if you bring a 64K APPLE, disk drive and monitor; $60 if you do not.

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If you would like to order back issues of the Washington Apple Pi Newsletter, please check the appropriate space(s) below. Orders will be filled while the supply lasts. Next to each issue is a rough inventory of supply. The cost per issue is $1.50 for 1980-1981 issues and $2.00 for 1982, plus $.50 postage. If you order five or more we will pay the postage (limited to U.S. only).

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"Inside Apple Pi" is a bound compendium of articles from the Washington Apple Pi Newsletters of 1979 and 1980. We do not plan to print any more of the original 1979 and 1980 newsletters, so this will be the only form in which most of them will be available for purchase. You may order by mail using the form below. Copies will also be available for purchase at our regular monthly meeting (at a slightly lower price than that quoted below because no postage necessary.)

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Washington Apple Pi has a program library, and disks are available for purchase by anyone. The price to members is $5.00 per disk and $8.00 to non-members. These disks are full of exceptional programs - the utilities are especially useful. The games are some of the best - not just simple and uninteresting ones. You may pick them up at any meeting (provided they have been paid for in advance and the order is recieved two weeks before the meeting) or have them mailed for $2.00 per disk additional. (If you order five or more the additional charge will be $10.00 total.)

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The following table shows our advertising rates for 1982. Our newsletter distribution is about 1700 copies, with more than 200 of these going around the country. If you would like to advertise please send camera ready ad copy in black and white (half tones are permitted, but no bleeds) by the 10th of the month to:

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Attention: Editor
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