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# Washington Apple Pi



The Journal of Washington Apple Pi, Ltd.

Volume 7

April 1985

Number 4

## Highlights

Report: Tax Preparation  
Reading Free Formatted Data  
Micro Security Issues  
A// Pascal To MacPascal

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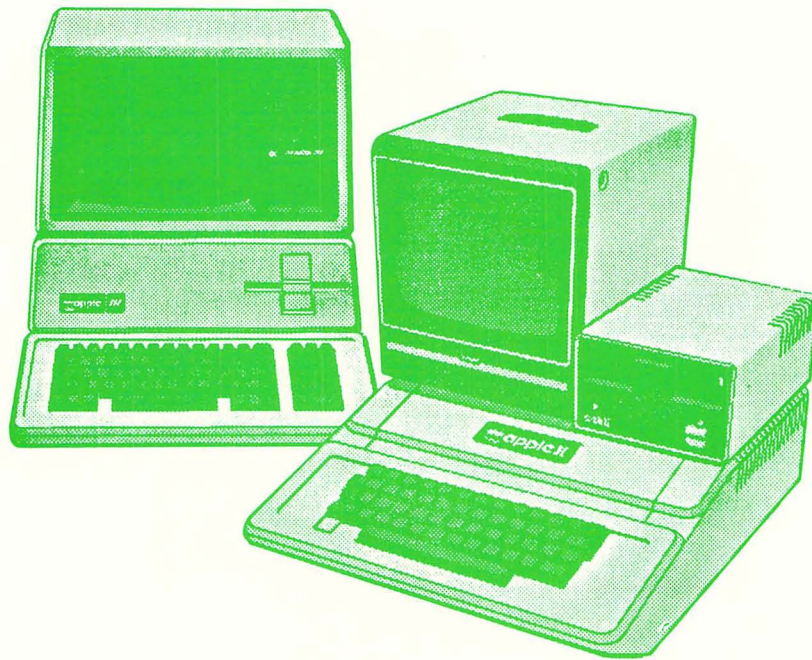
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## EDITORIAL

Junkyards are in. From visits to the rural junkyards on a Saturday morning where you meet and commune with your neighbors, to rummaging through mounds of wrecked autos for that elusive door fixture, to locating just the right fireplace mantel at Joyous Junque. Now, what does this have to do with computers? Consider for a moment that there have been perhaps 300,000 Macs sold by now, maybe 70,000 Lisas and 100,000 Apple II's. But Apple has sold over 2,000,000 Apple II's and, perhaps with some reluctance, continues to find a ready market. After all, the Apple II is over seven years old - ancient in terms of new technology. But wait, Apple II owners are a stubborn lot and generally most reluctant to "move up" to a Banana 9000. Besides, it costs money to do that - lots of money.

What then is wrong with expecting that Apple or some

other organization will provide an avenue for improving the utility of a tired, wheezing but much loved old computer. Surely there would be many eager takers for a product which would upgrade the II to a 16-bit multi-mHertz system with Mac-like user friendliness. Apple pronounced multiple Thank You's on a special 800 number to the more than 2,000,000 folks that made it what it is. Well, now it's Apple's turn to rekindle that spirit by reaching into its mounds of junked plans for enhancements to the Apple and providing opportunities for third party hardware and software developers to tap that existing market. If not Apple, then some other.

"Apple II - the computer for the most of us."

# PRESIDENT'S CORNER

by David Morganstein



**ELECTIONS.** As we mentioned last month, elections are rapidly approaching. We will take nominations up to the end of the fourth Saturday meeting in April. Ballots will be handed out to those attending the May meeting and mailed to all others for counting in June. If you are interested in running for office, please contact me so we can assure you of a nomination and a second.

**HARD DISK FOR MEMBERSHIP LIST.** Dana Schwartz has been supervising the maintenance of our membership list on a Vista "semi" hard-disk. Since Vista is no longer in business, and since our list is reaching the limits of one Vista platter (about 1.2 Megs) and since it takes about seven hours to print out monthly labels, it seemed prudent to consider alternative hardware. Paul Malachowski, author of General Manager, who helped Dana set-up the file with his excellent GM data base package, has loaned the WAP a Corvus five megabyte drive to try out. We thank Paul for his continued assistance and for the use of the Corvus while we examine alternatives. We also are considering both an Accelerator Card and a faster printer.

**MEMBER 6502.** Steven Alexander, a free lance photographer who lives in Chevy Chase, has the honor of being member number 6502. Appropriately, Steven is an Apple ][ owner, rather than a Mac-man. Gena Urban suggested we begin planning for another celebration when we meet member number 68000. That's the attitude, Gena!

**DOS 3.3. NEW DISK LIBRARIAN.** Fred Edwards, who did such a marvelous job culling through our old DOS 3.2 disks has volunteered to coordinate the preparation of new DOS 3.3 disks. We look forward to more of his handiwork in assembling collections of useful programs. If you have written something which you feel will benefit others, see Fred at our monthly meeting or send a copy to the office. If you have typed in a non-copywritten program from a magazine, let us add it to our collection so others will not have to re-type the same thing. Remember, every contribution earns you a free library disk of your choice.

## LETTERS, WE GET LETTERS:

**DULY CHASTISED.** Thanks to Charlene Ryan for appropriately reminding us that we failed to mention the over one hundred active Apple /// members. These folks were left out of a recent summary of our membership. Our apologies to each and every one of you!

**GROUP PURCHASE.** We received a interesting letter from Scott W. Peters. Scott, a salesman of Apple computers, responded with a chuckle to our recent comments about staff time consumed in answering questions regarding group purchase. Scott said he wished he had a dollar everytime he got a call from someone with a question regarding an Apple product which they bought from the PI. Scott relayed his keen support for almost all of the club's activities and ended with a rousing "Love the magazine!". We thank Scott for taking the time to send in his thoughts.

We want to add several comments. First, we have in the past and we continue to ask members who purchased anything through our group purchase program, not to take your questions to local dealers. We have a long list of volunteers on our hot-line who are willing to help with such questions. The group purchase has served as a way to provide lower prices to those who

did not need and, therefore, did not want to pay for after-sale support.

The comment we were making last month regarded the many calls we receive from members trying to decide what they should buy. We receive many questions asking which modem, which printer, which software package. The club has always and continues to want to answer these types of questions. However, we ask members to direct these questions to hot-line volunteers and not to the office. While Scott may have received questions from a few of our members, our hot-line volunteers receive hundreds of question from people, many of whom were directed to us by local dealers. In fact, at least one dealer used to hand out a copy of our hot-line list to new customers telling them to call for help with the products they just bought. We are glad to be able to help. That is our purpose.

If Scott got a dollar for EVERY Apple item purchased by members through the group purchase program in the past four years, it would amount to less than three hundred dollars. Scott and other local sales people may have an inaccurate impression about the magnitude of our group purchase activities. It has never been the WAP's intention to run a computer store business. Our single largest group purchase was from an authorized Apple dealer. The club earned not one penny from that purchase. In a desire to discuss this issue, we have recently sent to as wide a list of local vendors as we could assemble, a letter asking them to consider establishing with us a discount program. If we can arrive at a mutually beneficial arrangement that would encourage our members to buy through local stores, our group purchase program may become superfluous.

**SIGS.** Thanks to the activity of Ron Wartow, the GAMESIG has been breathing new life. At the March meeting many people showed up to discuss and compare programs they enjoy. GAMESIG meets the first Thursday each month at the office. Many thanks to Ron for his effort.

Ian Thal is the new Appleseeds chairman. Ian has plans to expand the activities of this SIG. His column in the March issue demonstrated his interest and enthusiasm to find ways of serving younger members. Appleseeds meets during the main meeting on the fourth Saturday.

**SigMac** drew over 500 people at the March demonstration of Jazz and of Apple's Laser Printer. Both products received intense scrutiny from our members. The multi-media meeting featured a video-tape from Lotus which kept the members in stitches (although we don't think that was its intended purpose). We decided the reason for the late release of Jazz was Lotus' need to finish the production of the video sales pitch.

**GARAGE SALE.** The June meeting will feature our bi-annual garage sale. This is an opportunity to sell old items (hardware or software) or buy slightly used adventure games and peripherals of all sizes. Plan to come and buy, sell or swap something. There will be a one dollar entrance fee. At our December sale, we earned enough to pay for the guard service for six months. We hope we will do as well in June. As a reminder, the sale is for personal property only, not commercial sales. Although we repeat this message

contd.

over and over, we always find one or two people running small businesses who bring a truck-load of their inventory to the sale. Please, respect our request to limit this to personal, used property only. This is a specific restriction placed on us by the USUHS. If we do not follow their rules, we risk losing an excellent meeting location.

**COMMERCIAL ADS ON ABBS.** Bernie Urban made an excellent suggestion for raising additional revenues which could benefit both the dealer community and the membership. He suggested we open our buy/sell ABBS to commercial ads and charge a modest fee for the service. We are currently thinking of a \$2.00/hundred characters monthly rate. Would you like to have commercial ads on the buy/sell ABBS? If you have a business, would you rent space to place such an ad? Let us hear your reaction. ☞

## EVENT QUEUE

Washington Apple Pi meets on the 4th Saturday (usually) 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. Library transactions, Journal pickup, memberships, etc. are from 8:45 - 10:00 AM. From 9:00 to 10:00 AM there is 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 volunteers can attend the meeting. A sign interpreter and reserved seating are provided for the hearing impaired.

Following are dates and topics for upcoming months:

April 27 - Hard Disks (Massive Storage Devices)  
May 25 - Printers  
June 22 - Garage Sale

Dates for SigMac are:

April 20 (3rd Saturday)  
May 11

The Executive Board of Washington Apple Pi meets on the second Wednesday of each month at 7:30 PM at the office. All members are welcome to attend. (Sometimes an alternate date is selected. Call the office for any late changes.) ☞

## GENERAL INFORMATION

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 \$27.00 for the first year and \$20.00 per year thereafter, beginning in the month joined. If you would like to join, please call the club office or write to the office address. A membership application will be mailed to you. Subscriptions to the Washington Apple Pi Journal are not available. The Journal is distributed as a benefit of membership.

Current Office hours are:

Monday - Friday - 10 AM to 2:30 PM  
Tues. & Thurs. - 7 to 9:30 PM  
Saturday - 12:00 to 3:00 PM \*

\* Note change in Saturday hours.

## CLASSIFIEDS

WANTED: Transforth /// for the Apple ///. Stephen Bach, Rt. 2 Box 89, Scottsville, VA 24590, (804) 286-3466.

FOR SALE: Access // \$50; MAE \$25; COEX 16K RAM card (all chips socketed) \$25; Mountain Computer ROMPLUS board with keyboard filter \$50; Apple Integer BASIC ROM card \$30. Stephen Bach, Rt. 2 Box 89, Scottsville, VA 24590, (804) 286-3466.

FOR SALE: Seeking new home for old friend. Apple ][ (Integer BASIC and Programmer's Aid ROMs) and accessories. Language card, Heath/Zenith H-19 terminal, two serial and one parallel I/O cards, Hayes Micromodem II, Epson FX-80 printer, Apple Pascal and much other software. \$1650. Call Alan Freiden (703) 437-7055 between 7:00 and 9:00 PM, or (703) 835-0755 during the day.

FOR SALE: Electrohome 12" green monitor. \$50 or best offer. Call Anne Appgar, 338-1093.

FOR SALE: MULTIPLAN for the Apple ///, brand new, never opened. Runs in native SOS mode; extremely powerful and versatile spreadsheet program, superior to Advance VisiCalc in many ways. Lists for \$195, sell for \$145, or make a reasonable offer. I'll throw in a copy of the latest update from Microsoft (version 1.11), which corrects some minor bugs. Call Bart after 6:00 PM at 360-1876.

FOR SALE: California Computer Systems (CCS) Model 7710 Asynchronous Serial Interface, CCS Model 7424 Calendar/Clock Module, all with manuals. \$60 each or best offer. Harold Cohn, (301) 267-2156. Message can be left on answering machine.

FOR SALE: Apple ][+ with Amdek Color II monitor, disk drive, Silentype Apple Printer, manuals and various programs. \$1800. Call Brenda Fisher, (703) 734-1707.

FOR SALE: Apple //e, Disk II, Mon II, 80-col card, DOS 3.3, Okidata 82A, Grappler, Joystick, Flt Sim II, Dollars and Sense. 552-2852.

FOR SALE: Profile 5MB hard disk with interface for ][+ or //e, \$850; Duodisk drive with I/F, \$425; CCS 7710A serial card, \$50; System Saver fan, \$50; Enhancer II true lower case mod for ][+, \$75; Titan 128K RAM card, \$250. Videx Ultraterm, \$200. Offers considered on all items. Leave message for Bruce at 387-6022. ☞

## JOB MART

### HELP WANTED

POSITIONS AVAILABLE: "The Outer Office", in Alexandria, VA, needs experienced people with word processing equipment who are interested in working a few hours a week in their homes. You set the hours that you work; nights and weekends possible. Need letter quality printers; modems. Materials delivered by courier. Alex. and Arlington areas pref. Call 549-3388.

Computer skilled person needed full and/or part time for congenial office in home in Colesville area. We have an Apple ][+, Wordstar, Spellstar, Mail Merge, Multiplan, etc. We want someone to set up some office program systems such as simple cost analysis, client listings, data base management, etc. and perform them for us. Wages negotiable. Call Nancy, 384-8877. ☞

\* April 1985 \*

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2 Beginning Tutorial #1 7:30 PM Office	3	4 SigMac 7:30PM-Lady of Lourdes; DisabledSIG 7PM COCC;->	<-Thurs. 4th contd. GAMESIG 7:30PM-Off.	6 LISA/XL SIG 9:30 AM Office-LISA Toolkit
7	8 Deadline for Journal Articles	9 Beginning Tutorial #2 7:30 PM Office	10 Executive Board 7:30 PM Office	11 STOCKSIG 8PM Office; Apple /// 7:30PM Conv Center Inn	12	13
14	15 PI SIG 8:00 PM Office	16 Beginning Tutorial #3 7:30 PM Office	17 Apple Writer II Tutorial 7:30 PM-Off	18 Pascal SIG 8:00 PM Office	<- Sat. 20th contd. AppleWorks Tutorial	20 SigMac 9AM-USUHS; LISASIG Noon-Off; Forth 10AM
21	22	23 Beginning Tutorial #4 7:30 PM Office	24	25 EDSIG 7:30 PM Office	26	27 WAP Meeting 9:00 AM USUHS Hard Disks
28	29	30				

\* May 1985 \*

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2 SigMac 7:30PM-Lady of Lourdes; DisabledSIG 7PM COCC;->	>-Thurs. 2nd contd. GAMESIG 7:30PM-Off.	4 dBASE II Tutorial 9:00 AM Office
5	6 Deadline for Journal Articles	7 Beginning Tutorial #1 7:30 PM Office	8 Executive Board 7:30 PM Office	9 STOCKSIG 8PM Office; Apple /// 7:30PM Conv Center Inn	10	11 SigMac 9AM-USUHS LISA-USUHS AppleWorks Tut. 9AM-Off
12	13	14 Beginning Tutorial #2 7:30 PM Office	15	16 Pascal SIG 8:00 PM Office	17	18 PFS File&Report 9AM-Office; Forth SIG 10AM-Office
19	20 PI SIG 8:00 PM Office	21 Beginning Tutorial #3 7:30 PM Office	22	23 EDSIG 7:30 PM Office	24	25 WAP Meeting 9AM-USUHS Printers
26	27	28 Beginning Tutorial #4 7:30 PM Office	29	30	31	

SIGNEWS

APPLE /// SIG meets on the second Thursday of the month at 7:30 PM, at the Convention Center Inn, 12th and K Streets, NW. The next meeting will be on April 11. See Apple /// News elsewhere in this issue.

Apple //c meets each month after the regular Wap meeting.

APPLESEEDS is the special interest group for our younger members. They meet during the regular WAP meeting. See Appleseds news elsewhere in this issue.

DISABLEDSIG - See the DisabledSIG column elsewhere in this issue. Call Jay Thal for details.

EDSIG - the education special interest group - see the EDSIG page elsewhere in this issue.

FORTHSIG will hold its next meeting on Saturday, April 20 at 10:00 AM in the WAP office.

GAMESIG has been revived. They will meet on the first Thursday of each month at 7:30 PM at the office. The next meeting is April 4.

LAWSIG has been reorganized. Watch the Journal for more news.

LISA/Macintosh XL SIG meets after the SigMac meeting on the second Saturday of the month.

LOGOSIG - watch for further details in a later issue of the Journal.

NEWSIG will meet just after the regular Washington Apple PI meeting and conducts a "drop-in" for new Apple owners on Thursday evenings from 7:30-9:00 PM in the office. They will answer questions and try to help new owners get their systems up and running.

PIG, the Pascal Interest Group, meets on the third Thursday of each month at 8:00 PM at the Club Office. The topics for the next meeting is:

April 18 - The use of variant records for optional field specification in structured data records.

PI-SIG (formerly ASMSIG) meets on the third Monday of each month at 8:00 PM in the WAP office. For further details, call Ray Hobbs at 490-7484. Also, see PI SIG news elsewhere in this issue.

SigMac meets on the 1st Thursday of each month (pro-grammers's meeting) at 7:30 PM at Our Lady of Lourdes School, 7500 Pearl Street, Bethesda, MD; and usually on the 2nd Saturday (general meeting) from 9:00 AM to 12:30 PM at USUHS. However, the April meeting will be on the 3rd Saturday (April 20). See SigMac News else- where in this issue.

STOCKSIG meetings are on the second Thursday at 8:00 PM at the WAP office.

Telecom SIG usually meets after the regular WAP meeting.

# APPLE /// SIG NEWS

by Charlene Ryan

Our meeting place on 12th and K Streets was ideal. Al Lambert, who made it available, informed us that we should have no problem having that room or a similar meeting room for our Apple /// SIG meetings. There's a lounge and restaurant in the building if you wish to eat before the meeting.

The next meeting at this new location will be in April. Our next Apple /// SIG meeting, March 14, will be at the Walter Reed location. I recommend that you come to a meeting that is located at the Best Western Convention Inn and let us know how you like it.

The meeting discussion was most informative. Carl Bowman showed us how he converts Applesoft programs into Business Basic programs. Carl was delighted that we asked him to share his expertise with us, and he will be glad to help anyone who is interested. He also converts IBM programs and proclaims that they are particularly easy.

We had our first tutorial, which was given by Bruce Chassey, on February 11. There were nine people in attendance. It was great fun, partly due to the enthusiastic support of the attendees, especially those who brought equipment so we could have hands-on experience. Besides many helpful hints, Bruce shared bits with us, such as informing us of the existence of an article in an old On Theme magazine about the House demo program that comes with every machine and how the Horizontal Scroll routine can be copied from it and used with other programs. Also, the Business Basic Program diskette has some sample programs that can be copied and used as a base for what you may need.

Bart Cable attended the February meeting for a short while and gave us a list of collected information which he wants to share with us. Thank you, Bart. This is much appreciated. He gets much of his information from the Apple /// section of MAUG on CompuServe. "The /// Newsletter" is mentioned once again (refer to the February 1985 WAP Journal /// SIG column) but the price has gone up from \$30 to \$35; it's a weekly publication and you will get all back issues with subscription. Update your request address by including Attn. Frank W. Moore. This newsletter is evidently a very good source for up-to-the-minute information, such as the tidbit about the school which ordered 7000 ///'s and a plant in Texas had to be temporarily converted to make them. There are now over 100,000 Apple ///'s in existence.

MicroSci has a double-sided disk drive available that is /// compatible and extremely reliable. It contains 140 tracks and 572K storage! This item is available at two sources for the same price of \$349. MicroSci Corporation, 2158 S. Hathaway Street, Santa Ana, CA 92705, (714) 241-5600; and from Don Morris, 2966 Diamond Street #433, San Francisco, CA 94131. (Don is President of Business Apple Group, formerly Original Apple ///'rs.)

A color high-resolution monitor is available for the /// which works in both RGB and composite modes. For those of us who don't know the value of that, it means we can now use the same monitor for both Apple II color and Apple /// color. This product lists for \$535 and is also available from two sources at reduced prices. An Apple converter cable is necessary. SGC Computer Goods, 700 Mowry Avenue, Fremont, CA 94536,

(800) 523-2382, has the product for \$299.95 and the cable for \$29.95. The second source is local but the price is a little higher at \$360, and cable at \$25, Marva Data Service, 2190 Pimmit Drive, Falls Church, VA 893-1544. This offer is for a limited time.

Charles McConathy buys up all the Apple /// items he can lay his hands on and resells them at super prices! His address is 183 Monte Vista #E, Costa Mesa, CA 92627. If you're looking for something, he just may have it.

Robert Huse announced at the February meeting that he purchased a 10 meg hard disk called Datamac which is Catalyst compatible. The cost is only \$800 plus shipping. I failed to get more information about that before I left on my vacation. I'm sitting at an outdoor bar on Waikiki Beach sipping a Mai Tai while writing this article. I could say, "Eat your heart out", but I won't. I will say that I hope one day you are as lucky, and that I am looking forward to seeing you all at the next meeting.

## MINUTES

### SUMMARY OF FEBRUARY EXECUTIVE BOARD MEETING

The Executive Board of Washington Apple Pi, Ltd. met on February 12, 1985 at the WAP office. The Board voted to accept commercial advertising on the WAP Buy/Sell Bulletin Board. All tutors will receive compensation. The book, Pascal for the People, will sell for \$9.50 at the office and \$11.00 mail order. Rules were adopted to establish and govern "remote chapters" of WAP (Slices of Apple Pi). WAP will have a booth at MacWorld Expo. Part One of the Member's Reference Book will be distributed at the February meeting. A nominating committee will be appointed at the March general meeting.

### FEBRUARY GENERAL MEETING

WAP, Ltd. met at the USUHS on February 23, 1985 at 10:00 AM. Tom Warrick presided. The Executive Board voted to establish Slices of Washington Apple Pi. These are defined as groups more than 30 miles from the Capitol Building. Commercial ads will be accepted at the ABBS. Members were reminded that nominations will be held at the April general meeting and the election of officers will be held in May.

The main presentation on income tax preparation is reported elsewhere in this issue.

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# WAP HOTLINE For Use by WAP Members Only

Have a problem? The following club members have agreed to help other members. PLEASE, keep in mind that the people listed are VOLUNTEERS. Respect all telephone restrictions, where listed, and no calls after 10:00 PM except where indicated. Users of the Hotline are reminded that calls regarding commercial software packages should be limited to those you have purchased. Please do not call about copied software for which you have no documentation. Telephone numbers are home phones unless otherwise specified.

Hotline Proctor	Paul Koskos	(301) 279-0671	Hard Diska	Tom Vier (4-11AM)	(202) 887-7588
General	John Day	(301) 672-1721	Corvus & Omninet	Jaxon Brown	(301) 350-3283
	Dave Harvey	(703) 527-2704	Sider	Barry Fox (BBS)	(703) 553-0821
	Robert Martin	(301) 498-6074	Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine)	Peter Combes	(301) 251-6369
Accounting Packages			A	Jeff Dillon	(301) 422-6458
Accountant(Dec.Sup.)	Mark Pankin	(703) 524-0937	A,I	Richard Langston	(301) 869-7466
BPI Programs	Jaxon Brown	(301) 350-3283	A	Mark Pankin	(703) 524-0937
Home Accountant	Leon Raesly *	(301) 460-0754	A,I,M	Richard Untied	(609) 596-8816
Howardsoft (Tax)	Leon Raesly *	(301) 460-0754	A,I,M	John Love	(703) 569-2294
APPLE SSC	Bernie Benson	(301) 951-5294	M	Raymond Hobbs	(301) 490-7484
Apple TechNotes	Lance Bell	(703) 550-9064	P	Donn Hoffman *	(412) 578-8905
	Shirley Weaver	(301) 761-2479	Forth	Bruce Field	(301) 340-7038
AppleWorks	Carl Eisen	(703) 354-4837	LISP	Fred Naef	(703) 471-1479
	J.J. Finkelstein	(301) 652-9375	Math/ O.R. Appls.	Mark Pankin	(703) 524-0937
	Jay Jones (Balt.)	(301) 969-1990	Monitor, RGB Color	John Day	(301) 672-1721
Communications Packages and Modems-Telecom.			Operating Systems		
Anchor Mark 12	George Kinal(7-10)	(202) 546-7270	Apple DOS	Richard Langston	(301) 869-7466
	Jeremy Parker	(301) 229-2578		John Love	(703) 569-2294
Apple Modems	John Day	(301) 672-1721	CP/M	Richard Untied	(609) 596-8816
ASCII Express	Dave Harvey	(703) 527-2704		Robert Fretwell	(703) 971-2621
	Marv Redd	(301) 944-2150	ProDOS	Ray Hobbs	(301) 490-7484
	Barry Fox (BBS)	(703) 553-0821		Richard Langston	(301) 869-7466
BIZCOMP Modem	Jeremy Parker	(301) 229-2578	Printers	John Love	(301) 569-2294
General	Tom Nebiker	(216) 867-7463	General		
Hayes Smartmodem	Bernie Benson	(301) 951-5294	Apple Color Plotter	Walt Francis	(202) 966-5742
Smartcom I	Harmon Pritchard	(301) 972-4667	Apple Daisy Wheel	Leon Raesly *	(301) 460-0754
VISITERM	Steve Wildstrom	(301) 564-0039	Apple Dot Matrix	John Day	(301) 672-1721
XTALK CP/M Comm.	Bernie Benson	(301) 951-5294	Daisywriter 2000	Joan B. Dunham *	(301) 585-0989
Computers, Specific				Bill Etue	(703) 620-2103
Apple //c	John Day	(301) 672-1721	IDS 460	Henry Greene	(202) 363-1797
	Jorge Osterling	(703) 671-5797	Imagewriter	Jeff Stetekluh	(703) 521-4882
	Scott Rullman	(301) 779-5714	MX-80	John Day	(301) 672-1721
Apple //e	Scott Rullman	(301) 779-5714	NEC 8023	Scott Rullman	(703) 779-5714
LISA/Mac XL	John Day	(301) 672-1721	Okidata	Jeff Dillon	(301) 434-0405
	Don Korureich	(301) 292-9225	Scribe	Bill Mark	(301) 779-8938
Macintosh:			Silentype	Fred Feer	(703) 978-7724
General	Steve Hunt	(301) 262-9080	Spreadsheets	Michael Proffitt	(301) 874-2270
	Scott Rullman	(301) 779-5714		Dan Robrish	(301) 530-4202
	Donald Schmitt	(717) 334-3265	Lotus 1-2-3	Phil Leber	(703) 378-4391
	Rob Clark	(804) 850-2016		Bruce Field	(301) 340-7038
Chart	Terry Monks	(703) 471-4610	Multiplan	Leon Raesly *	(301) 460-0754
Comm. & Modems	Steve Hunt	(301) 262-9080	VisiCalc	Walt Francis	(202) 966-5742
	Tom Warrick	(301) 656-4389		Walt Francis	(202) 966-5742
Digitizers	JoAnn Stewart	(703) 527-4072	Spreadsheet 2.0	Roy Rosfeld	(301) 340-7962
File Vision	Steve Hunt	(301) 262-9080	(MagiCalc)	Terry Prudden	(301) 933-3065
Hard Disk	David Jamison(day)	(301) 589-8841	SuperCalc	Walt Francis	(202) 966-5742
Hardware	Jay Heller	(301) 948-7440		Leon Raesly *	(301) 460-0754
Inside Mac	Jon Hardis	(301) 330-1422	Statistical Packages	Leon Raesly *	(301) 460-0754
	Don Landing	(703) 670-3000		Jim Carpenter	(301) 371-5263
MacDraw	Tom Berilla	(301) 434-3256	Stock Market	Mark Pankin	(703) 524-0937
MacLion (DBMS)	Mark Miani	(202) 362-8123	Time-Sharing	Robert Wood	(703) 893-9591
MacProject	Jay Lucas	(703) 751-3332	Word Processors		
	Tom Warrick	(301) 656-4389	Apple Writer II	Walt Francis	(202) 966-5742
MacWrite	Mary Hockmeyer	(301) 897-5495		Dianne Lorenz	(301) 530-7881
MacTerminal	Jon Hardis	(301) 330-1422	Executive Secretary	Leon Raesly *	(301) 460-0754
	Mary Hockmeyer	(301) 897-5495	Format II	Louis Biggie	(301) 967-3977
MS Basic	Tom Warrick	(301) 656-4389	Gutenberg	Henry Donahoe	(202) 298-9107
Multiplan	John Boblitz	(301) 356-9384	& Jr.	Neil Muncy Can.	(416) 298-3964
	Don Landing	(703) 670-3000	Letter Perfect	Harris Silverstone	(301) 435-3582
	Steve Hunt	(301) 262-9080		Cara Cira	(301) 468-6118
	Walt Francis	(202) 966-5742	Magic Window and II	Leon Raesly *	(301) 460-0754
Multiplan/Chart	Bob Pulgino	(703) 785-5777	Peach Text	Joyce C. Little	(301) 321-2989
MusicWorks	Skip Horvath	(703) 536-4091	PIE Writer/Apple PIE	Carl Eisen	(703) 354-4837
Word	Marty Milrod	(301) 464-2154	ScreenWriter II	Jim Graham	(703) 643-1848
				Peter Combes	(301) 251-6369
Data Bases			Supertext II	E. E. Carter	(202) 363-2342
dBase II	Paul Bublitz	(301) 261-4124	Word Handler	Peter Rosden	(301) 229-2288
	John Staples	(703) 759-3461	Word Juggler //e	Jon Vaupel	(301) 977-3054
DB Master	Dave Einhorn	(301) 593-8420	Word Star	Christopher Romero	(703) 471-1949
Data Perfect	Leon Raesly *	(301) 460-0754		Carl Eisen	(703) 354-4837
Data Factory	Bob Schmidt	(301) 736-4698		Christopher Romero	(703) 471-1949
General Manager	Normand Bernache	(301) 935-5617			
	Leon Raesly *	(301) 460-0754			
List Handler	Jon Vaupel	(301) 977-3054			
PFS	Bill Etue	(703) 620-2103			
	Ben Ryan	(301) 469-6457			
	Jenny Spevak	(202) 362-3887			
QuickFile II	J.J. Finkelstein	(301) 652-9375			
Expediter Compiler	Peter Rosden	(301) 229-2288			
Graphics					
VisiPlot	Bill Schultheis	(703) 538-4575			
	Lee Raesly *	(301) 460-0754			

\*Calls up until midnight are ok.



# INTERFACING THE APPLE //c TO THE HP LASERJET

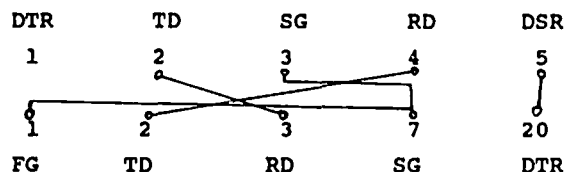
by E. L. Chang

The Hewlett Packard LaserJet belongs to a new breed of printers that uses a "xerographic" method to produce very clean, clear, letter-quality hardcopy. The Apple //c is the newest member of the Apple // genus. It, however, uses 5-pin DIN connectors rather than the standard RS-232 serial outputs, which means interface cables are hard to come by unless Apple Inc. directly supports a peripheral. There is no "a priori" reason why one would purchase a LaserJet (cost \$2,500) for a //c (cost \$1,000) but if a LaserJet with a RS-232 interface is available, then one could take advantage of the high quality output of the printer using the //c. A simple cable has to be made up and then word processors such as AppleWorks can be used to drive the printer.

The hardware interface task is straightforward once the pin designations are known. The assignments for the 5-pin DIN interface are (starting from center left and going anti-clockwise):

- 1 = DTR (data terminal ready); 2 = TD (transmit data);
- 3 = SG (signal ground); 4 = RD (receive data);
- 5 = DSR (data set ready)

These are connected to the HP LaserJet as follows:



The connections can be made by buying a 5-pin DIN cable with any kind of attachment on the other end (most likely a 9-pin DB-9 connector) from your Apple dealer, snipping off the end (DB-9) and soldering on your own RS-232 male connector with the above interconnections.

The next step is to get into AppleWorks and specify your custom printer. You should be aware that HP is stingy with its fonts and that features such as "bold face" are options which may or may not be implemented on your LaserJet. Listed below are the corresponding control codes to be used in your AppleWorks (Esc is escape):

- Superscript begin: Esc=Esc&a-1R
- Superscript end: Esc=
- Subscript begin: Esc=
- Subscript end: Esc=Esc&a-1R
- Boldface begin: Esc(s4B (value could be from 1-7)
- Boldface end: Esc(s0B
- 10 cpi: Esc(s10H (10 = 10 cpi, etc.)
- 6 lpi: Esc&l6D
- 8 lpi: Esc&l8D

The LaserJet does not need a LF after CR, accepts "top of page" commands, and does not need to stop at the end of a page. I haven't yet figured out how to designate "proportional spacing" from AppleWorks. Perhaps a word of explanation is needed for the super- and subscript commands: LaserJet only supports 1/2 line-feed down (Esc=) so to get the original level the cursor must be moved down one whole line first before being moved back up one row (Esc&a-1R).

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# DISABLEDSIG NEWS

by Jay M. Thal



\*\*\*\*\*  
DISABLEDSIG APRIL MEETING  
Thursday, April 4, 1985, 7:00 P.M.  
Capital Children's Museum  
800 3rd Street N.E.  
Washington, DC

Subject - Options: A School for New Skills

\*\*\*\*\*

Due to an emergency, the speaker scheduled for the March was unable to attend. So, the attendees discussed future meeting subjects and matters of concern to the disabled.

### Future meetings:

- The SEPTEMBER main meeting is scheduled for demonstrations and discussions of applications for the disabled - as was done in November 1983. This represents a call for participation. Articles for the WAP Journal should be ready by September 5!
- The May meeting may be coordinated with the Council for Exceptional Children's conference
- We will have a meeting devoted to applications in the workplace, with a GSA representative describing the breadth of adaptive devices available.
- There seems to be a need to discuss the subject of advocacy - making the technology available to students and workers.

**AN INTERESTING NEW PRODUCT** - Oberon Int. has announced an optical scanning device, called the OMNI-READER, that can input printed text into a computer via an RS-232 port. It retails for less than \$500. What the advertisements don't suggest, whether Oberon thought of it or not, is that coupled with a speech synthesizer or a braille device it may be of great benefit to the vision impaired. For further information call 800-2-OBERON; in Texas, 214-446-9567. This appears to be a significant price breakthrough.

**UPCOMING CONFERENCE** - Just across the river in Alexandria, VA, on May 2-3, 1985 the Special Education Software Center. The two day session, coordinated by the Council for Exceptional Children, will include many of the people on the cutting edge of special education software design. Pre-registration cost is only \$50 (pre-April 4), on-site \$80. This is part of a federally funded project operated by CEC, SRI International, and LINC Resources, Inc. For more information call Elsa Glassman, CEC, (703) 620-3660. &

# APPLESEEDS NEWS

by

James Gwertzman



This is the second article in what hopefully will be a long series of articles about Appleseeds, a SIG for kids. A reminder: Appleseeds is a SIG, not a baby-sitting service.

At the February meeting we started out talking about adventures and soon switched to video games, rock music, and BBS's. About then a mother came in and we all had fun advising her about which adventures are good, which "Educational games" are truly educational, and looking over her interesting color printouts. Then we adjourned and went over to the main meeting.

We have a very small membership. About 12 people show up every meeting. There were times when we had membership of 50 and up. If you're a kid (9 years and up) and attend the meetings, please, please, please show up. I usually see about 25 kids with their parents but only about 12 of those show up. Also, we are interested in obtaining a //c for use during the meeting. If you have one you can lend us, please call Ian. His number is in the list of officers near the front of the Journal.

If you have a little article you would like to contribute to Appleseeds News give it to Ian or me on disk, saved as a text file. &

# PI SIG NEWS

by Raymond Hobbs

PI SIG will be shifting meeting times from the second Monday of each month to the third Monday of each month. Take note.

I have received over fifty calls from computer music aficionados in the wake of my articles on the subject - therefore we will be folding music synthesis into our meetings, along with our usual topics concerning program interfacing and operating system level stuff. Mac owners interested in music synthesis should benefit greatly from this, since the MAC has a programmable four-channel synthesizer built in. There are also several programs out on the market which make use of the Mac's synthesizer (almost all of them are in the public domain, too!). Although the MAC's capabilities for music synthesis are currently quite crude in comparison to the Apple's, this just means that there is plenty of room for improvements - much of which can be done in software!!

There is a Mac-oriented SIG on CompuServe now which is exclusively devoted to unwrapping the 64K MAC ROM and documenting it. So much for Apple Computer Corp.'s closed architecture (and their statement that the Mac is for non-programmers...). We can expect that there will be much more documentation available for the Mac programmer in the near future. If Apple continues to refuse to provide it, then the users will. Three cheers for the MAC64K group!

Please keep the new meeting date (3rd Monday of each month) in mind. The meeting time (8:00 P.M.) and place (the Woodmont Avenue Office) remain the same. Questions regarding PI SIG may be directed to me, at (301) 490-7484. &

# EDSIG NEWS

by Peter Combes

## EDSIG Calendar

Thursday, March 28, 1985 at 7.30 p.m.

"School Computer Clubs"

Thursday, April 25, 1985 at 7.30 p.m.

"Apple + Recorder = ?"

All EDSIG meetings are held in the Washington Apple P1 offices at 8227 Woodmont Ave., Bethesda, MD.

## Meeting Report

Thursday, February 28, at 7.30 p.m. "Educational Software". Demonstrations of recently released software.

In the beginning was the teletype, and the input was by words and the output was by words. The Apple keyboard still bears traces of the teletype, with keys marked "Shift" and "Return", and the ][ and ][ Plus even had a key marked "Bell", though there is no such thing in the machine. The Apple ][ was, however, very much designed as a game machine, and part of the package was the powerful graphics ability - colors and two levels of resolution. It took a long time for programmers to get the hang of this resource, and much educational material still looks as if it was designed for a teletype.

At Thursday's meeting, we had a second look at "Shapes and Patterns" by Methods and Solutions, Inc. for Learning Well. Although we were, again, rather unimpressed by its long loading times, and the difficulty which adults had in working out what was going on, it should be noted that this is an unusual example of a completely visual program; no word inputs are used, and a teletype would be suitably baffled.

Vocabulary Challenge, also put out by Learning Well, is, in contrast, right back to the text oriented package. Four programs are provided "to reinforce word association, understanding analogy and word definitions." It is intended for grades two through high school. Matchword has the player identify synonyms. Sticks and Stones asks you what you say when somebody calls you a particular word. The insults offered are, fortunately, rather weak! To Be Or Not To Be is a similar idea, asking you which of two words you would rather have apply to you. Oddball presents four words at a time, one of which does not match the others. This writer was baffled by one set, which were apparently bowling terms. The package has over 3,000 words built in, but also allows a teacher to add his own word lists.

Finally from Learning Well, Poetry Express is an ambitious attempt to teach poetry patterns. The list of options is formidable - can you write one each of the following: Diamante, Haiku, Tanka, Cinquain, Sijo, Limerick? Though the editing functions take a little learning, and the help which a micro can give is obviously limited, the idea is a challenging one, and certainly kept EDSIG busy for a while. The limericks we produced will not be printed here.


Once upon a time, all you had to specify on the package of a program for the Apple was the amount of memory it needed. MindPlay's programs have the

impressive sticker: "Apple ][, ][+, //e, //c -- Uses Keyboard, Joystick, or Mouse." Presumably, MindPlay has other computers in mind, too, since the instruction booklet refers to the "ENTER" key.

Math Magic, by MindPlay, uses "arcade" techniques to hold the child's attention on counting, addition, and subtraction. The game is reminiscent of Little Brick Out, and requires the child to answer math questions in order to "capture monsters".

Take two packs of playing cards, shuffle well and place them face down on a table. Player One picks up two cards and looks at them. If they match, he keeps the cards and has another turn. If they do not, he replaces the cards and the turn passes to the next player. The winner is the one with most cards at the end. This is the English game of "palminism" and develops in the British their qualities of concentration, endurance, and cheating. The game seems little known in the U.S., and Webster seems not to have heard of its name. However, a similar idea is used by "Race the Clock", another offering from MindPlay. Squares on the screen hide either animated actions or printed verbs and the players try to remember where they are. This certainly set up an enjoyable session for EDSIG, with the guilty feeling that perhaps we should call GAMESIG in to take part. MindPlay claims that this tests and develops a child's memory skills - we will have to wait a bit longer to find out what it does for concentration, endurance, and cheating. ☺

## ROBINS



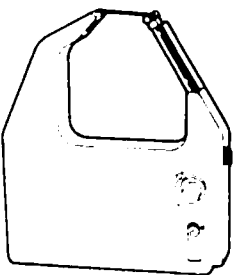
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# MEETING REPORT: Tax Preparation

## by Adrien Youell

If you have ever sat in Building 'B' auditorium on the edge of your seat with bated breath, sweaty palms and an uncomfortable apprehension of impending crisis, then you were in company with about 200 others on Saturday, 24th February, to think about your tax position. If you missed the main meeting due to inconvenience, the wonderful weather, (or in San Francisco at Mac Expo), you missed highly informative, spine chilling, presentations by ROY ROSFELD and CORNELIUS MHLEY, on tax packages and tax law respectively. On behalf of the Pi, I thank these gentlemen for their dedicated, extenuating efforts to prepare and present their subjects with penetrating clarity; their time given gratuitously, although both are professional computer teaching and tax experts; Roy is an ex-IRS agent!

It is difficult for this author to feel involved in the IRS requirements (being a UK tax payer, without enjoyment of the benefits of tax deductions), but to make a point, I was enthralled by the lucid logic, to be drawn into the fray, and felt sufficiently involved to ask questions to set my own mind in order. I saw only 2 people leave between 10:30 and 12:00! There are several major points on The Law which seemed to be the over-riding considerations of the meeting, and which set computer tax packages somewhat in abeyance, but of that more anon. The 'legal' reference points were mainly devoted to computer hardware and peripherals, defined as any equipment under control of the CPU.

In reverse order, because I think you will want to hear the bad news first, Cornelius Mhley, who is a CPA in Rockville, and is not a Pi member, described The Problem; the IRS told Congress that there were too many flagrant violations of computer deductions-procedures, or to be more polite, 'substantial tax loop-holes', and 18 June 1984 became the arbitrary cut-off date. If you were IN before 6.18.84 you are OK; if after that date you are in bad shape! So, June 18, 1984 will become a date, an unwelcome turning point in computer history, a reminder that the Orwellian year did not pass unscathed. '50%', '100% office use', 'log' (or 'contemporaneous record keeping') became the most frequently used 'handles' of the morning (nay, the Q&A teetered onto 1 o'clock pm). Business and Part-Time use of computers were isolated at the outset of Cornelius' talk, as 'interrupts': business is OK, part-time use is suspect; the key is 'employee' status. Employer-purchased machines are outside The Problem - so exit that question, at our level.

Next paragraph - trouble. Employees who buy personal computers for work at home and in the office; if your boss will certify that 'he' requires you and all other employees in your equivalent position to buy your own personal computers, with suitably annotated job descriptions, you may be OK. But, if that is the case why didn't he buy your computer for you, in the first place; see the problem? Further, (are you surprised - I knew this would be an impossible Meeting Record, or Echo?), even if you transport your computer to work and back home every night, you do not necessarily satisfy BUSINESS use, which is 100% use (for business, and outside the restrictions). PART-TIME work at home, (moonlighting) is also in this category; OK if 100% business use, producing earned income, but surely you 'dashed off' a quick letter to 'Mom'(?); you should keep a log of your computer's use, and you have

to use the machine in an 'office environment' at your home. This implies that your home-office is dedicated to that purpose, and does not 'double' as a television room, or visitor's bedroom. Cornel suggested that insuring your computer and peripherals implies a 'proper' business approach to the equipment you deem so valuable, and so essential to your work. Facilities for visiting clients, however few, may not be a bad plan.

The 50% rule! You must demonstrate that you use your computer for at least 50% of its use in 'producing' income, not just tracking your investments, and it will probably be required to be seen to be a substantial amount of time. Playing computer games with the kids and educational programs for them, as a logged use, may severely limit your credibility, but all uses must be logged. The write-off restrictions do not apply IF 100% business application is made, year by year.

Software purchase is another basket of snakes, classified 'intangible property', which is only worth the plastic it's written on. Software is deductible, but comes under different scrutiny from Hardware, but as the article in A+ (January 1985, page 91) says, you can deduct your accountant's fees just as tax preparation software is also deductible. Numerous packages purchased regularly, will fare better than the odd one or two a year. Cash amounts of \$100 to \$200 will probably be acceptable as immediate write-offs, being 'small fry', but larger sums, especially sporadic, are not good. ACRS does not apply to software, which should be written off on a straight-line basis over 3-5 years. Equipment cost up to \$5,000 may be expensed directly, in the year of acquisition, but must be used entirely for business; 'unbundled' software could be included in this expense if the bill statement does not itemize component parts. More expensive equipment should write-off the dollar difference over \$5,000, as ACRS over 5 years. The current understanding is that the IRS has not addressed the small-user, as regards software, and scrutiny is likely related to 'amount'. Watch this space. 'CPA signature' is the next most trying requirement.

Your CPA or tax-preparer MAY NOT submit your IRS Return without signing that 'he' has seen your 'log'. No log, no CPA. More, not less paper. Mr. Mhley emphasized that Hard Copy of your 'work' may be very important if you are audited, if not Essential. Your log; back to the old leatherbound accountant's petty-cash book. AND you thought you could keep a clever electronic log, within computer memory? Nope! If in doubt, LOG. If you need it, you have IT; if you don't you may regret it. If you are audited, and cannot show a physical log, or 'contemporaneous record', as a personal subscriber to the IRS you could suffer a 'negligence penalty' on your deductions, but the ugly word 'FRAUD' was mentioned 'soto voce'; although no case-law has been established, do you want to be a 'test case'? These new restrictions on write-off and deductions also apply to cars used for business, and any other equipment, such as copiers, all of which could be used for private (read; recreational and educational) purposes. The log should identify the type of work, by whom and for how long. Beware, the IRS has statistics on how long jobs take, in each profession and trade.

contd.

So, in summary of this section; imprinted in our minds are: '18 June 1984', 'employee status', '50% Rule', 'contemporaneous log', '100% home-office' and 'Income Production'. The \$5,000 write-off maximum, and depreciation over 3 or 5 years for larger sums, or 12 years if your annual log average falls below 50% in any year, were also mentioned. Of special interest, discussed in the Q&A, were Training Courses in computer use - there is no problem, even if you do not own a personal computer! But care, expensive software training courses are OK if you are in management, not so credible if you are 'merely' a stock clerk. Cornel gave voice to the patrician problem; if you are a 'big wheel' you may swing a fair deduction, but if you are a small-operator, the IRS may look at you more carefully, (and nastily). Don't be discouraged, L06.

Now, Tax Packages. Well it all depends how you go about it, and how much you want to pay, how adept you are at your understanding of the requirements, and if you make a personal return to the IRS, or are a tax-preparer. Did I say this would be easy? I feel I should insert a caveat that neither I nor Washington Apple Pi Limited accept the least responsibility for the accuracy or sentiments of opinions expressed! I am certainly not going to mention specimen salaries, or allowances!

As regards software, you pay for what you get - \$50 gets you a functional program (for yourself); \$1,000 buys a BIG program (e.g. "Aardvark") if you are a tax-preparer. Again, A+ Magazine (January 1985 p.93) reveals a preference for Micro Labs' "Tax Manager" (list: \$180), over Howardsoft's "Tax Preparer" (list: \$250). Roy Rosfeld emphasized that your dollars buy quality, the more the better, but warned that you may not need the extra power. Of all the programs, more is not necessarily best. Of all the generalizations I have ever heard, this seemed the most abstruse, but think-a-while. Do you really want the program to print your tax return, or just remind you of entries you can deduct, OR, error-trap you that you cannot deduct "such and such" amounts. 'What-If' calculations are an attractive utility. I was impressed with Roy, but felt that he is so professional, he passed 'the common man' by. "The Tax Manager" sounds so good, I think it would be for me, but yet Roy would (like the reviewer in A+) say it is very slow; to me, minutes in recalculation, and scrolling menus, are but 'grains of sand' in the worry-time of the whole pre-occupation of tax preparation. Mac packages are well reviewed in "Macworld", March 1985, page 111, except "Forecast" by Monogram, which is reviewed in Icon Concepts' "Macazine" (February, 1985, page 16), and interfaces with "Dollars and Sense". Joel Broida (Home: 730 - 4663, Office: 854 - 2346) has a demo disk of "MacInTax", by SoftWeave.

Roy's main thrust was advice to put your details on a spreadsheet, and just fill-in the forms from this information. OK I say, but I like the idea of 'error-trapping', as in the "Tax Manager", which reminds you to deduct expenses you may have forgotten, or disallows deductions you may think applicable. Another feature to consider is the facility to print actual forms in your surrender procedure; only Form 1040 must be personally completed. Other schedules are acceptable in computer print-out, as long as format is identical to the IRS version. NELCO sells such tractor-feed forms. So, do you pay for the 'Cadillac' version, or go with the 'General Motors' level? Greeted to boos and hisses, Roy confessed to using "PC Taxcut" (for IBM only - at \$89 from Capital PC).

We failed at the meeting to find time to announce and thank Ronald LaJoy for delivering Stallion's "Professional Tax Consultant" demo disk to the Office (list price for full program, \$225). Thank you Ron. He intends this to be for the use of members, in

assessing their needs, and which he recommends, marginally, over the Howardsoft product. Roy examined this disk and told me later he thought Stallion too expensive, lacking error-trapping, and 'advice'; in summary, a 'mickey mouse' product, in his words. But, Roy emphasized - a good spreadsheet, or calculating program (Multiplan and VisiCalc) can do all the 'leg-work' to help you fill in all relevant forms. Templates for spreadsheet programs can be purchased or custom-designed, in various degrees of automation, as simple or as complex as you wish, and should allow 'rounding-up' cash amounts. Templates are valuable for State Tax figuring, a copy of which he submitted to the PI office.

Good Luck in your altercation with the IRS this year, sincerely meant; and to all members the most prosaic greeting I could wish you, "I hope you will never be audited"! A GREAT meeting, and I hope you find this a helpful Report. Now I have to master PRODOS in preparation for next month's presentation; any offers of HELP will be gratefully received. Do YOU want to write the Meeting Report on Prododos? Please tell me at the next meeting; I'm the busy-body with red tie, and sports jacket in dull shades of brown. ☼

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# APPLEWORKS TAX TEMPLATE, 1984

by Paul Koskos

At the February PI meeting, it was announced that the 1983 DOS 3.3 Spreadsheet Tax Template would not be updated, because the author was too busy. For those of you who are interested, there are available for copying, at the PI office, two Appleworks Templates for your 1984 Federal taxes.

The first was prepared by Rocky Rogano. It includes Schedules A, B, and Form 1040. It uses approximately 20K of user memory, which is available with the Apple //c and with the Apple //e if you have a 64k extended 80-column card.

The second template, prepared by this author, is considerably longer, and requires an Apple //e with a 128K extended 80 column card. In return for these limitations, it offers 10 IRS forms which may be needed by those with a more complicated return. The additional forms are:

Schedule C	Business Income
Schedule D	Capital Gains
Schedule E	Supplemental Income
Schedule SE	Social Security Tax for the Self Employed
Schedule W	Marital Deduction
Table 1	Earned Income (not an IRS form)

All forms are inter-linked, and will transfer values and calculate taxes automatically with the following precautions: a) In the longer Template, Parts III to VI of Schedule D are not interlinked. I plead complication of the form and lack of time. b) The Appleworks template is set for MANUAL recalculation, in order to speed up data entry. Because of several unavoidable forward and backward references in the template, it will be necessary to press the RECALCULATE command (OPEN-APPLE-K) several times to get a final answer for your tax which does not change on further recalculation. d) All NA's should be replaced by an appropriate number or a zero, where the form calls for input.

**CAUTION: THE TEMPLATE IS OVER 70 K LONG. USE AN INITIALIZED NEW DISK TO SAVE YOUR MODIFIED TAX WORKSHEET AFTER YOU HAVE LOADED THE TEMPLATE. IF YOU MAKE CHANGES TO YOUR WORKSHEET AND WISH TO SAVE THEM, USE ANOTHER EMPTY DISK, OR DELETE YOUR FIRST WORK FILE FROM THE DISK BEFORE SAVING THE MODIFIED ONE. I FIND THAT APPLEWORKS INSISTS THAT THERE IS NOT ENOUGH ROOM ON THE DISK WHEN I TRY TO SAVE A LONG, MODIFIED FILE BY WRITING OVER THE EXISTING DISK FILE, EVEN THOUGH THERE IS ENOUGH ROOM ON THE DISK BY MY CALCULATION.**

Enough talk. Go to it, you tax enthusiasts. Bring a blank disk(s) and your PRO-DOS Utility Disk to the office if you wish to make a copy of either template. ☺

# GREETINGS TO PI SIG MEMBERS by Alfred R. Rumble

A Challenge to PI-SIG Members:

I would like to lay before your Assembly Language experts a challenge which I hope one or several will accept, possibly one or more who have a ][+, Apple Writer II program, Videx Videoterm 80-column card, and Videx Apple Writer II Pre-boot disk.

I have the above mentioned setup and frequently use it several times a day. A couple of months ago I acquired a second disk drive. Since then it has occurred to me that it might be possible to cut down on so much disk changing if a relatively simple (I think) change could be made near the end of the Pre-boot program. As users know, you first insert and boot the Pre-boot disk. After a wait the screen displays the instruction "INSERT APPLE WRITER II DISK AND PRESS RETURN". Then you have to take out the disk and insert the other. When you press RETURN, I presume that the Pre-boot program issues a command equivalent to BRUN OBJ.APWRT, but in machine language. (Note: There's something that looks like a subscript 7 between the B and the J in the catalog.) This causes the Apple Writer program to be loaded. When that is done, you will usually then take out that disk and put in one from which you may load or to which you may save. Often, I have to continue or finish something I've started, so I have to put in three disks each time.

Now here is my brainstorm. Modify, near its end, the Pre-boot program so that instead of the above mentioned display we see the question, "DO YOU HAVE A SECOND DISK DRIVE AND IS THE APPLE WRITER II DISK IN IT? ANS Y/N". If the answer you type is Y, then the (modified) Pre-boot program would issue the same BRUN command as above plus ,D2. If the answer is N then there would be displayed the original "INSERT APPLE WRITER II DISK IN DRIVE 1 AND PRESS RETURN".

Now, in my case I would keep the Apple Writer II disk in Drive 2 practically all the time. This would reduce the amount of disk changing by a third. To get back to my text file disk in Drive 1, I would issue any appropriate command followed by ,D1, e.g. LOAD or CATALOG.

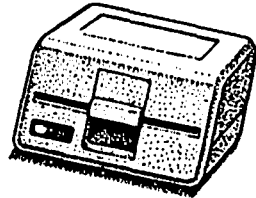
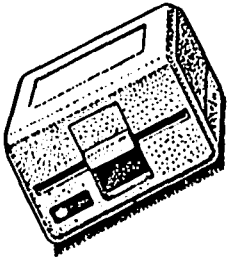
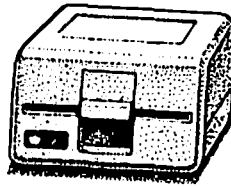
I can loan my copy of Apple Writer II and the Videx Pre-boot disk for experimenting. If an assembler is necessary, I have a couple of different ones but I don't know how to use them. One is on Apple Tool Kit and the other is BIG MAC from A.P.P.L.E.

There are probably other members who would like to make such a modification if exact detailed instructions were provided for doing it by a person not versed in assembly language. ☺

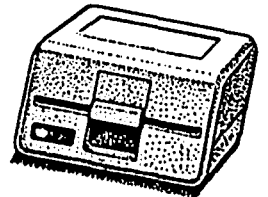
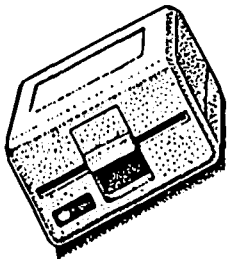
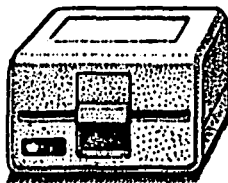
# A DISK /// ON A // ?

# \$169

## WOW!

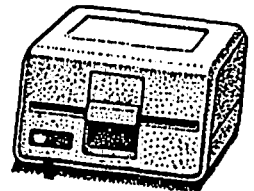
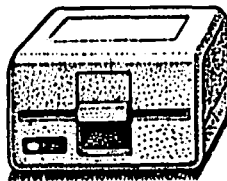


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There are many third party drives for the Apple //. Most of them have a low initial price, but are more expensive over the life of the drive because they are not widely serviced or supported. The Apple Disk ///, on the other hand, was built as an improvement over the Disk //. The Disk /// works better and quieter, it looks nicer and it can be serviced by any authorized Apple dealer. A disk controller is also available for \$69, if you need one.

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# Q & A

by Bruce F. Field



Q. I would like to be able to use Appleworks on my //e which has 64K, DOS 3.3. One salesman claimed that I don't need to make any changes, that I can use Appleworks on my Apple as is, although I won't have much memory for data. What modifications or memory expansions would you suggest?

A. Your salesman is right, Appleworks works fine on a standard //e; however with only 64K of memory you will only have about 10K left for data after loading Appleworks. For any serious work you will want to get the extended 80-column card that includes an additional 64K of memory. With the extended 80-column card Appleworks has about 55K of memory left for data. Applied Engineering (see their ads in any Apple magazine) sells a Ramworks card that can hold up to 1 megabyte of memory leaving 800K left for data. For most household uses I think that only the extra 64K is required.

Appleworks runs under the ProDOS operating system, and this comes on the Appleworks diskette. You just boot this like you would any ordinary DOS 3.3 diskette and use the program. The only problem comes if you want to copy an Appleworks file to another disk or make a backup copy of the Appleworks program. For this you will want the ProDOS Filer program. If you buy the ProDOS Users diskette and manual from your dealer this will have a copy of the Filer program and instructions on how to use it.

Q. Is there an agreement in the industry which makes it possible for a program to detect what make of printer is being used? Two programs which I have seem to indicate so. One says, "...If a compatible printer is not detected, an error message will be displayed ...". The second program listing says, ID = PEEK(49633) and indicates different ID's for different printers. By what procedure, and when, does the printer cause the right number to be POKEd into 49663?

A. You are understandably confused because regardless of what these programs say, or imply, there is no way to tell what printer is connected to the Apple. Within reason it is possible to tell what kind of printer INTERFACE card is plugged into the Apple and from that you could draw some conclusions as to what type of printer is being used. Most printer interface cards for the Apple have a small memory that contains a machine language program telling the interface card how to work to print a character. This program or a part of it can be read by the Apple as the command ID=PEEK(49663) does. This reads the last byte in the memory on the card in slot 1. If you know what the last byte in the program of each possible printer interface card is you can tell what card is in the Apple.

If you need real proof that you can't tell, look at the electrical specifications for parallel printer interfaces (a lot, if not most, printers are connected using a parallel Centronics-type interface). This interface allows data to flow only from the computer to the printer; the printer may send back signals to indicate only if the printer is selected, paper is out, or if the printer is busy. There is no provision to send any data back to the computer to identify the type of printer.

Q. When using the Appleworks word processor, I like to enter my own page breaks. This works well with the new page command. However, after I put in the first page break, I then want the next page to begin with LINE 1. It doesn't. The line numbers are listed cumulatively. This is not good at all in telling me what line I am on the current page. What am I doing wrong?

A. You are not doing anything wrong, Appleworks simply numbers lines from the beginning of the document and ignores page breaks. There is nothing you can do about it.

Q. I made one copy of my Appleworks start-up disk and now I cannot copy it again. The same holds true with the program disk. I want to have more than one copy "just in case". According to the instructions and other people I have spoken with, I should be able to make as many copies as I want. The leads to my next and most serious problem. You will probably advise me to take the Appleworks program back to the dealer for help. I have been back to the dealer many times and get no assistance whatsoever. When I returned the "Getting Down to Basic" disk because I couldn't load it, he tried it, saw the error message and told me to leave it with him and it would be corrected. This was at least six weeks ago and there it still sits. I keep calling and the answer is always the same, "I haven't been able to copy it yet because no one has come in the store with that disk for me to use as a good source".

What do I do now? Apparently, I have paid \$250 for a defective package and the dealer cares only that his commission was paid. Everyone else that I have turned to for help says "Go to the dealer"; an exercise in futility. Do I send it back to Apple headquarters in California? I wrote to them about it and received no response.

A. First, you should be able to copy your Appleworks disks as many times as you want. Be sure you are using the Filer program on the ProDOS Users diskette to do the copying. You are right in saying that I would normally send you back to the dealer, but given your experience I wouldn't set foot in his store ever again. Get your original copy of "Getting..." back and see if you can't find a friend that has a copy of that and Appleworks and make your own copies.

Q. I am interested in transferring Applesoft programs to other machines and to other Apple ][ users via modem. Is there any existing software to convert Applesoft files into text files for this purpose?

A. A number of communication programs will transfer Applesoft files directly from one Apple to another. If you are going from Apple to Apple this is preferable because fewer characters have to be transmitted. However if you want to, it is really easy to convert Applesoft to text files. The old DOS 3.3 manual contains a short program that can be appended to the beginning or end of an Applesoft program and will save it to disk as a text file. I will repeat it here.

contd.



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Suspended	42
Transylvania	28
Trivia	36
Trivia Savant	38
(Add'l Question Disks)	
Disque Francais	19
Jocks	19
(The) Me Generation	19
Showbiz	19
What's That Tune?	21
Witness	28
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Xyphus	32
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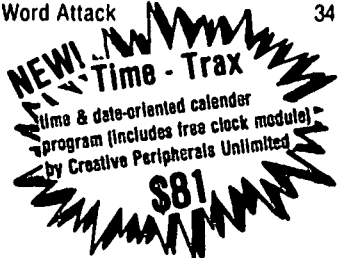
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```

1 REM CAPTURE
2 D$ = CHR$(4): REM CTRL-D
3 PRINT D$;"OPEN LISTING"
4 PRINT D$;"WRITE LISTING"
5 POKE 33,30
6 LIST 10-
7 PRINT D$;"CLOSE LISTING"
8 TEXT : END

```

As the program is listed above the Applesoft program you want to convert should not have any lines numbered below 10. Load your Applesoft program in, type in the listing above, and run it. This will create a text file with the name LISTING and list all the program lines starting with line 10. The POKE 33,30 prevents Applesoft from including extra spaces in the listing.

Q. I've written three Applesoft programs that are associated. The first "HELLO" program is loaded when the disk is booted. It has a menu which takes me to either of the other programs that I select. The "HELLO" asks for today's date to be inserted. Is there any way to transfer the date to the other programs when they are selected without having to reenter it?

A. There are two ways to do this. One, you can have your HELLO program POKE the date in some protected area of memory that is not destroyed when you load your second and third programs in. Then the later programs can PEEK at the memory locations to determine the date. Alternatively you could have your HELLO program write a small text or binary file to disk which contains the date. Writing the date to the disk has the advantage that you can always tell on what date you last updated you data. Of course, in this case you need to keep the same disk in the drive for all three programs. An example of each way is shown below.

Using POKES and PEEKS:

In your HELLO program-

```

5000 REM ASSUME THE DATE IS IN VARIABLES
      MO, DA, AND YR (I.E. YR=84)
5010 POKE 973,MO : POKE 974,DA : POKE 975,YR

```

To recover the date in later programs-

```

1234 MO=PEEK(973) : DA=PEEK(974) : YR=PEEK(975)

```

These memory locations are in page 3 and are usually not disturbed unless you load in a machine language program in page 3; then you will need to check if there is a conflict between these memory locations and the ones used by the machine language program. Page 3 is also altered if you re-boot your system. If you want to write a disk file, one way is shown below.

To store the date from your HELLO program-

```

2000 REM ASSUME DATE IS MO, DA, YR
2010 PRINT CHR$(4)"OPEN TODAYSDATE"
2020 PRINT CHR$(4)"WRITE TODAYSDATE"
2030 PRINT MO,DA,YR
2040 PRINT CHR$(4)"CLOSE TODAYSDATE"

```

To read the date back-

```

3000 PRINT CHR$(4)"OPEN TODAYSDATE"
3010 PRINT CHR$(4)"READ TODAYSDATE"
3020 INPUT MO,DA,YR
3030 PRINT CHR$(4)"CLOSE TODAYSDATE"

```

Q. I want my Applesoft program to make a backup copy of a data file on a backup disk in drive 2. What do I say in my program to get this file from D1 to D2? I have no problem saving my program on either disk drive but I can't save the data file on D2 the same as I do the program.

A. There is no Applesoft or DOS command to copy a text file from one drive to another. What you will need to do is modify your Applesoft program so that it first writes your data file to drive 1 and then writes an exact copy to drive 2. This is actually not too difficult. Structure your program so that the part of your program that prints to the disk is in a subroutine. Do all your calculations and whatever in the main program and save all the results in variables. Then the subroutine only takes the variables and prints them to disk. If you want to be really clever, save the drive designation (D1 or D2) in a string and set the string appropriately before calling the subroutine. Here's what I mean.

```

1000 REM ALL YOUR CALCULATIONS GO HERE

```

```

1010 DR$="D1" : REM FIRST WRITE TO D1
1020 GOSUB 2000 : REM GO DO IT
1030 DR$="D2" : REM NOW THE SAME TO D2
1040 GOSUB 2000

```

```

1050 REM MORE PROGRAM
1900 END

```

```

2000 PRINT CHR$(4)"OPEN YOUR DATA FILE,";DR$
2010 PRINT CHR$(4)"WRITE YOUR DATE FILE,";DR$
2020 PRINT "YOUR DATA"
2030 PRINT CHR$(4)"CLOSE YOUR DATA FILE,";DR$
2040 RETURN

```

Q. I would like to know of a method to boot a protected game diskette from disk drive 2 after I have booted the DOS from disk drive 1. I use a 3.5" type disk drive as drive 1 and a 5" type disk drive as drive 2.

A. When the Apple "boots" DOS it runs a small machine language program stored in a ROM (read-only-memory) on the disk interface card. The instructions in this permanent memory tell the Apple what drive to use as the boot drive. If you are adept at machine language you could copy this program into RAM and modify it to run at the new memory address and to use drive 2 as the boot drive. This is not a simple process.

Another way is to modify your disk interface card by adding a switch to control which disk drive is connected as drive 1. This is not as difficult as it first sounds; all but one of the wires to the drives are connected in parallel and go to both drives. Only one wire for each drive has to be switched. The traces going to pin 14 of each of the drives should be cut and a double-pole double-throw switch added that connects the pin 14s from each of the drives to either the trace that originally went to that pin 14 or to the trace for the other drive.

# The Musical Apple

by Raymond Hobbs

Although I thought that there was some amount of interest in music synthesis on computers in our membership, I really wasn't prepared for the number of phone calls I have received in the wake of the first two articles on music synthesis.

Most of the calls have concerned available synthesizers for the Apple and the Mac. This is one of the topics which we will try to cover in our next PI SIG meetings (see PI SIG NEWS elsewhere in this month's Journal); nonetheless, I will briefly cover some of it here.

First, on the Mac you don't have to buy a synthesizer - it is built into your Mac already. What didn't come with the Mac was software to drive the synthesizer. For that purpose, Hayden has a software package out for about \$70 which drives the synthesizer, lets you compose music on the screen, and plays selected pieces back. Although there is some control over the envelope, that control is quite limited. What comes out is roughly equivalent to the sound control on an RMI piano. Additionally, there are a fair number of public domain drivers for the Mac available both on SigMac disks and on Compuserve. These MS-BASIC programs are written by Dennis Brothers, and perform well. However, to serve as general-purpose drivers such as the Hayden package, they should be modified to the extent of becoming templates for the MAC sound driver. They should also be written in a compiled language, such as Pascal or C, or in 68000 assembly language. Altogether, an interesting and challenging project.

Second, the Apple has a number of synthesizers available for it. I really can't compare them, since I have experience with only one of them - the Alpha Syntauri system. I have also heard (but not tested) the ALF synthesizer and the Soundchaser system. The Alpha Syntauri and Soundchaser systems are built around the Mountain Music System, which is a 16-channel additive synthesizer; that is, it calculates the individual sound waves which are input and integrates them into a composite waveform (it adds all the waves together and outputs the total). The ALF system is somewhat smaller, less expensive and provides a little less control over envelope parameters. Also, the ALF does not depend on the Mountain Music System boards. Please note that I do not intend this to be in any way a review of the different synthesizers, but rather a thumbnail sketch of them.

My Alpha Syntauri system has eaten up my Apple. It requires three cards - the two cards for the Mountain Music boards plus a third for the keyboard interface. Additionally, it is strongly recommended (a recommendation which I took quite to heart) that the user also install a RAMDISK. The one specified was the Synetics card, and I got the biggest one they had (there goes the fourth slot). Now my Z-80 softcard and my Hayes are sitting in a box. The output from the system goes straight to the stereo, where it comes out with all the feeling that 120 watts can provide.

The software part of the package is what makes the Alpha Syntauri a real joy. Not only can the instrument waveforms and envelopes be developed interactively with the system, but songs can be recorded (on the RAMDISK) directly from the keyboard (I am referring to the five-octave music keyboard) and then saved to disk. The 16 channels are recorded two at a

time, so that up to eight voices can be recorded at the same time. As long as no more than eight voices are recorded at any moment in time, more instruments can be added overall. Available software also includes a large selection of music instruction programs, but since I have been into music for umpteen years, I had no need of these programs, so I haven't tested them out.

At any rate, the total cost of setting up the Apple for music synthesis was, in my case, about \$1800. This doesn't count the roughly 5 megabytes of disk files I have accumulated.

I will attempt to set up another music synthesis demonstration for WAP if there is sufficient interest, and in the meantime, I will be happy to continue to answer questions as best I can. Owners of computer music synthesizers are also invited to attend our PI SIG meetings, where music synthesis is a current topic of discussion and information interchange. Perhaps we can get somebody in there who has an ALF or a Soundchaser and compare notes (and checkbooks).

\*\*\*\*\*

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# GAMESIG

by Ronald Wartow



## THANKS

I would like to personally thank Genevieve and Bernie Urban, David Morganstein, Tom Warrick, Kevin Nealon, and Paul Koskos for their support and help in getting GAMESIG off the ground. Without people like them, the club would never have attained the reputation it has - a bona-fide users group serving thousands of members.

## MARCH GAMESIG MEETING

Since the deadline for this article was the day before our first regular GAMESIG meeting, I could only report what probably happened. Since the May article deadline is 4 days after the next scheduled GAMESIG meeting on April 4, that article will be in the present tense. Based on the telephone response, about 25-30 people showed up and watched demonstrations of several games for the whole Apple family of computers. A lively discussion followed with everyone trading information on what games of quality will be released in the near future. The glacial pace of gaming software for the Macintosh was lamented by the few Mac owners attending.

The chairman reported that he had contacted several gaming companies and had arranged for software to be sent to the club for demonstration and review purposes. Various GAMESIG participants will be doled out software for which they have an interest and expertise for reviews. Sometime in the next few months, we hope to have one of the most famous game programmers of all-time visit the area and speak possibly to the club as a whole, if this can be arranged.

Further discussions involved the possibility of informal swapping among GAMESIG members - mini-garage sales - which will be cleared with the club's directors, and the listing of a GAMESIG coordinator on the Journal's "WAP HOTLINE" page for the assistance of those club members who do not want to actively participate, but need help or software recommendations.

It was decided that the club membership was sick of getting only my views of gaming. Therefore, the chairman obligingly turned over the writing of this column to the hundreds of volunteers. Several desperate club members stuck in caves, dungeons, space, the bathroom, or whatever, were assisted with a few nudges in the right direction. One gamer who could not solve a particularly maddening puzzle was, against GAMESIG policy, given the exact answer on the basis that the club would be grenaded beyond recognition and existence if we did not answer the puzzle directly.

We also focused on the bewildering demographics of GAMESIG members. Among others, the group is comprised of lawyers, an airline pilot, a 5th-grader, a doctor, 2 research scientists, a high school student, and a programmer. Finally, the subjects of future programs for the meetings was discussed.

I again urge any interested club members of whatever computer persuasion to participate.

## MOST COMMONLY ASKED QUESTIONS

I thought the membership would be interested in the most commonly asked gaming questions asked of me since GAMESIG was revived. Here follows the unexpurgated

## List:

1. What is the answer to the last riddle in The Knight of Diamonds?
2. How do I deal the thief in Zork I?
3. Why did I ever buy (Fill in the blank) ?
4. When will more decent Mac games be released?
5. When will (Fill in the blank) come out?

## MOST COMMON ANSWERS TO THE MOST COMMONLY ASKED QUESTIONS

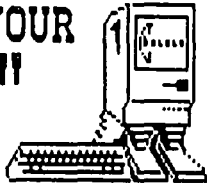
1. Call Sir-Tech. The answer is so cockamamie that you won't believe me but you will believe them.
2. After he has stolen from you for the umpteenth time, use primal instincts.
3. Because you didn't read this column or talk to someone who had made the same mistake.
4. Soon, or so "they tell me."
5. Do what I do. Call the company and get a guaranteed inaccurate prediction.

## GAMING DEVELOPMENTS

Recent interesting releases which I've seen and recommend that club members might evaluate for possible purchase are: AMAZON AND FAHRENHEIT 451, graphic adventure games from Telarium (formerly Trillium), and written by Michael Crichton and Ray Bradbury, respectively; BELOW THE ROOT, a graphic role-playing adventure from Windham Classics based on a famous author's child fantasy trilogy, it is joystick-operated from a command menu, involving AZTEC-like movement; and GEMSTONE WARRIOR, an SSI release, involving a fantasy/arcade setting, using joystick.

Things to look forward to but probably not for a while are ULTIMA IV, MOEBIUS I (fantasy role-playing), SWORD OF KADASH (fantasy role-playing), ALICE IN WONDERLAND, WIZARDRY IV, AND MACWIZARDRY. ⚡

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# TELECOM SIG NEWS

by Dave Harvey

The Telecom SIG met after the WAP meeting on February 23 and was conducted by George Kinal. The meeting started off with a discussion of the Prometheus modem, Pro Modem 1200A, which fits inside the Apple. This modem consists of two cards that plug into slots in the Apple. The cards consist of the CPU (Central Processing Unit) and the SPU (Signal Processing Unit). The CPU plugs into any slot except slot 0 in the Apple ][ and ][+ or the auxiliary slot of the //e. The SPU is connected to the CPU by a cable supplied with the modem. The SPU can be plugged into any other slot in the Apple. All signals and power are supplied to the SPU board from the CPU board via the CPU/SPU interconnecting cable. The original instructions for setting up the modem state that the SPU can be placed upon the top of the power supply but a errata sheet included with the latest packages deletes this advice.

The discussion about the modem centered around the experiences of Barry Fox using the modem with Universal Bulletin Board software. Although the modem is supposed to duplicate the Apple Super Serial Card as far as interfaces go, it turns out this is not exactly true, since the timing is not identical between the two devices. A custom driver is being written for the UBBS software.

There followed a discussion of Barry Fox's BBS, called the "Crystal City Connection". This BBS uses the new hard disk so heavily advertised lately, "The Sider". Barry is very pleased with it. The BBS runs under Apple ProDOS and most of the hard disk can be used for the BBS (all but 96K, in fact, which must be reserved for CP/M and Pascal operating systems). The BBS also allows XMODEM transfers of files. One problem arises when using ASCII Express Professional to download binary files: They are converted to text files. George Kinal suggested a solution - just change the file designation on the disk that has the downloaded file to binary using a disk zap program or one of the utilities available in the WAP disketeria.

George announced that he is still looking for volunteers for the communications tutorials coming up in March. We are still a few instructors short. Please contact George or the office if you would like to volunteer. He is also still looking for volunteers to test some Modem 7 disks with different configurations.

A question was raised about how to get on the WAP Bulletin Board System. Instructions are contained in the Members Reference Book, and everyone should be aware that the BBS is in constant use and they can normally expect a busy signal on the first try. If there is no answer it could be that the system is being worked on, or sometimes the system might go down while the SYSOP, Tom Warrick, is at work or out of town. George observed that members equipped with modems without speakers should pick up the phone after the modem has dialed to be sure you have a computer on the other end. He suggested that they consider using an amplifier marketed as a speakerphone conversion device. If placed near the modem, by inductive coupling it amplifies the telephone conversation through a speaker. George got his by mail order, but Radio Shack offers something similar. Another solution is to convert an old tape recorder that you have no more use for by connecting the leads going to the recorder heads to the telephone wires with a 220K resistor in series with the connection.

George reported that the new Hayes 2400 baud modem will support 4 data rates, 300, 600, 1200, and 2400 baud and is also compatible with all foreign 2400 baud standards.

We next discussed interrupts on the Apple and how, on some serial cards and internal modems, a jumper must be installed to enable this capability. Notwithstanding the instructions in the Apple Super Serial Card Manual, interrupts are essential for preventing loss of characters at the beginning of each line, especially at higher data rates. Some internal modems, such as the ProModem 1200A, do come with this jumper installed, but not all.

In the subsequent discussion of XModem transfers, someone wanted to know how to get back into the terminal mode when using Modem 7. George suggested that a reset or Ctrl-C should bring you back to the terminal mode.

Dave Harvey next gave a status report on the ABBS Committee and its efforts to find something to take the place of our present system, which would make it more readily accessible. A number of leads were investigated, and although some solutions were found, they were rejected either because the cost was too high (about \$10,000/year) or could not be used on Apple hardware. The consensus at the last meeting of the committee was that a local area network installed at the WAP office was the way to go, with each Apple running BBS software and using files on a common hard disk. Software would have to be located or developed to support this use. There then followed a discussion on the possibility of the UBBS fulfilling this requirement. Barry Fox mentioned that he has been in contact with the author of the program who has indicated that for a fee special custom modifications could be made to the program. It was agreed that the author should be contacted to see if he thought that the program could be modified to incorporate this multiuser requirement. ☼

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# THE INTRA-COMPUTER PSIO SERIAL INTERFACE FOR THE APPLE /

by George Kinal

## INTRODUCTION: A History of Serial Interfaces

Serial interface cards for the Apple ][ slots were originally represented by the Apple High Speed Serial Interface (intended primarily to permit connection of external CRT terminals to the Apple, and to drive printers), and by the Apple Communications card, for modem operation at 110 and 300 baud. By modern standards, these cards were quite primitive, despite their \$200 list prices; no handshaking (control) was provided. The baud rate on the serial card was set by switches on the card, while the baud rate on the Comm. card was fixed to default to 300 (with a software commandable change to 110).

CCS and SSM, two peripheral card manufacturers in California, both came out with serial interface cards that could essentially function either as a printer driver (like the Apple Serial) or to work with a modem (like the Comm. card). The baud rate was adjustable by switches, and some handshaking to the card was provided (this could be used as "printer busy" with printers, or carrier detect with modems). There were also several less well known cards, such as the Electronic Systems which never achieved much prominence.

The addition of handshaking was an important improvement. The Apple Super Serial card, introduced at about the same time as the Apple //e, replaced both the Serial and the Comm. cards in Apple's catalog. It had firmware to mimic either card. This card also supported more handshaking functions than the CCS and SSM. In particular, one could now control the interface. (For example, with the older cards, DTR was always on whenever the computer was on. Therefore, an auto-answer modem connected to it would answer a ringing telephone line even though the computer was not being used for communications. With the SSC, DTR would not be on unless turned on by communications software; the call would not be answered otherwise). The SSC also had full control of baud rate and other data format parameters such as parity using either switches on the card or under software command (from a program, or from the Keyboard).

Intra-Computer's PSIO interface card probably preceded the SSC on the market, yet had both of these important advances, i.e. programmable baud rates and data formats, and full control of handshaking lines. It still sells in modest quantities despite its obscurity, because it has a few features not found on the SSC or its recent imitations (like the CCS 7711 and the Serial II). Specifically, the PSIO provides both RS-232C and current loop interface capability. It comes with a variety of utility software routines, including several which essentially turn the ASCII Apple into a Baudot code machine.

## THE PSIO'S UNIQUE FEATURES

The old Apple Serial card used standard logic chips to interface with the RS-232 connector. The Comm. card, the CCS 7710, the SSM cards, and several others (including several cards recently introduced) use the 6850 chip, which is a special communications interface chip that makes for a more flexible and useful interface. The SSC designers adopted a similar, but more advanced, chip called the 6551. The PSIO uses yet

another communications interface chip, the Western Digital 8250 ACE (Asynchronous Communications Element). Not only does this chip have all of the handshaking capabilities of the 6551, it has more registers which allow greater flexibility in controlling it to do different things. The PSIO can be commanded to baud rates from 50 to 19,200 bits per second. The pin 25 "BUSY" function is supported (though it is a rare modem today that uses this as an indication that the "terminal" is busy). Firmware is provided on the board by Intra that performs an "auto-baud" function - the interface will decode the baud rate of incoming data (based on a carriage return character) and program itself (set its baud rate) accordingly.

The current loop, the Baudot software, and a pulse autodial routine in firmware all combine to make the Apple/PSIO combination a full equivalent of a Telex machine. I don't simply mean that you can send messages to Telex subscribers; MCI and Western Union will now let you do that with an ordinary modem. I mean that you can be a Telex subscriber, by arranging for a Telex circuit from one of the carriers like Western Union, RCA, WUI, ITT, etc., and using the Apple/PSIO on that circuit. ASCII Express - the Professional supports the PSIO, incidentally, which makes it possible to turn an Apple ][ into a very flexible (ASCII and Baudot) communications terminal.

Current loop has other applications besides connection to Telex networks and using antique teletypewriters to list your programs at the breakneck speed of 7 characters per second. RS-232 signals are not supposed to be transmitted over very long cables, although with special low capacitance cable it is possible to go a thousand feet or so. Current loops can be extended for miles, even at high baud rates, and do not require expensive cable. So if you need to drive a high speed serial printer, or connect with a remote terminal, at some distance, the current loop approach can be very useful.

[In the commercial application for which I specified the PSIO, the card and a modification of one of Intra's Baudot software routines called TTY-EMU were used in place of a set of external converters (ASCII to Baudot, RS-232 to current loop) that would have cost \$700 (and still, a serial interface would have been required to output the ASCII to the converter].

## CONCLUSION

The Intra-Computer PSIO is useful, if not mandatory, in two situations: where a current loop is needed, and where Baudot communications are involved (or both, as when connecting to a Telex network). It is a "powerful" interface card for experienced programmers. It is not very well supported by commercial software, however, except for AE-Pro.

Would I recommend the PSIO over the SSC? Yes, for those cases where its unique characteristics are necessary. With AE-Pro, at least, it will do everything that the SSC will, plus provide the current loop and Baudot capabilities. ☺

# TRANSFER OF COMMODORE 64 BASIC PROGRAMS TO APPLESOFT

by George Kinal and Tom Gross

This article deals with the transfer of a program written for a Commodore 64 computer (in Commodore BASIC) to an Apple ][+, but the same principles apply for transfer of programs between any two different machines. After the transfer, the program code on the Apple must still be edited to account for differences between Commodore BASIC and Applesoft, and for differences between the disk operating systems. But that's a lot less work than re-keying the entire program.

**Step 1: Write the Commodore program to disk as a text file.**

The medium of exchange between incompatible computers is ASCII text, since different makes of computers store their programs using completely different internal formats. Almost every operating system allows you to "list the program to disk" (see, for example, the Apple DOS 3.3 manual section "CAPTURING PROGRAMS IN A TEXT FILE"). Such a procedure converts the BASIC program in memory to a text file on disk. (Some systems, notably CP/M and IBM PC BASIC, always store programs in plain text form, so no conversion is needed). For the Apple ][-/// series, ASCII Express - The Professional ("AE-Pro") comes with a conversion utility for this purpose.

The equivalent instructions with the C-64 are:

```
OPEN 4,8,4, OPEN "Program.name"  
CMD4: LIST : PRINT #4: CLOSE
```

**Step 2: Transfer the text file from one machine to the other.**

If the machines are next to each other, two serial ports can be connected by cable (see for example "Macintosh <-> Apple ][ File Transfer", WAP May 1984) and communication software used for the transfer. In most cases, however, especially with the C-64 where the owner is more likely to have a modem than a serial port adapter, transfer can be accomplished by modems and telephone lines.

We used a Commodore 1600 300 baud modem on the C-64, and an Anchor Mark XII with SSM A10 interface on the Apple. A public domain version of the "MODEM" program was used on the Commodore, while AE-Pro was used on the Apple, commanded to receive a file in the "protocol" mode. Public domain MODEM7 software is also available for Apples equipped with CP/M. We strongly recommend that a verified, or protocol, transfer be used when software is being exchanged by telephone, since line errors can cause a lot of trouble. These programs all use the Christensen protocol, which is one of the most universally used verified transfer protocols. Others that would work just as well are KERMIT, BLAST, and the Microcom Networking Protocol. Remember that although in the protocol mode ANY kind of file can be transferred and will be stored on disk, for program conversion between dialects of BASIC, the files must be text versions.

**Step 3: Conversion of Text File Format**

This step may or may not be required. In general, though, the text files produced under non-Apple operating systems (including CP/M and PC-DOS) have separate line feeds and carriage returns, and use

control characters to mark the beginning and end of the file. Such a file is not exactly in the correct format for the Apple.

AE-Pro has conversion utilities to deal with this problem. In particular, CHFORM was used to convert the received file (which was treated as if it had a CP/M-like format) to proper Apple DOS 3.3 text file format.

Another method of file conversion is to use a word/text processor such as ScreenWriter II, with the capability of handling text files (some word processors use their own binary format), to filter out and replace improper characters like the Control-Z's used in CP/M-like files. As a matter of fact, we had to use ScreenWriter II as well as CHFORM, because the file transferred from the C-64 was too long for CHFORM to process. (The text file version of a program will always be longer than the BASIC program, because in the latter key words such as "PRINT" or "REM" are stored using only one byte, instead of the five or three characters in the text). So ScreenWriter was used to separate out the excess portion of the received file, and CHFORM was then applied piecemeal.

In fact, using a word/text processor in this way is useful for another reason, namely to take care of the language differences. A global search/replace function, for example, allows you to substitute the Apple's "HOME" command for the Commodore's "PRINT CHR\$(147)". Also, some dialects of BASIC allow both upper and lower case; a word processor easily can convert to all upper case, if need be.

**Step 4: Convert received text to native BASIC Applesoft) in memory**

Under Apple DOS and ProDOS, the "EXEC" command is used to take a text file on disk and treat this text exactly as if it were being typed from the keyboard. Thus, after this step is completed (it takes a while), an Applesoft program resides in memory, just as if you had typed the same program statements from the keyboard. (NOTE: With ProDOS, do not include the "TXT" as part of the file name after the EXEC command; you should be in Applesoft BASIC with ProDOS booted in the machine.)

**Step 5: SAVE the program to disk.**

You should SAVE the program at this point, even though some more editing may have to be done on it. That way, if in the process of editing, you make a mistake such as deleting a statement you didn't mean to, you can start over.

**SUMMARY:** For the Apple, you should use communications software which handles file transfers to disk, preferably in a protocol mode using a popular protocol such as Christensen's (AE-Pro, Softerm II, MITE, or MODEM7); a word processor that can work with disk text files; and a familiarity with the use of the EXEC command for using text files to obtain a BASIC program in memory. For the Commodore, a public domain copy of the MODEM program can be used. (A comparable communications program for the IBM-PC is PC-Talk). ☼



# THE LAP COMPUTER AS AN APPLE PERIPHERAL

by Kurt Holter (Frederick Slice)

Short of the 10 or 20 megabyte hard disk that we'd all like to have (and a few fortunate souls actually do own) there's a case to be made that the penultimate peripheral for your Apple may be another computer. If you can live with an expenditure of between \$399 and about \$600, there is a device available which may do you some good as a stand-alone computing machine, and enhance the utility of your existing microcomputer as well.

I know we're talking considerably more money here than you'd spend for the average Apple ][ series peripheral card, but consider the following:

1. Full stroke, full size keyboard capable of displaying and delivering ASCII values up to 255.
2. Onboard integrated full screen text editor.
3. Onboard integrated file manager program.
4. Onboard integrated smart terminal package COMPLETE WITH 300 BAUD INTERNAL MODEM.
5. Sixteen function keys, eight of which are instantly user-definable.
6. RS232 protocol serial port.
7. Parallel port.
8. Cassette tape port.
9. Power source may be either AC or four AA batteries (other alternatives as well).
10. Mixed text and 240 x 64 hires graphics on the same screen.
20. ROM-based Microsoft BASIC, complete with far more bells and whistles than Applesoft, except for the absence of random access file commands.

...and more.

The unit I speak of is the Radio Shack Model 100 lap computer, and it seems delighted to talk to my Apple. While I've had my Model 100 for only a few months, it regularly communicates with my Apple //e. As a matter of fact, my //e, (AKA: The Mainframe) serves as the mass storage device for the Model 100.

The Radio Shack computer is a lap sized unit - smaller than a Washington DC phone book, and equipped with 8K to 32K of CMOS RAM. Radio Shack, as well as at least one independent manufacturer markets a disk unit for the portable, but if I'm going to put more money into disk storage, you can be it'll be more for The Mainframe!

I've simply been linking the Model 100 and the //e via a modular phone cord, with one end plugged into the lap comuter and the other into the Micromodem //e jack on the back of the Apple.

As a journalist (photojournalist, actually), I frequently compose text on the small computer. Since my current word processor of choice happens to be Appleworks, and I have no Apple communications software which runs under that operating system, I wrote a simple program to perform file transfer with the Model 100. I'm not much of a BASIC programmer, so I was delighted to find that WAP Library Disk 019, a selection of public domain files placed in the public domain by the DC Hayes company some time ago, contains a program called PICKUP from which I extracted the code to perform the actual connection between the two machines. I've found it to be quite adequate for my needs. Worthy of note is that fact that it supports

transfer of TEXT FILES ONLY.

The PICKUP program, by itself, can also serve to provide an added bonus - with slight modifications it turns the Model 100 into a detached keyboard for the Apple. How nice to be able to sit back and prop up my feet with a keyboard several feet away from The Mainframe!

When I'm away from home, the Model 100's full screen text editor has proven to work quite well for me for things like hacking on Applesoft programs. If the program was originated on the //e, I simply use a short capture routine to convert it to an ASCII, or text, representation, and then move it to the little computer through the modem. From that point on, I'm able to use the cursor addressing capabilities of the Model 100 to edit the program to my heart's content. When finished, I send it back to the Apple, EXEC it into memory, and proceed as usual.

Since Applesoft is a Microsoft BASIC-based language, you may find that many programs you've run on your Apple will work with only minor modifications on the lap computer. Immediate removal of POKE and CALL statements is a good idea, since the memory maps are entirely different for the two computers.

There are a host of printer formatting utilities out there for the Model 100, but I've found considerable utility in composing text on it, while in my car (but not, obviously, while I'm driving!), at the breakfast table, or virtually anywhere. Later, at home, I upload the text to the Apple and use a word processor to format and print it.

If this article sounds like an ad, I apologize. However, I find this fascinating little machine to be an extremely useful peripheral device. My only further recommendation would be that anyone else who purchases one strongly consider a CompuServe membership, to take advantage of the Model 100 SIG, which boasts over 800 files for the pint-sized wonder, including a number of reference and program files dealing specifically with moving information to and from your lap computer and ][ series and Macintosh Apple products. The SIG also supports several other lap computers to a lesser degree. I'm also a member of MAUG, the CompuServe Apple SIG, and recall seeing some of this transfer software within its databases as well. ☼

## HARDWARE HELPERS

Please note that the list of volunteers who are willing to advise you when you have hardware problems was published in the December 1984 WAP Journal AND in the Member Reference Book. ☼

# FAST AND EASY METHOD FOR READING FREE FORMATTED DATA

by Lowell H. Bahner

## Introduction

The Apple ][ with Applesoft BASIC is blessed with making data input simple. It is so simple that anyone can sit down at an Apple for the first time and enter information that is requested by an Applesoft program. This flexibility, however, makes it nearly impossible to read data that is structured as data fields which are separated by one or more spaces. Such data are commonplace when one is dealing with data that was formatted by other programming languages or other versions of BASIC. For instance, if you write a data file using either free field or fixed field format using FORTRAN, output data records may look like:

```
data1 data2 data3 data4 <cr>
data1 data2 data3 data4 <cr>
... etc.
```

Applesoft can accommodate these types of data, but a rather complex program is required to read each line of data as a string variable, then parse out each substring, and convert that substring to an integer or floating point value if necessary. In addition, this process is very slow and is prone to error. If the data records are not evenly spaced, as is the case when BASIC writes free formatted records, the process becomes very complex because the beginning and ending of each substring in the search subroutine must be found. An example of such data is as follows:

```
data1 data2 data3 data4<cr>
data1 data2 data3 data4<cr>
data1 data2 data3 data4<cr>
... etc.
```

Using standard Applesoft to read such files is an experience which would cause most people to give up and use another method.

This article presents a subroutine that can read the above data records. It can easily be called by an Applesoft program and will read the data several times faster than Applesoft. It is also user friendly, so that it will make sense when used. It is written in assembly language, but this should not scare off beginning programmers, since this program is very short and easy to use. This version as written is assembled at location \$300 but the subroutine can be moved easily by changing the starting location of the subroutine and then calling that location from the Applesoft program.

## Using the FREEREAD Subroutine

First the machine code subroutine must be saved to a disk file under the name FREEREAD. Second, any Applesoft program that calls FREEREAD must have a buffer to receive incoming data. So, the first line in the Applesoft program MUST be a DATA statement:

```
1 DATA <up to 240 blanks> :
```

The data that is read in by FREEREAD is inserted in the keyboard buffer of the Apple ][ and neatly fits in the blanks typed in after the command DATA in line 1 of the Applesoft program. There must be enough blanks in the DATA statement to accept the number of characters of data that are anticipated. If you will never

read in more than 80 characters per data record, 80 spaces or more are required in the DATA statement. Notice the colon at the end of the data statement; that should be added to show the end of the statement.

Third, the FREEREAD subroutine must be BLOADED so that it can be called by the Applesoft program, such as:

```
2 PRINT CHR$(4);"BLOAD FREEREAD"
```

Fourth, open the data file for reading and then call the FREEREAD subroutine to input a record of data. The data record is inserted in the DATA statement by FREEREAD, then the Applesoft program can READ individual data fields rapidly and without error, such as:

```
120 CALL 768: READ A, B%, C$, D
```

Notice that all data types, integer, floating point, and string can be read using FREEREAD. The only restriction on strings is that they must contain no spaces, since spaces are assumed to be field delimiters. The best part is that once FREEREAD is available, only a CALL followed by a READ is required to read in data; all of the complex programming is handled by FREEREAD. Following is a brief example of what a program which uses FREEREAD might look like:

```
1 DATA
2 PRINT CHR$(4);"Bload FREEREAD"
5 ONERR GOTO 70
10 PRINT CHR$(4);"OPEN TEST"
20 PRINT CHR$(4);"READ TEST"
30 CALL 768:READ A,B,C
40 READ D%,E
45 F=A+B-C-E*D%
50 PRINT A,B,C,D%,E,F
60 GOTO 20
70 PRINT CHR$(4);"CLOSE TEST"
100 END
```

Use of FREEREAD in a program does not preclude use of other input methods, such as GET or INPUT. They can be used at any time as usual. Use of READ gets complicated if you try to read other data statements in the program other than the first data statement, because each call to FREEREAD always resets the READ pointer back to the the first DATA statement.

## SPEED

Depending on the structure of the data being read, FREEREAD can speed up the process 2-5 fold. Generally you will experience a significant speed increase, because the machine code parsing routine operates so fast. The reason FREEREAD was written was that a data file that filled about 1/3 of a disk required 2 hours to read into an Applesoft program for processing. This was totally unacceptable since I knew that it should have only taken 10-20 minutes to process the data after it was read in. Use of FREEREAD dropped the time required to about 20 minutes. Other timing tests were conducted to determine whether use of electronic disks would substantially speed up data transfer. Following is a table that indicates the results of several timing tests. In each case, 8 data files were read in and written to a floppy disk or ramdisk. The method indicates whether the Applesoft

contd.

GET statement or INPUT statement was used to input the data, followed by Applesoft code to parse the data into integer or floating point numbers, or the use of the FREEREAD subroutine. The TIME is the time required for the process to be completed. Floppy1 represents an Apple Disk II drive and Floppy2 represents a Super-5 drive.

Read From	Write To	Method	Time (min:sec)
ramdisk	floppy	GET	20:
ramdisk	floppy	INPUT	13:
ramdisk	floppy	FREEREAD	6:48
ramdisk	ramdisk	FREEREAD	4:28
floppy1	floppy1	FREEREAD	7:35
floppy2	floppy2	FREEREAD	7:35
floppy1	floppy2	FREEREAD	8:45

As can be seen from the table, FREEREAD speeded up this task by a factor of 2 or 3 over the Applesoft GET or INPUT commands, while use of an electronic disk, speeded up the task by 41% over use of floppies; reading from an electronic disk as opposed to reading from a floppy disk accounted for a 14% speed increase, while writing to an electronic disk accounted for a 27% speed increase. To my surprise, using two disk drives as opposed to using the same disk for reading and writing actually took 13% longer. There was no difference in time required for the two different brands of floppy disk drives.

### How It Works

A CALL to the FREEREAD subroutine causes a single data record to be read from the current input device (usually a disk file) into the keyboard buffer. The data in the keyboard buffer (memory locations \$200-\$2FF) are then parsed from \$200 and up. Each blank string is compressed and replaced with a comma so that it resembles data in a READ statement, i.e., each data field is separated by a comma. The new string is written to the memory location of the first DATA statement as it is parsed. The new string is followed by an extra comma, so that if too many fields are read, the last one read will have a zero value. As is standard with the READ statement, partial reads of the data record are acceptable and the 'Extra Ignored' error does not occur if all of the data are not requested by the READ statement. Another benefit is that the data fields in the DATA statement can be read in sequential READ statements, or can be re-read by restoring the DATA pointer. If the data in the DATA statement does not agree with the data type requested by the READ statement, a 'Syntax Error in 1' error will result. Each call to FREEREAD causes the data pointer to be restored so that the next READ will always read from the first DATA statement.

```

:ASM
1 .....
2 *
3 * FREEREAD.OBJ
4 *
5 * WRITTEN BY:
6 *
7 * LOWELL H. BAHNER
8 * BIOSYSTEMS, INC.
9 * 15803 PRESSWICK LANE
10 * BOWIE, MD 20716
11 * (301) 249-5646
12 *
13 * SEPTEMBER 1984
14 *
15 * INPUTS BUFFER OF DATA FROM
16 * ANY SOURCE (I.E. KEYBOARD,
17 * DISK, MODEM) INTO KEYBOARD
18 * BUFFER ($200-$2FF), THEN
19 * COMPRESSES DATA FIELDS, AND
20 * SEPARATES THEM WITH A COMMA.
21 * THE BUFFER IS WRITTEN TO A
22 * DATA STATEMENT IN THE CALLING
23 * BASIC PROGRAM, FROM WHICH
24 * THE INDIVIDUAL DATA FIELDS
25 * CAN BE READ USING THE STAND-

```

```

26 * ARD READ STATEMENT. CALL 768
27 * INITIATES THE DATA INPUT
28 * WHICH IS FOLLOWED BY AN AUTO-
29 * Matic RESTORE, SO THAT EACH
30 * SUBSEQUENT READ GETS DATA
31 * FROM THE FIRST DATA STATEMENT
32 *
33 * EXAMPLE PROGRAM:
34 *
35 * 1 DATA (FOLLOW BY 230 BLANKS
36 * OR SO AND END WITH :)
37 *
38 * PROGRAM...
39 *
40 * 100 PRINT CHR$(4);"OPEN TEST"
41 * 110 PRINT CHR$(4);"READ TEST"
42 * 120 CALL 768:READ A,B%,C$,D
43 * 130 PRINT A,B%,C$,D
44 *
45 * 200 GOTO 110: REM INPUT MORE
46 *
47 * ...
48 * 900 END
49 *
50 *
51 * LINE 2 COULD BE:
52 * 2 PRINT CHR$(4);"BLOAD
53 * FREEREAD": REM LOAD
54 * MACHINE LANGUAGE PROGRAM.
55 *
56 *
57 * MERLIN ASSEMBLER
58 *
59 *
60 *
61 *
62 *
63 *
64 *
65 *
66 *
67 *
68 *
69 *
70 *
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72 *
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95 *
96 *
97 *
98 *
99 *
100 *
101 *
102 *
103 *
104 *
105 *
106 *
107 *
108 *
109 *
110 *

```

```

ORG $300
*
GETLN EQU $FD6F
KEYBD EQU $0200
OUTDAT EQU $0808
RESTR EQU $0849
*
START LDX #300
STX $07
INPUT JSR GETLN ;INPUT DATA RECORD
*
TXA
TAY
BEQ EXIT
LDA #FFF ;INITIALIZE POINTER B
STA $08 ;STORE B IN $08
LDA #01 ;SET FLAG $09
STA $09 ;SAVE IN $09
READ INC $08 ;INCR POINTER B
CPY $08 ;IS B<LENGTH OF DATA
BEQ EXIT ;B=>Y, SO EXIT
BCC EXIT ;B>Y, SO EXIT
LDX $08 ;LOAD B READ OFFSET
LDA KEYBD,X ;GET CHAR FROM BUFFER
AND #7F ;CLEAR HI BIT
LDX $09 ;GET FLAG
BEQ CONT ;BRANCH IF CLEAR
*
CMP #20 ;COMPARE TO HEX 20
BEQ READ ;IF BLANK,GET CHAR
CF LDX #00 ;SET X=0
STX $09 ;CLEAR FLAG
WRITE LDX $07 ;LOAD WRITE OFFSET A
STA OUTDAT,X ;WRITE CHAR IN DATA
INC $07 ;INC A WRITE OFFSET
LDX #01 ;LOAD A 1 IN X
BNE READ ;BRANCH ALWAYS
*
CONT CMP #20 ;COMPARE TO HEX 20
BNE CF ;IF<>BLANK THEN WRITE
LDA #2C ;LOAD A , IN ACC
LDX #01 ;LOAD A 1 IN X
STX $09 ;SET FLAG
BNE WRITE ;WRITE THE CHAR
EXIT LDX $07 ;LOAD POINTER A
LDA #2C ;LOAD , IN ACC
STA OUTDAT,X ;PUT , IN DATA BUFF
INX ;INC X
STA OUTDAT,X ;PUT , IN DATA BUFF
RESTR JMP RESTR ;EXIT AND RESET DATA

```

--END ASSEMBLY--

ERRORS: 0

83 BYTES

SYMBOL TABLE - ALPHABETICAL ORDER:

Symbol	Value	Symbol	Value	Symbol	Value	Symbol	Value
CF	-\$032A	CONT	-\$0339	EXIT	-\$0345	GETLN	-\$FD6F
? INPUT	-\$0304	KEYBD	-\$0200	OUTDAT	-\$0808	READ	-\$0313
RESTR	-\$0849	? RESTR	-\$0350	? START	-\$0300	WRITE	-\$032E

SYMBOL TABLE - NUMERICAL ORDER:

Symbol	Value	Symbol	Value	Symbol	Value	Symbol	Value
KEYBD	-\$0200	? START	-\$0300	? INPUT	-\$0304	READ	-\$0313
CF	-\$032A	WRITE	-\$032E	CONT	-\$0339	EXIT	-\$0345
? RESTR	-\$0350	OUTDAT	-\$0808	RESTR	-\$0849	GETLN	-\$FD6F

# FORTH: Phone List by Chester H. Page

This program accepts a text file of the form

```
Page, Chester H. 598-6095
Doe, John L. 555-6789
Smith, Henry 555-4321
Kelly, Alice 301-774-1234
```

where the only format restriction is that each entry ends with a CR. Spacing between name and number is optional.

The strings are rearranged into alphabetical order and printed in the following format, either on paper or on 80-column screen.

```
Doe, John D. 555-6789 Kelly, Alice 301-774-1234
Page, Chester H. 598-6095 Smith, Henry 555-4321
```

An address list can also be sorted and printed in a single column. These entries can contain several lines each; the only restriction is a 255-byte length limit - all characters are allowed. Each string must carry a delimiter at its end. This delimiter can be any desired character, either printable or non-printable.

After the program is booted, either TEXTLOAD or Ctrl-Q will call for a text file name. That text file is fast-loaded directly into the storage area. BUILD-LIST then searches the text for delimiters (end marks) and each delimiter is replaced with the length count of the following string. The first byte of the storage area is reserved for the first count, and the final delimiter is replaced by a zero. A list of pointers to these count bytes is established.

The strings are alphabetized by \$SORT and displayed by \$SHOW. In the case of phone numbers, a two-column listing is given by 2COL. Preceding any display command with PRT produces paper copy. The operation of \$SORT was described in The Journal of Washington Apple P1, Vol. 6, No. 9.

The allowable list length is controlled by the space allotted to the POINTER.LIST by PL.SIZE. The three CREATED words, TEXTREAD, MAKE-COUNTS, and \$COMPARE are "explained" by their appended source codes.

```
SCR # 0
0 ( Two-column phone list maker 21JAN85CHP)
1 ( After booting, TEXTLOAD or CTRL-Q calls for text file name. )
2 ( After it loads, enter BUILD-LIST to establish strings. )
3 ( $SHOW displays strings, PRT $SHOW prints strings. )
4 ( $SORT alphabetizes strings. )
5 ( For a list of phone numbers, 2COL or PRT 2COL lists them )
6 ( In standard two-column format, i.e., alphabetically )
7 ( ordered down the first column, then down the second. )
8 ( then down the first column of the next page, etc. )
9 ( Present PL.SIZE value of $400 allows up to 512 strings. )
10 ( For strings containing CR's, use an end-mark, and enter the )
11 ( ASCII code for the end-mark, hibit set, as the value of MARK )
12 ( The text file must have the end-mark as its last entry )
13 ( so that the first character of the first "non-string" )
14 ( will be the EOF null. )
15 -->
```

```
SCR # 1
0 ( Fastload text directly to storage area 21JAN85CHP)
1 HEX
2 CREATE TEXTREAD OCA0 , 0681 , 00C9 , 07D0 , 00A9 ,
3 48B5 , 484C , 8508 , C802 , 06B1 , 0385 , 0984 ,
4 E320 , 8403 , 8500 , A001 , A903 , 9100 , C800 ,
5 02A5 , 0091 , A5C8 , 9103 , A000 , A508 , 9104 ,
6 C800 , 05A5 , 0091 , 01A9 , 0CA0 , 0091 , E320 ,
7 2003 , 03D9 , 05E6 , 09A4 , 18C8 , 8490 , SMUDGE
8 400 CONSTANT PL.SIZE
9 0 VARIABLE POINTER.LIST PL.SIZE ALLOT
10 85BB CONSTANT FMPARMLIST
11 0 VARIABLE NAME.BUF IF ALLOT
12 8D VARIABLE MARK
13 --> ( Using a different MARK allows multiline strings)
14
15
```

```
SCR # 2
0 ( File name needs
1 : 1-1- ;
2
3 : BLANK.BUF NAME.BUF 11 BLANKS ;
4
5 : NAME.IN BLANK.BUF NAME.BUF 1E EXPECT ;
6
7 : NAME.LENGTH ( ---n) NAME.BUF 1E DUP 0 DO OVER OVER
8 + 1- C0 DUP BL = SWAP 0= OR IF 1- ELSE LEAVE ENDIF LOOP ;
9
10 : CAPS NAME.BUF DUP NAME.LENGTH + SWAP DO I C0 DUP 40
11 AND IF DF AND ENDIF I C1 LOOP ;
12
13 : NAME.PRINT CAPS NAME.BUF NAME.LENGTH TYPE ;
14
15 : CATALOG CR 4 EMIT ." CATALOG" CR ; -->
```

```
SCR # 3
0 ( Open file, close file, then load file 21JAN85CHP)
1 : ?CATALOG ( ---f) NAME.BUF C0 3F = ;
2
3 : FOOL-DOS 6018 A65E 1 ;
4
5 : FIX-DOS AD48 A65E 1 ;
6 : TEXTLOAD C EMIT PAD 1+ DUP POINTER.LIST 1 1+ 4 1
7 ." LOAD: " NAME.IN
8 ?CATALOG IF CATALOG ELSE NAME.BUF C0 IF FOOL-DOS CR
9 4 EMIT ." OPEN" NAME.PRINT CR FMPARMLIST A + C0 6 =
10 IF ." FILE NOT FOUND" CR 4 EMIT ." DELETE" NAME.PRINT CR
11 ELSE CR 4 EMIT ." CLOSE" CR FMPARMLIST E + 0 6 1
12 TEXTREAD FIX-DOS ." FILE LOADED" CR ENDIF ENDIF ENDIF SP1 ;
13
14 : Q TEXTLOAD ;
15 9181 ' Q NFA 1 ( This makes CTRL-Q give TEXTLOAD) -->
```

```
SCR # 4
0 ( Counting string characters and setting pointers 18JAN85CHP)
1 CREATE MAKE-COUNTS 02A0 , 0584 , 00A0 , 81C8 , C908 , F000 ,
2 092B , C580 , 0004 , 88F3 , A098 , 9100 , A408 , 1805 , 0169 ,
3 0865 , 0885 , 0691 , 09A5 , 0069 , 0985 , 91C8 , C806 , 02D0 ,
4 07E6 , 0584 , 00A0 , CEFO , 9188 , 4C08 , 0848 , SMUDGE
5
6 : 2* 2 * ;
7 : 2DUP OVER OVER ;
8 : PICK 2* SP0 + 0 ;
9 : 2DROP DROP DROP ;
10 : 2SWAP >R ROT ROT R> ROT ROT ;
11 : 2OVER 4 PICK 4 PICK ;
12 : NOT 0 = ;
13
14 : BUILD-LIST MARK C0 4 C1 POINTER.LIST DUP 2 + PL.SIZE ERASE
15 DUP 6 1 0 8 1 MAKE-COUNTS ; -->
```

```
SCR # 5
0 ( String comparisons 17JAN85CHP)
1 : EXCHANGE ( P1 P2 ---) 2DUP 0 SWAP 0 ROT 1 SWAP 1 ;
2
3 0 VARIABLE MIDDLE$
4
5 : $LIST.ENDS ( ---P1 P2) POINTER.LIST DUP BEGIN DUP 0 C0 WHILE
6 2 + REPEAT 2 - ;
7
8 : $. ( P1 P2---) 2+ SWAP DO I 0 COUNT TYPE CR 2 +LOOP ;
9
10 CREATE
11 $COMPARE 00A0 , 40A9 , 1A85 , 1885 , 06B1 , 08D1 , 0690 ,
12 00A9 , 1885 , 08B1 , 1E85 , 81C8 , 2406 , F01A , 2902 , 85DF ,
13 811C , 2408 , F01A , 2902 , C5DF , F01C , 9010 , A907 , 8501 ,
14 4C1B , 0848 , 00A9 , 1885 , 484C , C608 , 001E , 4CD5 , 0848 ,
15 SMUDGE -->
```

```
SCR # 6
0 ( String sorting 18JAN85CHP)
1 : $< ( S1 S2---) 0 1 6 1 $COMPARE 1B C0 ;
2 : $> SWAP $< ;
3 : SORT ( P1 P2---) 2DUP 2DUP OVER - 4 / 2 * + 0 MIDDLE$ 1
4 BEGIN
5 SWAP BEGIN DUP 0 MIDDLE$ 0 $< WHILE 2 + REPEAT
6 SWAP BEGIN DUP 0 MIDDLE$ 0 $> WHILE 2 - REPEAT
7 2DUP > NOT IF 2DUP EXCHANGE 2 -2 D+ ENDIF
8 2DUP >
9 UNTIL SWAP ROT
10 2OVER 2OVER - ROT ROT - < IF 2SWAP ENDIF
11 2DUP < IF [ SMUDGE ] SORT [ SMUDGE ] ELSE 2DROP ENDIF
12 2DUP < IF [ SMUDGE ] SORT [ SMUDGE ] ELSE 2DROP ENDIF ;
13
14 : $SORT $LIST.ENDS SORT ;
15 : $SHOW $LIST.ENDS $. C300 36 1 ; -->
```

```
SCR # 7
0 ( Column control 18JAN85CHP)
1 : PRT C100 36 1 3EA CALL ;
2
3 0 VARIABLE LHM
4 : SET-LHM1 0 LHM 1 ;
5 : SET-LHM2 2A LHM 1 ;
6
7 25 CONSTANT W
8
9 : PRINT-COL ( P---) LHM @ 24 C1 @ DUP IF DUP C0 IF DUP
10 BEGIN 1+ DUP C0
11 DUP 80 < OVER 89 > OR WHILE EMIT REPEAT ( Print if not digit)
12 DROP DUP ROT DUP C0 + 1+ SWAP - LHM 0 W + OVER
13 - 24 C1 TYPE ELSE DROP ENDIF ELSE DROP ENDIF ;
14
15 -->
```

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```

SCR # 8
0 ( Enter ZCOL or PRT ZCOL
1
2 6E CONSTANT #L
3 ( Twice the number of lines per page [55] )
4 : ZCOL POINTER.LIST BEGIN DUP #L + DUP ROT
5 DO SET-LHM1 I PRINT-COL
6 SET-LHM2 I #L + PRINT-COL CR 2 +LOOP C EMIT
7 #L + DUP 0= UNTIL C300 36 I ;
8
9
10
11
12
13
14
15

```

18JAN85CHP)

```

0000: 1 * MAKE-COUNTS
0000: 0004 2 MARK EQU $4
0000: 0005 3 YSAV EQU $5
0000: 0006 4 POINTER.LIST EQU $6
0000: 0008 5 PL EQU $8
0800: 0800 6 ORG $800
0800:A0 02 7 LDY #2
0802:84 05 8 STY YSAV
0804:A0 00 9 LDY #0
0806:C8 10 LOOP INY
0807:B1 08 11 LDA (PL),Y ;READ CHARACTER
0809:C9 00 12 CMP #0 ; EOF?
080B:F0 2B 0838 13 BEQ DONE
080D:09 80 14 ORA #$80 ;SET HIBIT
080F:C5 04 15 CMP MARK
0811:00 F3 0806 16 BNE LOOP
0813:88 17 DEY
0814:98 18 TYA
0815:A0 00 19 LDY #0
0817:91 08 20 STA (PL),Y ;REPLACE MARKER WITH
; STRING COUNT
0819:A4 05 21 LDY YSAV ;UPDATE POINTER
081B:18 22 CLC
081C:69 01 23 ADC #1
081E:65 08 24 ADC PL
0820:85 08 25 STA PL
0822:91 06 26 STA (POINTER.LIST),Y
0824:A5 09 27 LDA PL+1
0826:69 00 28 ADC #0
0828:85 09 29 STA PL+1
082A:C8 30 INY
082B:91 06 31 STA (POINTER.LIST),Y
082D:C8 32 INY
082E:D0 02 0832 33 BNE L1
0830:E6 07 34 INC POINTER.LIST+1
0832:84 05 35 L1 STY YSAV
0834:A0 00 36 LDY #0
0836:F0 CE 0806 37 BEQ LOOP
0838:88 38 DONE DEY
0839:91 08 39 STA (PL), ;PUT ZERO IN LAST MARKER
083B:4C 48 08 40 JMP $848

```

```

SCR # 9
0 ( Making a replacement header
1 HEX CR CR CR CR CR
2 : NEWHEAD INITFL C0 IF FCSB CALL
3 18 SPACES
4 * TWO-COLUMN PHONE-LIST MAKER* CR CR
5 1E SPACES
6 * Chester H. Page*
7 CR CR IF SPACES
8 * January, 1985* CR
9 ELSE
10 * WARM RESET RECONNECTS D0S*
11 ENDIF
12 0 INITFL CI ;
13
14 ' NEWHEAD ' HEADER OVER HERE 1+ SWAP - CHOVE C EMIT COLD
15

```

18JAN85CHP)

```

0000: 1 * TEXTREAD
0000: 0000 2 PTR EQU $0
0000: 0002 3 TRACK EQU $2
0000: 0003 4 SECTOR EQU $3
0000: 0004 5 STORAGE EQU $4
0000: 0006 6 TS EQU $6 ;TRACK/SECTOR LIST
0000: 0009 7 YSAV EQU $9
0000: 0309 8 RWTS EQU $309
0000: 03E3 9 GETIOB EQU $3E3
0800: 0800 10 ORG $800
0800:A0 0C 11 LDY #%C
0802:81 06 12 LOAD LDA (TS),Y ; GET TRACK #
0804:C9 00 13 CMP #0 ;QUIT ON TRACK ZERO
0806:D0 07 080F 14 BNE L1
0808:A9 00 15 LDA #0
080A:85 48 16 STA $48 ;RESTORE STATUS BYTE
080C:4C 48 08 17 JMP $848
080F:85 02 18 L1 STA TRACK
0811:C8 19 INY
0812:81 06 20 LDA (TS),Y ;GET SECTOR #
0814:85 03 21 STA SECTOR
0816:84 09 22 STY YSAV
0818:20 E3 03 23 JSR GETIOB ;FIND PARMLIST
081B:84 00 24 STY PTR
081D:85 01 25 STA PTR+1
081F:A0 03 26 LDY #3 ;ENTER PARMS
0821:A9 00 27 LDA #0
0823:91 00 28 STA (PTR),Y
0825:C8 29 INY
0826:A5 02 30 LDA TRACK
0828:91 00 31 STA (PTR),Y
082A:C8 32 INY
082B:A5 03 33 LDA SECTOR
082D:91 00 34 STA (PTR),Y
082F:A0 08 35 LDY #8
0831:A5 04 36 LDA STORAGE
0833:91 00 37 STA (PTR),Y ;POINT RWTS AT STORAGE
0835:C8 38 INY
0836:A5 05 39 LDA STORAGE+1
0838:91 00 40 STA (PTR),Y
083A:A9 01 41 LDA #1
083C:A0 0C 42 LDY #%C
083E:91 00 43 STA (PTR),Y
0840:20 E3 03 44 JSR GETIOB ;SET POINTER TO PARMLIST
0843:20 D9 03 45 JSR RWTS
0846:E6 05 46 INC STORAGE+1 ;ADVANCE STORAGE AREA
0848:A4 09 47 LDY YSAV
084A:C8 48 INY
084B:18 49 CLC
084C:90 B4 0802 50 BCC LOAD

```

```

0000: 1 * $COMPARE
0000: 0006 2 S1 EQU $6
0000: 0008 3 S2 EQU $8
0000: 001A 4 LETTER EQU $1A
0000: 0018 5 FLAG EQU $18
0000: 001C 6 HOLD EQU $1C
0000: 001E 7 COUNT EQU $1E
0800: 0800 8 ORG $800
0800:A0 00 9 LDY #0
0802:A9 40 10 LDA #$40
0804:85 1A 11 STA LETTER
0806:85 18 12 STA FLAG
0808:B1 06 13 LDA (S1),Y
080A:D1 08 14 CMP (S2),Y
080C:90 06 0814 15 BCC L.1 ;COMPARE STRING LENGTHS
080E:A9 00 16 LDA #0
0810:85 18 17 STA FLAG
0812:B1 08 18 LDA (S2),Y
0814:85 1E 19 L.1 STA COUNT ;STORE SHORTER LENGTH
0816:C8 20 LOOP INY
0817:B1 06 21 LDA (S1),Y
0819:24 1A 22 BIT LETTER ;LETTER?
081B:F0 02 081F 23 BEQ L.2
081D:29 DF 24 AND #DF ;YES, CAPITALIZE
081F:85 1C 25 L.2 STA HOLD
0821:B1 08 26 LDA (S2),Y
0823:24 1A 27 BIT LETTER
0825:F0 02 0829 28 BEQ L.3
0827:29 DF 29 AND #DF
0829:C5 1C 30 L.3 CMP HOLD
082B:F0 10 083D 31 BEQ L.4
082D:90 07 0836 32 BCC L.5
082F:A9 01 33 LDA #1
0831:85 18 34 STA FLAG
0833:4C 48 08 35 JMP $848
0836:A9 00 36 L.5 LDA #0
0838:85 18 37 STA FLAG
083A:4C 48 08 38 JMP $848
083D:C6 1E 39 L.4 DEC COUNT ;COMPARE NEXT BYTES
083F:D0 05 0816 40 BNE LOOP
0841:4C 48 08 41 JMP $848P

```

# APPLESOFT AUTO DATA ADDER

by Richard Rowell

I initially intended this program to convert Applesoft BASIC programs to text files for transmission over phone lines, but then as also happens when I go into the grocery store for a quart of milk, I couldn't resist adding another item. The program in its present form will also format and add DATA lines to an Applesoft program. It would be quite easy to substitute REM or PRINT or HPLLOT or any of the other BASIC words for DATA; the program would work the same way. It happens that writing long series of DATA lines is the most common tedium in my programming life.

Here's what to do to use Auto Data Adder:

1. LOAD your original AppleSoft program, noting the line numbers of your DATA.
2. EXEC AUTO DATA ADDER.
3. Type in any new DATA lines upon prompting.
4. SAVE the (now appended) AppleSoft program under a file name of your choosing.

(Note that a text version has already been written to the disk with a temporary file name 'TEMP.PRGRM'.)

Auto Data Adder uses line numbers above 63000, so should not get in the way of your original program. If you have so many DATA lines that you needed lines #1-63000 then (a) this program will not work, and (b) you have no business using BASIC.

If you do not use the DATA adder feature (answer 'NO' when asked if you have lines to add) then this utility will still convert your BASIC program to an ASCII text file.

```
HOME : VTAB2 : PRINT "AUTO DATA ADDER.....RICHARD
ROWELL" : VTAB22 : POKE 34,20 : PRINT
0 TEXT:HOME:CLEAR:GOTO63001
63001 INVERSE : PRINT " SOME CAUTIONS: ":
NORMAL
63002 POKE 33,36: POKE 32,4: PRINT : PRINT : PRINT
63003 PRINT "1. YOUR PROGRAM MUST ALREADY": PRINT "
BE IN MEMORY.": PRINT
63004 PRINT "2. IT MAY NOT HAVE A LINE #0.": PRINT
63005 PRINT "3. IT MAY NOT HAVE A LINE # >63000.":
PRINT
63006 PRINT "4. IF YOU USE MULTIPLE DATA": PRINT "
(WITH COMMAS) THEN BEGIN": PRINT " WITH A
QUOTATION MARK.": PRINT
63007 POKE 32,0: POKE 33,40: VTAB 23: HTAB 9: PRINT
"TOUCH [RETURN] WHEN READY.": HTAB 39:
CALL - 678: HOME
63008 D$ = CHR$(13) + CHR$(4)
63009 FL$ = "TEMP.PRGRM"
63010 N = 100
63011 DIM A$(N)
63012 INPUT "DO YOU WANT TO ADD DATA LINES? ";IN$
63013 PRINT : IF LEFT$(IN$,1) <> "Y" AND LEFT$
(IN$,1) <> "y" THEN 63024
63014 VTAB 20: FOR I = 1 TO 39: PRINT " _ "; NEXT I:
PRINT " "
63015 HTAB 7:PRINT "TYPE 'QUIT' WHEN FINISHED.":
POKE 35,19: HOME
63016 INPUT "FIRST DATA LINE #";LN
63017 INPUT "DATA LINE INCREMENTS = ";LI
63018 HOME
63019 FOR I = 0 TO N
63020 PRINT LN + I * LI;" DATA ";
63021 INPUT " ";A$(I)
```

```
63022 IF A$(I) = "quit" OR A$(I) = "Quit" OR A$(I) =
"QUIT" THEN J = I - 1:I = N
63023 NEXT I
63024 TEXT : HOME
63025 INVERSE : PRINT " CREATING FILE ";FL$;" ";:
HTAB 38: FLASH : PRINT "+": NORMAL
63026 PRINT D$;"OPEN ";FL$
63027 PRINT D$;"DELETE ";FL$
63028 PRINT D$;"OPEN ";FL$
63029 PRINT D$;"WRITE ";FL$
63030 PRINT "NEW"
63031 POKE 33,33
63032 LIST 1,63000
63033 FOR I = 0 TO J: PRINT LN + I * LI;"DATA";A$(I):
NEXT I
63034 PRINT "POKE34,0:VTAB 9:CALL-958"
63035 PRINT D$;"CLOSE"
63036 TEXT : HOME : VTAB 2
63037 FOR I = 1 TO 39: PRINT "**";: NEXT I:
63038 POKE 33,32: POKE 32,8: PRINT : PRINT
63039 PRINT "WHEN THE DRIVE STOPS": PRINT "TYPE SAVE
[FILE NAME].": PRINT " -----"
63040 POKE 32,0: POKE 33,40
63041 PRINT
63042 FOR I = 1 TO 39: PRINT "**";: NEXT I:
63043 POKE 34,10: VTAB 10
63044 PRINT D$;"EXEC TEMP.PRGRM"
```

HOME:RUN



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# LETTER QUALITY PRINTING WITH APPLEWORKS AND EPSON FX-80

by Paul Ross

I just switched from Homeword to AppleWorks for word processing. Homeword was too much like a toy and I wanted a word processing program that would take full advantage of all the print enhancements available on my Epson FX-80 dot matrix printer.

AppleWorks was very disappointing. The most obvious problem was that it would not print consistently with my Grappler+ interface card and Epson FX-80 dot matrix printer. It seems that Apple didn't program AppleWorks for non-Apple parallel interface cards. Fortunately, Walt Mossberg published a fix for these problems in the November 1984 Washington Apple Pi Journal.

After putting Walt's fixes into AppleWorks I was still disappointed. Although I could print in 6 widths from 5 to 17 characters per inch, none of the printing was "letter quality." The FX-80 printer provides three degrees of boldface but AppleWorks used none of them except for "emphasized" type which was available at 5 and 10 characters per inch. There were no italic typefaces at all and it was not possible to change type sizes within a paragraph. This last problem not only ruined the fun of using type size for emphasis, it also meant that superscripts and subscripts had to be the same width as the other characters on the line even though they were only half as tall. (In fairness to AppleWorks I must say that there is one "letter quality" type style available - proportional. However, proportional isn't useful for technical work because the columns don't line up and there are no boldface, superscripts, or subscripts. These are limitations of the Epson FX-80 dot matrix printer, not AppleWorks.) A (probably) harmless peculiarity was that I could intermix paragraphs printed with different type styles freely except that proportional could not follow 6 or 12 characters per inch.

A solution for most of the above problems would be for AppleWorks to send user-defined strings to the printer, but AppleWorks doesn't provide this capability - at least not explicitly. AppleWorks does provide for user-defined custom printers. Appropriate use of that customization feature can allow your FX-80 printer to produce "letter quality" print, Italics, continuing boldface (in everything except proportional spacing), and intermix proportionally typed paragraphs with other paragraphs at random. It will even make superscripts with width in proportion to their height. About the only feature I haven't been able to obtain is the intermixing of different type sizes within the same paragraph.

Here's how I did it: (If you have any trouble following these instructions, see Appendix B, pp 281-293, AppleWorks Reference Manual.)

Go to the "Add a Printer" menu. Add a custom printer. Give it a name. (I named mine "LETTER QUALITY.") Your new printer is accessed exactly the same way you old printer is; both from the same slot - probably slot 1. This new printer does need a line feed after each return and does accept top-of-form commands.

Proceed to the "Printer Codes Menu." This is where the real work is done.

## A. Characters per inch. Make the following entries:

- 5 characters per inch: Enter "ESC ! ( "" (" is the character which ends the entry process.) These characters instruct the printer to print emphasized enlarged type when you specify 5 characters per inch in the text of the document. The AppleWorks built-in driver uses draft mode at 5 characters per inch, which isn't dark enough on the page.
  - 6 characters per inch: Enter "ESC ! ! "" . This produces enlarged Elite type which is useful for material, such as speeches, to be read aloud.
  - 8 characters per inch: Enter "ESC ! \$ "" . This produces enlarged condensed type.
  - 9 characters per inch: Enter "ESC ! CTRL-H ESC 4 "" . This produces emphasized Italic type at 10 characters per inch. This is your new "global Italics" command. After you specify 9 characters per inch in a document everything will be printed in Italics for the entire rest of the document or until you specifically turn it off. To turn on global Italics, specify 9 characters per inch in the document and print at least one character. You can then switch to any other type size you want and it will appear in Italics. If you do not switch type sizes you will get emphasized Italics at 10 characters per inch with the margins just a little off. To get the margins just right, I specify 9 characters per inch; print a single period; and then specify 10 characters per inch. You must actually print a character; just a space or return won't turn on the Italics. If you adopt this global Italic feature, you must also have "local" Italics (see below) because the only way to turn global Italics off is to turn the local Italics on and off in immediate succession.
  - 10 characters per inch: Enter "ESC ! CTRL-H "" . This produces emphasized (letter quality) Pica type. It will be the AppleWorks default typeface. This isn't true letter quality but it's as close as you can come on the FX-80.
  - 11 characters per inch: Enter "ESC ! CTRL-@ ESC p 1 "" . (Note the lower case "p".) This produces proportional typing at about 10.2 actual characters per inch.
  - 12 characters per inch: Enter "ESC ! CTRL-A "" . This produces standard Elite type which prints quickly and looks good but is a little small for my old eyes. This is the same as with the AppleWorks driver except that boldface works with this.
  - 17 characters per inch: Enter "ESC ! CTRL-F "" . Produces condensed type.
- ## B. Lines per inch. Make the following entries:
- 6 Lines per inch: "ESC 2 "" . (Remember, "" is the indication that you are through making entries.)
  - 8 lines per inch: "ESC 0 "" .

contd.



C. **Boldface, Superscript, and Subscript.** Make the following entries:

**Boldface** begin: "ESC G ^". **Boldface** end: "ESC H ^". These codes will produce boldface with type sizes 5, 6, 8, 9, 10, 12, 17 characters per inch - everything except 11 characters per inch (proportional). In contrast to the boldface supplied in the AppleWorks driver, this boldface will continue to the end of the paragraph or until specifically ended.

**Superscript** begin: "ESC S O". **Superscript** end: "ESC T ^". Superscripting terminates at the end of the line or when specifically ended. These superscripts are the same width as the rest of the characters on the line; that keeps the right justification correct. If you rarely right justify, usually use 10 characters per inch, and you would like superscripts that are appropriately proportioned according to their height, try: **Superscript** begin: "ESC ! CTRL-F ESC S O ^". **Superscript** end: "ESC T ESC ! CTRL-H ^". This begin command installs narrow characters when superscripting is started. When superscripting ends the printer doesn't have any way to know what width you were using before and so it reverts to 10 characters per inch. This is rather useful for equations but only if you're using the 10 characters per inch typeface.

**Subscript** begin: "ESC 4 ^". **Subscript** end: "ESC 5 ^". This produces Italics, not subscripts; this is how I get "local" Italics. These Italics appear in whatever typesize and boldface is in effect when you turn them on. Like superscripting, this won't continue beyond the end of the line so it isn't a useful way to get Italics for more than a few words. These characters are also required in order to turn off the global Italics which are set by specifying 9 characters per inch, above; use "subscript begin" followed immediately by "subscript end." (If you want real subscripts use "ESC S 1 ^" to begin and "ESC T ^" to end. If you set this up for real subscripts there is no way to turn off the "global" Italics set by specifying 9 characters per inch, above.)

D. **Underlining.**

Choose option 2, "Printer has start/stop underline commands." For underline begin, enter "ESC - CTRL-A ^". For underline end, enter "ESC - CTRL-@ ^". Note the "-" following the ESCAPE. Underlining and boldface are the only actions that continue beyond the end of a line; if not specifically ended both will continue to the end of the paragraph.

That's all there is to it. After you have installed this driver into AppleWorks, it will ask where you want to print the document, Old Name or LETTER QUALITY? If you specify LETTER QUALITY you will get 5, 6, 8, 10, 12, or 17 characters per inch of nicely matched type including Italics - all of which is more or less letter quality and can be boldfaced, italicized, superscripted, and underlined. Boldface and underline will stay in effect until the end of the paragraph if not specifically ended. Remember, you get "global" Italic type by specifying 9 characters per inch and printing at least one character before you switch type sizes. You turn off global Italics by turning "local" Italics on then off. Local Italics have replaced subscripts. You also get letter quality proportional spacing by specifying 11 characters per inch but proportional cannot be boldfaced or superscripted.

# SECURE FORTH PROGRAMS by Chester H. Page

If you ever wish to supply a FORTH program on a disk, with protection against disassembling or modifying, here is a procedure to make a program secure.

The scenario is to boot the program, identify any words which must be recognizable as input, blank out the names of all other words, and then BSAVE the modified program on a DOS 3.3 disk. This final program can be BRUN as intended, but no unauthorized words will be recognized. If the program is BLOADED and examined in the monitor, the "prying eyes" will find that each word name consists of a string of Ctrl-A's. Analyzing such a program is difficult.

The original program is loaded, the following screen is loaded, then each word to be kept is marked by entering:

KEEP (name) CR

After all required names are marked, HIDE replaces all characters of unmarked names with Ctrl-A's, then prints the length of the program for BSAVEing. Insert a DOS 3.3 disk and enter

BSAVE (program), A\$800, L\$(length)

The secured program can be copied, but not readily studied.

```
SCR # 91
0 ( Secure FORTH programs                23JAN85CHP)
1 HEX
2 HERE CONSTANT HERE*
3 LATEST CONSTANT LATEST*
4 : FIXBOOT LATEST* PFA LFA @ 80C ! HERE* 81E ! ;
5 : FIND-LENGTH HERE* 1+ 800 - . ;
6 : KEEP BL WORD HERE LATEST* (FIND) 0= IF 4 SPACES
7 ." NOT IN GLOSSARY" CR ELSE DROP NFA DUP C@ 40
8 OR SWAP C! ENDIF ;
9 : ?KEPT DUP C@ 40 AND ;
10 : HIDE LATEST* PFA LFA
11 BEGIN DUP @ WHILE
12     BEGIN @ ?KEPT WHILE PFA LFA REPEAT
13     DUP PFA LFA DUP 1 - ROT 1+ DO 1 I C! LOOP
14     DUP 1 - 81 SWAP C!
15 REPEAT DROP FIXBOOT FIND-LENGTH ;
```

## APPLE WRITER II TUTORIAL

Dianne Lorenz (of the Apple Writer Hotline) will be giving an introductory tutorial on Apple Writer II at the office on Wednesday, April 17 at 7:30 PM. Attendees are asked to register in advance and are urged to bring their equipment along with a copy of Apple Writer. A registration forms appears at the back of the Journal.

# BUYING AN ANDERSON JACOBSON 831 TERMINAL/PRINTER by George Kinal

I'm sure you've noticed Anderson Jacobson's prominent ads on the back cover of the WAP Journal for their AJ 831 daisy wheel terminals. In case you don't know it, the WAP Journal itself is prepared in photo-ready form using such a printer. For several years now, the reconditioned AJs have provided computerists with a need for a letter quality printer a very cost effective alternative. In 1982, the AJ830 was being advertised for \$1495, then \$1295, then it was closed out for \$650! The improved AJ831 took its place for \$995 in October, with the price dropped to \$888 a year later. February 1984 saw the price drop to \$712, and in August to \$598.

Meanwhile, I had been doing my program listings and utility drafts on an "ancient" (pre-Epson vintage!) MPI-88T matrix printer, 80 cps, no descenders, etc. We also had a twenty year old Olympia office electric typewriter. When friends asked me for advice on letter quality printers, though, I recommended that they consider the AJ printers. These seemed like the best deal around in letter quality, if you could live with the drawbacks (more on that later). Well, the MPI printer is still working fine, but the Olympia finally gave up the ghost in October. So I began looking for a good deal on letter quality printers or typewriter/printers, and almost bought an SCM Messenger. But the WAP swap-meet was coming up, and I figured that maybe what I wanted would turn up there.

Sure enough, some of our members with AJ connections showed up with a few of the AJ831s priced to go at \$399. So I bought one.

Should you consider one of these, instead of one of the many daisy wheel printers now showing up on the market for \$300-600? (Most of these are Japanese, though Radio Shack just put one on sale for \$399 that uses a Diablo mechanism). First, what are the disadvantages of the AJs? Most prominent is sheer size and weight. These units come complete with a caster-wheel equipped pedestal, and take up substantial floor real estate. Of course, it's no worse than a large office typewriter on a stand, but it might not be appropriate for every home computer situation. Second, the AJs use a serial interface, whereas many computer installations (including Apple ][s and //e-s) have traditionally used a parallel port for printer output. The last significant minus, in my opinion, has to do with maintenance. You can buy a service contract from AJ for on-site service, but it's hard to believe that a home user could justify that. And the thing is pretty bulky to cart or ship to AJ for repair. Still, in theory this is industrial grade electronic equipment and should last forever in light use, right? Well, maybe and maybe not..... Read on...

What are the advantages? For one thing, these terminals have a real (and very nice) keyboard, and work quite well as an electric typewriter, with the one proviso that daisy-wheel mechanisms do not provide the visibility of the line being typed that Selectrics and some other mechanisms do. Still, why should you have to crank up the word processor just to address an envelope? And how do you fill out forms with a word processor and printer? So the keyboard is useful even if used infrequently. The other, perhaps most telling advantage of a \$400 AJ over a \$400 daisy-wheel printer

is speed. Maybe you think that 11, 15, or even 18 cps is fast enough. That's probably true for a one page letter. But try printing a multi-page document at 11 cps! Also, the AJs, unlike some electronic typewriters with printer interfaces, are true terminals. Not only does the print mechanism receive, but the keyboard sends. Someone could probably make use of this feature with CP/M and Wordstar, thereby bypassing the limitations of the Apple ][ keyboard, for example. Last, the AJ's have a 13 inch carriage (actually, 132 characters with 10 per inch, or 158 at 12), which some spreadsheet users might find useful).

But now for my tale of woe. After a few minor adjustments, which would have been covered by AJ's 30 day on-site warranty if I hadn't known enough to perform them myself, and after configuring the interface properly, my 831 worked beautifully for just about a month. I printed several lengthy reports and numerous smaller letters, etc. on it. Then it began acting up. At first it would, for no good reason, give a few spontaneous line feeds while sitting idle. Several times, these line feeds occurred in the middle of printing a page, thereby ruining it. The problem seemed to get worse and worse, until one day while it was turned on and I was out of the room, something happened which caused it to blow a fuse (not the main fuse, but one of the smaller fuses on the power supply board). I traced the problem to one of the boards in the Qume mechanism. AJ told me a board trade-in would cost \$185 !!!!! I decided that, at that price, I would see if I could fix the board myself. To do that, though, I needed the service manuals, available from AJ in California for ONLY \$95 ! Well, I had already written the check and sealed the envelope, to be mailed the next day, when I decided to do a little more testing and probing first. It became obvious that the real culprit was one well known to owners of Apple ][s: poor contact between a plug in board and the motherboard connector.

The usual advice to Apple ][ owners when they have board-slot contact problems is to clean the board contact "fingers" with an eraser, and reseat the board several times. In the case of the AJ, though, the connector had apparently become worn so much that cleaning did not help. Eventually I'll have to replace the connector; in the meantime, I have resorted to the crude expedient of coating the contacts on the plug-in with a layer of solder, in order to make them fatter and thereby force better contact. (I should note that no doubt my particular problem was greatly aggravated by the AJ's location in a room not always heated. Therefore, the electronics undergo substantial temperature fluctuations. The same thermal cycling problem affects Apple ][ plug-in boards, which is why the advice is often heard to leave your computer on 24 hours a day.)

A few words on interfacing. If your word or text processor prints from memory, certain text material, especially with boldfacing or underlining, can result in a loss (skipping) of data if the interface is not arranged for "flow control" when the buffer is filled up. (Word processors like ScreenWriter which print from a disk file are usually just enough slower that you're not likely to have this problem.) The correct method, though, is to modify the AJ electronics as described in the manual Appendix A, "Overflow Protec-

contd.

tion". This gives you a proper DTR busy signal on pin 20, which most newer serial interface cards accept to flow-control data output. With regard to the other pin connections, I found it convenient to simply tie pins 4, 6, and 8 together on the AJ side of the cable. Pin 3 is the data lead, and grounds on pins 1 and 7 should also be connected as usual. Most serial cards today do support the pin 20 busy signal; prominent exceptions are the old Apple Serial and Communications cards. (Super Serial card is OK; so are Apple /// and //c serial interfaces, and of course the Mac).

I really think it's unlikely that the average buyer of one of these will run into the problem that I had. Still, since you do get a 30 day on-site warranty, I suggest that you really put the machine through its paces within the 30 days. I would leave it on continuously for maybe a week, then begin turning it on and off every day. That will put it through some of the thermal cycles which can cause connector problems to show up.

But should you buy one at all? It's hard to accurately predict the printer marketplace, but I don't think you'll see 30 cps daisy wheel printers selling much below \$600 in the near future. (Watch me proven wrong next month...!) If you can't afford the space, or never need to print more than a page or two, but want letter quality, then buy either a printer or typewriter/printer (Juki, Silver-Reed, SCM, Radio Shack, ???). You might also find that the near-letter-quality matrix printers will satisfy all your needs (still, none of these produce print quite as nice in appearance as daisy wheel with carbon-film ribbon does).

⊕

## BOOTING A RELUCTANT SCREENWRITER II by Boris Levine

Using ScreenWriter II extensively lets you get to know its characteristics, including some that develop only after long use. For example, one or more of the sub-programs which constitute SWII can be mended, using the backup disk. Now, here's another: What to do if SWII won't boot?

If SWII simply spins on and on in Drive 1, but is otherwise OK, here's a technique which might help. First, boot DOS 3.3 into memory from any disk that has it. Next place the SWII disk into Drive 1. Now, type in "BRUN START"<CR>. And SWII should arrive, ready for use.

WHAT, it hasn't booted! Make two quick checks before calling for help beyond this article. With DOS in place, try CATALOG to see that the binary program START is on the disk. Then re-check the SWII sub-programs, using VERIFY from the FID program. If any of them report 'I/O ERROR' or otherwise don't work, see my earlier article on "Mending ScreenWriter II" (February 1985 WAP Journal). Or, you may have acquired a problem entirely outside the SWII program. Take a look at some other programs to see whether 'non-booting' has suddenly become endemic to your system.

End of nightmare. IT DID BOOT.

⊕

## SELECTING NUMBERS FOR THE MARYLAND LOTTO by Eugene St. Pierre

Listed below is a routine that I use to help me select numbers for the Maryland Lotto. Perhaps a number of other WAP members may find the program useful.

I use it to select six numbers in the range 1-40. I found that I had to run it several times to get what I thought was the right mix of numbers. I am not the original author, but I changed the program to satisfy my needs.

The program can be modified to select from a larger range of numbers, say 1-100, by changing the number 40 to 100 in lines 10 and 20. Change the number 6 in line 130 to specify how many random numbers are to be chosen.

```
10 DIM RN(40)
20 N = 40
30 FOR I = 1 TO N
40 X = INT (N * RND (1) + 1)
50 FOR J = 1 TO I
60 IF RN(J) = X THEN GOTO 40
70 NEXT J
80 RN(I) = X
90 PRINT X
100 Z = Z + 1
110 IF Z = 6 THEN 130
120 NEXT I
130 END
```

⊕

Views & Reviews contd. from pg 58

use the amount of space that 1-2-3 gives you. Other than that, though, the spreadsheet looks better and runs better than any other on the market. Period.

The other functions (Database, Communications, Word processing and Graphics) look different, but are just another view of the spreadsheet. In other words, Jazz contains a spreadsheet which can be disguised to appear like other applications. In the word processor, for example, as you enter text into what appears to be a full-screen editor, you are merely adding text to a cell which corresponds to column A row # on the spreadsheet. This is no problem, of course, except for the fact that you are just as memory-bound as you are in the spreadsheet, and that memory constriction is acute when you consider how much memory is used up by both the Mac System files and Jazz itself. This constraint is particularly painful when you try to play dBASE-type games with the database.

My overall rating for Jazz is not very good - a memory-based program on the Mac should be tiny, and not expansive like Jazz. However, keep in mind that the spreadsheet is ahead of everyone else except, perhaps, for Lotus' own Symphony. I wish that Lotus were just selling the spreadsheet alone, as an upgraded 1-2-3, instead of in the integrated package...

⊕

# SPEEDING IN APPLESOFT

by Rick Chapman

Appendix E of the old Applesoft Reference Manual gives the following hints for speeding up your Applesoft programs:

1. Use variables instead of constants, especially within loops. This is the most important speed hint! For example, try the following two programs:

```
10 FOR I = 1 TO 1000 : X = X + 1.23456789 : NEXT
20 PRINT CHR$(7) : END
```

```
5 Y = 1.23456789
10 FOR I = 1 TO 1000 : X = X + Y : NEXT
20 PRINT CHR$(7) : END
```

The first program takes about 33 seconds to run. The second, only 3 seconds! That's what I call an improvement. Remember to use this technique, even if you're just multiplying a number by two within a loop. Variables are always faster than constants, even the simplest constants.

2. Define the most frequently used variables early in the program so that they will be found near the start of the variable table. When Applesoft needs to fetch a variable it must search through the entire variable list. For example, try these two programs:

```
1 A=0 : B=0 : C=0 : D=0 : E=0 : F=0 : G=0 : H=0 :
  I=0
2 J=0 : K=0 : L=0 : M=0 : N=0 : O=0 : P=0 : Q=0 :
  R=0
5 Y=1.23456789
10 FOR I = 1 TO 1000 : X = X + Y : NEXT
20 PRINT CHR$(7) : END
```

```
0 X=0 : Y=0
1 A=0 : B=0 : C=0 : D=0 : E=0 : F=0 : G=0 : H=0 :
  I=0
2 J=0 : K=0 : L=0 : M=0 : N=0 : O=0 : P=0 : Q=0 :
  R=0
5 Y=1.23456789
10 FOR I = 1 TO 1000 : X = X + 1.23456789 : NEXT
20 PRINT CHR$(7) : END
```

In the first program, the order of the variables in the variable table is A,B,...,Q,R,Y,X. This program takes about 4 seconds to run. Line 0 in the second program defines the most used variables X and Y first so they appear first and second in the variable table. This program executes in 3 seconds, a 25% savings!

3. Use NEXT statements without the index variable. This can save up to 20% in the execution speed of loops.
4. Frequently referenced lines and commonly used subroutines should be placed as early in the program as possible. The manual states that when Applesoft encounters a GOTO or GOSUB statement it must scan the whole program starting at the lowest line number for the specified line. Actually, Applesoft does some limited checking of line numbers given in a GOTO or GOSUB statement, and only returns to the beginning of the program if the high byte of the destination byte is less than or equal to the high byte of the current line number. Otherwise it begins searching from the present line, toward the end of the program. Thus, if your

destination line is 255 or more greater than your current line, you can insure that Applesoft will not search from the beginning, and hence will run faster.

This hint is most important for long programs. For example, the following routine takes about 8 seconds if it is placed at the beginning of a program. With 25 one line REM statements preceding it, the time increases to about 12 seconds.

```
100 X = X + 1
110 IF X < 1000 THEN 120
115 PRINT CHR$(7) : END
120 GOTO 100
```

To show the speed improvement obtainable by just renumbering, try the following modified version of the above. When preceded by 25 one line REM statements, it only takes 10 seconds to execute. This represents a 16% increase in speed just from renumbering.

```
100 X = X + 1
110 IF X < 1000 THEN 500
115 PRINT CHR$(7) : END
500 GOTO 100
```

There are alternative ways to speed up GOTOs and GOSUBs in long programs that make use of Applesoft pointers to trick Applesoft into beginning its search at some point past the beginning of the program. For example, see Roger Wagner's note in All About Applesoft.

5. Some articles have incorrectly stated that REM statements slow programs down. This is really only true if the REM statement is on its own line. If a REM statement is a part of an executable line, then the additional execution time from the REM statement is negligible.
6. Another, sometimes overlooked, speed-up technique involves the use of DOS text files and the characteristics of the Apple disk drives. I recently have been upgrading a system written by another programmer. The system stores information on a group of individuals in a slightly encoded form using standard DOS text files. In order to calculate statistics from this information, the previous programmer would read in a single individual's record, decode it, and add the results to the final statistics before going back to process the next individual. Although, this may be a fine technique to use if all of the information is resident in memory, it turned out that the processing time between disk accesses was long enough for the disk drive to come to a complete halt between each and every access. By modifying the program to read all of the information into memory (using arrays) before any processing or decoding was done, I managed to keep the disk drive spinning between accesses. This simple change reduced program execution time by 50%!

So whenever you are using standard DOS text files, read as much information into the machine as you can before any processing is performed. Of course, standard DOS text files are notoriously slow, so if you can, use ProDOS for even faster processing. ☞

# APPLE PACKING

by Gary Hayman

While recently preparing for a skiing trip to Europe I wanted to make a packing list of all the items I was to take. My list was to be organized on one sheet of paper in columns in common groups such as Ski Bag, Dop Kit, Suitcase and Carry-on-Bag.

An easy task, no doubt, with my Apple Writer II Word Processor, except that my word processor likes to write horizontally, not vertically. No problem, just list an item, do a Carriage Return <CR>, list the next, etc. When you have enough lines go back to the beginning, do an appropriate tab with a Ctrl-I and start the next column using the <CR> and Ctrl-I to keep on entering items until you need to start the third and fourth columns using the same technique.

Well, this would be acceptable until you thought of a new item to take on the trip and you wanted to insert it in the body of a column (not at the end). Your groups and columns would go haywire. What to do? Well, this simple solution allowed me to make my list in several columns and keep my list intact when I added a forgotten item. Believe me, there were forgotten items.

Just type one column of all the items, keeping them in any group in any order you wish. Editing in this format, then, is simple. Preface the text with an imbedded left margin (.LM#) and SINGLE PAGE printing code (.SP1). Count down the list a number of items that would not exceed the length of the page and imbed a form feed (.FF) and a new left margin (.LM#) setting, allowing appropriate room for the width of the column. Repeat for the third and, in case, fourth

(I listed a lot of stuff). With the setting at SINGLE PAGE, all I had to do was to re-insert the page into the printer when the screen asked, and a new column was printed. Believe me, it was easy to insert additional items in my list and to get a printed update.

This technique is probably not new, but I would like to share it with others, like myself, who did not know it. I can see a lot of applications for making lists in column form, that will be updated. How about: what's upstairs in the attic, your tools, items in boxes in the garage or closets, etc.

Here is a sample of the coding I used with Apple Writer II:

```
.SP1
.LM2
Item 1
Item 2
.
.
Item 50
.FF
.LM18
Item 51
.
Item 95
.FF
.LM36
Item 96
etc.
```

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# THE SIDER HARD DISK

by Jim Kellock

This is mostly about the new Sider 10Mb hard disk that we all saw advertised in BYTE magazine a couple of months ago. Well, I bought one and have it installed and I am very pleased with it, with but a couple of reservations, and I thought other WAPI members might appreciate some information about it. First though, I want to relate a series of events that happened about the same time that readers might find entertaining.

One reason I bought the hard disk was that my business had expanded and I needed more storage space. This increase in business brought with it a lawyer who has a PC and who likes to transfer documents back and forth to clients over a modem. I'd been considering buying a modem anyway, and picked up a Signalman MARK XII and a CCS 7711 serial card to run the thing.

First off, the CCS card wouldn't work, and I burned up the phone lines to the dealer, CCS, Apple, and anybody else who would listen, trying to find out what was wrong. One said it was the computer, another the hard disk; most thought I'd messed up the switches on the card, and all were tired of listening to me. I knew it wasn't me, and I finally got a tech-support fellow at CCS to go look at a schematic of the card and the chips, and we discovered that the DTE/DCE chip (which must be changed manually to reverse its position) was labelled backwards, and it was CCS's fault in the first place.

While the serial card was screwed up, the modem wouldn't work either, of course, and for a brief period I thought the modem was the culprit instead of the card. During that period I was told that:

- a. the CCS card had to be rewired to support the Signalman.
- b. I had to build a new cable from the modem.
- c. Neither the card nor the modem would work with my Applicard (CP/M) system.
- d. My //e was causing the problem because it was too slow to handle the flow of data from the modem.

I finally got everything working, got a WAP ABBS Password, and proceeded to call a lot of bulletin boards through DOS 3.3. After a few days of that, I confronted the reality that no matter how smart my modem might be, it wasn't going to say hello through my CP/M operating system until I got some software to help it along. I bought both WAP library disks that contain communications programs, and ASM'd and DDT'd copies of those poor little disks nearly to death trying to get the blasted things to work, and had no luck whatsoever. The opening menus came up and the keyboard locked.

So, I figured I needed a commercial package. I picked CROSSTALK, and brought it home thinking that my worries were over. I installed it, called it up, got the help menu, and asked it to dial a number. It promptly responded that it was dialing and waiting for a carrier signal. And waiting, and waiting, and waiting, because it wasn't getting through to my modem. Thinking I'd messed up the set-up somehow, I went back to DOS, dialed 986-8085 and got a prompt answer from the WAP ABBS, so I knew the modem/serial card link was working.

I tacked another few dollars onto the phone bill calling Microstuf (who manufacture Crosstalk) in Atlanta. They said that:

- a. The CCS card wouldn't support Crosstalk.
- b. The modem was broken.
- c. The software would support the CCS 7710, but not the 7711.
- d. Crosstalk wouldn't support the Applicard.

Then I called Anchor, who make the Mark XII, and was told that:

- a. Crosstalk wouldn't support the CCS card.
- b. It was my //e's fault (in some unspecified way).
- c. Anchor wouldn't support the CCS card.

Finally, I called CCS again (Remember? The ones who had put the upside-down cover on the DTE/DCE chip?). They said that, OH, GOODNESS, it was probably their ROM chip that was the problem. They'd had reports that the one shipped with the 7711 cards caused problems with CP/M and they'd send out a new one free of charge. I'm still waiting for the chip and hoping that it will solve the problem, fully aware that the WAP communications programs that I bought for \$5.00 will probably work just fine, as will the rather more expensive Crosstalk, when the new chip is installed.

It seems that the basic philosophy of many manufacturers is to scream INCOMPATIBILITY instead of figuring out what is really wrong.

Anyway, back to the Sider hard disk, the main purpose of this article.

It's a 10Mb full-height Winchester disk manufactured by First Place Peripherals, who sell it mail-order only, for \$695.00. That is a price familiar to IBM PC users, but one unheard of by Apple owners for so much storage. It promised to support DOS 3.3, ProDOS, Pascal, and CP/M systems of both MicroSoft and PCPI (my Applicard). I was skeptical, but discovered that it came with a full money-back guarantee, so figured I had nothing to lose, ordered one, and sat back to wait the promised 8 weeks.

It showed up right on the 8 week mark, in a huge box. The Sider comes with all the necessary cables, a controller card, and two 5 1/4" double-sided floppies containing documentation, utilities, and driver files (where needed) for the four supported operating systems. The documentation seemed fairly complete, but contains no technical information, and I was to discover that there were omissions regarding installation. A second Sider can be piggy-backed on the first one for 20MB.

The Sider's control card goes in slot 7 on the //e, and I had to disconnect my floppy cables and put them back into the case through different holes to make room. The hard disk's cable is plenty long, and connects to the keyboard end of the card; the cable goes in through a hole over by the power supply and can be wound around in front of an 80 column and printer card to plug into the card.

I followed the installation instructions carefully, and was somewhat dismayed to discover that I couldn't get less than 2MB assigned to Pascal, which I don't own. A couple of phone calls to FPP disclosed that an installation sequence different from that given in the installation documentation virtually eliminated the Pascal, totally eliminated the ProDOS sectors, and let me cut down the DOS 3.3 area to under 128K, leaving me

contd.

about 9.75MB of space for CP/M, which I use almost exclusively, to run dBaseII, Multiplan, and WordStar. The CP/M space can be allocated, in any proportion, to 4 drives, A, B, C, & D, on the hard disk. Through the use of CP/M's 15 optional USER areas, you could conceivably have 60 separate places on the hard disk to keep files.

Otherwise, the installation instructions are menu driven and easy to follow. You can experiment a bit and do it over several times to get it just the way you want it. First Place Peripherals told me that they were preparing technical documentation which would be available to owners in the next couple of months.

After you set up the Sider's operating areas, you have to install each of the operating systems you will be using. DOS 3.3 takes care of itself. I don't use ProDOS or Pascal, but looking over the documentation for installing them, it seems straightforward.

The instructions for installing CP/M involved using the DRIVERS file supplied with the Sider. Since I had my own PCPI DRIVERS customized, I just installed the HARDDISK driver included from FPP into my existing DRIVERS file, and it worked fine. You then have to copy the DRIVERS onto DRIVE A: on the hard disk, along with PBOOT.COM, an FPP program which writes the system tracks on the hard disk. There's also a useful COM file called PEXIT.COM which performs a warm boot to the Sider's operating system so you can move between DOS, CP/M with ease. There's a similar program in the DOS sector. I find these especially useful, since I have a RAM disk from which I have occasionally lost data after messing up a <CNTRL><Open Apple><Reset> warm boot.

When you turn on the Sider, you are given the option of booting to Pascal, DOS 3.3, ProDOS (separate areas are assigned to each), or CP/M on the hard disk, or to Slot 6. Once you use the last option you can shut off the hard disk and just work from your floppy drives, but you have to start out from the Sider, and once you've booted to slot 6, you don't have access to the hard disk files. If you are using un-copyable software, you can boot into the proper operating system on the Sider, then log onto the floppy drive (<E: in CP/M, <S6,D1> in DOS or ProDOS) to run it. A problem I had with WordStar indicates that all software will not run with the Sider, or with an extra driver, and some DOS programs are self-booting, which might cause problems. There probably aren't enough people using the Sider to have run enough software to get a complete picture.

After you get all of this set up, there remains only to load your software onto the Hard Disk (if you want to) and go to work. The only problem, I had here was with WordStar - it wouldn't come up. The MicroPro logo appeared and the keyboard locked. I could still boot into slot 6 and run WS from there, but I didn't have access to files on the hard disk. This problem persisted until I found out from PCPI that WS sometimes wouldn't work with over 4 drivers in the DRIVERS file, and I now have 6. PCPI has an ASM overlay for WordStar for just this situation. They sent it to me, the problem has been solved, and WordStar now works fine. PCPI also sent out a HEX file called FAST.HEX, which contains 8 patches that speed up WordStar a bit, but they missed a couple that I'd already installed and set one default that I didn't like, so I rewrote it a little.

I am very pleased with the Sider. There are no major problems with it, and it really does work fast. It makes a fair amount of noise, and I have a foam box built around it to cut down the sound a little bit. The box is built 6" bigger than the perimeter of the

drive and is open on top to allow air circulation. I think that, knowing what I now know about my computer needs, I would probably have bought a different system in the first place, but the total amount I have spent is not significantly higher than I would have had to pay for that other system. On the other hand, except for the limitations of the 8-bit processor (It would be really great to have Sidekick), I haven't found a machine I would rather use than the //e.

One very strong suggestion I have for anyone re-configuring a system in any way that changes drive names is to set as many files as possible to R/O to prevent any accidental deletions. With the hard disk operational, drive A:, or D1 is no longer the top floppy drive and using a wild card to erase can create a big problem.

There are several things to consider before buying the Sider. First, there is the question of servicing. At present, the only way to get service is to ship the hard disk back to Nevada, to First Place Peripherals. The company is currently looking for service depots on the East Coast, which, if established, could solve that problem. Then there is the question of whether the company will be around in a year or two years. That's a bet, and one you may not want to take. Then, you have to decide just what you want a hard disk for. Unless you're using a database bigger than your floppies (or a RAM disk) can handle, you probably don't need one. I have about 5 of the 10 MB filled up, and I think I'm getting good value for my investment, but it's a deductible investment, and one I might not have made for personal use.

Another point to consider is that the Sider supports only a single user. This is (according to the manufacturer) a limitation of the software, not the drive, and therefore one that could be remedied, but whether the expense of writing the new software is justified is a big question.

AN APPLE PI  
THANK YOU by  
George W. Sall

Thank you! Thank you! Thank you!

Thank you, Lee Raesly ...

... for your eloquent presentation on the magic of the Print Shop at the October WAP meeting. As a result of your enthusiasm, I bought the program as a Christmas stocking stuffer. (I talked to someone who heard your talk and bought the program before he bought a computer!)

Thank you, Bob Trexler ...

... for your note in the January WAP Journal calling attention to the need to carefully follow explicit instructions for making a back-up disk. You almost scared me off, but I paid close attention and came away with a working back-up.

Thank you, Broderbund ...

... for designing such a simple, fun program. It is a real confidence builder! This year at our house the Print Shop ousted the 1,000 piece jigsaw puzzle as the escape valve for Christmas house guests who wanted to "get away from the crowd".

Thank you, thank you, thank you again!

# MICRO SECURITY ISSUES

by Joseph T. Kelley

The average person today is increasingly exposed to microcomputers. Whether it's on the job or at home, these small, powerful computing machines are ubiquitous in our environment. But, as people (who, usually are less technically interested in micro-computer technology than the typical Apple PI member) become involved with and dependent on microcomputer hardware and software, the risk of loss of important data or software and the threat of damage to vital hardware increases. This article points out some of the more common risks to be found in the office or the home and makes some suggestions about steps that can be taken to reduce exposure to damaging events.

Microcomputers improve personal productivity and, because of that, have found a permanent spot in the office and the home. Unfortunately, micro technology is relatively new (the first micro was ten years old in 1984) and possesses special weaknesses which were little anticipated while the technology was in its infancy. We have become significantly dependent on micros, but tend to ignore the risks attendant to the use of this exciting technology. As a result, there is a growing need for adequate security measures for the introduction and use of microcomputer technology in the office or the home.

Over the years, as businesses have developed experience with mini/mainframe computer installations, they have become aware of the number and variety of risks associated with large installations; yet, the change in character of the risks associated with micros seems to have received little attention. A micro is not a mainframe in a breadbox; microcomputer technology has its own special needs and unique threats to successful use.

What follows is a preliminary attempt to point out some of the more significant risks to hardware, software, and data security (including specific environmental concerns which are mentioned because they occur frequently and are so easily overlooked). To relieve the general 'gloom and doom', some specific steps are also provided that can be taken to avoid the worst problems and mitigate the damage caused by others,

## Hardware Security

When dealing with microcomputer security issues, remember that security procedures designed for mainframe systems are generally inadequate or inappropriate for microcomputers. Mini/mainframe systems are large and centralized and most employees have limited access to them. Not so with micros: they are small, modular, very portable, and usually dispersed throughout the business environment. Thus, in distinction to mainframe experience, hardware theft is greatly facilitated.

Worse yet, because of their small size, diskettes, expansion boards, cables, etc. are even more subject to theft. The 'disappearance' of some of the 'entrails' of a micro (e.g., a color graphics board) might not be discovered for months, by which time, who is to say that it was ever delivered? The risk of loss of vital equipment (or data) from accidents or disgruntled employees must also be considered.

While complete security is not possible, at a minimum, all hardware should be checked against invoices upon arrival and tested for condition. Lists of the ID

numbers and the description of each piece of equipment should be kept in a secure place along with copies of the invoices. Further, some thought should be given to the ease with which a home, apartment or office can be burglarized. To be able to open a door with a credit card may be an occasional convenience to you, but it is a positive invitation to the most maladroit of burglars. As a final note, don't pay the extra money for a double dead bolt if you are going to leave the key hanging nearby; believe it or not, burglars always look for it because they generally can find it and save themselves time and effort.

Hardware theft is one problem; hardware abuse is another. It should not be overlooked. Such hardware abuse problems include the private use of company equipment, in contravention of corporate policy, to program reports for private sale, to run "service bureaus" for profit, etc. It is easy to say that it 'can't happen here'; however, it has happened on mainframes in the past and it is easier to do on microcomputers. On the other hand, the policy for the use of micros should be enlightened; allowing staff to prepare their resumes on office micros can provide an introduction to word processing programs that some people would never get otherwise.

A somewhat more exotic, yet perfectly possible, abuse of microcomputer hardware is the use of business owned micros to commit crimes via telecommunications. If teenagers can do it from home, others can do it from the office. The best way to protect against hardware abuse is to be aware of who is using office equipment during off-hours - and for what - since there should be little time during the day for extensive use of equipment for unauthorized purposes.

## Software Security

If hardware problems are possible, software problems have achieved major recognition in the press: software piracy - the unauthorized duplication of commercially sold software (e.g., electronic spreadsheets, word-processing programs) - is believed to be rampant.

Of special concern to any business which writes its own specialized programs is software theft. A burgeoning market in stolen software exists and it is best to avoid becoming a supplier. This is particularly important when major development software (e.g., an accounting system) is involved.

In trying to understand this environment, remember that software theft is easy, it is difficult to detect, and it is very difficult to avoid. In general, software piracy and theft are abetted by a Wild West attitude and inadequate laws which make it hard to win a conviction.

While it is no solution to the problem, every office should have a policy about what software is allowed in the office and what software can be taken home by employees.

## Data Security

Since many of the elements of microcomputer technology are relatively new to employees (e.g., floppy diskettes), preventing data loss is perhaps initially the most important and difficult aspect of microcomputer use. Experience shows that these problems can be

contd.



overcome, but only with care, time, and training.

More serious and more difficult to deal with is the problem of preventing unauthorized access to data on micros. Since both machines and data diskettes tend to be kept in public places, it is very difficult to detect unauthorized access. Data privacy is a significant issue and businesses have an obligation to provide adequate protection to sensitive information. The use of color coded diskettes and locking up information at night can help.

Preventing unauthorized data modification (accidental or deliberate) is, perhaps, even more important than controlling access. Company records that incorrectly indicate that a bill is paid can be a costly experience. Enforced backup procedures (e.g., the backup diskettes must be given to a supervisor at regular and pre-specified intervals), proper manual controls over computer data, the classical technique of separation of duties (e.g., at least two people to sign off on financial transactions), and periodic audits can go a long way to control this problem.

#### Issues Now and For the Future

The introduction of microcomputers into businesses will raise a number of important issues which have either not existed in the past or which have received inadequate attention. For instance, links between micros and mainframes which allow for the "uploading" and "downloading" of data to and from mainframes. Micros are programmable; their predecessors in this function, terminals, were not. It will require a careful setting of the rules to guarantee the consistency and integrity of mainframe data bases.

Use of different versions of the "same" program (since with micros each user frequently has a personal copy of the program) can lead to incorrect or outdated information being used for decision making. While this may seem like an obscure and unlikely problem, it is not. It is a standard problem in large data processing shops and will only become worse with a thoughtless introduction of microcomputers.

Corporations which have extensively introduced microcomputers have discovered another problem directly associated with this new technology. It is sometimes referred to as "the case of the conflicting spreadsheets: whose numbers are right?" The situation occurs when different individuals using differing data bases, software, and/or fundamental assumptions, "solve" the same problem and come to a meeting with different answers. Methods for improving coordination in an environment of distributed data processing need to be developed. (The September 24, 1984 issue of "Business Week," has an interesting discussion of this issue on page 94.)

#### Environmental Concerns

Microcomputer systems are menaced by a wide range of environmental factors that were much easier to control when one was dealing with a mainframe carefully locked away in an air conditioned vault. Cigarette smoke and ash are common in most offices and do no good for micros or diskettes.

Static electricity is another problem that can, at times, seem like dealing with a latterday poltergeist: it appears and disappears mysterious; you make angry noises and knock things around. Nearly as mysterious as static electricity are power surges which are ignored by most home and office equipment but which virtually lobotomize an unprotected microcomputer.

Closely associated with electrical problems and, if possible, even more mysterious are troubles with

magnetic fields. Secretaries have been known to keep on their desks - right beside their diskette boxes - three pound magnets in the base of those cute flexible steel sculptures which can be shaped and re-shaped. Paper clips which have been kept in magnetic holders have a residual magnetic field which, when put near enough to diskettes, can cause inexplicable losses of data. Some telephones with bells contain magnets and TVs can produce stranger effects on diskettes than the afternoon soaps do on people. And, before we move on, let it be said that microwave ovens can do a lot more than 'nuke' food.

Food on diskettes does nothing to improve their flavor and it has been conclusively proven that donuts are better than diskettes for dunking in coffee despite certain topological similarities.

Concluding this litany of microcomputer miseries are the undesirable effects of excessive heat (sun and radiators) and that fine black dust floating invisibly in copying rooms.

With care, most environmental risks can be avoided. Surge protectors should be considered required equipment for micros and only properly grounded, 'three prong' extension cords and outlets should be used.

#### Risk Summary

Any combination of the above problems can result in undetected data modification and possible financial loss to a business or liability for false information. In addition, inaccurate or delayed reports can cause embarrassment and disrespect that is best avoided. All of this ignores the unanticipated costs of repairing the damage. In general, remember that the hardware costs are likely to be the smallest part of the damage; reconstructing data bases is labor intensive and very difficult.

#### Steps You Can Take

Probably the first step that a business should take to prevent loss or abuse from the introduction of microcomputers is a careful risk analysis modeled on the process developed for mainframes. Readers interested in a detailed presentation of this technique should consult "Guideline for Automatic Data Processing Risk Analysis," Federal Information Processing Standards (FIPS) Publication 65, National Bureau of Standards.

Beyond a risk analysis, micros should never be introduced into any environment without a proper evaluation of existing administrative controls. An ounce of prevention is worth a pound of headaches.

One of the active steps that can be taken to facilitate the introduction of micros and simultaneously reduce the risk of errors based on ignorance is to require training in the basics of microcomputer technology for all employees. While this may seem excessive, it is not. Before long, everyone will be involved one way or another with microcomputers, and increasing everyone's general understanding is a wise investment in the future, and, in addition, it also tends to reduce some of the anxiety associated with the introduction of computers.

While it has been said many times before, effective and supervised backup procedures (e.g., the use of color coded diskettes, off-site storage, etc.) are essential for controlling the damage caused by inevitable mistakes. It is unfortunate that the importance of backup procedures is rarely appreciated until something significant has been permanently destroyed. Try to learn from the mistakes of others.

Other steps that can be taken include insurance for  
contd. on pg 40

# US AGAINST THEM: Never the Twain Shall Meet?

by Ronald Wartow

A confession. I used to delightfully devour the WAP Journal, but for a reason probably unlike that of any other member. Sure, the Journal contains informative tips, the latest news, the warm feeling of the omnipresent HOTLINE, and the discount ads. But, my delight stemmed from the fact that the Journal used to be the funniest publication I had ever read, right up there with MAD magazine.

What, you ask, is funny about such subjects as Hybrid Disks for Forth, Undocumented 6502 Mnemonics, Programming the 65SC801/816, and so forth and so on? That's the point. I had no idea what I was reading and enjoyed every word. You see, my interest in computers is primarily confined to diversionary entertainment, mainly complex and detailed adventure games on my //e and Macintosh. The only word processor I have ever used is MacWrite. Even though I've owned computers for years and know COPYA and FONT MOVER cold, using my computers for anything practical has been of no great interest to me and, frankly, a struggle, at times.

To continue, particularly amusing was the excellent Q&A column of Bruce Field, recently voted, I believe, the most widely read WAP column. The answers are filled with scholarship and obvious intricate knowledge of all manner of Apples inside and out. If I could only understand the questions!! Occasionally picking up words like firmware, grappler, and monitor (not the thing I'm looking at now), I dropped these bombs to my unsuspecting noncomputer friends whose eyes glazed over at such talk. Whenever I read about entering the monitor, I recall the scene in the movie POLTERGEIST where the little girl is sucked into the TV. Now that's what I call entering the monitor.

Imagine my surprise at seeing our president authoring an article in a recent BYTE magazine's lengthy treatment of Apple computers. The question posed by his first sentence "Does ALF's new 8088 coprocessor turn your Apple 6502 into an IBM PC?" was better than any one-liner I've heard for years.

I began to question my sanity. Whoever heard of a grown man, and a lawyer no less, "giggling" at such matters that are obviously weighty and of great interest to many club members. Doubts began to set in concerning what I was doing at WAP, the first club I have belonged to since my college fraternity days. I obviously didn't belong. The dreaded spectre of being associated with people who were the epitome of the public image of a computer-type person hounded me.

Slowly but surely, my fears were eased. The "Office" people started this easing. Articles started to appear in the Journal by people with the same thoughts as me, whose preconceptions concerning these matters were dashed when they began to participate in club activities and meet the members. Columns were written which I understood and were geared to the rank novice and partially literate computerist. I decided to become active in the club in my primary area of interest and slowly but surely my apprehension began to wane. I started to think that I was not some out-of-place person but possibly part of a large number, or even a majority.

The final straw, that thing which took me over the last hurdle of wariness, occurred on my receipt of the March Journal. Two new columns started, obviously geared toward novices, one for the Mac and one for the

//c. However, the real eye-opener was the article on, of all things, "Poking Around Super File Cabinet", by Tom DeMay. Faced with "strange and mysterious" happenings while modifying this useful database on the New Members' Disk (even I have used it), his two-page explanation of his "adventure" in solving the problem ended with a quote that any adventure gamer would relish:

"Looking back, I spent many hours wrestling with the POKE 36 problem. If I had it to do over again I would probably do it just as I did before. I could have solved the problem spending less time and effort, but my curiosity would not have been satisfied. ... But the most important thing is that I enjoyed the quest."

I just substituted the names of all of the great adventure and fantasy role-playing games and minor practical computer problems I've dealt with over the years for the phrase "POKE 36". I re-read many of the prior columns which had previously only amused me. Although I still hadn't the foggiest notion of what was being discussed, I came to the realization that the club's experienced computerists and people like me are really doing the same thing. Our successful identification of and solutions to difficult situations and problems are equally satisfying and rewarding. We are really brothers and sisters.

Now, could Bruce Field or David Morganstein please call me and explain if I should add an 8087 numeric processor to my RAM board for further speed improvements when performing number-crunching operations? &

Micro Security contd. from pg 39

micros and parts, and the maintenance of appropriate controls on input, processing, and output. The importance of controls has been emphasized by internal and external auditors for many years as the best way to avoid mistakes and to detect them when they do occur. This has never been more true than with microcomputers.

Microcomputer technology represents an opportunity to bring 'computing power to the people', but only a careful introduction of this technology and a watchful guidance will result in the optimum gain for businesses and individuals.

Note: This article is based on material that first appeared in the July 1984 issue of Resources in Review, a publication of the Government Finance Research Center. &

# TIMEMASTER II AND NEPTUNE EXTENDED MEMORY CARD

by Paul L. Lewis

I have recently resolved a compatibility problem with my Timemaster II and Neptune 80-column 192K extended memory card, or more correctly with the DOS patches for the Timemaster II and the RAM card. I think the resolution may be of interest to WAP Journal readers.

After examining the DOS.DATER patch (supplied with the Timemaster) locations before and after installing the RAM disk driver (supplied with the Neptune) I found that the short DATER patch would be overwritten. The other DOS.DATER locations were not affected by the RAM disk patch. Unable to find an unused area inside DOS, I used the technique on page 7.3 of Beneath Apple DOS of placing routines in the 'safe' area between DOS and its buffers. This seems to work fine. The enclosed listings are my resolution.

Listing 1 is the DOS.DATER patch, lines 1710-1940 from S.DOS DATER, which I reassembled (DOS TOOLKIT). Note that it can be relocated without reassembly. Listing 2 is the EXEC File I use to install both the RAM disk and DOS.DATER patches as part of my HELLO routine. This technique is required because the RAM disk patch disables the INIT command. Additional notes appear on the listings.

## LISTING 1

```
ORG $300
LDA $C4FF
CMP #03
BNE EXIT
LDA #8A
JSR $C40B
```

```
LDY #0E
TYA
CLC
ADC $B5D9
TAX
LOOP LDA $202,Y
STA $B408,X
DEX
DEY
BPL LOOP
EXIT JMP $B037
```

## LISTING 2

```
BRUN AUTO NEPTUNE REM INSTALL RAM DISK
PRINT "PSEUDO DISK INSTALLED"
POKE 40192,128 REM RESET DOS BUFFER LSB $9000
CALL 979 REM DOS COLDSTART SETS NEW BUFFERS
PRINT "BUFFERS MOVED"
POKE 45571,15 REM FORMAT LENGTH $B203
POKE 42883,14 REM FORMAT LENGTH-1 $A783
POKE 44085,208 REM $AC34 TO JSR $9CDD DATER PATCH
POKE 44086,156 REM IN 'SAFE' AREA BETWEEN DOS &
BUFFERS
PRINT "DOS DATER INSTALLED"
BLOAD DATER.0BJ0,A$9CDD REM BLOAD DOS.DATER PATCH
```

DATER FORMAT ' MO/DY/YR HR:MN'

This format occupies the last 15 characters of the 30 character DOS filename. DOS is modified to recognize and use only the first 15 characters and ignores the DATE Stamp.

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# SigMac NEWS

by Ellen L. Bouwkamp  
and Steve Hunt



## Mac Section

One of the questions raging on WAP's ABBS lately is, "How do I become a SigMac member?" For the record: All you have to do is become a WAP member and indicate that you own a Mac or Lisa (Mac XL)! There is no formal signup procedure for SigMac (or any of the other SIG's for that matter).

At last accounting, there are now over 800 SigMac members! There were about 400 of you at the March meeting - good to see you all!

**MAC BBS:** A new BBS is being established especially for you! Pending receipt of a hard-to-find part, you will be able to access this board at (301) 986-8086. You can use 300 or 1200 baud. Your ABBS password will get you on the new board. If you don't have a password, call the Mac BBS and follow the signup procedures. We hope the Mac BBS is up by the end of March.

**MAC EXPO:** Bernie Urban was given a hand for his work in getting WAP's booth and P.R. materials together in time for the MacExpo in San Francisco. As a result of our trip out there we signed up 40 new WAP members (including 3 from the DC area!), networked with over 20 user groups, and got a good reception from the Apple corporation for some of our user group ideas. If promises are kept, you will see some outstanding developments between WAP and Apple in the near future! Keep posted!

One of our new DC members, Paul Rud, Vice President, Hercules & Company, Ltd., showed us a most professional company portfolio done completely with the Macintosh. Paul's company does commercial renovations and design, and Paul used MacPaint to graphically illustrate some of the services his company has to offer. It was striking!

**CAREER OPPORTUNITIES:** Creative Solutions has several positions open for persons with Macintosh skills. Contact: David Butler, Technical Director, at (301) 984-0262.

**SIGMAC POSITIONS AVAILABLE:** Interpreters for the deaf are needed for SigMac's Saturday meetings. Please leave a message for me on the ABBS or leave a message on the recorder at (703) 765-2454. We would like to start offering this service by the May meeting.

**SIGMAC POSITIONS FILLED:** To remind you that this is a volunteer organization, we are sharing the names of the following people. These SigMac members are spending their time to serve you. We hope this will give both new and old SigMac members a better idea of the ways you can contribute to WAP.

JoAnn Stewart and Ralph Begleiter are people who are volunteering their writing skills for the WAP Journal (See the March issue). Not too long ago, Ralph wrote us because of his concerns that new users' needs were not being addressed. Now he's taken the initiative to start a new-users' column. If you want to contribute to the Journal, send it to the WAP office. If you have questions, call Bernie Urban during WAP office hours. It's especially easy now that we have set up a telecommunications system for receiving copy from you.

SigMac's new group buy coordinators are: Doug Kamerow, Bob Wilbur, Joe Kelly, and Pete Holt. Group purchase volunteers will work with Rich Wasserstrom to identify Macintosh software and hardware items for group buys,

work with the office to take orders and notify buyers of deliveries, and to handle group buy calls one or two evenings a week. We hope to have a "group buy" table available at our next meeting.

**New Member Disk Coordinator:** Marty Milrod has stepped forward for this task and already has the first draft of the disk available. If you have any suggestions about what should be on this disk, to be given out with membership, contact Marty via the WAP office.

**Substitute Correspondent:** Brooks Leffler has offered to write this column for the May SigMac meeting as I will be unable to attend.

**New-User Tutorials:** Marty Barry and Marty Milrod have volunteered to develop a tutorial for new members to WAP and SigMac. We expect that these tutorials will be offered once a month. Stay tuned for news.

**Volunteers for Hotline:** As part of your membership, you have access to people willing to help solve your software and hardware problems or just chat with you about an area of mutual interest. These volunteers may be called free, before 10 p.m., and their telephone numbers (usually home) are listed under "WAP HOTLINE" elsewhere in this Journal. The WAP Hotline is for WAP members only!

### MEETINGS AND TUTORIALS:

We continue to need to revise schedules, including places, dates and times, for SigMac events. We try to include them in the Journal when possible. Last minute changes will be posted on the SigMac BBS and on Terry Monk's BBS (703) 471-1378.

The April tutorial on Microsoft BASIC is being postponed.

Direct from California, on Saturday, April 20, at the USUHS Auditorium: ThinkTank 512! Please note that this is the third Saturday of the month. We hope to be back to the second Saturday again when the May meeting rolls around.

### DEMONSTRATIONS

**JAZZ (demo by Rob Perry of Lotus):** The highlight of the year came early as Rob gave us a "sneak preview" of Lotus Jazz (due to be released on March 31). The show began with a rousing video tape introduction which really set the stage and had us all laughing at the antics of a jazz band playing on their Macs. Once the music and laughter stopped, Rob fired up Jazz and took it through the paces, showing the integration of five applications into a single package that has made 1-2-3 so famous. The five applications are spreadsheet, business graphics, word processing, data base management and communications.

The demo clearly showed that Jazz is a totally new product designed completely for the Mac - not just a reworking of Symphony on the IBM PC. Jazz appears very easy to use and allows rapid changes between applications because you select applications from an icon-based dialog box OR by using a special menu which lists (using the name you assign) all the active windows you have on the desktop.

"Hotview" represents the breakthrough in integration  
contd.

between applications. Hotview is the Lotus technique which allows you to automatically link information between applications so that the current results are always shown. For example, you may have information in a data base which is used in a spreadsheet, which is used to produce a graph, which is then used in a word processing document. When you change the data base the graph in your word processor changes - almost immediately. The "oooohs and aaahs" from the audience said it all.

Jazz achieves this speed by keeping information in RAM, and so there are 'trade-offs' on the overall size of individual files. Clearly, however, Jazz will be a great asset to users who do not want to hassle with moving information between applications using 'cut and paste'. Jazz is clearly aimed at the business user who really doesn't care about the technical details of how something gets done but just has a job to do.

The version we saw was a pre-release, and as a result there were some capabilities which were not demonstrated. Jazz requires a 512K Mac AND an external disk drive. The program disk must be inserted in the external drive and the System File must reside on the internal drive. This would limit the amount of file space remaining on the internal drive. Rob indicated that Jazz would support both hard disk drive operation and use of the LaserWriter. Jazz should be available in April and will retail for \$595. The program will be copy protected and licensed to each user. Rob did not yet have the details on the approach which will be used to develop backup disks. The released package will contain several lessons on the disk and the documentation will lead the user through the learning process.

Our thanks to Lotus Development Corporation and to Rob for joining us and providing this advance look at Jazz. Their assistance and support made this preview a great kick-off for the meeting.

**HYPERDRIVE** - General Computer Company (demo by Greg Shuck). Do you ever get tired of the "floppy shuffle" or seeing the "please wait watch". Hyperdrive is one way of getting over these frustrations. General Computer has installed a 10 MB disk drive (that's 10 million bytes) inside the Mac. When you turn on a Hyperdrive, the smiling face changes quickly into the 'Welcome' banner and the desktop - all without inserting a single floppy. Files and applications can be stored in up to 32 'drawers' (or volumes if you prefer) so that you can quickly find the information you are looking for. The name of each drawer (user defined) is shown on a pull down menu.

The Hyperdrive installation also includes a fan and power supply so there is a small increase in weight and noise, though this is not really noticeable. The list price of this upgrade is \$2195 to a 512K Mac or \$2795 to a 128K Mac. A group buy for WAP members is being arranged.

A special treat for this demo was also an early look at the new Finder (version 2.6x). This Finder is NOT yet ready for distribution so don't start browbeating your dealer yet. The Finder is faster than the existing version, removes most (if not all) of the limitations imposed on hard disk users, and includes a few new menu commands (build a file folder directly from the menu, and 'exit' which quits the application, ejects the disk, and re-boots). Stay tuned for news on this development.

**LASERWRITER** - Apple (demo by Greg Shuck). Thanks to Falcon Systems we had a LaserWriter printer available for demo. Greg opened a document (created in Microsoft Word) on the Mac which included both text and a graph (created by Microsoft Chart). The LaserWriter

print driver had already been loaded to the disk and he quickly changed the font from New York to Helvetica (one of the three fonts inside the LaserWriter). When he executed the Print command a new dialog box came up which allowed him to select either the LaserWriter or Imagewriter.

The LaserWriter was loaded with transparency film (it can take any type of paper including letterhead) so that we could see the output on an overhead projector. The quality of the printing was exceptional (300 dots per inch resolution - rather than the 72 dots per inch on the Imagewriter). It takes approximately one minute for the LaserWriter to 'set up' a page for printing (less if all text, more with a MacPaint file) but then can print six copies a minute. It contains 3 built-in fonts and more will be released on disk for downloading from a Mac.

The software demonstrated still had a few bugs (a stray character at the start of the text, the heading on the chart was not centered properly) but these minor problems certainly did not detract from the overall impression of the tremendous improvement in printing quality. The LaserWriter is to be available in April for \$6995 and at this price is clearly destined for the office, not the home. The WAP is aggressively pursuing arrangements to get a LaserWriter (for publishing the Journal and other publicity material) and hopefully it would be available to the members to use for a fee. Stay tuned for news on this one, too.

**FASTFINDER** - Tardis Software (demo by David Morganstein). This is an operating system (replacing the Finder released by Apple) which will run on any Mac. It is intended for the experienced (not novice) user because it does not use Icons (as we have all gotten used to) but does provide speed improvements. See David's review in "SOFTVIEWS" elsewhere in this issue. The program lists for \$99 but may be available for group buy for \$60, if enough people are interested.

**MACINTOSH XL and PRIAM DATA TOWER** - (demo by John Day). With 1 megabyte of RAM, a 12-inch screen and a 10MB internal disk drive, John calls his pride and joy an "Obese Mac". This was the first time many of our members have had a chance to see a Lisa (now Macintosh XL) and see the performance differences. The extra memory of the XL provides many advantages - a RAM disk with over 600K in RAM, larger system files (additional fonts) without running out of room, etc. The hard disk also provides significant speed improvements for most applications (opening MacPaint in 6 seconds) and further improvements can be expected with FastFinder or the new Apple Finder.

At the moment the XL is not totally compatible with the Macintosh (because it came out a year before the Mac). The primary differences are with the screen (the Mac uses square pixels and the XL uses rectangular pixels) so documents created on the Mac appear elongated on the XL. The Mac ROM is not included in the XL (but equivalency is achieved with a software package called MacWorks) and the XL does not have the same sound generation capability. Despite these differences, Apple's redesignation of the Lisa as the XL clearly shows that changes will be made over the next year to achieve additional compatibility.

John also demonstrated a beta version of a Lisa-to-Mac transfer capability. This program allows a user to transfer a LisaDraw file into MacDraw and vice versa (correcting the minor differences in format). There will also be similar capabilities for transferring other types of documents.

contd.

## CLOSING REMARKS

To ensure that nobody went away without something exciting to think about, we made two announcements.

- A local dealer has offered a special deal to WAP members. For a limited time, a 512K upgrade (made by Apple including the free software offer for 'pre-Sep 10 pioneers' will be only \$375 tax included. For additional information, call Steve Hunt, (301) 262-9080 during the evenings.

- At the next meeting, Charley Largay will bring with him a COLOR MAC. This specially modified Mac will show what you are missing (or NOT missing) with the "black and white" set.

## AFTERNOON SESSIONS

To real aficionados, Mac activity does not stop at the end of the demos. Over 100 people stayed for a series of afternoon sessions which included a "Lisa/XL SIG" meeting and a detailed review of the Hyperdrive, very ably done by Charley Largay, who will be joining us on a regular basis. Charley brought in a Hyperdrive and proceeded to take it apart and explain in detail all the changes that had to be made to include the 10MB disk. The discussion ranged far and wide and proved to be an incredible experience for those who stayed.

**SUMMARY** - If you missed this meeting you really missed a lot. We had a superb facility - the Masur Auditorium at the National Institutes of Health. We are deeply indebted to (and severely spoiled by) the NIH for their assistance in providing this large and beautiful location. ☞

## Mac Hints by Brooks Leffler

1. I have just gone through a couple of hours of agony trying to open a Multiplan disk that I crammed too full. The Bomb appeared between startup and the Finder, so I couldn't trash any documents to uncrowd the disk. In desperation, I pulled out SigMac Disk 9 and opened FileEdit for the first time, with considerable trepidation because I don't know a hexadecimal from an ASCII. Needless to say, even reading the menus didn't help much, let alone peering into the mysteries of block 23. (What is BOZO, anyway?) So, crestfallen, I quit FileEdit, never daring to do anything with it, and resigned myself to never seeing those files again. To my astonished delight, up comes the Finder with my crashed disk's contents laid out on the desktop for all to see. Three quick trips to the trash, and I have my disk back. So even if I don't have the knowledge to use FileEdit, it appears to be a way to open some disks that otherwise bomb.

2. I do a lot of mailing list work with my Mac. Although the Imagewriter is a very flexible device, the non-adjustable rollers on the paper hold-down are a pain when it's time to use labels, since 1-wide label stock pretty much fits between them and is not held tightly against the platen. I found that a simple and quick cure can be achieved with a 2 1/2" piece of hardware store vinyl tubing, 3/16" ID x 5/16" OD. Slit the tubing lengthwise and slip it over the wire bail between the left and center rollers. It'll hold itself in place without even a piece of tape over the slit, and can stay there permanently.

3. A very quick way to eject two disks is to select Open from the File menu rather than Quit, and click Eject, Drive, Eject. Then shut it off and go catch your bus. ☞

## FAST PRESENTATION - TION GRAPHICS FOR THE MAC by Lynn R. Trusal

Many scientists and businessmen find themselves in need of quick presentation quality graphics. Often, time is of the essence and there is not time to have professional slides made by the audio-visual office. By using the Macintosh and Microsoft's CHART program, the data can be quickly entered and an appropriate pie, bar or line graph prepared. The graphs can then be printed out in various sizes and layouts using the Imagewriter printer. This procedure takes approximately 15 minutes per graph, and if the subsequent graphs use the same format, even less time for other graphs.

The graphs are then photographed using a 35mm camera, copy stand and Polaroid's instant 35mm Polagraph film. This film is a black and white high contrast transparency film which gives excellent results. I use an ASA of 400, shutter speed of 500 and a F-stop of 8, but you will need to experiment with the shutter speed and F-stop setting for your particular setup. The film may then be developed using the Polaroid 35mm Autoprocess system. The entire development process takes approximately 2 minutes. By using the accompanying 35mm slide mounter, the roll of slides may be quickly mounted in plastic slide mounts and previewed prior to your scientific seminar or business meeting.

The Polaroid 35mm Autoprocessor and slide mounter cost approximately \$60 to \$100, and the Polagraph film is about \$9.00 for a roll of 12 exposures. That works out to less than \$1.00 per slide. Try and match that for cost effectiveness through your usual source for 35mm slides. In addition, most audio-visual offices require several weeks notice which is not always possible. The result will be quick presentation quality graphics that are hard to beat. ☞

## BUGS & OTHER PARASITES

James Buckingham submitted the following:

I recently bought Microsoft's BASIC 2.0. I enjoy working with its capabilities and improvements over other forms of BASIC. However, sometimes there is a problem in getting the programs to print out in the correct fonts. According to Microsoft, it has to do with the Imagewriter's software running out of heap space. There are several possible workarounds. Not considering using draft mode LLIST as viable alternatives, Microsoft suggested the following two options that work for me:

1. Execute the statement CLEAR,x,1024 where x is as small as possible. I found that x must be at least 5390 on my 128K Mac. ☞
2. Execute the statement WIDTH "LPT:",50. ☞

# MAC Q & A

by Don Landing, Tony Anderson and  
Greg Shuck

Q. What are the benefits of RAM Disk for the 512K Mac and the problems which have been identified?

A. The RAM Disk loads all portions of a program into the main memory of the Mac. As a result, the application runs faster than when program segments have to be read from disk. Time savings when using some programs (such as MacPaint) are significant. In addition, RAM Disk helps those of us who do not have an external disk drive by providing the equivalent of two drives. Some applications may not be able to take advantage of the Ram Disk (e.g. Microsoft Word) so it will not necessarily fit all your needs.

A recent article in MacWorld was fairly critical of the RAM Disk. Users should make their own decision but we believe the benefits are worth the \$29 investment.

Q. With an external drive installed and using RAM disk, how do I direct files to the external drive?

A. Pull down the "File" menu from any application and use the "Save As..." command. Click on the "Drive" button until you see the name of the disk you want the file directed to, and then click on the "Save" button.

Q. With RAM Disk in operation, I have had trouble with losing the system file. What is wrong?

A. If you try to insert a disk in the external drive while the internal drive is still spinning you can lose both system files. You should wait until the RAM Disk initialization is complete before inserting the second disk.

Q. What are the differences between the Assimilation Processes RAM Disk and the public domain version supplied on a SigMac Disk?

A. The Assimilation Processes version allows you to specify which files are to be loaded into the RAM Disk area during the boot while the public domain version does not.

Q. I have not seen any improvement in the speed of Microsoft Word when using the RAM Disk. Why?

A. There do not appear to be any significant improvements in the speed of Word because the program is so large.

Q. I am having trouble moving the RAM Disk program included on SigMac Disk#13. What is wrong?

A. The program does work. You may have a bad copy. I suggest you try again or call Tony Anderson (SigMac Disk Librarian) for a good copy.

Q. What are the differences between MacWrite and Microsoft Word?

A. MacWrite is easier for many users than Word. The extra features of Word make it a little more complex. Word is more powerful because it allows you to work with multiple column documents very easily and to include footnotes with the document. Word is slower and is more awkward when setting tabs (it is more difficult to set decimal tabs).

Word also fails one of the tests of the Macintosh environment - "what you see is what you get" - because you can't see headers and footers in the document.

Q. When using Multiplan, how can I get more characters on the screen?

A. Using version 1.02 of Multiplan, use Fontmover to remove the Seattle Fonts. The system will then 'default' to Geneva 9pt. This will not work if you are still using version 1.0 of Multiplan.

Q. What is the Imagewriter 15 application and how do I load it?

A. This is a new version of the Imagewriter print 'driver'. It was designed to support the new wide-carriage Imagewriter but will also work with the original printer. This version fixes a few errors in the original version (including the pauses after every other line when printing high resolution text with MacWrite). Rename the file to 'Imagewriter' and move it (dragging with the mouse) to the new disk.

Q. What is the latest story on the new Finder?

A. The current version is 1.1g. There is a new version under development (the 'current' version was 2.8x when this was being written). When we hear that it is ready for release we will announce it at the next meeting and you should be able to get a free copy from your dealer.

Q. What is the status of Switcher?

A. It is still under development. A test version 2.0 is being examined by certified developers. When it is available, we will provide it on a SigMac disk.

Q. Is it safe to leave my Mac turned on all the time?

A. Yes (actually it avoids 'wear and tear' on the power switch), BUT you should turn down the brightness on the screen to avoid "burning in" a faint image on your screen. So you don't forget that the Mac is still on, there is a public domain desk accessory called "Sleep" (which we will provide on a future SigMac disk) which blackens the screen except for a bouncing apple.

Q. What is the PICT file.

A. A PICT file is a series of quickdraw files. It is not a Macpaint or MacDraw picture.

Q. I am having trouble getting a Mac cable for the Hayes Smartmodem 300, where should I go?

A. A few possible sources are: Arlington Electronics on Lee Highway, Dataset Cable Co in Conn (\$16), Logical Solutions in Rockville, John Hardison (WAP member), Falcon Systems, and Clinton Computer.

Q. I am having trouble trying to get Multiplan to be a startup disk on the RAM disk.

A. With the Assimilation Processes version of RAM Disk you cannot specify another application as a "Start Up" - because the RAM Disk application is actually

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# SOFTVIEWS

by David Morganstein

**MegaMerge** (Megahaus). Many people buy personal computers to create mailing lists and to prepare form letters. MegaMerge is a very simple to learn utility for merging a list of names, addresses, pictures or other lists with a form letter. Macintosh owners must use this utility program with MacWrite (Version 2.2 or earlier) since the program has no text entry or editing capability of its own. MegaMerge also provides the capability of printing mailing labels. My overall reaction is that it's price tag is quite high and its implementation is awkward.

To print form letters, two MacWrite documents must be prepared, one containing the list of names, addresses or other information to be merged and a second containing the form letter. In the form letter, titles are embedded using a different font for the locations where the list information is to be merged. For example, when merging a name, an address, a city, a state and a zip code, you will embed labels like "name", "address", etc. using a different font than the main body of the text. The name of this font, called a Mergefont, is fed to MegaMerge when you are ready to print, enabling it to find the fields where the list data is to be placed. The second file, the one containing the list data, must be set up in a special, and I believe awkward, way. Consider a single set of information, (that is one list entry), as a record. Each record describes the information needed for one letter. The labels for the fields ("name", "address", etc.) must appear with each and every record of information, like this:

```
Name= Fred Smith
Address= 6000 First St.
City= Germantown
State= MD
Zip= 20874
```

```
Name= Sally Jones
Address= Pierson Place
City= Alexandria
State= VA
Zip= 70709
```

The labels for the fields may appear either in the specially designated font used to identify them in the form letter or they must be preceded by two dollar signs. The data to be merged ("Fred Smith", etc) must be entered in the font used for the main body of the letter. The use of the "\$\$" is clearly easier. Changing fonts back and forth is tedious and, for a list of any length, would be nerve-wracking. Regardless of the method, you still have to duplicate the labels over and over, editing the list data into each line. While the duplication of the labels can be done fairly easily using repeated Copy and Paste operations, the entry of the information is done line by line. There are simpler systems on the Apple ][! Megahaus told me that MegaFiler, another of their products, can be (and probably should be) used to prepare and maintain a list file.

Unlike most Mac applications, you will have to spend a little time with the accompanying documentation before you will know how to proceed. Fortunately, the 40 page manual is easy to follow. It tells you everything you need to know to use the program. The manual even contains a "Having Troubles?" section. Using the manual and the example files provided on the disk,

you should have no trouble learning how to use this utility.

If you need mailing labels, you can create a brief "form letter" with nothing but the required label information in it. An example is provided on the disk and its use is described in the accompanying manual. Labels can be printed as one-up or three-up (that is, three labels side-by-side). However, only two label sizes are supported, 15/16" and 1-7/16". While these are very common sizes, you should be sure they will serve your needs before depending upon MegaMerge.

The package certainly performed as advertised given that you are using MacWrite 2.2 or earlier (Megahaus said a new release will be available that is compatible with newer versions of MacWrite but did not indicate what the update cost or procedure would be). MegaMerge, being the first such utility on the market, initially may have provided a valuable function. But because of the awkwardness of use and high cost, I think that other alternatives such as Microsoft's Word should be considered before making your decision. Price \$195.00.

**Fast Finder.** (Tardis Software). This utility replaces the standard Finder provided by Apple. It provides a much faster version of the Finder and adds several valuable utility functions. Its major cost to the user is the absence of Icons and the loss of Folders and their ability to organize files into rational collections. It takes about the same amount of disk space as Apple's 1.1g Finder.

Let me start with the speed comparisons shown in the table below. The table contains the time in seconds to enter or exit two commonly used applications, MacWrite and MacPaint. You can add a plus or minus one or two seconds for the accuracy of my stopwatch. The times to open and close documents was, generally, in the two to five second range with Faster Finder (abbreviated FF in the table) having a slight edge over the Apple Finder (AF). As you can see, Fast Finder is primarily for the hard-disk user as there is only a modest speed improvement when FF is used on a thin Mac. In addition to the table results, I can add that it, unlike the AF, does not slow down when a large number of files are stored. The hard-disk results were performed when about one hundred files taking 2 Megabytes of space were on the disk.

	Mac w/Hard Disk		XL w/RAM Disk		Mac 128K	
	AF	FF	AF	FF	AF	FF
MacPaint						
Open	15	9	12	5	19	16
Close	30	6	28	5	15	11
MacWrite	18	15	16	8	31	28
	26	7	16	8	31	28

In addition to the improved speed for the hard-disk user, FF provides a number of valuable utility functions for anyone. The main menu selection which appear are: Quickies (user-defined commands which can be mouse selected or command-key abbreviated), Show (containing various directory options), Process (which

contd.



provides for searching through and dumping of files), Copy (for moving files around) and Utility (a potpourri of options). Several other menus allow for help, easily selecting between volumes and transferring to a program.

Using Show, you can obtain directories of all applications, or text files, or documents, or pictures. You can use traditional "wild-cards" to obtain directories of files containing specified strings. The directory can be either an abbreviated version containing file name and size or a more "verbose" display identifying file id's, types, dates and so forth.

Process allows you to search files for strings of characters, dump out files in Hex or ASCII, compare or combine two files and print a formatted listing of source code.

Since you have no Icons, FF provides you the Copy option for moving files around. Using wildcards, you can identify a set of files to be copied from one volume to another. (Personally, I find the Mac's Icons invaluable in this area. It is so easy to select a group of files and move them, en masse, to another volume.) The Utility menu provides a way to erase or rename a file. With it you can turn the printer on or off to make a hard-copy of output such as file dumps and listings.

I saved Quickies for last. In as much as FF does not let you double-click an Icon, my first reaction to using it was very negative. I did not want to return to the Applesoft days of typing in file names (especially since I am a rotten typist and always misspell things). Quickies is a do-it-yourself menu. You can fill it up with the names of all the application programs you use and simply select the one you want to run. All Quickie entries can be abbreviated with command-key short-hand, if you choose. Quickies is not a perfect replacement for the icons and mouse since you are not going to list the names of every document or picture but it does allow you to enter your commonly used applications without typing. While the Quickies list is erased when FF is exited, you can put your commands into a text file which will be executed each time FF is launched.

Fast Finder is written in "C" and for some, will fill an important void. The big question regarding speed is when will Apple's new Finder be available? If it appears soon and, as rumored, addresses the speed and hard-disk issue, one of FF's selling points will disappear. We can do a group purchase of the package for about \$70.00. If you are interested, call Rich Wasserstrom.

MacFortran (Absoft). We Macintosh owners have waited patiently for applications software. By now, most of us know that one reason for the delay has been the stringent development requirements. Initially, only the Lisa Pascal Workshop could be used. A developer had to have a \$6500 Lisa, had to know Pascal and had to learn Apple's workshop. Packages like MacFortran are changing that situation and should result in the appearance on the Mac of many programs written for other machines. If you like to program in Fortran (and there are some people who do...), you can easily develop applications on a Macintosh using the Absoft system. Although MacFortran can handle Fortran 66 code, it prefers the newer Fortran 77. While most existing programs will run "as is", if you want the results to be "Mac-like", that is use the pull-down menus and dialog boxes, you will have to make some changes to your code to incorporate special Mac ROM and system calls provided with the package.

The Absoft diskette is full of goodies: a three-pass

Fortran compiler (whose Icon is a deck of Hollerith cards!), Apple's Edit program for text editing, a linker, a library manager, a debugger, Apple's Resource Maker, several useful subroutines and the source code for a half dozen example programs. The accompanying documentation of several hundred pages explains how to use each component to produce a Macintosh application. All in all, you get fairly complete support.

To develop an application, you enter your source code into a text which is then compiled. Any calls to precompiled subroutines stored in a Library are linked. The application is ready to run! Below, we look at each step in more detail.

You can either download your source code from another computer into a Macintosh text file or you can use the Edit program to enter it the "old-fashioned" way. Edit was written by Apple and made available to software developers. It is a straightforward, disk-based text editor containing many of the features of MacWrite. One enhancement Edit provides over MacWrite is the ability to have up to four windows open, from possibly different files, at one time. This feature makes it easy to copy code from one file into another without having to store to the clipboard or scrapbook.

The compiler options provides many handy features. You can have the compiler check array boundaries to avoid overwriting other variables. You can include commonly used subroutines at compile time rather than copying them into your source code. The options menu is used to indicate that your source is in Fortran 66 or that you are compiling a subroutine (for later linking). A number of optional listings can be directed to files rather than the screen. Among these are a file of error messages or the source of "included" files.

Absoft provides a super debugger which allows you to single-step through the program, display variable values while the program is running or to set breakpoints. The debugger includes a source code window identifying the line of code being executed and an input/output window for data entry and printing. The debugger can be run from the desktop or called as a compiler option.

To what extent does the compiler support the Macintosh's amazing toolbox? MacFortran is complete in this regard. About fifty pages of the accompanying documentation describe the myriad of Subroutine calls which can open windows and dialog boxes, create icons and pull-down menus. You have total access to the font manager, quickdraw routines and window manager. As mentioned earlier, you do not have to convert your program to a "Mac-like" application. You can use the standard Write and Read procedures in Fortran I/O. These work through a non-moveable, unchanging window but does allow for entering data and displaying results.

While the manual is quite thick, it is somewhat deceiving. Most of the material is a standard Fortran reference manual which also contains enhanced features added by Absoft. Two additional sections provide Macintosh support. The first section is a brief description of each piece of software found on the diskette. The second section, mentioned earlier, is a reference for the Toolbox routines. I found the documentation to be more of a reference manual than a tutorial on how to use the software. If you are familiar with the Macintosh's software internals, you will no doubt be able to make due with the Absoft material. If you are a newcomer, it may seem a bit cryptic.

Absoft has done a good job. The compiler is relatively quick and the additional support software makes the

contd. on pg 49

# THE MACWORLD EXPOSITION: A Report and Some Observations by Bernie Urban

MacWorld is to be congratulated for a job well done. While the Expo was not as large as some I have witnessed at Brooks Hall, there were approximately 300 exhibits and over 100 exhibitors in attendance. Perhaps you share my impression that computer shows are occurring too frequently and becoming commonplace. I think show producers are being pressured to become more innovative to warrant attendance on the part of exhibitors and to assure the proper number and type of show visitors.

MacWorld rightfully assumed that there would be considerable visitor interest in a Mac-only expo. The crowds did show to this countrywide first, and were for the most part in a receptive and willing-to-buy mood. There were only a very few merchants (maybe a couple) which were involved in selling what I characterize as "schlock". Apple had a very large anchor exhibit space and ran frequent demonstrations of JAZZ and other systems which drew large interested crowds that filled all available space in front of the large mockup of the Mac which doubled as a projection screen. Unfortunately, business was quite brisk through all three days at our WAP booth - so much so that there was precious little time to spend listening to the demonstrators or talking to the other exhibitors.

However, MacWorld placed all user group exhibitors together in one far corner of the Hall which naturally led to much discussion between user group representatives and members. Visitors apparently were not put off by the backwash location of the user groups and thronged to that section, asked questions, joined up and/or bought public domain software. Many mistook Washington Apple Pi for Call-A.P.P.L.E. because they automatically assumed we were from the state of Washington. (Strangely enough, A.P.P.L.E. was not a participating group.) Of those who determined that we were from the D.C. area, many were curious enough to question why we were there and were interested enough in what we could do for them to ask for membership brochures. Forty folks did actually join on the spot and some took immediate advantage of the savings of \$3 per disk to members and avoided postage charges. I anticipate that we may acquire an additional 40 members when they get around to reading and reacting to the brochures.

Some fleeting glimpses of faces and personalities in the crowds. Bill Budge and ladyfriend on the down escalator. John Draper, alias Captain Crunch, at the booth 2 removed from ours - wildeyed and windblown as ever. Discussions with Andy Hertzfeld at the MacWorld reception on Thursday evening. Ken Silverman, David Alpert, Jim Simpson and Harlan Felt of (or ex) International Apple Core (IAC). Harlan also works for Apple Computer and is responsible for putting together exhibits at such shows. Alpert, current President of IAC assured me that the IAC is alive and well ... Really! Many, many, many Apple Computer folks wandering the aisles, both incognito and otherwise. Nope, I didn't spot Sculley or Jobs - too busy to attend the workshops or lectures.

Some products you may want to check out:

- Mentaur Composite Video Adaptor for the Mac converts your Mac with no soldering or wire-splicing to

enable video projection. A nifty looking little device which I believe was selling at the show for \$119. Mentaur Technologies, P.O. Box 1467, San Marcos, TX 78666.

- Mouse Accessories by Frontrunner Computer Industries, 316 California Ave., Reno, NV 89509.
  - Mouse Mat - Clean, smooth rolling surface which drains away static. List \$29.95.
  - Mac Cover - Covers Mac, keyboard, mouse and Imagewriter. List \$29.95.
  - Mouse Around - A drawing board with cross hairs for accurate drawings. List \$49.95.
  - Mouse Medic - A cleaning tool for mouse and Mac. List \$19.95.
- MacGard by Systems Control, P.O. Box 788M, Iron Mountain, MI 49801. Surge, static, ground and RFI protection. Price ? Very attractive appearance.
- Home Banking - a Versatel Service from Bank of America. Pay bills, transfer funds, pre-schedule bill payments, check account balances, view statements, etc. Call 1-800-652-1111.
- MacVision by Koala Technologies Corporation. Another interesting video camera system to capture images and edit with MacPaint. Call 1-800-KOA-BEAR.
- Graphics Communication Software for the Mac - Tele-scape by Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. Allows graphic messages to be sent by electronic mail, information utility or BBS. List, \$125. Call 818-991-6540.
- MacInTax by Softweave, 400 Mobil Ave., Bldg. D, Camarillo, CA 93010 - for them Ides of April.
- Quest by Applied Logic Systems, Inc., 2614 North 29th Ave., Phoenix AZ 85009. Small business system - accounts receivable and payable, pie and bar charts, etc.
- Profit Stalker by Button Down Software, P.O. Box 19493, San Diego, CA 92119 - technical analysis of stock and commodity prices. Lists at \$150.
- Turbocharger by Nevins Microsystems, 210 5th Ave., New York, NY 10010 - software to increase speed of disk accesses by up to 500%. Lists for \$95.
- ChequeBook by Intermatrix, 5543 Satsuma Ave., North Hollywood, CA 91601 - a checking account program for the home. Lists for \$74.95.
- Mind Over Mac (also MacEdge) by Think Educational Software, Inc., 16 Market St., P.O. Box 466, Potsdam, NY 13676 - 5 entertainment programs: Destroyer, Master Code, Trivial Intrigue, Third Dimension and On-the-Contrary.
- Mac.Turbo.Touch by Assimilation - A two-button track ball. Call 1-800-MAC-5464. Lists for \$129.
- Scientific Typing Font: SciFont and Electronic Circuits Font: ElectroFont, by Paragon Courseware, 4954 Sun Valley Road, Del Mar, CA 92014. SciFont lists for \$49.95; Electrofont for \$99.00.

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• **ExperLisp** by **ExperTelligence**, 559 San Ysidro Road, Santa Barbara, CA 93108.

• **Neon** by **Kriya Systems, Inc.**, 505 N. LakeShore Dr., Chicago, IL 60611 - "most powerful programming language now available for the Mac". Object oriented and smalltalk-like. Lists for \$155.

We exchanged business cards and promised to swap newsletters and if possible public domain software with 20 Mac User Groups. Most of these were on the West Coast but also included, for example, Brigham Young University in Utah and the University of Illinois. This will augment both our newsletter and public domain software libraries.

Many, many thanks to the WAP volunteers who helped run our booth. Thank you, Ellen Bouwkamp, Jim Burger and Scott Mirmam. Additional thanks to WAP member Steve Lurya from Goleta, CA who took time out to help. And lastly, thanks to the two members who showed up out of the blue and did yeoman service, but whose names I have unfortunately forgotten (I'm terrible on names). ☺

**Softvjews** contd. from pg 47  
developer's job fairly easy. Those wishing to market a program will have to pay a very nominal \$50.00 per year to reproduce and distribute the run-time support package. I had few, minor, negative criticisms. The disk is copy-protected. You can transfer all the files to another disk for daily use but you will be asked to insert the original "signature" disk when you run the compiler. In my view, this is an unnecessary nuisance. The manual indicates that updates can be purchased at a fee of \$50.00 each and that no guarantee is made that future versions will be compatible with older releases. These few complaints, however, do not mar the fine work done by Absoft. Price \$395.00 ☺

**Mac Q & A** contd. from pg 45  
the "Start Up" application for that disk.

**Q.** The **MacStreet** journal was supposed to have an article on how to create fonts.

**A.** No one has seen this article though there is a long summary included with the **SigMac Font Disks** (#11 and #12).

**Q.** I have problems when working with **MacWrite** and right margin justification on. When you tab to a field, enter data, and then tab to the next tab stop, you lose the text at the first tab.

**A.** Yes, this is a bug in **MacWrite** (version 2.2). Pending receipt of a new version, the only solution is to put spaces after the text in the first field and space over OR turn off the right margin justification. This (admittedly) doesn't keep the text lined up but is the only 'work around' available now.

**Q.** Does the **Thunderscanner** work with the wide carriage **Imagewriter**?

**A.** No, the current version doesn't work with the **Imagewriter 15**. ☺

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# MacNovice: WRITING A LETTER

by Ralph J. Begleiter

Aha! You've been having a ball with your new Macintosh using MacPaint, but now you want to try something "serious," so you're going to type a letter. Should be a piece of cake, right? You just open MacWrite and start typing. When you go for the printer you discover that the letter's all wrong on your stationery! The date has been printed right over your letterhead, and the right margin's too close to the edge of the paper. Wish you had your old typewriter back? No, hold on.

Before you print your first "real" letter, take the same time you would have taken with your typewriter to set-up the letter's format. You've got to set margins and tabs, because just using the space bar to line up the date and "Very truly yours," isn't the way to go. Try this. (If you do this correctly the first time, you'll rarely have to do it again!) The following steps will give you a good-looking business letter on 8-1/2" X 11" paper.

Open MacWrite. See the ruler at the top of the screen? (No, it won't print onto the letters you type; it's just there to help you format your page.) Move the right margin (the black triangle at the 7" mark) to the 7-1/8" mark. (To move the triangle, just position the arrow on it, hold down the mouse button, and "drag" the triangle to where you want it. Then release the mouse button.) You'll notice the triangle will seem to partly disappear off the edge of the page. Don't worry. As long as you can see it, you can retrieve it with the mouse if you need it.

Move the left margin to the 1-3/8" mark the same way. Notice that the left margin triangle has another little doodad hanging from it. If you carefully position the arrow on that doodad, you can move it separately from the triangle. That's the marker which sets your paragraph indent. Leave it where it was, with the triangle, for now. Make sure your ruler has its line spacing set the way you want (the rectangles in the center of the ruler - choose one by clicking on it.) And make sure the line-justification (the group of rectangles on the right end of the ruler) is the way you want it. (I use left-justification for my letters - the rectangle farthest left in that group.)

Move the tab marker (the hollow triangle on the ruler) to the 5" mark, if it's not already there. The ruler you've just set will line up your addressee's name and address at the left margin. It will allow you to "tab" to the date location on the right, and then "return" to the left margin for "Dear Uncle Harry,". Now hit return three times. (It's not important to know why, but it makes the next step easier.)

Move your arrow to the FORMAT menu at the top of your screen. Click to roll down the menu window and drag your arrow to "Insert Ruler". Presto a new ruler, just like the previous one, appears on the screen. Move the arrow to the new ruler and make a few adjustments for the body of your letter: "Grab" the doodad hanging below the left margin triangle with your arrow. Move it to the 1-7/8" mark, leaving the black triangle where it was, at the 1-3/8" mark. You've now set the paragraph indent.

Now move your arrow to the hollow triangle inside the small box at the extreme lower-left of the new ruler. That's what Apple calls the "tab well". It's an endless supply of tab markers. Click the mouse button on the hollow triangle and hold the button while you move a tab marker out of that box to the 3-7/8" mark.

You've now set a pleasant-looking tab for the "Closing" of your letter ("Very truly yours,"). Leave everything else as it is.

Move back to the FORMAT menu at the top of the page. Open the menu and drag down to "Open Header". A new window will appear on your screen, partly covering the rest of the page. That's the "header", or the very top of your letter page. Decide what you'd like to see there. If you have a pre-printed letterhead, then you want to see blank space... so position your cursor at the top of the header and hit "return" three or four times. That will insert enough blank lines on the page to allow for your letterhead. If it turns out you need more space, or less, you can always reopen the header later and make adjustments. (By the way, if you don't have a letterhead, and you want the Mac to print one for you, simply type it into the header. You can even use MacPaint later to do up a fancy letterhead, and cut-and-paste it into the header of your letter format.)

If you want something special at the foot of your letter pages (such as the date or page numbers) go to the FORMAT menu and "open footer".

Now you've set the page format, and unless you want to make some minor adjustments, you'll probably never have to go through this process again. Move to the FILE Menu and choose SAVE. When Mac asks you for a name for the "document", type in "Letter Format". Now QUIT. When you return to the desktop, you'll see your "Letter Format" sitting there in the disk window, just waiting for you to write a letter!

"Open" the "Letter Format". You'll see your now-familiar two rulers. Locate the cursor just below the first ruler; type your addressee's name and address. Hit "return" and "tab". Type the date. Hit "return" a few times. Type "Dear Uncle Harry," and hit "return" twice." Now move your cursor below the second ruler. Write your letter to Harry. At the end, hit "return" a few times, then "tab" to the "Very truly yours" line and you're done.

Here's a critical move coming up. It's simple, but crucial! When you're ready to print your letter or save it in a file, DON'T choose "SAVE" from the FILE menu. Choose "SAVE AS". Mac will ask you for a name for the letter. Name it "Harry". Now QUIT. You'll see that Mac has kept your letter as "Harry" but has retained the "blank" Letter Format too! By choosing "SAVE AS" instead of SAVE, you can always preserve the Letter Format for future use, and you'll never have to set those margins and tabs again! Ready to print your first letter? Just click on the "Harry" icon and choose PRINT from the FILE menu. When Mac asks you to insert the next sheet of paper, align the paper with the two red stripes on your Imagewriter (printer) paper bar. The Imagewriter only prints between those red lines.

Sounds complicated? Maybe. But it's a trick they don't fully explain in the manuals, and it'll save you lots of time in the future. By the way, you can set up "Formats" for almost anything you use repeatedly: letters (maybe even several letter formats with different letterheads!), memos, "From the desk of", tabular chart formats, etc. Once you set the format, if you always choose SAVE AS instead of SAVE, you'll always preserve the format for future use. ☞

# WHAT'S WRONG WITH MS WORD

by Martin O. Milrod

I bow to no one in my joy and relief over the long-awaited appearance of Microsoft's new word processing software, WORD for the Macintosh. Joy, because of its delightful, full-featured WP aspects such as automatic footnoting, running footers and headers allowing for odd-numbered and even-numbered page placements, and a dynamic redefinition of the Mac keyboard which permits virtually complete "hands-on" control of the entire WP process including moving of the cursor (insertion point) directly from the keyboard. Most of all, it removes the barrier of the amount of pages which can be dealt with at one time. About 200 pages can be placed on an empty disk using WORD in a two-disk setup. My relief is due to the fact that being ribbed by my IBM-friends about the limits of MacWrite is now a thing of the past. WORD stands up well to the best of commercial WP software available for any home computer, bar none!

Still, no WP package serves all people equally well. My purpose here is to critique WORD and present a blue-sky wish list of improvements. My version of the just-released product is dated January 25, 1985 so there has not been a great deal of time for anyone to have extensive experience with the released version of WORD. Nevertheless, here is what I would like to see improved or added in roughly my priority order; it would be surprising if many people agreed with this listing completely.

1. Automatic indexing and "table of content" features are needed.
2. A way of previewing the document to-be-printed in a full screen version is really needed. Multi-column formats appear only in the column width selected, not in full page display. It matters little whether the "Show Page" feature of MacPaint is used in some chained way to cover the entire document, or if full-screen formatting is available.
3. It would be most helpful if one could establish a font and fontsize to be used by all footnotes in a document, at the beginning of a session, as well as its format (one-column width with underline separating it from text?). As I understand the program, this must now be done on a footnote-by-footnote basis.
4. Page numbering should follow the margins established for the document as a whole in the "Preferences" statement. Defaults should be something like bottom, centered, using the font used in the Heading in fontsize 9, starting with the second page. Dialog boxes should be established to allow for varying these instructions in a schematic dialog box something similar to what is used in MacProject to assign features to the "boxes". Currently, pagination instructions are too complex for casual users.
5. The current mode of eliminating dangling lines in printed output - the so-called "widow" or "orphan" lines, is simply klutzy. There should be a box which would permit the user to indicate how many lines should be involved in the document-wide determination to keep paragraphs together or break paragraphs across a page of output. For instance, one should be able to say that if three or more lines are involved, carry them over to the next page; if less-than-3-lines are involved, force them onto the previous page. Naturally, you should be able to override these decisions when previewing individual pages. (See item 2, above.)
6. I wish that WORD contained simple mathematical and statistical manipulation abilities to add figures formatted in columns and rows, and present "cross-footed" totals appropriately. It would also be nice to be able to get, dynamically within WORD, simple stuff like Minimum, Maximum, Median, Average, Frequency counts - perhaps also, (if the roof doesn't cave in,) simple T-test, Standard Deviation and other correlational stuff. At some point in time, statistical manipulation software packages similar to SAS, SPSS, BMPD, etc., will be developed for the Mac environment necessarily using, I imagine, fairly large hard-disk drives.
7. Still in my dream world is the hope that Microsoft will take MULTIPLAN, CHART, FILE and WORD, rub them together in some mystical, efficient way to produce a fully integrated piece of software for use on the Mac. Once again, these would almost certainly require harddisk space configurations. When we see Lotus JAZZ in the near future, I predict that we will see a powerful program fraught with compromises due to space limitations; it should not be expected that JAZZ could match any one of the MS programs mentioned here in their individual, robust form. We shall see.... We shall see.
8. Wouldn't it be nice if Microsoft installed a scientific/Greek/Math set of fonts in WORD together with the capability to multiply supra- and subscript within written text?
9. WORD's documentation is very good. Obviously one of the reasons for the frequent delays in its appearance was the decision to use keyboard entry to move the insertion point as an alternative to using the mouse. This is "obvious" only because the instruction sheet showing how to do this (a combination of keys to "toggle" on this function,) is a little flyer included in the WORD box; it is not included in the Manual. Still, it would be nice for beginners to have a "cheat sheet" outlining all of the command keyboard alternatives to using the mouse. Such a sheet should be tacked up near the Mac until one gets a chance to memorize the new codes, some of which are not intuitive or vary from MacWrite versions. See, for instance, the difference in using superscript and subscript commands.
10. Lastly, I hope for, I yearn for, decent buffer areas for print spooling so that the tedious, annoying wait for high-quality printing can be avoided. I'm not sure that this a Microsoft problem in any way, but since I'm writing this article anyway, I thought I'd throw it in as a freebie. By the way, I urge you to install Imagewriter15 as soon as possible. It works well on the 11"(standard) Imagewriter as well and does three things well. (1) It simply prints faster as it is an improved driver; (2) it can print across page breaks; and (3) it can produce printouts optionally with a 50% reduction factor (arrayed in a column on the standard Imagewriter.)

List price for WORD is \$195, with many dealers discounting it to \$165 and mail-order houses selling

contd. on pg 62

# FURTHER RAM DISK ADVENTURES

by Michael Miller

I am perhaps one of the last holdouts against buying a second disk drive for my MAC. I commute with my MAC every working day, and its 20 plus pounds has already worn a permanent crease in my shoulders. MACpacking a second drive would turn the crease into a canyon. So, as Steve Hunt suggested in the January WAP newsletter, I spell relief "RAMDISK." However, unlike Steve, I've tried the strategy of leaving the Systems folder off the RAM disk, and I've reaped some interesting benefits and made some strange discoveries along the way.

## The Assimilation RAM disk.

I am currently using the \$29 Assimilation RAM disk (Mac Memory). It is a relatively simple (but, at 21K, not a small) program. Following are the steps for creating a RAM disk.

1. Create a disk with a systems file and as many applications programs as you can stuff into it. Leave 30K free. Label it something cute like "Start-Up Disk."
2. Boot Mac Memory and transfer its RAM disk program onto your Start-Up Disk.
3. Double click the Mac Memory icon. This eventually produces a dialog box allowing you to "Create a temporary disk" or "Create a temporary disk at startup." The last option is preferable, since you only have to manually proceed through the following steps just once. Afterwards, booting the Start-Up Disk automatically sets up the RAM disk.
4. The next window allows you to select the amount of RAM to be included in the RAM disk. After experimenting, I prefer 228K.
5. The final window is a mini-finder for selecting programs and files on the Start-Up Disk that will be installed at start-up on the RAM disk. Since MacWrite is the application I use the most often, I select it, the Imagewriter driver, the Calendar file (see WAP disk SigMac Vol. 7), and the Scrapbook file.

The instructions recommend also putting the complete systems folder on the RAM disk. I do not. The RAM disk will stay intact with no systems folder no matter how many times you swap disks and switch from one disk's systems folder to another (assuming you leave the machine on).

Instead, as I move from application to application, I generally trash the current application on the RAM disk and transfer the new application onto it. This strategy has at least five advantages:

1. Printing out of memory. A minor irritant of the Imagewriter's driver is the fact that it creates and saves to the disk a print file for High or Standard resolution output. This both takes time and requires sufficient space on the disk to accommodate the print file. When using an application program from the RAM disk, the print file is stored on the RAM disk, saving time and speeding the printing.
2. Faster applications. Except when calling on the system file for fonts or other such purposes,

application programs run without calls to the internal disk drive. A program such as Microsoft Chart, when mounted in the RAM disk, really does work insanely great.

3. Desk accessory files with staying power. Another of the Mac's minor irritants is that desk accessory files do not automatically transfer from one systems disk to another as you move from program to program. But when you summon desk accessories during RAM disk applications, the desk accessory files are saved to the RAM disk. There are just two catches. Call desk accessories from the desktop and they will save their files to the internal drive's disk rather than the RAM disk. Second, you must remember to transfer the desk accessory files from the RAM disk to a disk in the internal drive when concluding a Mac session.

As a trial, open Microsoft's Chart from the RAM disk. During the Chart session, call the calendar and save an event to it. Call the Scrapbook and save several charts to it. Then exit Chart and insert a new systems disk with MacWrite. Move the new systems disk "to the top" by holding down the Option and Command keys and double clicking on its Finder. Afterwards, only the new disk's icon and the Ram disk's icon will be on the desktop. Call the Scrapbook from the desktop, and it will be empty. Call the Calendar, and no appointment. Trash Chart from the RAM disk and copy the MacWrite file from the internal drive to the RAM disk. Open MacWrite by doubleclicking the RAM disk icon. Call the Scrapbook. Your charts will appear, and you can proceed to transfer them into your MacWrite text. Call the calendar, and check your appointment.

4. More RAM for the money. Putting the complete systems folder into the RAM disk invariably requires setting aside a full 316K for the RAM disk. This leaves, of course, relatively little RAM for the actual programs. In many respects, 196K of RAM is not much of an improvement over 128K. On the flip side, 316K does not go very far as a second (RAM) drive when forced to absorb a complete systems folder. For instance, it is impossible to put 160K programs like Chart onto a RAM disk with an ordinary systems folder. Combining a systems folder, the Calendar, and MacWrite leaves only 30-40K of free space on the RAM disk. The MacWrite documents cannot exceed 30-40K in such circumstances, since the Imagewriter driver saves its printfile to the RAM disk.

But a 228K RAM drive is spacious indeed with just one application file, the Imagewriter driver, and desk accessory files. MacWrite documents can easily exceed 100K. Even Chart can be RAM-disked with 40K or so leftover to print charts or save charts in the Scrapbook or Clipboard. And nearly 300K of RAM remains for the programs.

One glitch. If, while using a RAM Disk application, you call the Calendar from the Apple menu, it will appear as usual the first time, ready to record your appointments and what not. You can click the close box on the Calendar's title bar, and the Calendar will disappear as usual. But if you try to call the Calendar from the Apple menu a second time during the session, THE SYSTEM WILL BOMB. Incidentally, the

contd. on pg 62

# HARDWARE REVIEWS

by William Donelson

## Hyperdrive from General Computer

On Monday, 1/14/85, I visited Betty Ryan and John Mracek of General Computer in Cambridge, Mass. to review their 10Mbyte disk drive which they call the Hyperdrive. Betty Ryan is the sales representative for the D.C. area. John Mracek is an engineer. Ms. Ryan was cheerful, helpful, and well informed and spent almost an hour answering my sometimes pointed questions. In general, I was greatly impressed by the energy and creativity of the folks at General Computer.

### 1) Hardware Installation

This 10Mbyte Winchester disk is internally installed in your Mac by either General Computer or a licensed Apple dealer. This leaves both of your floppy drives and serial ports in their original configuration. The modification procedure consists of:

- a) The Mac digital board is modified and a "stack-board" is securely attached to it. The digital board is modified to move the 68000 cpu onto the stackboard so that the Hyperdrive system can have direct access to the 68000 data/address bus. Both the "new" digital board and the stackboard fit back into the original slot in your Mac. This is a tight fit, but well designed and secure.
- b) The 10Mbyte Winchester is securely shock mounted in a frame supplied by General Computer, which is bolted to your Mac frame at three points. I inspected this arrangement very carefully and was impressed that they have paid a great deal of attention to the portability and shock requirements of the Mac.
- c) An additional power supply board to power the disk and fan is also installed inside the Mac. The fan is press-fit into the top cover of the Mac. Although the press-fit on old (beta-test) models was insecure, I have been assured that the new press-fitting is very secure.
- d) Optionally, General Computer will upgrade your 128K Mac to 512K for an additional fee (see below). This memory upgrade fits on the stackboard mentioned above.
- e) Along with a special set of tools, your dealer also gets a copy of a professionally produced videotape which demonstrates the entire installation procedure.

General Computer's intention is to create a stockpile of the modified digital-board-with-stackboard combination so that turn-around for your system will be much faster. In fact, just like Apple mods, you probably won't receive your original digital board back after installation of the Hyperdrive.

The installation procedure should take no more than one hour from an experienced dealer in your area, assuming that your dealer stocks the Hyperdrive kits. General Computer does the installation themselves in about twenty minutes, given the modified digital board. If you or your dealer elect to send the unit off to Cambridge for installation, expect to wait two to three weeks for turn-around.

### 2) Performance

I examined two units at General Computer and found them to perform identically. Both of the units I inspected ran very quietly, more quietly than the Tecmar MacDrive. The disk has (sic) a whirring sound, but the fan can't be heard at all.

Upon power-up, the Mac automatically boots up from the Hyperdrive (if there is no floppy in the internal drive), a wonderful feature. Boot-up is fast, and the desktop appears quickly. I understand that the effective transfer rate of the Hyperdrive is about 2.5 Mbits per second through a buffer memory onto the 68000 bus (not including latency or seek times). This compares to the serially connected hard disk maximum (e.g., the Tecmar) of only 900K bits per second.

Function	Hyperdrive System	Two Floppy System
Start MacPaint	6 seconds	28 seconds
Close MacPaint	6 seconds	22 seconds
Start MacWrite	6 seconds	24 seconds
Close MacWrite	6 seconds	30 seconds
Copy MacPaint to another Volume	10 seconds	30 seconds

### 3) Software

The software supplied with the Hyperdrive is surprisingly good. The user interface has been well thought out, and is clearly and completely presented in an excellent 32 page users manual.

- a) The disk may be divided into as many as 32 volumes, which are referred to as "File Drawers." Each of these File Drawers may be allocated by a Disk Manager program. Automatic expansion of file drawers occurs in multiples of 256K byte chunks up to the available space on the disk. Files are allocated in 4k byte pages, which limits the Hyperdrive to 2560 files, max. The Manager also allows you to initialize, delete, open, and close file drawers.
  - b) At this writing, the Hyperdrive works with the existing Finder (version 1.1g) and General Computer assures me that it will work with the new Apple Finder to be announced soon (they currently have the pre-release version 2.1x).
  - c) The user can "activate" or open file drawers either from the disk Manager or from a nifty little desk accessory called Drawers. The desk accessory is a great timesaver in that you don't have to exit MacWrite, etc. to open or close a file drawer.
  - d) Up to eight file drawers may be open at once and up to 128 files may appear in each file drawer (Apple Finder 1.1g limit of 128).
  - e) Each file drawer on the disk has optional password protection. When mounting a protected file drawer, a dialog box appears to ask for the password, which is, of course, hidden as you type it. In addition, the entire disk may have a "super-password."
  - f) There is an excellent disk backup facility which allows you to back up your Hyperdrive onto floppy
- contd. on pg 55

# A PAGE FROM THE STACK

by Dana J. Schwartz

The WAP Software Library is always searching for new additions. As you can see from the order form at the back of the Journal, we take every conceivable type of Apple software - including CP/M, Pascal, and Macintosh. And don't forget that you get a free library disk of your choice for your donation. We accept your programs at any time, by mail, at the office, and at the monthly meetings.

This month SigMac introduces two new Macintosh disks. Descriptions are by SigMac Librarian Tony Anderson.

## SigMac 14: Filevision Templates

Filevision, like the Mac, is an original, one of a kind. It was one of the first programs to take the Mac spirit to heart. Unfortunately the data base Filevision, like Visicalc, provides an environment unlike anything before it. You must learn to think and work in this new environment. This disk is devoted to easing that task. It contains a wide variety of different Filevision templates, some useful, some just for show, but all presented to inspire you to create new uses for this revolutionary tool.

On the desktop:

**Flow Chart Illustration** - This is an example of using Filevision as a dynamic flowchart. By selecting a different type from the "Types" menu and selecting "Show only these" from the "Tinker" menu, you can have several different flowcharts in one template.

In the FV Adventure folder:

**Nick's D&D** - Believe it or not, this is a Filevision adventure game. It is not going to be up there with "Transylvania" as a top selling adventure game, but it has its good points. It uses linking extensively and has a lot of animation examples. All the other files in this folder are part of this adventure.

In the FV Animation folder:

**Ski Slope** - The winter 1985 issue, and the only issue so far, of "Filevision Magazine" shows how to do this one. It is the same principle as used for all Filevision animation.

**Wipeout** - Get beach blanket bingo-vision with this little snippet of code.

In the FV Filing folder:

**Births** - This template is a very good example of how to use Filevision as a data base while at the same time creating a graphic representation of the data. In this case, the births at a hospital are being charted over a period of time.

**Calendar** - Let this Filevision calendar get your life organized and help keep it that way. Plus, this calendar does not end at 1985, like some of the higher priced calendars we know of.

**Calendar Documentation** - A MacWrite file explaining how to set up the calendar template.

**Contacts** - A Filevision file cabinet. Double-click on the file tabs to see the information on all your hot sales leads. Or use the "Highlight some..." menu to

show all your customers who are smart enough to own Macs.

In the FV Intelligent Illustrations folder:

**Elements** (by Raines Cohen) - This template is part of a class of templates called intelligent illustrations. An intelligent illustration is a chart or painting or some other normally static display that now has data linked to objects on the display. In this case the static chart is the well known periodic chart of the elements. Each element is an object with an "info" screen that tells more about it. So if you want to know all elements with atomic weights less than 50, just use the "tinker" menu.

**Eye** - This is the eye used by Telos, the publisher of Filevision, in the ads for Filevision. It is an intelligent illustration also. Unfortunately, clicking on "info" only gets you a blank form. The illustration has no data behind it. If there is a doctor or med student out there who would like to fill in the blanks, please send us the result.

**Piano** - Select the chord you want and Filevision will show which keys on the piano keyboard will create that chord.

**Napa Valley** - Here is an example of creating a smart map with Filevision. This map of the wine country of California known as Napa Valley has wineries indicated as Filevision objects.

## SigMac 15: Programmer's Playground

If you're a programmer, or hope to be a programmer, this disk is for you. On it are two programming languages, one complete and one presented as an example, a lesson in binary data trees, a new graphics routine demo, four new desk accessories to make your time on the Mac more productive, and three MacWrite files on how the Mac works. In less time than it takes to return to the desktop, you'll be showing the Mac who's boss. Moving whole screens of data to and fro. Calculating huge numbers in a single command. Getting crazy with the keyboard. Writing code (as they say in the business) like there's no tomorrow. And best of all you'll do it your way.

On the desktop:

**HandsOn** (by John Glenn) - This application helps to bring life to a difficult programming concept. A binary tree is not one of those fun things that we all love to do, nonetheless, it is an important programming tool. This program makes binary trees as concrete as a chemistry experiment and not nearly as messy.

In the DataFlow folder:

**DataFlow** (by Gustavo A. Fernandez) - DataFlow is the most Mac-ish programming language written to date. The mouse is used for all operations except typing numbers. DataFlow programming is a cross between flowcharting and electronic circuit design. While symbols similar to common flowcharts are used, the program behaves more like an electric circuit where numeric 'tokens' replace current going through wires. DataFlow version 0.0 was designed mainly to show the concepts and shortcomings of Dataflow rather than as a

contd.



useful tool.

DataFlow Documentation (by Gustavo A. Fernandez) - The user manual for DataFlow.

In the Demo & Graphics folder:

Hendrix - No, you won't think you're at Woodstock. In fact, you might think you broke your Macintosh. To make Jimi play, just drag the mouse across the screen.

Start me (by Robert Hafer) - An impressive demo of Mr. Hafer's diss8its routine.

In the MacInfo folder:

Launch - How to start up any icon as an application.

MacPaint Info - Everything you ever wanted to know about a MacPaint document.

Sound - About sound and how the Mac makes it.

In the More Desk Accessories folder:

Delete Files - Allows you the convenience of deleting a document from a disk from within an application.

Disk Info - Gives you info on the contents of each disk in the Mac. In addition, it gives info on the amount of RAM being used.

New Key Caps - Like the old keycaps, but you can now specify the font you wish to see displayed. Most convenient when working with a new font and fonts with lots of special symbols.

Quit - How many times have you wanted to quit but been forced to wait until the Mac closed the current application, went back to the desktop so you could eject the disks and wait some more for Mac to finally give them up, all just so you could turn the Mac off? Well, wait no more! This accessory will eject any and all disks and reset the Mac in under 5 seconds, no questions asked. Be careful, if your document was not saved, it'll be gone with the wind.

In the XLISP folder:

XLISP (by David Betz) - XLISP is an experimental programming language combining some of the features of LISP with an object oriented extension capability. It was implemented to allow experimentation with object-oriented programming on small computers. Many traditional LISP functions are built into XLISP. In addition, XLISP defines the object classes 'Object', 'Class', and 'Keymap' as primitives. 'Object' is the only class that has no superclass and hence is the root of the class heirarchy tree. 'Class' is the class of which all classes are instances (it is the only object that is an instance of itself). 'Keymap' is a class whose instances are mappings from input key sequences to messages. To return to the finder use the XLISP command (exit).

XLISP document 1 - This and the following two files are MacWrite documents that are documentation for the XLISP language. These documents do not attempt to teach LISP. For a collection of articles on LISP see the August 1979 issue of BYTE magazine. ☞

Hardware Reviews contd. from pg 53

disks. This utility ("to be completed soon") allows you to do your backups by a wide variety of parameters, including: file drawer name, filename extension (e.g. all of your .BAS Basic files), modification date (e.g., all files since last backup), etc.

g) In addition to the above, General Computer supplies a "passworded" file encryption and decryption utility (using a "policeman" icon!) for protecting individual files.

#### 4) Warranty Considerations

The modifications to the Macintosh, although well designed, are quite extensive and will void your Applecare or other machine warranty on the General-Computer-modified parts. General Computer realizes that this would be "bad" for their product, and so they include a 90 day warranty on your Mac central unit (i.e., the big box with the tube in it). In addition, they intend to offer full-coverage protection equivalent to Applecare within about two months.

#### 5) Prices

Prices for complete systems, including installation, shipping, etc. are as follows:

Hyperdrive installation on 512K Macintosh: \$2195.00  
512k upgrade and Hyperdrive installation: \$2795.00

I understand that Charles Largay of The Computer Store in the D.C. area has had a beta-test model for several months, and is stocking them now. He has indicated to me that a Washington Apple Pi group discount of 9.9% would be available to us for a single order of at least 25 units. I will try to arrange a demonstration of his Hyperdrive system for the SigMac meeting, probably before this article goes to press.

#### 6) Portability

For me, portability is a great feature of the Mac. Perhaps the best feature of the Hyperdrive is that it is completely enclosed in your Mac (no new carrying cases!). I like the fact that with the Hyperdrive you don't even need to take along your external floppy in your suitcase when you travel. Also, the system adds less than 5 lbs to your Mac, unlike the bulky external hard disk systems on the market today.

#### 7) Conclusions

Surprisingly, my greatest objection to the Hyperdrive system is the whirring noise of the disk (which one would, of course, have with any hard disk system). Having floppy disks, one gets used to having a completely silent machine most of the time. It will be strange having a machine which has a constant whir. To be fair, all of the other hard disks that I have heard are noisier than the Hyperdrive.

Although the Hyperdrive modifications are quite extensive, and you must consider that you are taking some risk with "your baby", it is clear to me that the system has been well designed, well engineered, and properly warrantied. All in all, barring some startling announcement from Apple, I would highly recommend the Hyperdrive from General Computer.

P.S.: I spoke to Dennis Brothers recently about the Hyperdrive. He has had one for about two months. His opinion is that "the Hyperdrive is a fabulous piece of equipment." ☞

# CONVERTING APPLE ][ PASCAL TO MACPASCAL

by Robert C. Platt

A well-accepted virtue of Pascal is that Pascal programs can be easily transferred across machines. Few people realize that this holds true only for UCSD Pascal and that conversion problems arise when moving between UCSD (i.e. Apple) Pascal and other versions.

An Apple ][ owner with an extensive Pascal library who seeks to upgrade to a Mac has two choices. The easier route is to purchase the UCSD p-System, including a Pascal Compiler from SofTech Microsystems at a list price of \$195. This system will run Apple Pascal programs with few problems. The more daring route is to convert Apple Pascal to Apple's new Macintosh Pascal. This article will cover a few pitfalls along this route.

## MacPascal

Apple markets an interpretive version of Pascal (MacPascal) at \$125. MacPascal is based upon the American National Standard (ANS) version of Pascal. Probably the best summary of the differences between ANS and UCSD Pascal can be found in an appendix to Paul Sand's Advanced Pascal: Programming Techniques (Osborne McGraw-Hill 1983). In turn the differences between ANS and MacPascal are listed in Appendix A to the Macintosh Pascal Technical Appendix. Perhaps one day everyone will settle down to an effective Standard; in the meantime, I offer the following tips to those who venture from the de facto standard (Apple or UCSD Pascal) into the exciting new world of MacPascal.

## Compiler Options

Apple Pascal sends messages to the compiler by comments which begin with a dollar sign (\$). MacPascal will treat these as comments. However, translating programs require certain compiler options to be accommodated by changing the code for MacPascal. In general, options such as \$I- (I/O error checking), \$S+ (swapping), \$L (listing) and \$R (range checking) can be ignored. However, calls to function Ioerror (which usually accompany \$I-) should be deleted. Also, one common use for \$I- is to trap file-not-found errors. A more effective way to solicit file names from a user at execution time is to use two new MacPascal procedures - OldFileName and NewFileName.

## Case Statements

MacPascal introduces the "otherwise" clause to specify what should happen if the case expression does not equal any of the specified values. This feature is not available in Apple Pascal which takes no action if the value is not present. Unfortunately, MacPascal will halt program execution with an error if the value is not present. Therefore, add the word "otherwise" before the "end" of every case statement when converting to MacPascal.

## FOR Loops

The variable that appears before the assignment symbol is called a "control variable." Apple Pascal allows the control variable to be changed in the middle of a FOR loop; MacPascal forbids such changes. Compare this program segment with its correct MacPascal translation:

```
{Apple Pascal}
For i:=1 to 5 do
  begin
    if A[i]=pattern then
      begin
        Found:=true; {etc....}
        i:=5
      end {if}
    end; {for}

{MacPascal}
i:=1;
while (i<6) and (not found) do
  begin
    if A[i]=pattern then
      begin
        Found:=true; {etc....}
        i:=6
      end
    else i:=i+1
  end; {while}
```

## Random Access Files

Converting programs which access files based upon record numbers is proving to be very tricky. (I invite anyone who has mastered MacPascal's erratic approach to random access files to explicate the following mystery in a letter to the Journal.) First, unlike Apple Pascal, MacPascal requires random access files to be opened with a call to procedure "Open" instead of procedure "Rewrite." Program listing RandomAccess below reflects this change. Upon executing this program and choosing the Access option, one discovers that the seek procedure works differently in MacPascal! At times, it will not only position the file to a given record, but will also perform a Get. In most Apple Pascal programs, a Get usually follows a Seek. Program RandomAccess proves that if you leave the Get in its normal place, you will read the record after the one that you expect to see!

Mysteriously, this does not hold true for output to Random Access files, as shown in Program RandomWrite below. Here a seek to a given record number leaves the file pointer at that record, and not the record immediately following it. (Obviously, no implied get is performed.) The moral of the story is that MacPascal uses the Lazy I/O criteria specified on page 9-22 of the Macintosh Pascal Reference Manual to decide when to actually perform an input operation.

## Keyboard Input

Many Apple Pascal programs read the arrow keys or the control keys. Check the ASCII table in Appendix E of the Macintosh Pascal Technical Appendix to select new Chr values and modify your program accordingly. Note that Read(Keyboard,ch) in Apple Pascal reads the keyboard without echoing the input to the screen. In MacPascal, Get(INPUT); ch:=INPUT" must be used to avoid echoing the input in the Text window.

## Write and Writeln

There are subtle differences with even mundane I/O procedures such as Write. In Apple Pascal, Write(s), where s is a string that contains one or more imbedded carriage returns (Chr(13)) will produce multiple lines on either the screen or the printer. However, in Mac-

contd.

Pascal, the screen display will be correct, but the various lines will be overprinted on the printer. This is because the printer driver does not automatically add line feeds (chr(10)) to each carriage return. One other difference that makes MacPascal unsuitable for telecommunications is that the Writeln procedure is not supported for output to the modem.

I hope that this will get you started on the conversion process. I will follow this report up with a case study of a complete conversion in a future issue of the Journal.

PROGRAM RandomWrite;

{ random file demo for Washington Apple Pi by RC Platt }

TYPE  
str20 = STRING[20];

VAR  
i : INTEGER;  
names : FILE OF str20;  
ch : char;

PROCEDURE build;  
BEGIN  
OPEN(names, 'TestData2');  
names := 'zero';  
PUT(names);  
SEEK(names, 2);  
names := 'two';  
PUT(names);  
SEEK(names, 4);  
names := 'four';  
PUT(names);  
SEEK(names, 1);  
names := 'one';  
PUT(names);  
SEEK(names, 3);  
names := 'three';  
PUT(names);  
SEEK(names, 5);  
names := 'five';  
PUT(names);  
CLOSE(names)  
END; {build}

PROCEDURE Access;  
BEGIN  
OPEN(names, 'TestData2');  
READLN(i);  
WHILE (i > -1) DO  
BEGIN  
SEEK(names, 1);  
WRITELN(' before get: i=', i,  
' filepos=', filepos(names),  
names);  
GET(names);  
WRITELN(' i=', i, ' filepos=',  
filepos(names), names);  
READLN(i)  
END  
END; {access}

PROCEDURE Dump; {sequential access}  
BEGIN  
RESET(names, 'TestData2'); {implied get}  
WHILE NOT EOF(names) DO  
BEGIN  
WRITELN(filepos(names), ' ', names);  
GET(names);  
END;  
CLOSE(names);  
END; {Dump}

BEGIN  
REPEAT

WRITELN('B)uild A)ccess D)ump Q)uit');  
READ(ch);  
CASE ch OF  
'B', 'b' :  
build;  
'A', 'a' :  
access;  
'D', 'd' :  
dump;  
OTHERWISE  
END; {case}  
UNTIL (ch = 'Q') OR (ch = 'q')  
END.

PROGRAM RandomAccess;  
{ random file demo for Washington Apple Pi by RC Platt }

TYPE  
str20 = STRING[20];

VAR  
i : INTEGER;  
names : FILE OF str20;  
ch : char;

PROCEDURE Build;  
BEGIN  
OPEN(names, 'TestDataFile');  
names := 'zero';  
PUT(names);  
names := 'one';  
PUT(names);  
names := 'two';  
PUT(names);  
names := 'three';  
PUT(names);  
CLOSE(names)  
END; {build}

PROCEDURE Access;  
BEGIN  
OPEN(names, 'TestDataFile');  
READLN(i);  
WHILE (i > -1) DO  
BEGIN  
SEEK(names, 1);  
WRITELN(' before get: i=', i,  
' filepos=', filepos(names),  
names);  
GET(names);  
WRITELN(' i=', i, ' filepos=',  
filepos(names), names);  
READLN(i)  
END  
END; {access}

BEGIN  
REPEAT  
WRITELN('B)uild A)ccess Q)uit');  
READ(ch);  
CASE ch of  
'B', 'b' :  
build;  
'A', 'a' :  
access;  
OTHERWISE  
END; {case}  
UNTIL (ch = 'Q')  
END.

# VIEWS & REVIEWS

## by Raymond Hobbs

I haven't gotten very much software in for review lately (and even if I had, I've been out of town so much over the last two months that I would have had a difficult time running through it), but I do have an item left over from January, and a note or two on previous reviews...

**MAC MUSCLE** (Tech 2000). This package represents the way I believe that software for the Mac is going to go. It is in the class of software known (somewhat uncharitably and charitably at the same time) as "personal productivity software", which really means that it is a package for people rather than businesses. Let's face it. You bought your Mac for you. It simply doesn't have the horses that Big Blue has for business, but oh, my - does it ever change the way you think about computers. Mine doesn't even sit in the same area of the house as my others do.

All of which brings me to Mac Muscle. The program has nothing to do with business, unless your business happens to be looking as good as possible. It is a program for self-improvement through exercise.

Now, when I got this package I thought that it was going to be pretty tough to exercise in front of a computer, like jogging in place in front of a Jane Fonda Workout video. However, the package turned out to be very useful as well as workable. Mac Muscle allows you to enter your own workout program, suited to your age, physical condition and activity pattern (this function is guided throughout by the author's years of experience as a fitness instructor). In other words, Mac Muscle does exactly what the counselors at health spas do with regard to designing exercise programs. Included are programs in aerobics and in weightlifting.

You start out by planning your workout schedule - the days on which you want to work out. You then advise the program about your overall fitness level and training pulse level (the program will calculate this for you if you don't want to do it yourself - it even has a little heart that will beat in 4/4 time to assist you). Now that you have created a workout profile for yourself, you select the exercises that you want included in the workout. The way that Mac Muscle does this is great. You call up an anatomical figure which shows you where each major muscle group is located (it is labeled in anatomical or common terms, by your preference), and select the muscle group that you want to work on. Mac Muscle will then give you back a list of exercises which will work out that muscle group. For primary (recommended) exercises, there is even a graphic demonstration of how to do the exercise (there is always a written explanation). Although I didn't always agree with the exercises recommended by Mac Muscle, the program always allows you to substitute an exercise of your choice, regardless of whether it is in Mac Muscle's extensive encyclopedia of exercises. After an exercise has been selected by the user, Mac Muscle will add it to the workout schedule (of course you can go back and edit). Once you are satisfied with your schedule, Mac Muscle will save it to a file. What is saved lists your name, fitness level, training pulse rate, date and exercises for every day of the week that you indicated for your preferred schedule. There is also a space included for you to record what you actually did (as opposed to what you originally told Mac Muscle that you would do).

Technically, Mac Muscle is a clean program. It is easy to move from function to function without getting lost, and Mac Muscle is always ready to provide help if the user gets lost for some reason (I didn't). The documentation is quite adequate, even if it is a long way from leather-bound gold leaf printing. Although the program is copy protected, you can back up the files on it, including the program itself. You just can't boot with your copy. Thus, if the program crashes, you can copy your copy back to the boot disk to restore the file. Considering the frequency with which the Macintosh trashes files, this procedure is really a must. In any event, the copy protection is trivial, and easily broken if you feel that you must have a bootable backup.

There are two reasons for buying Mac Muscle. First, if you want to improve yourself by exercising and want to save hundreds of dollars by doing it yourself instead of at a spa. Second, if you want to see how an exceptionally clean software package runs on the Macintosh. A good buy.

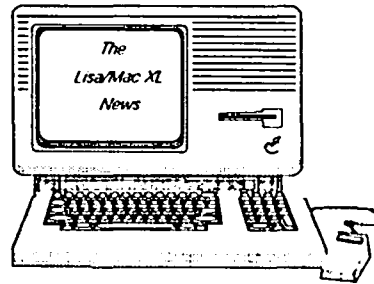
**MULTIPLAN** (Microsoft). I know. I did this review way back in November. However, I have run across a situation that improves my regard for Multiplan. It happened when I tried to import a standard ASCII file into LOTUS 1-2-3. You know what? Lotus wouldn't let me do anything with the numbers. It seems that the Cadillac of spreadsheets needs delimited text in order to create numeric fields. It also turns out that the Lotus Translate utility has quite a bit of trouble with a number of file types. However, Multiplan seems to have no trouble at all with anything. You can go up, down, sideways and diagonal with files and there is always a reasonably simple way to get them into Multiplan. It is compatible with Wordstar, Turbo Pascal, dBASE II, VisiCalc, Lotus, SuperCalc and what-have-you. Three more points for Multiplan. NOTE: The foregoing holds true for Multiplan Apple DOS, CP/M and MS-DOS, but not for Multiplan on the Mac, where it seems to be compatible with nothing at all...

**JAZZ** (Lotus Development Corp.). Lotus' Jazz for the Macintosh is supposed to make the MAC a viable business computer capable of integrating work in word processing, database management, communications, spreadsheet analysis and graphic presentations. I believe that Lotus will sell a number of these packages, but I don't see any way that Jazz will make the Mac, which is (let's face it) seriously poverty-stricken with regard to memory. After all, Jazz is a MEMORY-based program. That means that your data is in RAM - every record and every field of it. Contrast this to dBASE II or III, where the data is managed on disk, and you'll see where Jazz is going to have serious problems handling business data in a meaningful way.

The spreadsheet is, in a word, beautiful. Lotus is the world's premier spreadsheet maker. 1-2-3 set the standard for spreadsheets, and Jazz does 1-2-3 one better (or even two better). In every category except one: 1-2-3 has a spreadsheet capacity of 256 columns by 1024 rows - a bundle, when compared to the runners-up. Jazz offers a whopping 256-by-8192 spreadsheet. Seems like a real step up, doesn't it? Now, open up your Jazz spreadsheet and GOTO IV1024 (row 1024, column 256). Enter a one into the cell and report back what happens? As you can see, the extra spreadsheet size doesn't mean anything, since you can't even

contd. on pg 33

# LISA/MAC XL SIG NEWS by John L. Day



*The  
Lisa/Mac XL  
Section*

There's more big news this month with the unveiling of the first pre-release version of the Lisa to Mac Migration Package, version 0.9. This package allows you to convert text or graphics from Lisa documents to Macintosh and to change entire LisaWrite or LisaDraw documents into their Macintosh counterparts. You start by installing the migration package tool on your Lisa hard disk. You then insert a Mac formatted disk into the disk drive which your Lisa will promptly tell you isn't a Lisa disk. Click Continue to tell Lisa that you have tools that can use this non-Lisa format disk. Next, open the document you wish to transfer, select the portion of the document you want, and copy it to the clipboard. Open the Lisa to Mac migration tool and choose paste from it's edit menu. Choose transfer from the edit menu, click the transfer button, name your file, and the portion you want to send will now be on the Mac diskette in either a MacDraw or MacWrite format document. My initial experiments worked quite well for graphics. On the other hand, text that is transferred will not maintain its original font, so you may need to massage the font and format of any text when you look at it in a Mac format. Apparently, whichever font is the top one in your Mac system folder is the one that the text will appear in when you finish the transfer. I guess that's what pre-release is all about!!

Several weeks ago I was in Greensboro, N.C., and had a chance to meet and talk with Bill Stanley of the Computer Shoppe of Greensboro. Bill is the developer of the Plots // application for the Lisa operating with Lisa 7/7. This application lets the user draw LisaDraw documents on one of several plotters including the HP 7475, HP 7586, and HI DMP 41/42. The price is \$295 for the HP 7475 and HI DMP 41/42 version and \$595 for the HP 7586 version. This package is very powerful and is capable of plotting almost anything that can be pasted into LisaDraw! Plots // ignores page

breaks in LisaDraw, so your large drawings will be plotted as one document on a large plotter. Scaling up or down can be accomplished without changing your drawing, because it is done at plot time, and can effectively be used for enlarging your charts and graphs for presentation purposes on overhead transparencies, or reducing larger drawings for an overview. The package was most impressive, especially when seen, as I did, being demoed on a \$17,500 36" wide HP commercial color plotter. He showed me several applications that his customers had made and they included a wide range of things such as electronics drafting and even architectural blueprints and building plans. Call Bill for more details at (919) 299-4843, and tell him you saw it here.

The newly released AST RamStak memory board for the Lisa will give you up to 2 Meg of RAM for your system. The board comes with 512K of RAM, and is socketed to take up to another three 512K blocks for a total of 2 Meg on one board!!! That has to make it the winner and new champ in the war for the biggest memory board. The board comes with a patch for the 7/7 software and also one for MacWorks as well. (And our baby brother thought he had a lot of memory at 512K!). I will have a demo board to show in the near future, so stay tuned for more details.

Next month there will be two meetings. The first will be a special meeting on April 6 at the WAP club office at 9:30 AM, and will feature Kurt Schmucker who will discuss Lisa programing in general, and the Lisa Toolkit in particular. The second meeting will be the regular meeting and will include a discussion of two database programs for the Lisa, Brock Keystroke, and OMNIS 3. The regular meeting will be April 20th at 12 noon at the same place the SigMac meeting is held. See ya there. ☺

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# THE BEST OF THE WAP ABBS

by Alexander-

From WP1704 to ALL 02/20 DOS 4.0

Rune Software sent me a flyer offering a one-time good deal on DOS 4.0. Does anybody know anything about this product? How does it differ from DOS 3.3 and ProDOS? Why would anybody want it?

From WP4011 to:WP1704 02/20 DOS 4.0

Funny - This is the 2nd time I've heard about DOS 4.0 in as many minutes. The BBS has a brief comment on the 'welcome bulletin' - It said something about trashing disks easily. Joshua Mendelsohn

From WAP538 to:WP1704 02/20 DOS 4.0

I heard from some people in a users group in Connecticut that DOS 4.0 is a real turkey. They say it trashed files and did other "bad" things. If the author has fixed it, it might be a very good thing, but absent any assurance of that, I would recommend ProDOS, Diversi-DOS or (these are based on hearsay) David-DOS or Pronto-DOS. Tom Warrick

Fom WP4649 to:WP4087 02/09 Mouse, now what?

Chuck, the only other applications that I know of now that use the mouse are: Dazzel Draw (great program, a drawing program similar to Mp, but in double hi-res, 16 colors, about 20 patterns at a time, make your own, save them as sets, all the tools of MP, but with flood-fill), summer games, and some...

Fom WAP148 to:WP4087 02/10 MOUSE forever!!

You MUST check out the latest issue of A+. It has an excellent article which answers your question perfectly. It has a list of products in several different categories (financial, graphics, productivity, etc.) that can utilize the mouse. Several of the products are reviewed and the future of the mouse in general is discussed. One of the best issues of A+ yet! Bob

From WAP148 to ALL 02/10 Full screen graphics

Does anyone know of a graphics package that can draw a full (8 1/2 x 11) page graphic? One that can use the Mouse, preferably. Is there some way to do such a thing with MousePaint? The drawing pad is only half the size of a piece of paper which makes printing a pain! Any help? Bob

From WAP208 to:WAP148 02/12 Blazing Paddles

Blazing Paddles lets you use the full screen. It is a superior program to MousePaint.

From WP1694 to ALL 02/18 International modems

Does anyone have any experience sending or receiving data from overseas? A friend of mine has tried to connect his Mac w/ Applemodem 1200 with an identical system in India; the two ignored each other. Any suggestions will be appreciated! Bill Hole

From WP1095 to:WP1694 02/18 CCITT Modems

The equivalent international modems are designated CCITT V.2X, for example V.21, V.22 etc. A CCITT 300 baud modem will not connect with a Bell 103 type. A

CCITT V.22 WILL talk to a Bell 212 at 1200 baud. Many foreign PTT's are set up to require the extra "pilot" signal that the V.22 has; an "American" modem cannot be used on the overseas side. New Hayes supports all standards.

From WP2243 to:WP1694 02/19 Intl modem traffic

Well, the problem is probably that your two modems operate on different standards. The Intl std is called V.25 (?) and your US modem probably is a Bell 211 standard. These standards are similar, but not identical. You might be better off going thru a public network (MCI MAIL, TYMENT, UNINET, etc.) that will take care of the standards conversion for you. Brett.

FRom WP4614 to ALL 02/24 Machine language

I'm interested in machine language.... I've learned some of it already, but I found my main problem was that I did not know where many Apple locations are. Does anybody out there know of a decent book that will GIVE ANY HELP. Thanx...

From WP1326 to:WP4614 02/24 Apple M/L locations

One of the best sources for detailed info on Apple M/L points of interest is Luebbert's WHAT'S WHERE IN THE APPLE? Another would be Call-A.P.P.L.E.'s "IN DEPTH" Series on DOS and Applesoft. The WAP office should have copies of these so you may review prior to purchase. Don't know current prices but should be under \$20 each.

From WP3502 to:WP4614 02/25 Apple Mem Loc Book

WHAT'S WHERE IN THE APPLE is probably the best source of info for the Apple's internal memory locations. It includes an atlas with the memory locations in numerical and alphabetical order. Price is about \$25. It isn't easy to find. You may have to order it directly. If you need the address, leave me a message. Eric Rall.

From WP2208 to:WP4614 02/27 What's Where???, etc.

Two references: (A) "What's Where in the Apple", Micro Ink, Box 6502, Chelmsford, MA 01824. Be sure to get latest addition... (mine is blue and approp. for ][+); (B) "Apple II Monitors Peeled". This is by Apple, and expensive ...\$19.95 for 89 pages; but it has calls and useful subroutines.

From WP4614 to ALL 02/29 Sub-routine books

Thanks to everyone who responded to my question of which book is most helpful; these 3 books have been recommended: WHAT'S WHERE IN THE APPLE, IN DEPTH, and APPLE II MONITERS PEELED. If anyone knows any others, please let me know. Thanks again to the people who told me about them.

From WP2411 to ALL 01/30 ProDOS fix

I have no experience with ProDOS, and I have someone who has an Appleworks w.p. file that is VERY important with 1 (only one) bad block in it. Is there any way to save the file and just lose the block or even what's after it? Anything is better than nothing.. Please help! Thanks....Derick

contd.

From WP3797 to:WP2411 01/31 ProDOS fix

Use LIFESAVER by MicroPro to try to recover the bad sector (1/2 block). If Lifesaver can't read it, use a disk zapper to fill the sector with harmless ASCII characters (hi bit lo). Then try loading file into Appleworks again. I don't know the format of AW files. (It was a text file?). Just simulate what you find in the other sectors of that file. Locksmith might copy it, too. Only zap the copy, of course! And next time keep BACKUPS!. I rotate three disks with large files. One from last session kept away, and two updated frequently during session. If you use both sides of disks, this doesn't get too expensive. Tom Vier

From WP3876 to ALL 02/01 Getting 40 tracks

A letter in the Feb. NIBBLE listed a simple patch to DOS 3.3 to enable one to get 40 tracks on a standard 35-track drive. I succeed in getting 40 tracks on drive 1, but only the standard 35 on drive 2. The drives are of the same vintage, and of course use the same controller card. Any ideas why this happens? For your info, the patch is as follows: boot DOS; enter the monitor, and change three locations: AEB5:A0, B3EF:28, and BEFE:28. Then INIT HELLO, and you should hear the drive write 40 tracks. When I INIT HELLO,02, only 35 tracks get written.

From WP3835 to:WAP713 02/02 40-track disks

Sam, this is not an exact answer to your question, but may help. I use Rana drives W/40-Trk patch. I have taken 40-trk disks and run them on a 35-trk Disk II with no problem except that when the disk gets full, the Disk II cannot reach the last 5 tracks. (The DOS is patched for a Rana drive/controller). Bottom line is an unequivocal maybe. This is a good question for a seminar. Pete Jones.

From WP2653 to:WAP713 02/02 40 tracks

It IS ok to use 40 track disks in 35-track disk //s... as long as you don't access the upper 5 tracks. It MIGHT work, then again.... Danny

From WAP208 to:WAP713 02/06 Caution

Be Careful. If you have an old Apple II drive, you can initialize DOS for 40 tracks but the drive will only read/write to 36. You won't have any indication that anything is wrong until you try to read a file written to those phantom tracks.

From [YOU] to ALL 02/14 Disk Sleeves: Where?

Where can I get the envelopes, sleeves, which one is supposed to keep disks in? They seem to keep getting lost at work, and there's a bunch of disks lying around the place naked. =Alexander-

From WP2653 to:[YOU] 02/14 Disk sleeves

Any company who sells bulk pack disks also sells the Tyvek sleeves for same. Try Communications Electronics, Conroy-La-Pointe, and other mail order companies. They usually sell them in 100's or 50's. -Danny

From WAP713 to:[YOU] 02/15 Disk sleeves

=Alexander- Naked disks! I'm shocked. Thought this was a family BBS!! Try VF Associates (next to WAP office, 363-1313); I'm pretty sure they sell 50 sleeves for \$4-5. Get some clothes on them disks!! Sam Swersky.

From [YOU] to ALL 01/26 Help! No boot.

Occasionally a PR#6 or a Ctl-Open Apple-Reset fails to re-boot for me. Memory clears, the disk spins, but it doesn't make that chunking sound, which I presume is a head searching for something; and, it doesn't boot. The disk just spins uselessly. A second try gets it. What's going on here? =Alexander-

From WAP538 to:[YOU] 01/28 No Boot problem

=Alexander-: I have had the problem you describe (disk drive spins but won't read the disk) and have found that reseating the disk drive controller sometimes helps. If it does, it would indicate a dirty contact in the slot as the probable cause. Tom Warrick

From WP3502 to:WAP538 01/28 Spinning Disks

Recently my drive just wanted to spin. I removed the cover and noticed the teflon disk with the spiral groove was spinning, but the metal guide had left the groove. I tried cleaning the 2 metal guide rails with alcohol. The problem went away. Seems to be a simple and cheap solution. Eric Rail.

From WP2086 to:[YOU] 02/01 Boot Problem

I had an identical problem. If you are the brave type, replace C7 in the power supply. The one in there now is A 220MFD 10V. Replace it with a 220MFD 25V. There's a good chance that this will solve your problem. Good luck.....Jack

From WP1333 to ALL 01/25 More Sider

Compuserve's MAUG has extensive file now on The Sider. So I guess it's for real. The remaining question will be to see if its reliability holds up and the company stays in business. \$695 is great for those who can afford it, but I prefer a brand name and think a little more money to get one and support service may be worth it.

From WP2653 to:WP1333 01/26 The Sider

The SYSOP of a local board just purchased a Sider for it. The board is called ALCATRAZ. Phone 780-8766. It seems to be holding up quite well under the constant use of a BBS. -Danny

From WP2653 to ALL 02/15 Too Good to be True

A friend of mine recently bought a SIDER hard drive with hopes of setting up a BBS. Everything was working fine, for the first few days. It sounded like a 747 taking off, but for \$700 you can't have everything. Yesterday, he noticed smoke... looked to see where it was coming from... it was his hard drive! So, he unplugged it and sent it back at a cost of \$36. Turns out the Company is moving to Pennsylvania next Wednesday, but they said if he would send it blue-label-air, it would arrive in time for them to send him a new one. Wait and see... -Danny

From WP5531 to:WP3419 02/22 Sider is Great!

Ken, don't know about your friends unit, it sounds like it was bad from day one. My Sider is up and my BBS is running on it. Call 703-553-0821 and check it out.

From WP4496 to ALL 02/22 Sider

I've had a Sider installed on my //e system for approximately 10 weeks, using it mostly under CP/M for dBaseII, Multiplan, and Wordstar, and 3.3 for a couple of utilities. I wouldn't be without it. Noise is considerable, but a foam 'box' helps that. With any

contd.

new product, the percentage of bad units is apt to be high, but FCP'S guarantee is evidently very well supported (100% return/replacement). A good practice with any newly installed equipment is to run it hard initially to check for defects before trusting it with critical data. Long-term durability has yet to be proven, as with anything new, but for the moment, Sider appears to be a valuable tool.

Fom WP3876 to ALL 02/09 The Woz

The Woz is leaving Apple. What will this mean for future development and support of the ][ series? One of his reasons for leaving is that he thought that the corporation was neglecting the ][. So his personal drive will be missed. On the other hand, perhaps someone with a marketable idea for the ][ (and Woz was no marketer) will come to the fore. Ideas?

From WP2653 to ALL 02/09 Woz?

Well, perhaps it will be good for The ][, in a strange way. He was pushing an expander board to allow the ][+ to use //e double hi-res, and all of the other new programs. Now that he's out of Apple (?), he may be able to find some other company who would be willing to help him develop this... -Danny

From WP1694 to ALL 02/09 The Woz

If what I've read is true, I don't blame him for leaving Apple. When is Apple going to realize that the // series is and always will be their bread and butter? When people think of personal/home (not business) computers, they think of the Apple //. Mac won't change that, but if they let the line descend into total obsolescence, IBM, Commodore, and Atari will eat Apple for lunch. A 16-Bit Apple // with a more powerful operating system and more memory is the path for Apple's continued success, no matter how much the idea may offend Steve Jobs' ego. Bill Hole ☞

RAM Disk Adventures contd. from pg 52

system bomb dialogue box shows error code 3: illegal instruction (can the program be fixed?). The Calendar can be used only so long as you leave it active (removing its window to the background by clicking on one of the application's window) after the first summons from the Apple menu.

Summary

For my money and shoulders, a RAM disk can indeed substitute for a second disk drive and in many respects is superior to a second drive. But I still am saving my pennies (in ton lots) for a Winchester (no matter how much my shoulders complain). ☞

MS Word contd. from pg 51

it for about \$120. If you only write short letters and memos you don't need WORD. MacWrite, of loving memory, really is adequate. But, if your need is for longer documents or for more features, it is hard to see how you could do much better than with WORD. It's powerful! It's terrific! And in case you don't get it yet, I love it.

I look forward to getting Version 1.1 WORD which incorporates all of these changes, but I won't hold my breath. ☞

# DISKETTERIA

## DISPATCH

by John Malcolm

We have three new disks this month, one DOS 3.3 and two SigMac disks. The SigMac disks are discussed in "A Page From the Stack" elsewhere in this issue. The 3.3 disk is "Calculink", a donation-ware disk which supports a charity. (The creators, the Shriner-Midland Company, will donate their profits to the YMCA for relief work in Ethiopia.)

### WAP DISK 94: CALCULINK

The disk is described in detail in the March WAP Journal; however, in short it converts data files into VisiCalc format and is used for consolidating data from two or more VisiCalc spreadsheets (if they are exactly alike in format). The disk can be run in either an upper case (UC) mode or mixed upper and lower case (LC) mode. When you boot the disk, be sure to select the appropriate option.

### DISK ERRATA

Volume 153: INVESTMENTS A - The data presentation for the mortgage amortization lacks spacing between the payment number and the interest paid. The data presentation also wraps around the screen on loans larger than \$10,000. Typing in the following two lines cures the spacing problem and permits loan amounts up to \$9,999,999 (which should take care of the most of us).

```
2180 PRINT C; TAB(5); L; TAB(15); P; TAB(30); B
2201 PRINT C; TAB(5); INT(D) / 100; TAB(15);
R - INT (D) / 100
```

Volume 70: BUSINESS/MATH/STATISTICS - Mort Amort Table. The program contains a line which suppresses printer linefeeds after carriage returns. Substitute the following line if your printer needs linefeeds.

```
155 PRINT CHR$(4); "PR#1" : HOME
```

### RECIPE DISK

Remember to send in to the office your favorite recipes for the WAP Recipe Disk. Get them in quickly so the review committee can consider them for the disk.

Finally, as always, notify us, preferably in writing to the office, of any glitches you find in WAP disks. We are making a new effort to correct the bugs we find out about. ☞



WASHINGTON APPLE PI DISKETTERIA MAIL ORDER FORM  
Software for Creative Living

Disks from Washington Apple Pi's Disketeria are available for purchase. This form is only for ordering disks that you want mailed to you.

5 1/4" DISKETTES: - Members \$ 5.00 ea.; Non-members \$ 8.00 ea., Plus \$1.00 ea. postage up to a maximum of \$5.00  
3 1/2" " - Members \$ 7.00 ea.; Non-members \$ 10.00 ea., Plus \$1.00 ea. postage up to a maximum of \$5.00

Note: DOS 3.2 disks (Volumes 1 - 40) have been discontinued. The office will maintain an "archival" copy of each of these.

DOS 3.3

- ( ) Volume 41 IAC 25 Mach. Lang. Util.
- ( ) Volume 42 One Key DOS \*\*\*
- ( ) Volume 43 IAC 29 Utilities H
- ( ) Volume 44 Utilities I
- ( ) Volume 45 Diversi-Copy \*\*\*
- ( ) Volume 70 Business/Math/Statistics
- ( ) Volume 71 Music
- ( ) Volume 72 Keyboard Games
- ( ) Volume 73 Text Adventure Games
- ( ) Volume 74 Paddle Games
- ( ) Volume 75 Color Graphics for Fun
- ( ) Volume 76 Education
- ( ) Volume 77 Utilities
- ( ) Volume 90 Spreadsheet C Genl. Bus.
- ( ) Volume 91 Spreadsheet D Investment
- ( ) Volume 92 Spreadsheet E Bus. Recd.
- ( ) Volume 93 VisiPlot & VisiTrend
- ( ) Volume 94 CALCULINK \*\*\*
- ( ) Volume 100 Utilities A
- ( ) Volume 101 Utilities B
- ( ) Volume 102 Games A
- ( ) Volume 103 Merry Christmas
- ( ) Volume 104 Business A
- ( ) Volume 106 Science Engineering
- ( ) Volume 107 Games B
- ( ) Volume 108 IAC 10 (Graphics)
- ( ) Volume 109 IAC 11 (Applesoft Tutorial)
- ( ) Volume 110 Personal/Education
- ( ) Volume 111 Games C
- ( ) Volume 112 Utilities C
- ( ) Volume 113 Business B
- ( ) Volume 115 IAC 12/13 Misc.
- ( ) Volume 116 IAC 14 MicromodemII
- ( ) Volume 117 Picture Packer
- ( ) Volume 118 Utilities D
- ( ) Volume 119 IAC 15 Misc.
- ( ) Volume 120 IAC 16 Misc.
- ( ) Volume 121 WAPABBS 1.1 Doc. \*\*
- ( ) Volume 122 IAC 17 Misc.
- ( ) Volume 123 French Vocabulary
- ( ) Volume 124 Utilities E
- ( ) Volume 125 IAC 18 Misc.
- ( ) Volume 126 Sights and Sounds
- ( ) Volume 127 Math/Science
- ( ) Volume 128 Games D
- ( ) Volume 129 GLAQ
- ( ) Volume 130 Diversi-DOS \*\*\*
- ( ) Volume 131 Personal/Educ. 2
- ( ) Volume 132 IAC 19 - Utilities F
- ( ) Volume 133 IAC 20 - Pascal & DOS 3.3
- ( ) Volume 134 New Members Disk

DOS 3.3 contd.

- ( ) Volume 135 WAPABBS 1.1 Disk 1 \*\*
- ( ) Volume 136 WAPABBS 1.1 Disk 2 \*\*
- ( ) Volume 137 IAC 21 Spreadsheet A
- ( ) Volume 138 IAC 23 Utilities G
- ( ) Volume 139 IAC 24 Education 3
- ( ) Volume 140 Education 4
- ( ) Volume 141 Special Data Bases
- ( ) Volume 142 IAC 28 Pinball Games
- ( ) Volume 143 Sports
- ( ) Volume 144 IAC 27 Applesoft Prog.
- ( ) Volume 145 Apple Logo Tool Kit
- ( ) Volume 146 Logo Documentation
- ( ) Volume 147 Apple Logo Sample Prog.
- ( ) Volume 150 EDSIG1 (Elem. Math)
- ( ) Volume 151 1983 Tax Template
- ( ) Volume 152 IAC 31 Miscellaneous
- ( ) Volume 153 Investments A
- ( ) Volume 154 Investments B
- ( ) Volume 155 IAC 33 Miscellaneous
- ( ) Volume 156 IAC 35 Applesoft-AW//e
- ( ) Volume 157 IAC 36 Arcade Games
- ( ) Volume 158 Apple Logo Programs

Eamon Series

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- ( ) Volume 181 Beginners Cave
- ( ) \*Volume 182 Lair of Minotaur
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- ( ) \*Volume 205 The Crystal Mountain
- ( ) \*Volume 206 The Lost Adventure
- ( ) \*Volume 207 The Manxome Foe

Pascal (See also Volume 133)

- ( ) Volume 300 PIGO: ATTACH 1.1/BIOS
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- ( ) Volume 302 PIG2:
- ( ) Volume 303 PIG3:
- ( ) Volume 304 PIG4:
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- ( ) Volume 308 PIG8:
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- ( ) Volume 311 PIG11:
- ( ) Volume 312 PIG12:
- ( ) Volume 313 PIG13: Guerilla Guide
- ( ) Volume 314 PIG14:

CP/M

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- ( ) Volume 402 Utilities 1
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- ( ) Volume 406 ZCPR2 Install
- ( ) Volume 407 ZCPR2 Documentation
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- ( ) Volume 409 Modem 730

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- ( ) SigMac 14 Filevision Templates
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\* Volume 181 required with these disks. \*\* Vols. 121, 135, 136 must be purchased together.  
\*\*\* Use of this disk requires sending money directly to the author.)

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WAP TUTORIAL REGISTRATION

The following four WAP tutorials are being offered on Tuesday evenings from 7:30 to 9:00 PM, at the office, 8227 Woodmont Ave., Bethesda, MD. (The tutorials start promptly at 7:30; if you bring your computer please arrive 15 minutes early to set up.) You may sign up for any or all of the series. They are designed for the "beginner" and will be repeated monthly. A detailed outline of the tutorials was given in the January, 1985 WAP Journal.

- |              |   |            |
|--------------|---|------------|
| ( ) April 2  | - INTRODUCTION TO APPLE COMPUTER HARDWARE | ( ) May 7  |
| ( ) April 9  | - HOW TO USE YOUR APPLE SOFTWARE          | ( ) May 14 |
| ( ) April 16 | - BEGINNING APPLESOFT BASIC               | ( ) May 21 |
| ( ) April 23 | - INTERMEDIATE APPLESOFT BASIC            | ( ) May 28 |

The fee for each tutorial is \$10.00 with an Apple, monitor and disk drive, \$15.00 without (monitors available for 1st 5 registrants - call office). Please note that WAP does not have equipment for you to use; if you do not bring your own, you will have to look over someone's shoulder.

\_\_\_ Tutorials at \$10.00 (with equipment)      \_\_\_ Tutorials at \$15.00 (without equipment)

The following "non-regular" tutorials for the Apple // are being offered on Wednesday evening and Saturday mornings (also at the office). Please register in advance.

Apple Writer II: An Introduction - Dianne Lorenz. Wednesday, April 17, 7:30 PM.

- |                             |                           |
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- |  |  |
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# Operant Systems

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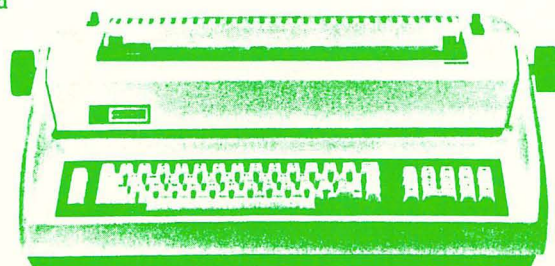
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