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Washington Apple Pi

The Journal of Washington Apple Pi, Ltd.

Volume 7 May 1985 Number 5

Highlights

Playing Against Sargon III
Digging Into LOGO
63 Genealogical Data Bases
ReadySetGo

In This Issue

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ABBS (301) 986-8085 - 24 hours/day
ABBS-Mac (301) 986-8086 - 24 hours/day
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EDITORIAL

Rambling Ruminations. Got a call at the office the other day. It was from a young man who called to let us know that he was not going to renew his WAP membership. No, he was not miffed about anything. Rather he was moving on to other things and had sold his Apple][. He said that WAP had been very helpful to him in the past but now he could not justify renewing. He said he had enjoyed the newsletters and the meetings immensely, and that we should keep up the good work. I reminded him that we will be here, ready to help when he, James Underwood, rejoins as a Macintosh owner. In a similar vein, our WAP member Duncan Langford from Canterbury, England (see his article in this issue) called a while back and said that he was most grateful to the WAP. He had received considerable support from us in the early days of the Apple][when he felt quite alone. Now he is the proud owner of a Mac also, and says that once again WAP has come to his rescue with the Mac articles, public domain disks, etc.

Take particular note of the change of address notice in this issue sent to us by Paul Funk. Paul does quite interesting original work with his Mac. Would that he and others using Apple]['s with the Print Shop or whatever might contribute materials to liven up our white space...

Took a 2 1/2 hour breather this Saturday AM to attend the SigMac meeting. Not enough time for Steve Hunt to prepare a written record of it for inclusion in this issue. However, here are one or two observations. There were approximately 400 folks who showed for the presentation of Thinktank by Scott Love of Living Videotext. Excellent presentation, but for the slightly blurred projection of the Mac screen produced by the Limelight projector. We're working on that. Steve also, prior to the main presentation, reminded all attendees that the WAP does not permit copying of copyrighted software to take place at any of the meetings. This statement also includes any activity sponsored by WAP, or at the WAP office.

PRESIDENT'S CORNER

by David Morganstein

Serving All Our Members. As each new Apple product has appeared, the WAP has endeavored to meet the challenge of serving owners of that equipment. Even after Apple has dropped a product from production, we try to serve anyone who needs the help, when we can. The office frequently receives comments from people who would like to see a different balance of coverage by machine in the Journal. Unfortunately, there is little that the office can do to change that balance. That task remains on the members' shoulders. We can, at best, ask for articles in various areas and hope that owners of that machine will respond. Macintosh owners want to see more Mac articles, Apple // owners want to see more Apple // articles. (The Editor wants to see more articles, period!) Meanwhile, we print just about everything we receive within a month of its receipt. We now have over 300 Apple //c owners. We would love to include articles which benefit these folks. We can only do that if you //c members will write about your machine!

The same point holds true about our software collection. We have had an Apple //e owner ask why there have been a number of Macintosh disks released in the past few months and only one Apple // disk. The reason is simple. Our members have not contributed any new // software to our collection from which we can generate a new disk. Fred Edwards, our DOS 3.3 disk librarian, stands ready and willing to accept contributions. (Remember, you get a free disk of your choice in swap for the one you give us which contains your contribution.) Our collections are built, in large part, on your generosity. If you write a useful program or type in from a magazine a public domain program, give it to us to share with everyone else and help our collection to grow.

Help At The Office. We want to thank yet another member for volunteering her time to help our much overworked office staff. Bonnie Palevich has been lending an extra pair of hands one day a week and it helps! Thanks, Bonnie. (Anybody else out there got a few extra hours?)

Garage Sale. We are scheduling the bi-annual garage sale (held in honor of the Apple's humble origins) for June. We would like to hold the event in Northern Virginia to save time for all the many faithful who travel round the Beltway to reach Bethesda. The problem is that the USUHS cafeteria, being free, is a tough act to follow. Can you folks in Virginia find a location that can match the price? Any old cafeteria or other large open space that will permit 500-700 people and three to four dozen tables (and costs little or nothing) will do. We would like to stick with the fourth Saturday in June, if possible. Please determine if the space is available for us and then contact Adrien Youell, program co-ordinator.

Video Projector. The club has for some time been looking for a video projector which can be used with all Apple equipment. The toughest constraints are imposed by the Macintosh with its higher scan rate. Up till recently, we were looking for one machine which could provide good low resolution color and good high resolution monochrome displays. We are now thinking instead of two machines, one for color and one for monochrome. These thoughts have been precipitated by the lack of an affordable machine with both capabilities. If you know of any equipment which can serve our needs, please contact Bernie Urban. Bernie has been lugging computers around to various vendors to see what the displays look like in an effort to meet our needs and he would welcome any assistance in his search.

Volunteers Needed.

Volunteer Coordinator. We are looking for someone who can help co-ordinate volunteers. This person would keep up on the needs for volunteer help and try to connect the volunteer with the job. About six hours a month should do it, most of which would be on the phone. You need to make sure that the volunteer understands what is needed and check with them periodically to see if they need any help.

Facilities Coordinator. Jim Taylor, who has worked with Chet Pletzke at the USUHS to schedule facilities, is being transferred away from the DC area. We want to extend a sincere thank you to Jim. He has taken the time to be at practically every meeting and to work with the USUHS staff and the guards to make sure every meeting met the needs of the membership. We are looking for another USUHS or Naval Hospital employee who can provide the kind of liaison Jim has given.

Disketeria Helpers. We need a volunteer to be the new disk librarian for Eamon disks, and a volunteer to screen and prepare donation-ware disks. If you can help, call John Malcolm or leave a message for him at the office.

Vote Counters. During late May and early June we need to count votes cast in the annual election. We need two or three people to give one evening. If you are willing to help out, please contact the office. This job requires no computer knowledge!

Questionnaire. In the next few months, we will be sending out a short questionnaire to a random sample of about 450 WAP members. If you receive a questionnaire please take the ten minutes or so needed to answer the questions and return it to us. It is being sent so that we can learn what you want from our organization. We are in need of help to enter the results into the computer for tabulation. It will take about six to eight hours total to enter the data. If you have a statistical package which can do the tabulations, and want to carry out the summarization, fine. However, that is not necessary as we already have sources for that part of the effort.

Software Speculation. If you look in the April, 1984 issue of BYTE magazine, you will see a review of an "about to be released" product called MacBASIC. In December of last year, the alpha test number had reached version number .975. By the start of the year, two books had already appeared on the market about this remarkable Apple program although no official release had yet been made. Anyone who has used Microsoft's version 1.0 BASIC certainly knew of its deficiencies in editing and access to the Mac's ROMs. In early 1985, Microsoft released their much improved version 2.0 (and offered purchasers of version 1.0 a $57.00 upgrade). This new upgrade has the editing strenghths and ROM routine access ascribed to MacBASIC in the BYTE article. As of April 3, more than a year after BYTE had to have received the MacBASIC review article, no MacBASIC program. Do these facts have any connection?

contd. on pg 3

CLASSIFIEDS

DONATIONS WANTED: If you are upgrading your computer, why not consider making a tax-deductible donation of your old Apple][to a non-profit organization? Our conservation-oriented group needs to enter the computer age, and we would appreciate it if someone would donate an Apple][. Call John at 245-7488, M-F, 8:00-4:30. Thanks.

WANTED TO BUY: Apple /// with 256K. Call Geri, (703) 549-7331 days.

WANTED: Apple computer Time II clock card with software and documentation. Was sold by Applied Engineering of Dallas, TX among others. Desperately needed for research project. Willing to buy, rent or borrow for 1 week. Call Donald Mayes, (301) 589-4190.

WANTED: LISA 1.0 Capability. If you have a LISA 1.0 hardware/software configuration, there is need of your help to recover some files that NTIS still has on some 5.25 inch floppy disks. If you can help, please contact Allen Betts, NTIS, S-2028, Springfield, VA 22161, (703) 487-4760.

WANTED: A turnkey mailing label system for Quick File II on Apple //e with 128K, 2 drives, Apple Writer II word processing, and Imagewriter printer. If you have it, please call Otto Bernath, (301) 598-4820 day or evening.

AVAILABLE: LISA 2.0 Software. If you want the LISA 2.0 Software System and Applications programs (Office System, Guide, Write, Calc, Graph, Project, Draw, and List), please contact Donald Kornreich, (202) 472-5840 during the day until 4:00 PM, or (301) 292-9225 evenings. If you are a government agency, you can have it free. Otherwise, y;ou must offer something in return (e.g. ten new 3.5 inch floppy disks).

FOR SALE: 512K Macintosh, $1695. With second drive, $2075. Phone Linda or David, (301) 972-4263.

FOR SALE: Apple //e, two Disk II drives, Apple /// monitor, 80-column card, Apple numeric keypad, Apple paddles, Hayes CH joystick, System Saver fan and suppressor, Hayes Micromodem //e with Smartcom, Grappler+ with 16K print buffer, RF modulator, ProDOS, dozens of disks, tutorials, VisiCalc, Apple Writer //e and over 100 other programs. Includes warranty cards, books and all documentation. $1600. Bill Shepherd, (301) 262-0155 anytime.

FOR SALE: 512K Ramboard for Mac XL. Call David or Linda, (301) 972-4263.

FOR SALE: Magnetic core memory. Two ferrite core memory modules 8 x 512 bits with built-in timing and control circuitry. Removed from military computer equipment, compact small size. Comes complete with all available documentation and wiring connectors. Asking $30 apiece. Negot. Contact Don Mayes (301) 589-4190.

FOR SALE: Apple //e, Monitor ///, two disk drives, controller card, monitor stand, Apple 80-column card with additional 64K for a total of 128K, $1150. Also, Z-80 card ($90); Kensington System Saver fan and surge suppressor ($50); Apple joystick ($30); Epson FX-80 printer ($375); adjustable tractor feed for Epson FX-80 ($30); Practical Peripherals serial card ($115); Grappler parallel printer card ($90), Applesoft manual set of 3 ($40), Apple //e Reference Manual ($20). Call Lynn at (301) 845-2651, evenings.

RECEIVED a $50 Gift Certifcate for software from the Software Center but need the money for something else. Are you planning to buy something there soon? Please contact Dorothy Moore, 762-1683.

FOR SALE: Apple Super Serial Card for Apple][+ or //e. New, never used, $100. Apple Silentype thermal printer with interface card and cable, paper, $75. Call Dave Aiken (703) 476-4309 after 6:00 PM.

FOR SALE: (1) Cipher Data 9 track high-performance NRZ computer mag tape read/write head with Prom module, and others for small cassette & 8-track drive. Used only 100 hours. Original $1000, asking $30 for all. (2) RF signal generator, old time but works great for hobbyist applications. Asking $20 or best offer. (3) Assorted meter movements including volts, amps, and db. Also assorted finned power rectifiers and DC hobby motors for cassette drives, robots, etc. Asking $50 for the lot or negot. (4) Power supply for laser applications develops 10K volts, made by Hughes Corp. Asking $40 or best offer. (5) Keyboards for Timex Sinclair computer, and other assorted calculator type membrane keypads. Asking $15 apiece for keyboards and $2.50 for the numerics. (6) DEC LA 36 terminal type keyboard with numeric functions. Fully ASCII encoded ready to plug in. Asking $50 or best offer. (7) Apple II disk drive. Excellent condition, asking $150. (8) Apple][computer keyboard encoder circuit board with ROM chip. New condition. Asking $110 or best offer. Call Donald Mayes, (301) 589-4190.

COMMERCIAL CLASSIFIEDS

FOR SALE: Apple //c 128K (an Apple sales award), never out of box, full warranty $725. Call Geoff, (703) 845-0296.

FOR SALE: Apple //e Pro System, 128K, duo disk, Panasonic 1091 printer, AppleWorks software, misc. supplies. Only 3 months old. $1,895, or take over payments. Call 972-7191 after 5:00 PM.

President's Corner contd. from pg 2

In late 1984, MacWorld magazine reviewed the "about to be released" virtual memory version of MacWrite, the word processor that comes free with the Mac. All Mac owners (especially those with only 128K) began to quiver at the expanded possibilities they would soon experience. "Unofficial" copies of this new MacWrite (versions 3.18, 3.6, 3.8 and more recently 4.0) appeared in the "underground" network of starved Macovites. In early 1985, Microsoft began shipping WORD, their virtual memory word processor, the only competition to the "lower-priced" MacWrite (still only distributed officially as the RAM-based, version 2.2.)

A more devious mind might wonder if Apple and Microsoft had reached some kind of "understanding" regarding Apple products which might challenge new Microsoft entries. If you were Apple you would find yourself between the often-referred to "rock and a hard place". Either risk losing the much sought after support of Microsoft to develop for the Mac or withhold, from a starved but captive audience, lower-priced alternatives which have been rumored and demonstrated but not officially released. What would you do if you lived in Cupertino?

• May 1985 •

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2 SigMac 7:30PM-Lady of Lourdes; DisabledSIG	3 <-Thurs. 2nd contd. GAMESIG 7:30PM-Off.	4 dBASE II Tutorial 9:00 AM Office
5 Deadline for Journal Articles	6 Apple /// Tutr. 7:30 Office Business Basic	7 Beginning Tutorial #1 7:30 PM Office	8 Executive Board 7:30 PM Office	9STOCKSIG 8PM Office; Apple /// 7:30PM Walter Reed	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-Hard Disks	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 - Balloting
26	27 Memorial Day Office Closed	28 Beginning Tutorial #4 7:30 PM Office	29	30	31	

• June 1985 •

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3	4 Beginning Tutorial #1 7:30 PM Office	5 Deadline for Journal Articles	6 SigMac 7:30PM-Lady of Lourdes; GameSig 7:30-Off.->	7 <-Thursday 6th contd. DisabledSIG 7PM - CCCC	8 SigMac 9AM-USUHS; LISA/Mac XL USUHS
9	10	11 Beginning Tutorial #2 7:30 PM Office	12 Executive Board 7:30 PM Office	13STOCKSIG 8PM Office; Apple /// 7:30 PM at?	14	15
16	17 PI-SIG 8:00 PM Office	18 Beginning Tutorial #3 7:30 PM Office	19	20 Pascal SIG 8PM-Office PACKED In App. Pascal	21	22 WAP Meeting 9AM-Garage Sale ?
23	24	25 Beginning Tutorial #4 7:30 PM Office	26	27 EDSIG 7:30 PM Office	28	29
30						

SIGNEWS

APPLE /// SIG meets on the second Thursday of the month at 7:30 PM. The next meeting will be on May 9th at Walter Reed. 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 Appleseeds news elsewhere in this issue.

DISABLEDSIG meets on the 1st Thursday of each month - See the DisabledSIG column elsewhere in this issue. Call Jay Thal for details.

EDSIG - the education special interest group - meets on the 4th Thursday of the month at the office. See the EDSIG page elsewhere in this issue.

FORTHSIG will hold its next meeting on Saturday, May 18 at 10:00 AM in the WAP office.

GAMESIG meets on the first Thursday of each month at 7:30 PM at the office. The next meeting is May 2.

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. See LISA/MAC XL SIG News elsewhere in this issue.

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 two meetings are:

May 16 - Hard Disks and Apple Pascal
June 20 - PACKED in Apple Pascal.

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.

SigMac meets on the 1st Thursday of each month (programmers'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.

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

Telecom SIG usually meets after the regular WAP meeting.

MINUTES

SUMMARY OF MARCH EXECUTIVE BOARD MEETING

The Executive Board of Washington Apple Pi, Ltd. met on March 13, 1985 at the WAP office. In the near future, we will arrange for Visa and Master Charge cards to be accepted by the office. The limitations of the WAP ABBS were discussed. The Board voted not to renew membership in IAC. A random sample of members will be polled about various aspects of WAP.

MARCH GENERAL MEETING

WAP, Ltd. met at the USUHS on March 23, 1985 at 10:00 AM with David Morganstein presiding. The meeting was recorded for Voice of America. New member 6502 was announced. A call was made for nominations of officers. Nominations will be accepted until the end of the April general meeting. Members are urged to volunteer their time - new ideas will help WAP. Rich Wasserstrom announced the return of volunteers to WAP's group purchase activity and the new phone number will be announced when installed. A location is needed for the summer garage sale - tentatively set for the June meeting. A site in Virginia is preferred. WAP's Pascal book, "Perfect Pascal Programs", edited by Bob Platt is available in the WAP office for $9.50 and by mail order for $11.00. Bernie Urban announced that advertising would be allowed on the Buy/Sell ABBS at the rate of $10 per 255 characters per month. Members were asked to express their willingness to pay for an ABBS password if the fee would result in an expanded system.

The main presentation was on "ProDOS, given by Richard Langston II.

MEETING REPORT - MARCH 23

The report of the ProDOS presentation at the March 23 meeting of Washington Apple Pi will be delayed until the June issue, due to a broken elbow sustained by Richard Langston II. We wish him a speedy recovery.

GENERAL INFORMATION

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.

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:

May 25 - Printers
June 22 - Garage Sale

Dates for SigMac are:

May 2 - Programmer's Meeting at Our Lady of Lourdes
May 11 - Main Meeting at USUHS

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.)

JOB MART

POSITION WANTED

Apple computer instruction in the general Frederick, MD area. Instruction on the Apple //e, Macintosh and assorted software. Personalized service and reasonable rates. Call Lynn R. Trusal (301) 845-2651, evenings with no calls after 10:00 PM.

HELP WANTED

Lecturers are needed at the University of Technology in Lae, Papua, New Guinea, to teach aspects of computer science. Between one and three pople are needed to teach system design and analysis, data structure, COBOL and Pascal, and data processing. Salary is between $1400 and $1900 per month with 2 1/2 days per month vacation. Airfare and housing are provided. Equipment is Apple with Corvus and Prime 550. Contact Richard Muffley, VITA, 1815 North Lynn Street, Arlington, VA 22209. (703) 276-1800.

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
General	John Day	(301) 672-1721
	Dave Harvey	(703) 527-2704
	Robert Martin	(301) 498-6074
Accounting Packages		
Accountant(Dec.Sup.)	Mark Pankin	(703) 524-0937
BPI Programs	Jaxon Brown	(301) 350-3283
Home Accountant	Leon Raesly *	(301) 460-0754
Howardsoft (Tax)	Leon Raesly *	(301) 460-0754
APPLE SSC	Bernie Benson	(301) 951-5294
Apple TechNotes	Lance Bell	(703) 550-9064
	Shirley Weaver	(301) 761-2479
AppleWorks	Carl Eisen	(703) 354-4837
	J.J. Finkelstein	(301) 652-9375
	Jay Jones (Balt.)	(301) 969-1990
Communications Packages and Modems-Telecom.		
Anchor Mark 12	George Kinal(7-10)	(202) 546-7270
	Jeremy Parker	(301) 229-2578
Apple Modems	John Day	(301) 672-1721
ASCII Express	Dave Harvey	(703) 527-2704
	Marv Redd	(301) 944-2150
	Barry Fox (BBS)	(703) 553-0821
BIZCOMP Modem	Jeremy Parker	(301) 229-2578
General	Tom Nebiker	(216) 867-7463
Hayes Smartmodem	Bernie Benson	(301) 951-5294
Smartcom I	Harmon Pritchard	(301) 972-4667
VISITERM	Steve Wildstrom	(301) 564-0039
XTALK CP/M Comm.	Bernie Benson	(301) 951-5294
Computers, Specific		
Apple //c	John Day	(301) 672-1721
	Jorge Osterling	(703) 671-5797
	Scott Rullman	(301) 779-5714
Apple //e	Scott Rullman	(301) 779-5714
LISA/Mac XL	John Day	(301) 672-1721
	Don Kornreich	(301) 292-9225
Macintosh:		
General	Steve Hunt	(301) 262-9080
	Scott Rullman	(301) 779-5714
	Donald Schmitt	(717) 334-3265
	Rob Clark	(804) 850-2016
Chart	Terry Monks	(703) 471-4610
Comm. & Modems	Steve Hunt	(301) 262-9080
	Tom Warrick	(301) 656-4389
Digitizers	JoAnn Stewart	(703) 527-4072
File Vision	Steve Hunt	(301) 262-9080
Hard Disk	David Jamison(day)	(301) 589-8841
Hardware	Jay Heller	(301) 948-7440
Inside Mac	Jon Hardis	(301) 330-1422
	Don Landing	(703) 690-1010
MacDraw	Tom Berilla	(301) 434-3256
MacLion (DBMS)	Mark Miani	(202) 362-8123
MacProject	Jay Lucas	(703) 751-3332
	Tom Warrick	(301) 656-4389
MacWrite	Mary Hockmeyer	(301) 897-5495
MacTerminal	Jon Hardis	(301) 330-1422
	Mary Hockmeyer	(301) 897-5495
MS Basic	Tom Warrick	(301) 656-4389
Multiplan	John Boblitz	(301) 356-9384
	Don Landing	(703) 690-1010
	Steve Hunt	(301) 262-9080
	Walt Francis	(202) 966-5742
Multiplan/Chart	Bob Pulgino	(703) 379-0512
MusicWorks	Skip Horvath	(703) 536-4091
Word	Marty Milrod	(301) 464-2154
Data Bases		
dBase II	Paul Bublitz	(301) 261-4124
	John Staples	(703) 759-3461
	Leon Raesly *	(301) 460-0754
DB Master	Dave Einhorn	(301) 593-8420
Data Perfect	Leon Raesly *	(301) 460-0754
Data Factory	Bob Schmidt	(301) 736-4698
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	Bill Schultheis	(703) 538-4575
VisiPlot	Lee Raesly *	(301) 460-0754
Hard Disks		
Corvus & Omninet	Tom Vier (4-11AM)	(202) 887-7588
Sider	Jaxon Brown	(301) 350-3283
	Barry Fox (BBS)	(703) 553-0821
Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine		
A	Peter Combes	(301) 251-6369
A,I	Jeff Dillon	(301) 422-6458
A	Richard Langston	(301) 869-7466
A	Mark Pankin	(703) 524-0937
A,I,M	Richard Untied	(609) 596-8816
A,I,M	John Love	(703) 569-2294
M	Raymond Hobbs	(301) 490-7484
P	Donn Hoffman *	(412) 578-8905
Forth	Bruce Field	(301) 340-7038
LISP	Fred Maef	(703) 471-1479
Math/ O.R. Applns.	Mark Pankin	(703) 524-0937
Monitor, RGB Color	John Day	(301) 672-1721
Operating Systems		
Apple DOS	Richard Langston	(301) 869-7466
	John Love	(703) 569-2294
	Richard Untied	(609) 596-8816
CP/M	Robert Fretwell	(703) 971-2621
	Ray Hobbs	(301) 490-7484
	Leon Raesly *(301)	460-0754
ProDOS	Richard Langston	(301) 869-7466
	John Love	(703) 569-2294
Printers		
General	Walt Francis	(202) 966-5742
	Leon Raesly *	(301) 460-0754
Apple Color Plotter	John Day	(301) 672-1721
Apple Daisy Wheel	John Day	(301) 672-1721
Apple Dot Matrix	Joan B. Dunham *	(301) 585-0989
Daisywriter 2000	Bill Etue	(703) 620-2103
	Henry Greene	(202) 363-1797
IDS 460	Jeff Stetekluh	(703) 521-4882
Imagewriter	John Day	(301) 672-1721
	Scott Rullman	(703) 779-5714
MX-80	Jeff Dillon	(301) 434-0405
NEC 8023	Bill Mark	(301) 779-8938
Okidata	Fred Feer	(703) 978-7724
	Michael Proffitt	(301) 874-2270
	Dan Robrish	(301) 530-4202
Scribe	Phil Leber	(703) 378-4391
Silentype	Bruce Field	(301) 340-7038
Spreadsheets	Leon Raesly *	(301) 460-0754
	Walt Francis	(202) 966-5742
Lotus 1-2-3	Walt Francis	(202) 966-5742
	Roy Rosfeld	(301) 340-7962
Multiplan	Terry Prudden	(301) 933-3065
VisiCalc	Walt Francis	(202) 966-5742
	Leon Raesly *	(301) 460-0754
Spreadsheet 2.0 (MagiCalc)	Leon Raesly *	(301) 460-0754
SuperCalc Ver. 2.0	Leon Raesly *	(301) 460-0754
Statistical Packages	Jim Carpenter	(301) 371-5263
	Mark Pankin	(703) 524-0937
Stock Market	Robert Wood	(703) 893-9591
Time-Sharing	Dave Harvey	(703) 527-2704
Word Processors	Walt Francis	(202) 966-5742
Apple Writer II	Dianne Lorenz	(301) 530-7881
	Leon Raesly *	(301) 460-0754
Executive Secretary	Louis Biggie	(301) 967-3977
Format II	Henry Donahoe	(202) 298-9107
Gutenberg & Jr.	Neil Muncy Can.(416)	298-3964
	Harris Silverstone(301)	435-3582
Letter Perfect	Cara Cira	(301) 468-6118
	Leon Raesly *	(301) 460-0754
Magic Window and II	Joyce C. Little	(301) 321-2989
Peach Text	Carl Eisen	(703) 354-4837
PIE Writer/Apple PIE	Jim Graham	(703) 643-1848
ScreenWriter II	Peter Combes	(301) 251-6369
	E. E. Carter	(202) 363-2342
Supertext II	Peter Rosden	(301) 229-2288
Word Handler	Jon Vaupel	(301) 977-3054
Word Juggler //e	Carl Eisen	(703) 354-4837
Word Star	Leon Raesly *(301)	460-0754

Calls up until midnight are ok.

EDSIG NEWS by Peter Combes

EDSIG Calendar

Thursday, April 25, at 7.30 p.m.

"Making making lessons easy - some new authoring systems." - Peter Combes.

Thursday, May 23, at 7.30 p.m.

"Apples for High School English"

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

Meeting Report

Tuesday, March 28, 1985

"Apple Computer Clubs in Schools"

Obviously, Apple Pi believes that Apple clubs are a good idea. Apple has been encouraging the idea of having computer clubs run in schools. Computer Publishing Services, Inc. of Lowell, Massachusetts, is contracted by Apple to manage Apple Computer Clubs.

At the EDSIG meeting we saw an example of the kit supplied by CPS to help teachers start clubs in their schools. The kit includes twenty student activity posters, the book "The Apple Guide to Personal Computers in Education", three recruiting posters, and an advisor organizing manual.

The manual has advice on the Goals and purposes of a club, how to start one, networking, parent involvement, preliminary groundwork, publicity, meetings, membership, setting up a computer room, club activities, and fund raising. Sample membership cards and even press releases are also included. A small newsletter, "Computer Student", is published. One of the things this explains is the Apple Computer Clubs' Competition '85 - "a contest for young people and computer club advisors to see who can devise and create the best unique and useful things to do with their Apple computers." Prizes include an Apple //e, Appleworks, and Apple Logo. Last year's winners include a class of fifth graders in Midlothia, Virginia, who wrote an extensive language arts/ adventure story. A middle school in Schenectady, New York, designed a program to help travelers at Albany County Airport. A fifth and sixth grade teacher in Berlin, Maryland, wrote a simulation of The War of 1812.

Apple Computer Clubs claim over 15,000 clubs - over 300 in Maryland - involving over 300,000 young people. However, a quick telephone investigation was disappointing. Although everybody we rang had heard of such clubs, and some even admitted to having the manual, none said that he had a club currently running. If you are running one of these clubs, EDSIG would like to hear from you. If we get sufficient responses we will set up a round table meeting to exchange experiences.

EDSIG is also looking for high school teachers who have used Apples in the teaching of English (not EFL); this for the May meeting. Call the chairman at (301) 251-6369.

DOES IT SOUND GREEK TO YOU? by John A. Love, III

Over the past year I have been publishing a regular series in the Washington Apple Pi Journal on Assembly language programming.

If you are interested, genuinely interested, in learning more about Assembly language, I will be teaching a 9-session tutorial on this subject in Fairfax county, starting in May - June, 1985. I plan to cover the following material:

- Syntax of the allowable opcodes and operands.
- Selected portions of the F8 ROM code.
- Selected portions of the Applesoft ROM code.

Please call me at (703) 569-2294 if you are interested - even if you only think you are interested. Let's talk about your particular interests in Assembly language. As an instructor, my only wish is to convey the knowledge you seek.

VOLUNTEERS NEEDED FOR UNIVERSITY OF MARYLAND

The College of Library and Information Services (CLIS) at the University of Maryland, College Park, has a small information processing laboratory and administers a larger facility for the division of Human and Community Resources. There are about sixteen microcomputers (Apple][+, //e, IBM PC/XT) and a moderate amount of software, including telecommunications and a local area network. The College is interested in finding volunteer retired seniors who are residents of Prince Georges County to help to extend the operating hours of the facilities by providing security for hardware and software and by giving varying amounts of first aid assistance to computer users. Computer tutorials, training, and hands-on computer experience with many software packagaes will be provided for these volunteers.

For administrative information please call Helene V. Husbands, Project Director (Acting), Retired Senior Volunteer Program - (301) 699-2675.

For technical information please call Bill Pitt, Associate Librarian, CLIS Library - (301) 454-6003.

Q & A

by Bruce F. Field

There has been considerable interest in using the MousePaint program with printers other than the Imagewriter (the only printer that is supported by the program). S. C. Kim Hunter wrote to describe a solution he developed to print Christmas cards, and I pass along some of his comments.

"Fontrix software by Data Transforms has a unique Virtual Memory system for multiple screen graphics which allows one to merge several graphic screens together for editing and simultaneous printing such that an entire printer page can be filled. But it has rather limited drawing ability, far below MousePaint. MousePaint can be used to create the screens which can then be transferred to Fontrix for printing, and Fontrix supports many printers, including the NEC 8023.

"My Christmas card consists of eight Apple graphic screens, two on each quarter page of the folded card. The Christmas tree on the front is two screens, done entirely with MousePaint. If you unfold the card, you see that the inside text is upside down on the page. I used the Fontrix Script font to generate the text, saved the Fontrix graphics screens, transferred them to MousePaint, use the "flip horiontal, flip vertical" commands to invert them, and then sent them back to Fontrix.

"Since MousePaint is ProDOS, and Fontrix is DOS 3.3, ProDOS Convert has to be used to transfer the files. Data Transforms says they don't have a ProDOS version, even though Apple, Inc. shows it on their list of ProDOS software. No doubt a ProDOS version will soon show up. "

Q. I purchased some time ago a Switch-A-Slot from Southern California Research Group and used it quite successfully for some time. At one point I had a John Bell 6522 card, a Hayes Micromodem, and a Mockingboard in it. Then I bought an Apple Mouse for my //e. I cannot put the Mouse card in the Switch-A-Slot. If it is there, and the switch set to the Mouse card's location, fine. But, no other card in the Switch-A-Slot can be used! If the Mouse interface card is removed, no problems. As I understand it, the Switch-A-Slot has all cards connected to the Apple, but only applies voltage to the one selected. Have you any idea what the trouble is?

A. It's difficult to tell exactly what the problem is without using some diagnostic equipment to look at the electrical signals, but what is apparently happening is that the Mouse card is pulling one or more of the signal lines low, even when it is not powered, interfering with the operation of the other cards. Even if we know exactly which signal line is causing the problem there is no simple solution. The only alternative is to rearrange your cards so that the Mouse card can be put inside the Apple and a card that is compatible with the Switch-A-Slot be moved there. At least you have sounded a warning to other potential users of Switch-A-Slot.

Q. What are the advantages in upgrading my Apple //e from DOS 3.3 to ProDOS?

A. There are actually no modifications that have to be made to your hardware to use ProDOS. (Apple][and][+ owners must have a Language card installed.) Commercial programs that run under ProDOS will come with a copy of ProDOS on the disk and you boot it like any other disk; you won't know the difference. If you wish to write your Applesoft programs using ProDOS you will need the ProDOS User's Kit, a disk and manual available from your dealer.

The advantage of ProDOS is mostly that it is faster than DOS 3.3 in loading and saving programs and files. Although ProDOS uses the language card you will still only have about 36K of memory left for Applesoft programs after loading ProDOS. ProDOS has a special garbage collection function that works much faster than Applesoft. ProDOS also supports pathnames and directory files to make it easier to use a hard disk that contains hundreds of files. A directory file is another catalog that contains the names of files associated with that directory. In ProDOS you can have a number of separate directories each with it's own list of files. To make things even more complicated directories can also contain the names of other directories. A pathname is a road map from the disk volume name to the file, through the directory names. For example, MYDISK/LETTERS/GEORGE is a pathname that looks for the file GEORGE in the directory LETTERS on the disk MYDISK. ProDOS will look in both drives (if you have two) to find the disk MYDISK, you don't have to tell it where the disk is physically located. If you have the extended memory 80-column card (the one with the extra 64K of memory) in your //e (all //c's have this card) you can use it as a RAM Disk. Instead of saving to slow disk you can use the memory on the card as a fast temporary disk.

The May issue of A+ magazine had two articles on ProDOS written with beginners in mind.

Q. Is there any way to change the Imagewriter to print sideways when using a program like "Sideways"?

A. No. The Imagewriter and all other dot matrix printers that I know of are designed to print only in the normal way. To get other kinds of printing, special programs must be used that generate graphics characters and use the printer in the graphics mode.

Q. In changing from an Apple][+ to a //e, are the old peripheral cards transferrable (Micromodem II, Softcard, Parallel printer card)? Can damage be done when using a trial and error method?

A. Almost all cards that work in a][or][+ should work in the //e. There might be some minor problems with the software on the card not being incompatible with the //e software stored in ROM, but this will not cause any damage. Just make sure that you have the power off when you insert or remove any cards or I guarantee you will generate lots of damage.

Q. Is there any way to consolidate several spreadsheets into one, automatically using the

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spreadsheet functions in Appleworks?

A. There doesn't appear to be any way to consolidate spreadsheets with the formulas intact. You can print the spreadsheets to DIF files and load them back in, but you get only the text and numbers - you lose the formulas. You could also print to the clipboard and load multiple spreadsheets into the word processor. This is a one way street; it is not possible to go back from the word processor to the spreadsheet. I think your only solution is to type in your spreadsheet again.

Q. I have just updated to an Apple //e. On my old][+ I used a word processor that expected a "shift-key mod" to enter upper and lower case characters. Obviously, the //e doesn't need a shift-key mod. Well the word processor now only enters lower case! HELP! What do I do?

A. Some word processors have a mode where they can be locked into upper case only characters. After you do this, release the caps lock key on your //e and see if you don't get proper upper and lower case using the shift key normally. If not, it's time for a new word processor.

Q. When using the Super File Cabinet program which uses the machine language Ampersort routine, I'm finding that Ampersort is failing to sort two digit numbers correctly, i.e. 20, 3.1, 1.6 are sorted to 3.1, 20, 1.6). How can I fix this?

A. Don't sort those numbers. Seriously, Ampersort only sorts strings of characters and doesn't know or care if they are actually numbers. Each character in the string is represented by an ASCII code value and Ampersort uses these code values to do the sort. In your example, the two characters 2 and 0 are ASCII 50 and 48; 3.1 is ASCII 51, 46, and 49; 1.6 is ASCII 49, 46, and 54. (These values can be found by looking up the characters in any ASCII table.) In your example you appear to be sorting in reverse alphabetic order, from highest ASCII value to lowest, rather that lowest to highest as is normal. In any case the highest valued first character is 51 so 3.1 comes first, next is 50 so 20 comes next, last is 49 and thus 1.6 is last. When Ampersort is used like this it is not possible to correctly sort numbers that contain decimal points.

All is not lost however if you just want to sort whole numbers. If you use numbers like 3, 12, and 850 these will be sorted to 12, 850, and 3. This is because the numbers do not each have the same number of digits. If instead you entered the numbers as 003, 012, and 850 then they would be sorted properly.

Q. In BASIC, when EXECing a DOS file which starts with a number, there is a point in time when disk I/O has stopped and the ASCII code in the file resides in a buffer, but nothing has been done with it. The code will then be passed by DOS to the Interpreter and converted into a BASIC line. Why can the user not POKE the ASCII values into the same buffer, set the appropriate pointers and flags, and change a running Applesoft or Integer BASIC program "on the fly" without extra machine language routines? I have tried everything I can think of to accomplish this without success. Any suggestions?

A. Your explanation of how BASIC program lines get EXECed into an existing program is mostly correct. One key point you have neglected is that in order for the interpreter to input program lines it must not be running a BASIC program. The interpreter can either be in the command mode where it displays a prompt and is waiting for commands or program lines to be typed in, or it can be in the run mode, running the BASIC program. When DOS EXECs a file it temporarily sets the interpreter to the command mode, "POKEs" the BASIC line into the keyboard buffer, calls the interpreter to parse (convert) the line, and then start the program running again from where it left off. If you stop the BASIC program from running you can't use POKE to tell the interpreter to parse the line in the buffer. How can you execute Applesoft instructions if Applesoft isn't running? You will always need some kind of machine language program (DOS for example) that can perform this function.

Two articles have appeared in Call -A.P.P.L.E. that discuss machine language programs to add lines to running Applesoft programs. David Lingwood had a program in the January 1981 issue that allows you to replace a dummy REM with a string that is typed in during execution of the program. A program by Cornelis Bongers in the September 1982 issue was somewhat more ambitious allowing execution of strings from within a program (as Lingwood) but also execution of strings in the immediate mode.

Q. Why does the Penultimate Input Nearly Anything Subroutine cause a Basic program to sometimes modify itself? Enclosed are listings of a program that exhibits this phenomenon. The G$ in line 5085 gets changed when the program is run. During the trouble shooting process, it was noted that the change did not occur until the variable I in line 5180 reached the value of 6.

A. I have looked over the program listings you sent and don't see anything wrong with them. I suspect that you may have a hardware, i.e. memory, problem. Memory errors can be particularly troublesome and hard to track down. On my //e I had a bad memory chip that changed a program line in one particular Applesoft program only when the program was loaded from or saved to disk. If I loaded the program and made the correction, the program ran fine. I could list it, modify it, do anything but save it. If I saved the corrected version it ended up wrong on the disk. Eventually I found that accessing a certain memory location (one that DOS happened to use) caused another completely different location to be changed - weird! A clue that it might be a hardware problem is that you call the input routine in line 5090 before any changes occur in the program. By the time you get to line 5180 where you say the change happens, you aren't using the input routine at all. Try running your program on a different computer and see if the problem still occurs.

Q. I have a problem with printer interface cards and perhaps you could provide a solution. My system is an Apple //e with extended 80-column card. I have a Microtec Dumpling-64 parallel card in slot #1 and an Apple Serial card in slot #2. The only case where the serial card will not work is from a BASIC program or keyboard, using the "PR#" command, with the 80-column card installed. This is the case with both DOS and ProDOS. I would very much appreciate knowing if there is a way to get this configuration working from BASIC.

A. According to the Apple manual for the 80-column card, you must first turn the card off before you can use a printer. To do this from Applesoft use

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the following command, PRINT CHR$(21). This turns the 80-column card off and puts you back in the 40-column mode. You should now be able to use your printer with the PR#2 command (i.e. PRINT CHR$(4)"PR#2"). When you are finished printing, turn the 80-column card back on with PRINT CHR$(4)"PR#3".

The 80-column card not only "hooks" into the output so stuff can be printed on the screen, it also looks at the keyboard so it can trap keystrokes like ESC Ctrl-Q that control the operation of the card. When you disconnect the output part and connect it to your printer the 80-column card gets confused and doesn't want to work properly.

Q. I have an Apple][+ that I would like to expand to 128K of RAM memory. Is it possible to adapt one of the Apple //e 64K 80-column expansion cards for this purpose?

A. No. Aside from the electrical considerations, the //e 80-column memory cards are designed to plug into the auxiliary slot which is physically larger than the standard][+ or //e peripheral slots.

The reverse will work however. You can take memory expansion cards designed for the Apple][+ and use them in the //e. These cards can be used with some programs, but they are not exactly the same as the //e extended 80-column cards. You will not be able to take advantage of double hi-res graphics or the ProDOS RAM disk. Because most new software is being written for the //e type cards I don't recommend buying the old][+ cards for use in the //e.

Q. Are the new ROMs (for the enhanced //e) any easier to read?

A. No, the new character generator ROM has replaced some of the lesser used characters with special graphics characters that are useful for drawing boxes and whatnot on the text screen. These characters are used with, among other things, the Apple Mouse to create Mac-like pull down menus and dialog boxes. The basic resolution of the Apple, which mostly controls the readability, remains at 280 dots horizontal by 192 dots vertically in the text mode.

Q. What is a good book for learning about the "inner workings" of DOS 3.3 or ProDOS?

A. Beneath Apple DOS and Beneath Apple ProDOS by Don Worth and Pieter Lechner (published by Quality Software) are probably the best books on the subject. They have some information that is useful for beginners who want to know how DOS works, as well as more detailed information useful for machine language programmers.

APPLESEEDS NEWS

by Ian M. Thal

Well, those of you who do regularly read this column will have noticed that last month James Gwertzman wrote it due to my absence. Now, for those of you who do not normally read this column: AppleSeeds is a young person's special interest group (our membership ranges from 9-16 years of age), which meets during the main meetings (10:00 AM) in the cafeteria at USUHS.

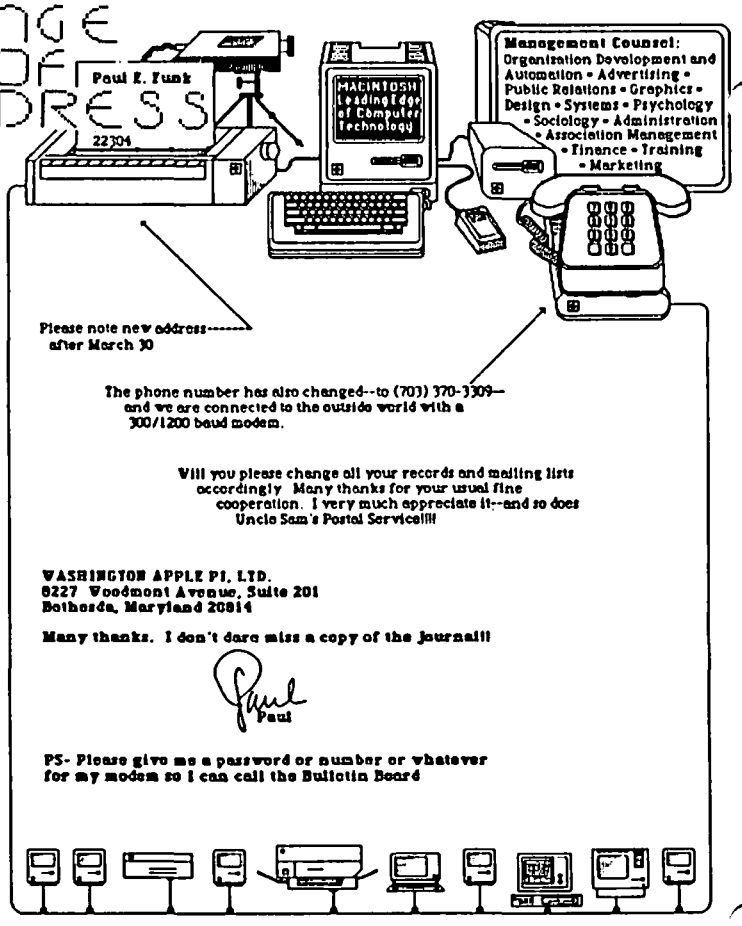
* * *

ITEM: VOA (Voice of America), as many of you know, was doing a story on computer users' groups, and WAP was one of the clubs featured (as well as many of its SIG's). 'Seeds was also featured. (Has anyone heard it? I don't have shortwave.)

ITEM: Joshua Goldberg has resigned as editor of the AppleSeeds News, which means I am now editor instead of acting editor.

ITEM: We (AppleSeeds in general) have decided to change Tim Sweeney's office of Treasurer to Officer at Large, due to the fact that we do not have a treasury.

CHANGE OF ADDRESS



Take a tip from Paul and keep the office posted on your change of address. (It costs WAP 30 cents for each forwarding of a piece of mail.) It isn't necessary to be as fancy as Paul's notice, but we do enjoy the artwork!

DAISYWHEELING:
Graphics - Program Features
by Arsen Darnay

By way of introduction to an article to follow this one, I'd like to discuss what makes for a good graphic design program on the Apple][family of computers.

Graphics are a somewhat arcane subject. Most people don't get into it because you really need a color monitor to use graphics software, and unless you have some occupational requirement to create graphics, you don't go to the expense in money and learning. For that reason, information about desirable 'specs' is not as widely available as, say, information about spreadsheets, word processors, and data base programs. I'd like to make an effort to correct that in a small way.

Here, then, is a personal view of what kind of features you might be looking for when searching for a graphics program. Next month I'll compare two programs - the Digital Paintbrush and the Gibson Light Pen - and show how each measures up or falls short.

Single Input. The device you're using for input should be the only device you should have to use. If it's a mouse, for instance, the mouse, alone, should let you do whatever is needed (except typing text, say). Some programs require that you enable and disable the drawing implement by pressing one or more keys - press Space, say, to turn on drawing, press it again to turn off drawing. It is also nice, however, to be able to use the keyboard as an alternative input device (see below).

Drawing. It is desirable to have a wide range of drawing utilities - free hand, lines, and curves. Free hand drawing on the rather poor resolution of even the 'high' resolution screen is a disappointment at first. Hence it is almost necessary to have help.

Line drawing is a common feature. You 'anchor' a point on screen and then move the cursor to another point. A line appears, connecting the points, and keeps moving as you move the cursor until you 'pin' the line down - whereupon it becomes a permanent part of the drawing.

Curve plotting is done by placing dots on screen and then, on command, connecting them to one another - one of the nicest drawing features I've ever encountered.

Shapes. Most software provides methods for drawing circles and rectangles. It is nice to have, in addition, the ability to draw ovals and parallelograms as well. I've yet to encounter a program that will let you draw circles from other than a frontal perspective - yet you will constantly want to turn your circles this way and that and won't be permitted by the software.

Brushes. The ability to use 'brushes' of different size - point, wide slab, several points symmetrically arranged, random collection of points, etc. - is a nice feature, especially for erasing some malformed part of the drawing. Erasing with a single-pixel 'brush' is very tedious.

Surface. Some programs permit you to draw on backgrounds of any color (one usually selects black or white). Others restrict you to a white surface only so that you cannot draw on black with a white pen. In such a case, inverting a white picture with a black drawing to create a black picture with a white drawing will work, of course, but you don't see what you will get while you are drawing it.

Color. You should be able to draw in any color, not just black, white, blue, red, violet, and green. Some software restricts you to those primaries and hence limits the special effects achievable by drawing in 'concocted' colors, i.e. mixtures of the primaries.

White and Black. The Apple has two different whites and two different blacks. White One is produced when two bits of a byte are on (are 1) and the high bit of the byte is off; 00011000, for instance will produce a 'White One' dot on the screen. White Two works the same way, but the byte's high bit must be on: 10011000. Black is produced by zeroed bits; in the case of Black One, the high bit of the byte is off; when drawing in Black Two, you turn the high bit of the byte on.

Software useful to a professional should allow you to select which white or black to use. This is important because White or Black One matches Violet and Green; White or Black Two matches Blue and Red. If you use the wrong white or black on a color, you produce odd discolorations. White One on Red, for instance, is likely to change portions of your red surface to green. Some software only lets you use one of the whites and blacks and is thus severely limiting.

Control. Towering frustration is likely to be your emotion when trying to be precise on the hi-res screen using any analog input device like mouse, joystick, paddle, or pen. The mere beating of your heart can translate into fine movement on the screen, and when you push the button to draw a dot, the dot is as likely to be half an inch away as where you thought you'd placed it. Normally this is not a problem - when you have drawing utilities to help. Occasionally you need real control. Thus it is nice if the software permits you to move the cursor from the keyboard, one pixel at a time, as an alternative to using an input device.

Color Fill. This phrase refers to an ability to fill any area, surrounded by a continuous line, with a color of your choice. Some programs don't let you fill at all - or only circles and rectangles. That is a severe limitation. Ideally, fill should (1) work rapidly - some programs are very slow; (2) allow filling any color over any surface - some programs restrict you to filling only surfaces that are white or are colored white, black, blue, red, green, and violet; and (3) permit you to 'undo' the last fill.

Concerning the last point: very often the boundary line around the surface you want to color has a gap in it and consequently the color you are using to fill with 'spills' out and destroys a picture. If you haven't saved the masterpiece before the fill, you may have lost an hour's hard work. It's nice to change your mind after the fact, get the picture back, close the gap, and then try again.

Fonts. A professional quality software package will let you place text on the screen in various typefaces, large and small. A nice feature is the ability to use fonts produced by anybody, not just those provided by the manufacturer of the software.

Zoom. This feature allows you to look at a portion of

contd.

the drawing close up, i.e. at the level of pixels. This is very desirable for close editing. The crabby method Apple uses to produce high resolution colors often requires that you 'fix the bits' of a specific byte. The best implementation of this feature lets you look at a byte, including its high bit (which is not actually shown on the screen). That let's you adjust for the White/Black problems discussed above.

Specials. Some features that are really not necessary but nice to have are (1) mirroring, which mirrors what you are drawing on the opposite side of the screen; this is great for drawing figures that are naturally symmetrical (the Grecian urn, a face); (2) cut and paste, which lets you cut portions of the picture and stamp them in other parts of the picture; and (3) enlarge and reduce - which lets you make a part of the picture smaller or larger (but I've yet to find one that works properly; the figures tend to get distorted in the process).

One Resident Program. I like to load software and then put it away again. Programs that are not fully resident - the color fill portion, say, must load every time you want to fill - make working on a one-drive system a pain in the neck. My graphics station is on my second Apple, which has but one drive, so I know . . .

Natural Input Mode. Finally, the software should permit you to use some device for input that comes as close to pencil and paper as possible. The best input methods are pens of some kind working on a surface - and I prefer a flat surface myself. The input mode is less important when you only do an occasional drawing for the fun of it. But when you have to make twenty or thirty at a crack, you want to go with long grooved habits and be easy on the old arm.

COMMENT ON "DAZZLE DRAW"

by Milton R. Goldsamt

I was recently trying to shop for "DAZZLE DRAW" because of the generally excellent reviews it has received, such as in the latest BYTE magazine and in the March issue's WAP ABBS comment. However, I found that two computer stores were selling apparently different Apple //e versions. One store had its version of "Dazzle Draw" in a package which stated as a requirement: "not recommended for use with RGB monitors", while the other store's version did not have this restriction printed on the otherwise identical package. I was trying to please my sons (who enjoy art very much) and so I called Broderbund in San Rafael, CA, who had already sent me descriptive literature on the program which did not mention this restriction.

A very helpful and friendly technical support representative explained to me that the newer package is the one with the restriction on it, and it is needed since words on the pull-down menus are very blurry on RGB monitors (including my Applecolor Monitor 100). In his words, Apple revised their specifications after sending Broderbund an initial set for program design purposes. Broderbund is now revising the program to adjust for this problem, but the revision could be issued in anywhere from "several weeks to several months". I could go ahead and buy the current version (I assume packaged in either form) and obtain a free replacement when the revised version is available.

I therefore assume that member WP5394 (who made the ABBS comment) either has still another version of "Dazzle Draw", has a composite rather than a RGB monitor, or has found a way to bypass or ignore the blurry words. I would be interested in knowing; perhaps I don't have to delay my sons' enjoyment.

THE WAP "PRINT SHOP" LIBRARY

by Gary E. Hayman

How many of you have been using Broderbund Software's "The Print Shop" and "The Print Shop Library" but have developed your own graphics for use on your greeting cards, banners, letterheads, signs, etc.? There are probably some good original WAP member-developed graphics out there in Computerville that you would be willing to share with the other members via the WAP Disketeria.

I have volunteered to put together a disk for the WAP Library containing a collection of YOUR GRAPHICS which you developed on the Print Shop's Graphic Editor. Let's see if we have enough to produce a disk or two.

Submit your graphic(s) on a DOS 3.3 disk to:

Gary Hayman
7315 Wisconsin Avenue, Suite 605W
Bethesda, MD 20814

I will collect the various drawings and place them on a master disk for WAP. Your original disk will be immediately returned to you if you include a self-addressed mailing label and correct additional postage. As a surprise some additional graphics from some of the previous submittals will be included on your returned disk for your use until the master disk is complete.

All submittals must be original work so that there is no copyright infringement. Drawings must be in good taste. Credit will be given for your drawings in a text file on the master disk. Release for publication will be assumed upon submittal.

Some of us already own the new "Print Shop Library" containing many additional pieces of art work, but we are hungry for more drawings that we can use. Here is a chance to share our creations at a very low cost.

DISABLEDSIG NEWS

BY -- JAY M. THAL

* *

DISABLEDSIG MAY MEETING
SPEAKER: Susan Brummel, General Services Admin.
SUBJECT: Computers and Adaptive Devices Available to Assist Disabled Federal Employees

THURSDAY, MAY 2, 1985, 7:00 P.M.
Chevy Chase Community Center
Connecticut Ave. & McKinley St., N.W., DC

* *

The CEC Software Conference

The best laid plans sometimes go awry. The CEC conference was scheduled for May 2 & 3 at the new Radisson Hotel in Alexandria. However, as time approached it was realized that the Hotel wouldn't be finished construction by then. So, the conference has been pushed back a month to June 6 & 7. For further details, on the rescheduling or participation, call: Elsa Glassman, (703) 620-3660 X261.

Such situations do create problems in rescheduling speakers as well as for attendees. Therefore the list of names we had to share with you is up in the air. At this moment the only names we are sure of are the Hagens of Closing the Gap. The two days will be broken up into several categories: design, use, and evaluation as well as a variety of panels.

Again, the DISABLEDSIG is hoping to coordinate its meeting around the conference so we hope to see you there.

OPTIONS, A SCHOOL FOR NEW SKILLS

Our April meeting was held at The National Learning Center's school: OPTIONS. Established under a Ford Foundation Grant, and further supported by an Apple Education Foundation grant of computer equipment, it is designed to upgrade educational and functional competencies.

OPTIONS' Director, Sharon Hemphill, together with Candace Sullivan, explained the school's goals and techniques, and guided the SIG's members through the facility. Using computers about 1/3 of the time, the curriculum offers individualized self-paced instruction. The courses cover basic literacy through reading, writing, mathematics, high-school level science, social studies, and literature. Students completing the program can obtain not only a GED, but practice for the SATs.

Designed to address the needs of the economically disadvantaged, OPTIONS presently provides services to nearly 70 students ranging between the ages of 18 and 42. Some of the students are referred by employment services, others walk in off the streets. If economically disadvantaged, there is no cost. Otherwise, the cost is $750 for a three month session.

But, what do the students achieve? Generally the goal is a one grade increase in twelve weeks, but given individualized instruction and personal motivation faster gains have been attained.

The computer portion of the course is generally Computer Assisted Instruction (CAI), and there is heavy reliance on the Minnesota Educational Computer Consortium's and McMillan software. They are exploring the possibility of interactive, computer controlled, video disks.

They are also looking to expand their assistance towards the disabled, specifically youth who because of their handicaps have been excluded from, or have been unable to achieve their potentials in, normal educational settings. For further information call (212) 543-80 X254.

WANTED: A FEW GOOD HACKERS

On March 19, CBS aired a program called "First Steps". It was not the story of the typical hacker so often portrayed as breaking into banks' computers or the memory banks at the CIA. This "docudrama" portrayed the activities of Dr. Jerrold Petrofsky who is doing some remarkable things at Wright State University in Dayton, Ohio. He has studied normal muscular movement and used computers (including Apples) to stimulate those movements in paraplegics whose spinal chords have been severed.

As further miniturization and sophistication evolves, more people who are severely injured will not have to see their bodies degenerate, and many may achieve bioengineered independant movement.

But what of the title to this segment? Well, the DISABLEDSIG doesn't expect several WAP members to pop out of the woodwork and emulate Dr. Petrofsky's work. What we would like to do is to link together some of WAP's able software and hardware hackers with some of the SIG's members to accomplish small tasks - developing simple adaptive devices, specialized computer interfaces, and software modifications to overcome special needs. Please call, we need you.

CALL FOR PARTICIPATION

* *

DISABLEDSIG IS SPONSORING SEPT. MEETING NEEDS: PAPERS PRESENTORS ARTICLES & EXHIBITS

AN ACCELERATED APPLE (or how to avoid boredom while the //e does its thing)

by George M. Vitak

I imagine that there are those //e owners who revel in watching the steady progression of dots marching across the screen during the compilation of a Pascal program. Undoubtedly there are others who are lulled by the rhythmic whirling of the disk drive during a long file search. Personally, I find that as programs increase in length and files expand to fill whole disks, the seemingly interminable wait for the machine to finish its business is akin to the excitement generated by watching a cactus grow on a cloudy day. My propensity for misplacing semicolons in the last procedure of Pascal workfiles and a growing concern for the life and vitality of my disk drives prompted me to check some of the electronic gizmos on the market which could alleviate these problems.

My initial inclination was to investigate memory cards with disk emulation software. I defined several simple parameters to aid in my search: compatibility with all known and planned operating systems, unlimited RAM capacity, exceptional low price. For some reason my search wasn't successful. Seriously, a year ago, I did find a reasonably priced 256K board but, unfortunately, was never able to obtain software supporting Pascal 1.2. Somewhat shell-shocked from this experience, I was hesitant about trying another board until, quite by accident, I came across an ad for a product called RAMWORKS by Applied Engineering (P.O. Box 798, Dallas, Texas 75247).

The RAMWORKS board replaces and is functionally identical to the Apple extended 80-column card (in the //e auxiliary slot). Instead of a single set of 64K chips, RAMWORKS supports two sets, either 64K's or the newer 256K's, with an optional piggy back card containing two more sets of slots for a possible configuration as high as one megabyte. From a programming standpoint, this RAM is addressed by bank switching using the same soft switches as the Apple board. The additional memory is accessed in 64K groups with the active bank identified by an address called the bank register. Matters of this nature, however, can best be handled by those 16-fingered types who like to assemble programs.

Applied Engineering offers disk emulation software supporting DOS 3.3, ProDOS, Pascal 1.1/1.2 and (on a separate disk, at a separate price) CP/M. The Pascal 1.2 programming does not support the 128K Pascal configuration. Documentation is contained on the disk and when printed out consists of six pages for DOS, one page for Pascal and one paragraph for ProDOS. Obviously, ProDos and Pascal users are much more clever at figuring things out. As I do not use CP/M, I did not purchase the other disk.

With DOS 3.3, the board is segmented into 192K RAM disks based in slot 3. The venerable Apple FID program, modified to recognize up to six drives, is provided for file transfer. Copy programs which format disks can not be used and the INIT command disables the RAM DRIVE (but does not disturb stored information which is retrievable upon reactivating the board).

Various default RAM DRIVE parameters can be modified by POKEing values supplied in the documentation. There is a visual indicator of activity (inverse R/W) and for even greater enjoyment, an optional audio indicator (click click). Double high resolution graphics are supported and any of the 64K banks can be "locked" from use as a drive. For those who are troubled by the use of Slot 3 (there must be some since this option exists), the machine can be fooled into thinking that the board is in another slot. I wonder if it's not nice to fool Mother Apple.

As an added touch, the Applied Engineering folks have provided a utility to replace the trusty COPYA. Their version uses the additional memory on the board to copy greater chunks (thus working faster) than the Apple program. And while on the subject of faster, a public utility program named Speed Dos is included which can load a 131 sector binary file from the RAM card in 0.8 seconds rather then in 32 seconds from a disk drive under DOS 3.3.

With all these features available, DOS 3.3 is a hard act to follow. Indeed, all you get under ProDOS and Pascal is one large RAM drive - /RAM/ in ProDOS, Volume #9: in Pascal. In addition to these operating systems, AppleWorks users (the latest sales figures indicate that a few exist out there) have been included in the RAMWORKS family. There is a package (additional cost) that allows for the expansion of the desktop work area in concert with the size of the board. This is achieved through a one-time modification to the Appleworks Startup and Program disks with the option to automatically load the program into RAMWORKS for increased access speed. Similar software exists for VISICALC.

Well by this time I am sure we all agree that this is a fine product, but does it speed up the Apple? Using a friend's inherited stopwatch - not as sophisticated as an atomic clock, but reasonably accurate (especially at the racetrack according to my friend) - I timed several applications using the RAMWORKS board. These were:

(1) Compilation of a 30 block Pascal workfile
(2) Retrieval and display of 1400 records (274 blocks)
(3) File search of 133 records (27 blocks)
(4) Loading of a 65 sector BASIC program

APPLICATION	DISK	RAMWORKS	RATIO
(1) Compilation	2:15	2:05	1.08
(2) Retrieval	17:15	15:28	1.12
(3) Search	0:09	0:05	1.80
(4) Loading	0:16	0:00.6	26.67

With respect to improving operational speed, the real merits of the RAM board are to be found in applications requiring extensive switching of programs. I downloaded a disk containing twenty-two menu linked astronomy programs (BASIC) and had the selected applications appear virtually instantaneously on the screen. The greatest value in the disk emulator, however, is probably the reduced drive utilization. I am not familiar with the technical aspects of disk head life, speed and alignment, but am convinced that a significant increase in longevity can be achieved through the use of RAM drives.

With the resolution of my disk drive concerns, I looked into another product for increasing overall operational speed - the Accelerator //e by Titan Technologies (310 West Ann, Ann Arbor, MI 48104). I must note that this company is one of the most pleasant I have ever dealt with, courteously responding to

contd.

my questions both by phone and by letter. The Accelerator contains a CMOS 6502 running at 3.5 MHz which magically replaces the puny 1 MHz Apple processor. As a result, all those machine instruction clock cycles (which I am told the HEX types love to count) execute three and one-half times faster. If nothing else, with a name like ACCELERATOR //e, you can always mention it out of context and wow the neighbors by giving the impression you are engaged in high energy particle physics research in your basement.

The Accelerator board contains 64K of fast RAM chips which supersede the Apple's main memory. An additional 16K on the board is reserved as a pseudo ROM to hold and speed up access to the resident language. DIP switches are used to indicate slots containing time sensitive devices (disk drives, modems) and removable jumpers indicate those containing memory boards. The literature indicates that all memory boards are supported except the Saturn 32K which is only recognized as a 16K board.

Since the Accelerator uses the Direct Memory Access channel for its own operation, it is not compatible with other DMA devices (Microsoft Z-80 softcard, Corvus Omninet). Little benefit is realized from Z-80 cards containing their own memory. Screen access is controlled by the Apple's video circuit and continues to operate at 1 MHz reducing the effective speed of video intensive programming. Software is provided (pre-boot) to slowdown the board for game applications or to disable it for use with DMA devices.

To determine if this electronic wizardry really worked, I ran the same tests (except the BASIC program loading) I used with RAMWORKS and added the following:

(4) Two field alphabetic sort on 133 records
(5) 1500 simple VISICALC arithmetic operations
(6) BASIC HGR plotting program

APPLICATION	APPLE	ACCEL/RAM	RATIO
(1) Compilation	2:15	1:00	2.25
(2) Retrieval	17:15	8:02	2.15
(3) Search	0:09	0:02.5	3.60
(4) Sort	2:12	0:40	3.30
(5) VISICALC	0:20	0:06	3:33
(6) HGR Plot	3:31	1:04	3.30

The final aspect of this grand adventure that needs to be mentioned is the price for this gadgetry. I actually had to pay for all this stuff. The small version (64K) of RAMWORKS can be found advertised by one of the vendors in the journal for $139.00. This is $40.00 less than buying directly from Applied Engineering. Upgrading can be accomplished with 256K RAM chips that can be purchased locally and seem to be decreasing in price fairly rapidly. Ram Drive //e software is offered by Applied Engineering (it is not mentioned in the local ad) for $29.00 and Super ApplеWorks Expand for $39.00. The Titan board has decreased significantly over the past few months and can currently be found for $209.00 by checking the vendors in the journal.

Surely many have no need for such enhancements and probably find it amusing that someone actually bought these things. I must confess that my purchase was more whimsical than practical. I am, however, quite pleased with the results. It is not difficult to imagine situations where one or both of these boards would be of true practical value for increasing productivity. Perhaps some can benefit from my findings in the search for an accelerated Apple.

TELECOM SIG NEWS

by Dave Harvey

The Telecom SIG meeting was held after the regular WAP meeting on March 23 and was conducted by George Kinal. In the absence of a formal program, there was a question and answer session. About 15 members attended.

The first question concerned the use of an Apple computer for remote control of an IBM PC. Since no one knew of a program for the IBM that would do this, it was suggested that an IBM users' group be contacted.

Another question involved the making of backup copies of ProDOS formatted disks, such as ASCII Express Pro (ProDOS version). Two methods will work for this. The first is to use DOS 3.3 COPYA, and the second is to use the FILER program on the ProDOS master disk.

We next discussed the pros and cons of external versus internal modems. The Prometheus 1200A internal modem looks like an Apple Super Serial Card to ASCII Express Professional and does not act like a true internal modem as does the Hayes Micromodem or the Novation Applecat.

George Kinal again announced that he is looking for volunteers to test out the different configurations of the CP/M communications program Modem 7. He also announced that the Telecom Sig now has its own disk that will be put in the Disketeria, the first of hopefully many more to come.

We learned that the Microcom modem does not work with the CP/M operating system. It also does not support the Grappler printer card.

A member who is just starting out with communications asked if there were any good books that he could use that would give him advice on buying modems and software, and would have a comparison of the different modems and what to look for. George thought there wasn't anything that would stay current for long. He suggested that his notes from a previous tutorial that had a lot of that type of information might be useful for the purpose.

A newcomer to communications asked exactly what could be done with a modem and a terminal program. He knew about bulletin boards but wanted to know if there was anything else worthwhile. We then discussed MCI Mail, ITT Dialcom and other electronic mail services. Information utilities such as Compuserve and the Source were also mentioned as being potentially useful.

The ability to download programs was considered one of the main advantages of getting a modem. There are many programs out there in the public domain that are available for downloading. These are usually on information utilities such as Compuserve or on local bulletin boards. One participant sadly reflected that not many programs were available on the WAP board. Hopefully, when the new WAP bulletin board is implemented, there will be room for a large number of programs. In terms of quantity, CP/M programs are available from a large number of local boards. The type of programs available for CP/M are mostly utilities although there are other types, mainly for scientific use. Most local CP/M boards require protocol transfers so your terminal program must support that.

In order to download CP/M files using a DOS 3.3 terminal program, first download to a DOS 3.3 disk and then

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EXPANDING YOUR APPLE

by J.T.(Tom) DeMay Jr.

There is a relatively new product available from **AST RESEARCH, INC.** which combines three useful enhancements to the Apple][, //e series of computers. It is an interface card which provides a serial printer port, a modem/terminal port, and a clock/calendar with battery backup that is compatible with ProDOS.

The package consists of a single board, two six inch connectorized ribbon cables, a disk of utility programs (ProDOS 1.1), and a thirty page Users Manual. The board is approximately 3 inches high by 8 inches long and looks well manufactured. The manual is informative and easy to understand. I would however, recommend reading the entire manual before attempting to install the board.

As you may know, the Apple operating system was designed to access physical devices (printers, modems, etc.) using physical locations (slots 1 thru 8). AST RESEARCH, INC. has cleverly devised a hardware scheme that allows three physical devices to be located in the same slot, but logically mapped to other slots. There are two identical configuration blocks which are used to identify which devices are "inserted" in which slots. The actual mapping is done by installing or removing shorting plugs. The card comes configured for what has become the standard for peripheral device locations; Printer in slot #1, Modem in slot #2, and Clock/calendar in slot #7. If this would conflict with your existing hardware, it is a simple matter to move the phantom card by merely changing the location of the jumper blocks.

WHAT GOES WHERE

The following assignments can be made:

DEVICE	PHYSICAL SLOT
Printer port	1 or 2
Communications port	2 or 3
Clock/calendar	4 or 7

The MULTI I/O card can be physically located in any slot to which one of its functions is mapped. Because there cannot be another physical card in the same slot as a phantom card, Apple owners who already have expansion cards may have to make some decisions. It is possible to disable any of the devices on the MULTI I/O card, by removing the jumper blocks that are associated with the device to be disabled. Decide which functions you want to use, and which slots to map them to, then remove or install the jumper blocks accordingly. If you are just beginning to add to your Apple, I would suggest that you install the card just as it comes out of the box.

Before actually inserting the card, be sure to select the desired baud rate. Although both I/O ports can communicate at baud rates from 50 to 19200, most applications can be satisfied with those set at the factory: 1200 baud for the communications port and 9600 baud for the printer. These baud rates are selected by setting a combination of four "DIP" (Dual Inline Pin) switches for each port.

The ribbon cables have an RS232 type connector on one end (female for the printer and male for the comm port). On the other end you will find a fourteen pin female connector. Once the jumper blocks have been installed, the baud rate switches set, and the ribbon cables connected, you are ready to insert the card. The usual precautions should be observed; turning off the computer, grounding yourself to dissipate any possible static charge, and locking the cat in the bathroom, etc. Since the MULTI I/O card is compatible with several modems and printers, the interface cables required to connect them should come with the devices.

TESTING THE MULTI I/O CARD

When you are satisfied that everything has been connected properly, you are ready to test the new card. There is a tutorial and several useful utility programs supplied in ProDOS format. This may be a problem for those with Apple][+s with less than 48K. (Are there still 48k Apples?) The programs can probably be modified to work with DOS 3.3.

The utilities are accessed from a menu. Option 1 is the tutorial, which is not at all a tutorial by my definition, but an explanation of the other portions of the utilities program. Option 2 determines which devices are in which logical slots and displays that information. It can be used to verify that you have configured the MULTI I/O card as you wanted. Option 3 provides an easy way to set or read the time and date from the clock/calendar. The next two options, 4 and 5, are designed to work with the Imagewriter and compatible printers. The former is a text file listing utility which prints any text file in 132 column format with the date and time at the top of each page. The latter is a graphics dump utility which can be used to produce a hard copy of your latest masterpiece. Option 6 is a digital clock/calendar which reads the time and date from the MULTI I/O card and displays it on the screen. The remaining two options, a printing terminal program and a telephone dialer, are used to exercise the communications port.

OPINION

First the clock/calendar. I have had a Thunderclock for several years, and am very pleased with it. The MULTI I/O clock is Thunderclock and therefore ProDOS compatible. The programs that I normally use with my Thunderclock work just fine with the MULTI I/O clock. In addition, it is Mountain Computer compatible. That means it will store the year as well as the date and time, another item in its favor.

The only complaint I have about the printer port is its inability to recognize XON/XOFF characters to control data flow. It does, however, respond to DSR/DTR signals, so this is no real handicap. The default parameters are 8 bit words, 2 stop bits, and no parity. These may be changed by a POKE from BASIC. The only other parameter that can be changed is the number of characters transmitted before issuing a CARRIAGE RETURN/LINE FEED. The default is 255, but this can also be changed by a POKE. It would have been nice had some screen dump program been included on the firmware.

The communications port parameters are set like those of the printer port. In addition, several commands can be entered from the keyboard. Ctrl-A Ctrl-F will enter FULL DUPLEX, Ctrl-A Ctrl-H for HALF DUPLEX, Ctrl-A Ctrl-X will exit from the Terminal mode. I connected a Macintosh to the communications port and used the Mac as a terminal for the Apple //e. Several

contd. on pg 19

SIDER GETS A LOT OF PRESS

by David Morganstein

Until recently, we Apple][+ and //e owners have had to watch jealously as users of other personal computers purchased lower and lower priced hard disks. When they were buying 10 Megabytes of storage for under $1,000, we were facing 5 Megabytes for over $1,000. (Apple's 5 and 10 Megabyte Profiles lists for $1495 and $1995, repectively.) I am glad to inform you that our day has come! (Unfortunately, I have no such news for //c owners...) As you may have seen in magazine ads or read in reviews in our Journal (see Jim Kellock's "The Sider Hard Disk" in the April 1985 WAP Journal issue), the Sider is a $695.00 hard disk with 10 Megs of space (equivalent to about 70 floppies). Not only is that a lot of capacity for the price, at least for the Apple world, you can daisy-chain two Siders together (hook one to another) if you need 20 Megabytes of disk space.

I can still remember how incredulous I was when the first Sider ads appeared, especially since First Class Peripherals, distributer of the Sider, is a direct order operation and the ad gave only an 800-number for ordering and a post office in Pennsylvania as a mailing address. Given that the price is similar to that being charged for hard disks on other machines, the ad raised my eyebrows only because the price was so much lower than anything that ran on Apple equipment. While I can't guarantee the supplier will be around next year, the product is real and performs quite well. They offer a 15-day free home trial which should give you ample time to decide for yourself. Based on my own experience, I suspect they have had few returns. A representative from FCP is scheduled to attend our April meeting and provide more background on the company.

The installation software allows you to use the Sider with any of the following operating systems: DOS 3.3, Pascal (both versions 1.1 and 1.2), CP/M and ProDOS. Two different CP/Ms are supported, version 2.23 and PCPI's version for the Applicard. You must reserve a small amount of space for each of these operating systems even if you are only using one. For example, if you work only with DOS 3.3, you must dedicate about one-half a Megabyte for the other three, unused, operating systems. When formatting the disk, you will find that a little over 500K is needed by FCP's monitoring software and sector marks. Taking these two losses together, a DOS 3.3-only hard disk has a little under 9 Megabytes of available storage (equivalent to 63 floppies worth). This loss in overhead is common to just about all hard disks systems.

Setting up the Sider is pretty easy. You only need a screwdriver and needle-nosed pliers. The Sider interface card initially goes in slot 7, typical for harddisks, but can be moved to another slot after the first set-up. Once the hardware is together (a fifteen minute job), and you have decided how to partition the disk into operating systems, it takes about twenty minutes for the disk to be formatted. You should take your time deciding how you want to set the disk up. Once you have formatted the partitions, you must live with them until you are willing to copy all your files onto floppies and repeat the entire formatting process over again.

The Sider comes with several valuable utility programs. The program for allocating space to each operating system is menu-driven and easy to use. FCP provides a utility much like an enhanced FID (Apple's file manipulation program that is on the DOS 3.3 master). Their FID lets you copy an entire floppy to a given volume number. There is a back up/restore program which makes it easier to make archival copies of information on the hard disk. The manual indicates that the back up program does not support ProDOS, a fact which I have not checked.

Perhaps the only weak link in the Sider is the accompanying manual. It is adequate to get the disk up and running as long as all goes well and you have no questions. It contains fairly clear diagrams to help you when connecting cables. But at about fifty pages, it contains little background or technical information. It is readable and you should have no trouble getting underway; it is just that more is needed.

One reason for getting a hard disk is to speed up operations where a lot of data is being read or written. The Sider may give you as much as a factor of ten reduction in processing time if you do a lot of input/output to the disk. While it makes more noise than a fan, I didn't find it to be "noisy". After watching prices drop for other personal computer users, I'm just glad that FCP is offering an affordable hard-disk for the "rest of us".

Expanding Your Apple contd. from pg 18

text files were transferred to the Mac with no problems. However, if you intend to do any serious data communications, you will want to use a commercial program like ASCII EXPRESS or DATA CAPTURE.

Considering that the discounted price for two serial cards and a clock card is around $300, the MULTI I/O card from AST RESEARCH, INC., which lists for $235, is a very attractive alternative. The fact that a full one year warranty is provided suggests that AST has confidence in their product. The compatibility of each of the devices assures that they can be used with many popular hardware and software packages. For more information contact: AST RESEARCH, INC., 2121 Alton Avenue, Irvine, CA 92714, 714/863-1333.

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use the conversion utility APDOS to convert to a CP/M formatted disk.

AE Pro has the ability to filter out carriage returns from incoming data. However, no one thought that AE Pro could be used to strip carriage returns from data going out.

We next discussed word processing and text editors that could be used for processing data prior to transmission over a modem. It was noted that the new Apple Writer //e ProDOS version has a built-in communications program. A review of the program would be helpful.

Lastly, we discussed the modems marketed by Anchor and what the differences are. The Mark XII had some problems when it first came out but now apparently they have been rectified. The Anchor Express is pretty much a beefed up Mark XII with several new features added, such as status lights, automatic dial and internal memory. The Volksmodem 12 is quite similar to the Mark XII and in that regard will probably not support the break signal at 1200 baud.

GETTING THE CURRENT YEAR FROM A THUNDERCLOCK (which is impossible)

by Duncan Langford

When, a year or two ago, I purchased a Thunderclock card for my Apple][+, I didn't know that the Thunderclock was eventually to become the 'official' Apple clock card. Although I always missed the current year being available, it kept excellent time and I was otherwise pleased with it. When I eventually updated from DOS 3.3, I was delighted to find that ProDOS read the card, automatically making note of the date and time.

What really astonished me, however, was that ProDOS managed not only to read the current month and day of month (as well as the usual hours/minutes/seconds from my clock card, but also appeared to know the year - which was then 1984. Since in two years I had never managed to read this information from the clock card, I naturally thought that ProDOS had the year detail programmed in, and expected that it would remain as '1984'. On the offchance, though, I took time out from New Year celebrations to check my Apple: Was ProDOS still assuming it was 1984? Well, no, it wasn't. To my astonishment, at midnight the screen changed to January 1, 1985.

How did the Apple manage to get more information from my Thunderclock card than even the manual said was in there? Why had I never managed to find it from BASIC, in the fairly lengthy time I'd been using the card?

Well, as readers of the March Pi will know, thanks to Bruce Field (Happy New Year, Bruce!) I finally found the answer: the current year is not available from the Thunderclock; ProDOS uses an algorithm to calculate it, based on the day of the week the current year started. When you think about it, in a normal year, the 365 days will divide into 52 weeks and one day, so that January 1st will be one day later each year. For example, it falls on Monday in 1984, Tuseday in 1985, Wednesday in 1986 and Thursday in 1987. If you can find out on which day of the week January 1st fell, it is therefore possible to work out which year (from 1984 to 1987) is the current one. 1988 is a leap year with 366 days, so ProDOS's algorithm will fail on February 29, 1988. In 1988, of course, the Apple][will be 10 years old...(Ed. Note: A mere youngster, we hope!)

Once I knew that it was possible to make my Thunderclock give me the year detail as well as the rest of its information, I had to write a program which did it! The listing, which will run under either DOS 3.3 or ProDOS, shows an example of the way in which the year can be found. Rather than write a program which reads the card, I have allowed the current month, day of month and day of week details to be read from the keyboard. This allows various different dates to be fed in, testing that the program actually works.

When you are satisfied that it does, substitute the new lines 300-350 for those in the original listing, making sure that you change the slot number to the slot number in which you have your Thunderclock; and the routine is ready to be included in your larger program.

You will now be able to automatically print the full date and time - just like ProDOS! If you are still using your Apple in 1988, it would be a simple matter to reset the baseline of my program to read the year from the next leap year cycle (1988-1991). Then you'll be right, and ProDOS wrong. What a pity we'll have to wait until 1988 to see it!

Listing

```
100  REM Year-from-month demo
110  REM Duncan Langford - 11,Hillview Road,
         Canterbury, Kent, England
120  REM All date variables are as in the Thunderclock
         manual!! remember it ONLY WORKS UNTIL 1987!
130  :
140  REM Set variables
150  :
160  DIM M(12)
170  FOR I = 1 TO 12
180  :READ M:M(I) = M(I-1) + M
190  NEXT
200  DATA 31,28,31,30,31,30,31,31,30,31,30,31
210  :
220  REM M (Month) = accumulated days so far, at
     month's end
230  :
240  FOR I = 1 TO 3
250  :LET Y(I) = 1984+1
260  NEXT I
270  :
280  REM Y() holds the year: 1984-1987
290  :
300  REM Get current date
310  :
320  TEXT: HOME
330  VTAB 10:INPUT "Month (1-12) :";MO
340  VTAB 12:INPUT "Day of month (1-31) ?";DT
350  VTAB 14:INPUT "Day of week (0=Sun,6=Sat) ?";DW
360  DW = DW + 7 * NOT DW: REM Make Sunday 7, rather
     than 0
370  :
380  REM Calculation..
390  :
400  Q = M(MO-1) + DT: REM Total days
410  X = Q - (INT (Q/7) * 7): REM less than a week?
420  IF X > DW THEN X = X - DW: GOTO 470
430  X = DW - X: REM Count back..
440  :
450  REM And the answer is-
460  :
470  VTAB 16: PRINT "The year is ";Y(X)
480  END


300  REM Replace lines 300-350 with these to get data
     from the clock card
310  PRINT CHR$(4) "PR#2" : REM Card in Slot #2
320  PRINT CHR$(4) "IN#2"
330  INPUT "#"; MO,DW,DT,HR,MN,SEC
340  PRINT CHR$(4) "PR#0" ; REM Restore screen
350  PRINT CHR$(4) "IN#0"
```

DEALER'S CORNER

For a limited time only Anderson Jacobson is offering their refurbished daisy wheel printer (advertised on the back of the WAP Journal) at a special low price to WAP members. Through June 30, 1985 the price will be $295. Contact AJ as described in their ad.

UNITSTATUS: A Way to Check the Open and Solid Apple Keys

by Steven Pearce

Late last year Apple released a new version of Pascal (version 1.2) which has a number of improvements over the older version. One such change is a function UNITSTATUS which allows the programmer to read the Open and Solid Apple Keys on the //e keyboard. This is a useful function for two reasons: it allows the programmer to use all the keys on the keyboard, but more importantly, it allows keyboard input which bypasses the keyboard/strobe locations at $C000 and $C010. For example, one could use the APPLESTUFF function KEYPRESS in a WHILE loop to allow keyboard entry and use the Open-Apple key to terminate the loop without interfering with the KEYPRESS function. This occurs because the Open and Solid Apple keys are not wired into the keyboard ROM the way all the other keys are.

The UNITSTATUS function is not available in Pascal 1.1, but can be easily duplicated. The Open and Solid Apple keys are hard-wired into the same locations as the buttons on the game paddles. By using a variant record to peek at locations -16287 (Open Apple) and -16286 (Solid Apple), one can determine whether either of the keys have been pressed.

The enclosed short program is an example which uses the Open and Solid Apple keys under Pascal 1.1. The program will read the keyboard for about 15 seconds and print the words "Open-Apple Pressed" or "Solid-Apple Pressed" whenever these keys are struck. The loop can be terminated by pressing any other key. Obviously, the BOOLEAN functions OPEN_APPLE and SOLID_APPLE could be moved to any other program.

I hope Pi Pascal programmers will find the information useful.

```
PROGRAM KEY-DEMO;
USES APPLESTUFF;
TYPE
 BYTE=0..255;
 TWOBYTES=PACKED ARRAY[0..1] OF BYTE;
 TRIXREC=RECORD
          CASE BOOLEAN OF
           TRUE:(PTR:^TWOBYTES);
           FALSE:(ADR:INTEGER);
          END;
 VAR COUNTER:INTEGER;

 FUNCTION PEEK(ADDR:INTEGER):BYTE;

 {FUNCTION PEEK USES A "VARIANT RECORD" IN PASCAL TO
 DUPLICATE THE PEEK COMMAND AVAILABLE IN APPLESOFT.
 SEE PAGE 18 OF THE APPLE PASCAL LANGUAGE REFERENCE
 MANUAL}

 VAR  TRIX:TRIXREC;

   BEGIN
    TRIX.ADR:=ADDR;
    PEEK:=TRIX.PTR^[0];
   END;

 FUNCTION OPEN_APPLE:BOOLEAN;
 BEGIN
  OPEN-APPLE:=(PEEK(-16287) > 150);
 END

 FUNCTION SOLID_APPLE:BOOLEAN;
 BEGIN
  SOLID_APPLE:=(PEEK)-16286) > 150);
 END;

 BEGIN              {MAIN PROGRAM}
   COUNTER:=1;
   WHILE NOT(KEYPRESS) AND (COUNTER<1000) DO
   BEGIN
    IF OPEN_APPLE THEN WRITELN('OPEN-APPLE PRESSED');
    IF SOLID-APPLE THEN WRITELN('SOLID-APPLE PRESSED');
    COUNTER:=SUCC(COUNTER);
   END;
END.
```

SOFTVIEWS
by David Morganstein

Creative Calc, Writer & Filer (Creative Software. For the Apple][,][+, //e, //c. Price: about $50.00 each) These three programs are sold separately or together in a single box. They provide the most common business functions needed on a microcomputer: spreadsheet, word processing and data base operations. I found them to be a reasonable low-cost alternative but not as fully integrated as the box cover might lead you to believe. They would be chosen more for home use than for a business application since spending a few more dollars would result in greatly expanded capability. Let's begin with an examination of each program and then see how they fit together.

Creative Calc. Assuming that most of you have used a spreadsheet before, let's compare Creative Calc with competing programs. As a low-cost alternative, two important questions to be asked are: "What does it give up and how important are those features?" As with several other spreadsheets on the Apple, Creative Calc allows you a 255 rows by 64 columns sheet (Appleworks allows you 1,000 rows). The columns are labeled AA, AB, and so forth. The rows are numbered from 1 to 255. At the top of the screen you see information about the current sheet and around the border you find the row and column labels. On a 128K Apple //e, you have 71256 bytes of space available for your work.

You specify a cell by typing the column letter, a comma and the row number (e.g. "AB,23") I found this method more confusing than alternatives such as AB23 (VisiCalc and MagiCalc) or R23C2 (Multiplan) particularly when the cells appear in formulas. The cursor is moved around the screen through the use of control commands. For unknown reasons, Creative Calc does not support the handy arrow keys of the //e and //c. The developers chose Ctrl-J to move left, Ctrl-K to move right, Ctrl-O to move up and Ctrl-L to move down. You would be better served by a diamond pattern such as is found on Multiplan or, at least, with the option to redefine the key assignment. The entire screen can be shifted up or down by 17 lines and right or left by one screen full. The W, Z, A and S control keys to perform these functions do form a diamond pattern which is easy to memorize.

Typing a Ctrl-C reveals a list of twelve commands. Most of the common spreadsheet operations are there: Copy, Format, Load, Quit, Disk, Goto, New, Recalc, Erase, Insert, Print and Save. Conspicuous by their absence are the ability to move rows or columns and to create two "windows" which can be viewed simultaneously but manipulated separately. Creative Calc does not allow you to sort rows, a useful option found in Multiplan.

An important measure of the usefulness of a spreadsheet is the list of mathematical functions which it can perform. Creative Calc provides only the following: sum, sin, cos, atn, exp, log and abs. There are no economic functions such as net present value, and no boolean functions to make choices based on evaluating a true/false condition. On page 37 of the documentation there is reference to an AVG function to compute the average; however, this is the only mention of it. When I tried AVG, it was not accepted by Creative Calc. Creative Calc uses a ">" sign to indicate a range of variables [e.g. @SUM(AB,3 > AB,10) says to add up rows three through ten in column AB]. Symbols such as ":" and "...", which are used on Multiplan and VisiCalc seem less confusing than a "greater than" sign.

Windowing has become a popular buzz word. On competing spreadsheets, the word "window" describes the ability to view two parts of the same spreadsheet simultaneously while manipulating data in either part. Creative Calc provides an option called Window which provides for stationary titles at the top or left of the screen. Creative Calc does not allow you to view two parts of the spreadsheet at once.

A final note on performance. Creative Calc took six seconds to recalculate a sheet with only seven columns and 14 rows containing only entries, no functions!

Creative Writer. With so many word processors, both high and low cost, on the market there is no dearth of comparisons to make with Creative Writer. Creative Writer is a RAM-limited word processor, in that any one file can be no larger than will fit in memory at one time. Documents can be linked together when printed, however, thus allowing you to handle larger material.

This is not a "what you see is what you get" program. On the screen you only see the text. Formatted material such as page numbering, justification or headers appears only on the printed page, not on the screen as you edit your material. You can get an impression of what the text will look like through a "preview" option which presents you with a high-resolution "picture" of what a single page will look like (ala HomeWord). This display does not contain text, only horizontal lines representing the approximate lay-out of each page. Creative Writer allows you to create a form letter and merge data from Creative Filer, thereby allowing you to conduct a mail merge.

Margins and justification are set using embedded commands as with Apple Writer or ScreenWriter. Each line to be centered must begin with a Ctrl-key sequence. While you can tell Creative Writer to underline or boldface, I have not figured out how to tell it what control characters must be sent to the printer to make this happen. It appears to be sending default values which work with "most" printers. The manual does not address this point. Creative Writer allows you to merge material generated from Creative Filer or Creative Calc when printing.

I found Creative Writer fairly easy to learn. Unlike the Calc program, it uses the //e arrow keys for cursor movement. By striking esc-? you can view help screens which remind you of the various commands needed. As a memory aid, the top of the screen reveals single letter abbreviations of the commands.

Creative Filer. To quote from the manual, "...Creative Filer does not have all of the features of full-blown data base management programs..." It is a straight-forward single record structure program. Its basic functions are to define a file, to design a screen entry form, to enter, modify and search records, and to prepare summary listings of sub-sets of your records. I found it to be easy to learn and to use, even though it is not fancy. The records you define may have 128 fields each and consist of 6,400 characters. The limit on fields per record, while fairly generous for small applications, will present more of a problem than the limit on characters per record. Since each record is read from the disk, the

contd.

only limit on the number of records is the disk capacity. Fields can be added to but not deleted from an existing record format.

Creative Filer allows you to use the first field as a "key" variable to order the records. The program automatically tracks the value of this field and stores each new record in sort sequence using it. Thus, for a phone list, if you make the first field Last Name, Creative Filer would maintain the list in name order. When searching through the data base, using the key will produce the quickest results; however, you can search on any field or even on combinations of fields. For convenience, you can define an alternate key field, but once defined it can not be changed.

The report writing features are very handy. Creative Filer allows you to create a report format and store it for later repetition. You select the fields to be included and the spacing to be used. You have the ability to derive fields of the report from the fields in your file. For example, commission on each sale can be derived as the selling price times the commission rate, if these later two fields are in your file. Commission on each sale is computed when each record is read and printed in the report; it is not stored in the file.

Creative Filer will work well for simple problems. It will not handle hierarchical records (one record type per household and a second record type for each household member). Its single record structure can not handle complicated problems which can be solved with a relational data base which allows you to combine information from two or more files (one file for schools, a second for teachers and a third for students). The manual thinks of a Creative Filer record as an index card in a filing system. For these limited types of data base problems, Creative Filer will work well.

Integration. The three programs are not truly integrated, although the packaging box used the word "integrate" in four places. They are three separate programs with the ability to share data in several ways. You can save your spreadsheet results to a file which can be merged at print time into a document. Creative Filer can provide data for the spreadsheet in two ways. First, it can save a formatted report which can be embedded in text by the word processor, just as the spreadsheet can. Second, Creative Filer can be used to build a file of information, such as names and addresses, which can be merged with a form letter. However, you don't need to buy all three packages to share data. Almost every spreadsheet or data base package allows you to print your output to a file instead of the printer. Practically every word processor permits you to merge a file into an existing document. Creative Writer (and several other word processors) uses the "include" approach which causes the merge to happen when the document is being printed. The two files are never actually merged as one. This is a big advantage since it allows you to change the spreadsheet or data base report and reprint the document quickly.

Another dimension of integration is the similarity of commands to perform the same function in each package. In Creative Calc, moving the cursor up or down one line requires Ctrl-O or Ctrl-L, while in Creative Writer Ctrl-W and Ctrl-Z are used.

Documentation. Each package comes with a 5" by 7" saddle stitched manual of about 45 pages in length. The manuals have both a table of contents and an index. They do a good job of teaching you how to use the programs. The Creative Calc manual provides you with an easy to search reference section. The Creative Calc and Filer diskettes contains a sample application, referenced in the manuals which gives you an opportunity to begin practicing with the programs immediately. Each program is accompanied by a handy reference card.

Summary. The challenge of integrated software is to provide strong capability in each of its many functions. These three packages worked well and revealed no errors to me. However, as I mentioned, they are three separate programs. You can buy a more powerful word processor, spreadsheet or data base and still have the ability to share information much as these three programs do. You may want to consider Apple's own trilogy (Appleworks) which can be purchased at a price slightly higher than the combined price of these three programs and obtain considerably more power (for example, Appleworks' spreadsheet provides up to 1,000 rows). For some, the limits of these programs will present no problem while providing features they need at an affordable price. Creative Software, Box 61688, Sunnyvale, CA. 94086. Price about $50.00 per package.

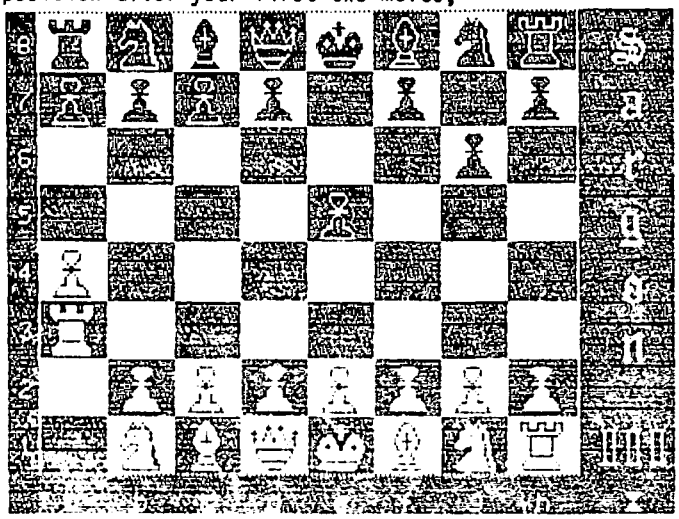
PLAYING AGAINST SARGON III

by Paul Moore

[Note from GAMESIG Chairman: GAMESIG is proud to have one of its participants make this timely contribution to the Journal. Many Apple owners have been frustrated and befuddled by Sargon III. Although I have seen many articles describing how tough the program is, I have rarely seen the kind of article that Paul Moore has done - a thoughtful and interesting insight into how the program thinks. In other words, how to beat the {expletive deleted} program. CAUTION: This article could be considered a form of "hint" sheet in playing Sargon III. Those wishing to fend for themselves should probably stop reading now, except for a peak at Paul's excellent summary of basic chess strategies early in the article.]

The purpose of this article is to provide some advice from an experienced chessplayer on various strategies you can employ to improve your chances of winning against your microcomputer chess program. Although my comments are made about Sargon III, which is probably the strongest chess program available for the Apple or the Mac, they will also likely be of at least some help to you if you have Mychess or one of the other programs. First, as for the advice offered in this article, I give you the same guarantee you get with all your software purchases as regards their "quality, performance, merchantability, or fitness for any particular purpose." Chessplayers are certainly no more generous than software publishers; but in this case I should also point out that my comments are based on my inductive observations as a chessplayer and not on familiarity with the programming structures of the various chess programs currently in use. Worse, I should also point out that, although I am rated an "Expert" by the U.S. Chess Federation, in my last serious game against a human chessplayer I lost in embarrassingly short order. You'll have to decide for yourself whether I'm talking through my hat; but I think I've spotted a number of weak spots in Sargon's play, and there's no reason that you should not attempt to take advantage of them. After all, Sargon has been programmed to slit your throat and then dance in your blood, and it's about time that you started to return the favor.

For the purposes of this discussion I will assume that you are playing Sargon III at Level 3, where he moves fairly quickly but still gives quite a bit of thought to his moves. If, however, you are the kind of player who with the white pieces arrives at this type of position after your first two moves,



then I don't think this article will really be of much practical use to you. Sargon's program is sufficiently strong at almost any level to crush you.

Basic Chess Strategy

If you are not already comfortable with the game of chess, you need first to defend yourself against Sargon's meaner instincts by attempting to do the following:

• Fight for control of the center of the board by attacking the central squares with your pawns and pieces. This area is the strategic "high ground" of the chessboard, and by controlling it you can move your pieces in the shortest route to take advantage of situations that come up on either wing. If you control the center, you can also make Sargon take the long way around when he attempts to redeploy his pieces to attack you.

• Move your pieces to places where they have scope to exercise their powers; i.e., Rooks crave open files, Bishops lust after long and open diagonals, Knights have more mobility when they're away from the edge of the board, the King prefers to cower in a castled position safely away from a potential crossfire in the center of the board.

• Most importantly, try to develop your pieces and pawns so that they are protecting one another. Sargon is at his best when your forces are scattered and unprotected, and in such circumstances it is only a matter of time before he attacks two things at the same time, only one of which can be defended.

Sargon's Weaknesses

Although this might sound like something out of a text on Chinese philosophy, it is nonetheless true that some of Sargon's greatest strengths are also the source of his major weaknesses; and in some situations you can cause Sargon to work against his own interests. There are a number of key elements in chess, among them material, mobility, time, and position; but Sargon's program does not seem to place equal stress on all these. Sargon is obsessed, usually relentlessly so, with fantasies of gobbling and hoarding pawns and pieces. In my opinion, the basic way he evaluates any position, except one where there is an immediate checkmate, is simply to tote up who has more pieces or pawns. If you have any doubts about this, use the Ctrl-J option to peek into Sargon's thought processes immediately after he has emerged from the chess opening "book" that is built into his program. You will often find that he sees himself as losing, even though he has been following a list of moves distilled from decades of games played by the grandmasters! This is so because Sargon knows a lot of opening moves but doesn't have a clue to what the ideas behind them are; and he will habitually attempt to hold onto an opening gambit pawn, often by horribly contorting the position of his pieces, when the whole idea behind his "book" having him accept an opening pawn is that he should return it later for some other nonmaterial advantage such as winning time, improving piece position, or strengthening pawn structure.

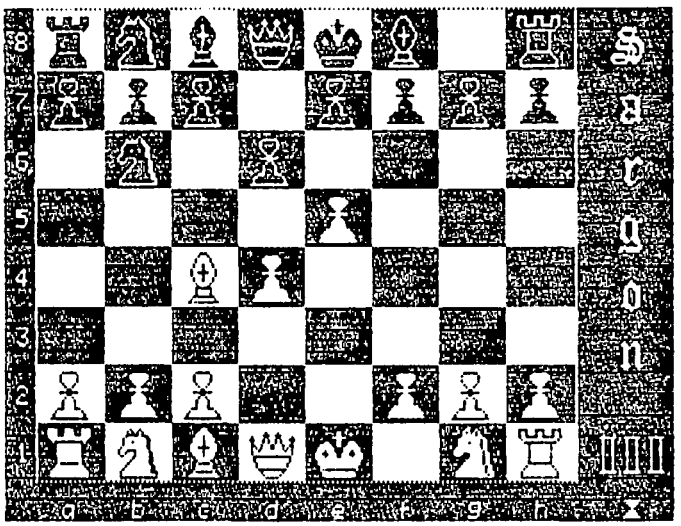
About the first good opportunity you will usually encounter against Sargon, therefore, comes right after he has spun the disk drive for the second time. From

contd.

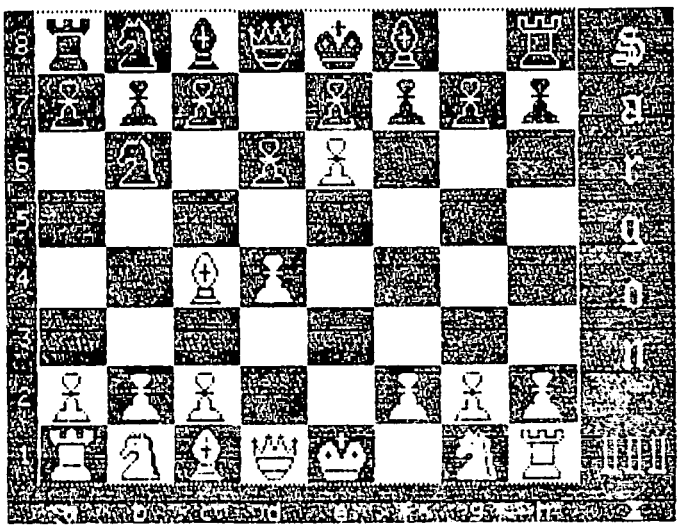
this point on, you will no longer be up against the chess lore of the ages but instead will be confronting Sargon the Pawngrabber. Some extremely interesting things can happen at this juncture. Let me illustrate what I have to say from this point on with examples.

You have the white pieces and have set Sargon III at Level 3. Sargon responds to your very common first move with a somewhat unusual response; and you reach the position below after these moves:

1. e2-e4, g8-f6
2. e4-e5, f6-d5
3. d2-d4, d7-d6
4. f1-c4, d5-b6



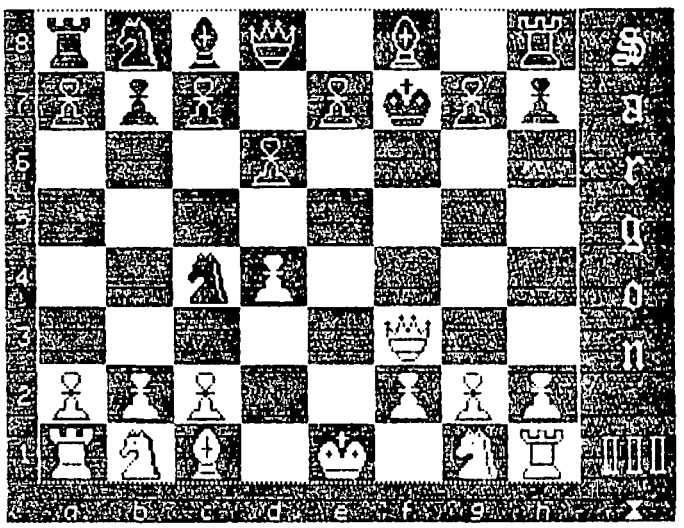
This is a standard opening position in Alekhine's Defense, one of the openings covered in Sargon's opening library. After some pondering, a novel idea occurs to you; and after some analysis you decide to advance your King Pawn:



The first thing Sargon does in this position is to turn on the disk drive, indicating that from now on he will be on his own. A look into his calculations reveals that he sees himself as having a "+275" advantage, which means that he thinks he is winning a piece - your Bishop, to be exact. If you watch Sargon's calculations at great length, however, you will see that he considers almost no alternative to the taking of the Bishop. His mind is so totally filled with the primitive thought, "want Bishop", that he can't think of anything else. This indicates that Sargon has an insufficiently developed sense of smell. Where the human player would at least pause to ask himself why his opponent is willing to part with the Bishop, Sargon only looks a few moves ahead, sees that he is in no immediate danger of losing the Knight that captures the Bishop, and then resolves to make the capture, regardless, as we shall see, of its eventual consequences for the safety of his King.

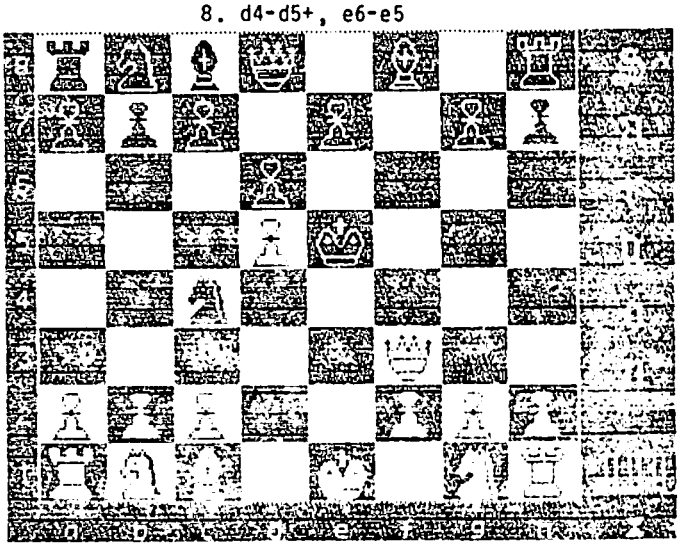
Sargon takes your Bishop, and the following moves ensue:

(5. e5-e6, b6xc4)
6. e6xf7+, e8xf7
7. d1-f3+



At this point Sargon's evaluation of the position is +247, meaning that he's still approximately a piece ahead, and his calculations are all aimed at thwarting the threats you have of checking him on the white squares of the board and winning the piece back. What does not enter his mind is the concept that, even if you do win the piece back, the material will be even. From this point on, Sargon's every fiber will be straining with the desire to protect the Knight. He therefore advances his King into the potentially hostile terrain in front of the protection afforded by his pawns - something a good human player would do only with the greatest reluctance. You advance your Queen Pawn to give check; and again (!) Sargon advances his King:

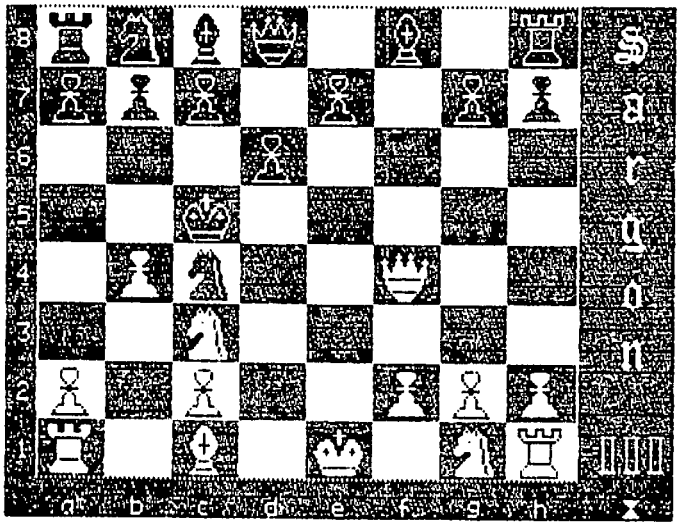
7.....f7-e6
8. d4-d5+, e6-e5



contd.

Now Sargon evaluates the position as +57. I think he's finally becoming concerned about the threats to his King, but not so much that he's prepared to abandon the defense of the Knight. In this position, by the way, please take my word for it that the mind of a good human chessplayer becomes as obsessed with checkmating Sargon's King as Sargon is with protecting the stupid Knight. You therefore advance your Queen one square, giving check to Sargon's King but also abandoning the defense of your Queen Pawn. Sargon is forced to capture the pawn, since it's his only legal move. Your interests clearly lie in enticing Sargon closer to your position; so you make him an offer he can't refuse....

9. f3-f4+, e5xd5
10. b1-c3+, d5-c5
11. b2-b4+

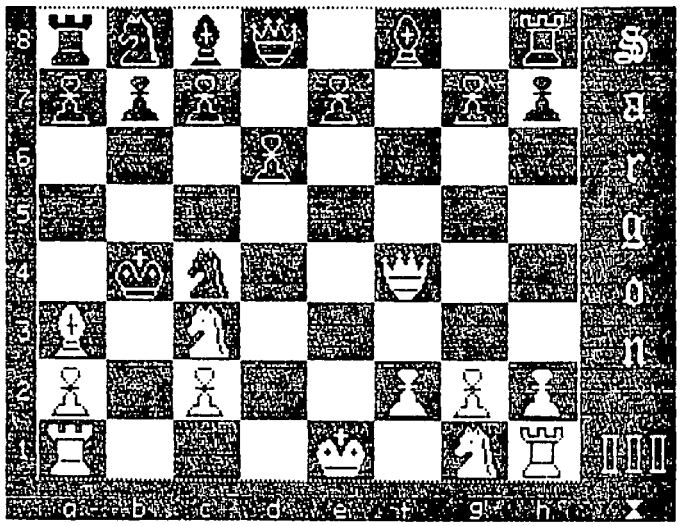


I think by now you'll be able to guess that Sargon's first instinct is not to run for the safety of his own camp but rather to say to himself, "Why shouldn't I take that free pawn?".

At the risk of digressing slightly from what happens in the game, this position and some of the others that preceded it exemplify the main weapon you can use against Sargon and the other chess programs. It's called the "horizon effect". When Sargon sees a move, it seems to me that he takes several seconds and then comes up with a few candidate moves. He then tries to "crunch" the position out, looking at your every possible response to each of his candidate moves, and his every response to each of those. When he runs out of time, he moves, selecting the series of moves that looks most favorable to him. The key thing about this is that Sargon wastes a lot of time analyzing ridiculous moves, and he usually isn't able to look deeply enough at the best moves. His view of the future course of the game is limited by a definite horizon, beyond which he cannot see. This horizon is heavily influenced by the amount of time available to him each move, which in turn is determined by the playing level you select. The most important thing, however, is that what is beyond Sargon's "horizon" does not exist for him. If Sargon can't see an immediate reason not to do something which his programming tells him is very favorable, such as capturing material, then he will go ahead and do it. You can take advantage of this by offering him short-term gains. If your own moves are not accurate, though, Sargon will slither away, keeping his booty.

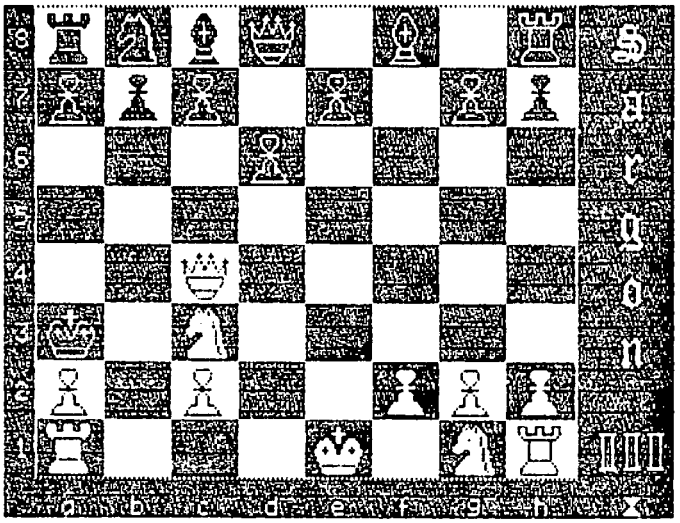
Now back to the game. Sargon grabs the pawn (of course) and now rates his position as +169, meaning that he expects you to win some material back but thinks that he will still come out ahead. Your next move is a real shocker, however:

11.....c5xb4
12. c1-a3+



Now Sargon really is in a quandary, since he faces a seeming abundance of riches. He sees enough to realize that if he takes your Knight, you will check him by moving your other Knight in front of your King. His only legal move at that point will be to capture your pawn, at which point you will (finally!) be able to win his Knight, with, by the way, checkmate. Since that is out of the question, Sargon's mind fills with hunger for your Bishop, and he rates his position as +485; but the "horizon effect" now applies with a vengeance:

12.....b4xa3
13. f4xc4



At long last Sargon III begins to realize the consequences of his stroll deep within your encampment, and his assessment of the position now takes a dizzying nosedive to -9994, meaning that he thinks checkmate is inevitable. Ever hopeful, nonetheless, he moves his King down to attack your Rook and find a temporary haven; but you check him with your Queen and allow him to capture your Rook. Even this does no good, for you are able to slide your Queen back to the first rank and administer the final blow:

contd.

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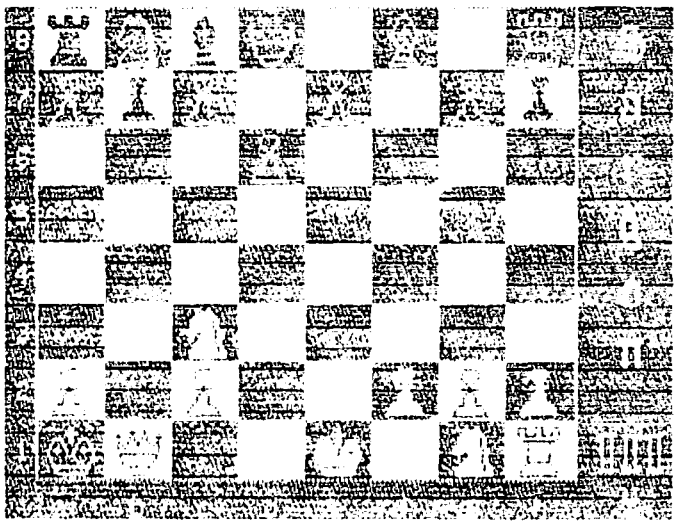
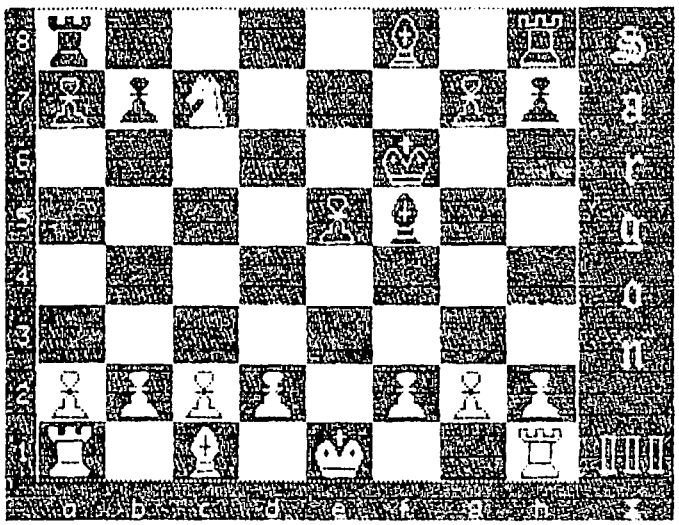
13.....a3-b2
14. c4-b3+, b2xa1
15. b3-b1 checkmate



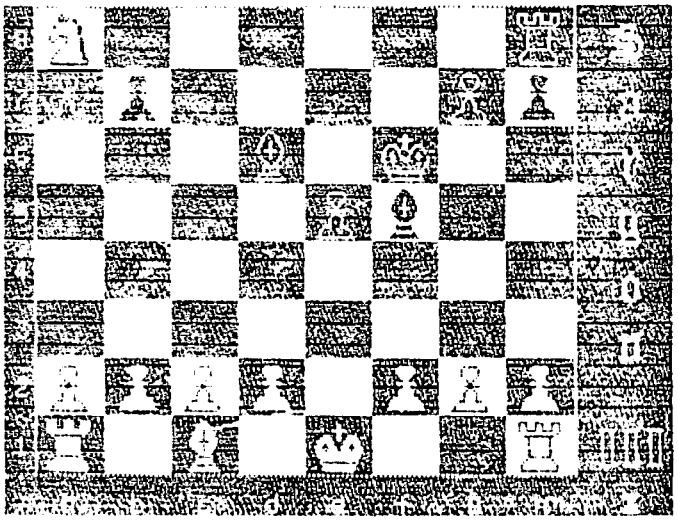
In case you're interested, Sargon III set at Level 3 will play this line all the way against you every time, just as in the game. This therefore constitutes a forced win against him whenever he responds to your opening King Pawn move by advancing his King's Knight. Show everyone what child's play it is to beat Sargon! Impress your friends!

Let me tell you about one other weapon you can use against Sargon. (Actually, I have a total of eight ways to lead Sargon astray, but not enough space to go over all but the most basic of them.) Consider the following position, where Sargon was playing the white pieces against a friend of mine:



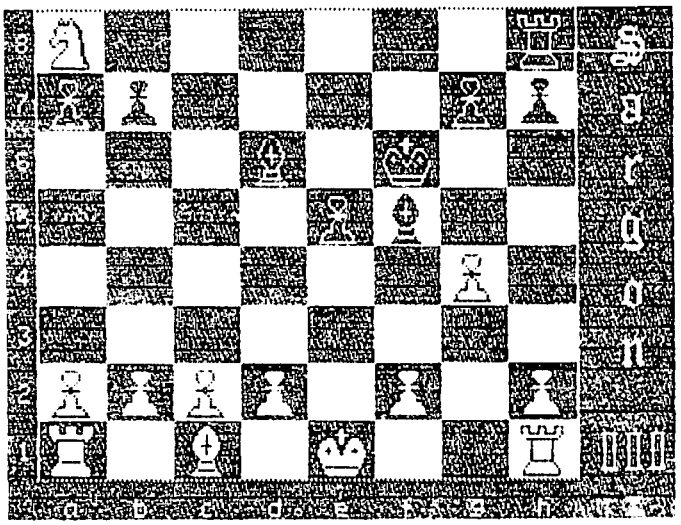
It's Sargon's move, and he correctly assesses the position as being +569 in his favor. There has been quite a bit of action, but Sargon has emerged with two extra pawns and no real weaknesses. Moreover, he is about to capture the black Rook with his Knight - a good deal almost any time you can get it. Sargon captures the Rook, and my friend moves his black-squared Bishop to a square where it prevents the Knight from escaping, while the remaining Rook threatens to capture the Knight.

20. c/xa8, f8-d6



In this position Sargon came completely unglued. For no sensible reason I can think of, he advanced his King Knight Pawn to attack his opponent's Bishop:

21. g2-g4



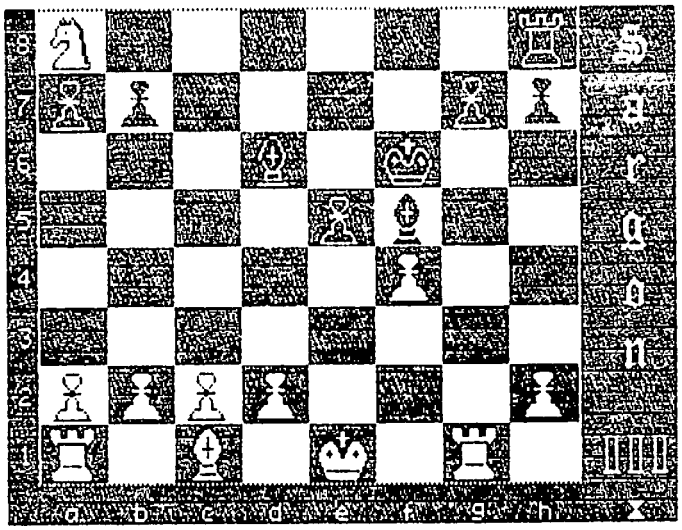
The pawn attacks the Bishop, all right; but the pawn isn't supported by anything, and Black can capture it and still retain his other threat, such as it is. Worse, after the capture Sargon's pawns on that side of the board are not only fewer but also much weaker, to boot. What I think happened here is that Sargon seems to approach every position as though he were born into it: he doesn't seem to have any recollection of the history of the game. Sargon sees that he is way ahead in material, but he also notices that his Knight is under attack, and both of the possible squares it can move to will result in its capture. Sargon therefore concludes that he will "lose" the Knight, and he will have less material than he has now. What he doesn't realize is that he has actually traded the Knight for a better piece. He doesn't remember that the Knight has served its purpose nobly and doesn't realize that it's now time to move on to other things.

I watched Sargon carefully as he thought about this position, and he pondered endlessly over various fantastic plans to save the wretched Knight. The more he pondered, however, the more he came to the conclusion that his advantage was about to shrink from +569 to

contd.

approximately +300, a distressing prospect for him. Sargon was obsessed with the plight of his Knight, so much so that he used up almost all his time for the move and ended up pushing his pawn after only very little contemplation of the move. Black captured the pawn, Sargon attacked the Bishop along the now-open file, and when Black moved his Bishop back where it had been before, Sargon then advanced another pawn:

21.....f5xg4
22. hi-g1, g4-f5
23. f2-f4



To his great credit, my friend quickly realized what was going on and redeemed his earlier poor play by taking what Sargon offered him. Moreover, he showed admirable ruthless instincts by delaying the capture of Sargon's attacked Knight. This went on move after move, with Sargon spending almost all his time each move thinking about the doomed Knight and then quickly making an inferior move. His opponent, meanwhile, made a whole series of moves which improved his position; and by the time he finally captured Sargon's Knight, Sargon was in a hopeless position and lost miserably.

Let me try to explain what I think went on in Sargon's "mind". After thinking at great length about the 250-or-so evaluation points the "loss" of the Knight would cost him, Sargon decided to lose a pawn instead - in his estimation coming out -100 points instead of -250 points on the transaction. He did this for each pawn, in each case justifying his sacrifice by the notion that he was only losing a pawn instead of a piece. I don't think that the fact that his Knight was still trapped after his sacrifices occurred to him, for he had used so much time that the loss of the Knight was beyond his immediate "horizon". Anything sound familiar about that word? Another way of looking at Sargon's actions is that, faced with the immediate loss of the Knight, Sargon found a series of things to do that would push the impending loss of the piece beyond his thinking horizon, in effect exhibiting another dark side of the "horizon effect".

There is an old maxim in chess that "the threat is stronger than the execution". In several games I have seen Sargon play, an unexecuted threat turned out to be Sargon's execution. I urge you to keep this in mind the next time you play Sargon III or a comparable program.

Good luck, and show no mercy!

DIGGING INTO LOGO Part 1

by Cyril Fefer

PURPOSE (BORN OUT OF DISCONTENT)

In the halcyon days following the introduction of the Apple computer, information about how the Apple and its languages worked, their inner details and their mysteries, was "free" and "free flowing". As weeks rolled into months and years, more and more details about the subtleties and quirks of the Apple and Apple's version of BASIC were made available; publications of organizations such as Washington Apple Pi and Call-A.P.P.L.E, as well as Apple Computer's own staff, contributed to this flow. This very open "community" nurtured interest and feverish activity and certainly gave Apple an early edge in popularity, an edge maintained for years by its users' enthusiasm. It seems that these days are gone; it is almost as if the Apple "bunch" has taken on the remote personality of other corporate giants. Tales are currently told concerning important internal information (the Tool-Kit) being "withheld" from Mac users. Unfortunately, such seems to be the case with Logo: the inner workings of Apple's Logo, the version provided by Logo Computer Systems Inc. (LCSI), apparently with Apple Computer's blessings, seem to be intentionally hidden from the user by design (a practice that is becoming customary throughout the industry) and there seems to be little likelihood of more information "thawing out". Personally, I feel constrained when locked away from knowing how things work.

It is true that several years ago LCSI provided two disks, one with sample programs and the other with utilities (by coincidence called "Tool-Kit"). These were supposed to be provided without cost. They were not. For many of us documentation was not provided or was discouragingly difficult to secure. I was able to see some material only recently, two years after the fact, and also after finishing this article. One of the disks contained a few procedures that did "get into" the workings of Logo, and would have been valuable, stimulating, and a real contribution to the growth of Logo, had it (and its documentation) been made more readily available, a genuine part of the public domain. In retrospect, those two disks of LCSI were but token gestures to the public. That public deserves more.

A new version of Logo, the Logo Computer Systems' variety, now has been introduced for use with the //c or with any //e that has an extra 64K. This version is supposed to have more node space and several provisions not available in the original version. The ability to call machine language programs is one such provision. This article will describe how to provide for this option with the original Logo on the][+ or the //e without the added 64K memory. In order to do this, the anatomy of Logo must be examined; this process may be a bit tedious but it will turn out to provide a valuable source of options.

.....

The version of Logo that we are going to look at, the original one for the][and //e put out by LCSI, was not designed to be tampered with by the curious or foolhardy. Little information concerning the internal workings of the Logo interpreter was provided in the reference manual. There are even cautions in the manual warning users to save the workspace before using "self examining" primitives such as .Bpt, .Deposit, .Examine or .Contents. And I agree; this is good advice provided we do not have the knowledge of how Logo works.

But what about those of us who are curious and foolhardy? I will share the "discoveries" I have made about the structure of Logo's nodes, and provide examples of how this information can be used to do more in Logo.

LOGO'S NODES

Every word in Logo, whether a primitive procedure, a user defined procedure, or a name, has been assigned a "starting place" in memory which is much like a dictionary entry for that word. That starting place is the address of what is called a "node". A node consists of 5 bytes. In this article I follow the convention that the address of a node is the address of its first byte. For example, the primitive procedure SAVE has its primary (first) node at $57AC. The 5 bytes starting at $57AC are: $14, $00, $40, $A7, and $57. In other words, $14 is at $57AC, $00 at $57AD, $40 at $57AE, and so on. Note that I use hexadecimal notation to refer to addresses and bytes; most of the time the $ prefix is omitted in this paper.

I assign names to each of the 5 bytes of a node according to their position. (The names are mine and may not be the names used by the disigners of this version of logo. One one occasion, for example, they used the LISP words "CAR" and "CDR" for my "left branch" and "right branch". I've assumed the small prerogative of my own names since the information that follows is derived from my own empirical and time-consuming "trial and test" method.) The first byte of a node appears to be used for housekeeping; it is used for any or all of these purposes: garbage collection, the identification of the next four bytes in the node, among other things. (I have not yet analyzed every function of this housekeeping byte.)

The next two bytes contain an address, with the usual convention of low byte appearing first. I call these two bytes "pointer to the left branch". The last two bytes of the node contain another address; I call these two bytes "pointer to the right branch". To simplify things I drop the words "pointer to" and use the phrases "right branch" and "left branch." Of course there is a difference between a pointer to an address, a signpost so to speak, and the place pointed to, but this distinction can be clouded without resulting in trouble here.

Each of these addresses, left branch and right branch, can point to other nodes (or as we will see later even point to other things). If the two branches point to other nodes then those two nodes can be examined and analyzed in the same way as the node from which they came, into housekeeping byte, left branch and right branch. This branching can continue for quite a while.

An example helps clarify the structure of Logo's nodes:

```
PRIMITIVE              SAVE
NODE'S ADDRESS          $57AC
BYTES OF NODE           14 00 40 A7 57
HOUSEKEEPING BYTE       14
LEFT BRANCH                $4000
RIGHT BRANCH                     $57A7          contd.
```

```
NODE'S ADDRESS                  $57A7
BYTES OF NODE                   33 93 57 9D 57
HOUSEKEEPING BYTE               33
LEFT BRANCH                        $5793
RIGHT BRANCH                             $579D

NODE'S ADDRESS                     $5793
BYTES OF NODE                      08 FA FC 8E 57
HOUSEKEEPING BYTE                  08
LEFT BRANCH                           $FCFA
RIGHT BRANCH                                $578E
```

Note that in this example each node generates two more nodes and that only one branch of the two branches shown at each "generation" is displayed and analyzed. The right branch is examined first and then the left branch (of the right branch). Obviously this branching can go on endlessly unless some signal is given for a node to stop referring to other nodes. The housekeeping byte 08 does just this. The byte 08 seems to indicate that the left branch of that node is the address of a machine language routine in Logo which, in this particular case, is a routine that turns on the drive and saves the workspace. Since the left branch is in this case not another node, the housekeeping byte 08 in effect ends the tree's branching on the left side but allows the right branch to continue growing.

Here is a bit more of SAVE's (the primitive procedure examined above) branching tree. Since the last node examined above had a housekeeping 08, the left branch stops branching at $FCFA, but the right branch continues. $FCFA is not an address of a node. It is a Logo sub-routine, a machine language program that does something. In this case, it saves workspace to the disk.

```
NODE'S ADDRESS                  $578E
BYTES OF NODE                   30 01 00 02 00
HOUSEKEEPING BYTE               30
LEFT BRANCH                        $0001
RIGHT BRANCH                             $0002
```

The housekeeping byte 30 signals that both left branch and right branch do not continue growing in the usual manner, but instead will use "information" stored at $0001 and $0002. In a crude fashion here is what happens when we type in:

```
SAVE "BIGPROGRAM      (and press return)
```

The primitive "SAVE" is "worked on" for a while (probably moving along the the tree described above) and then the node address of the word "BIGPROGRAM" is entered at $0001 and $0002, with the low byte at $0001. In effect, "SAVE" is given the name of the file that is being saved by being provided with the name's address.

READER PARTICIPATION IS INVITED - TRY THE FOLLOWING PROCEDURES:

The method for finding the first node of any Logo word is to type:

```
PRINT .EXAMINE "ANYOLDWORD
```

Logo responds, in this instance, with an address (in decimal) of the first of 5 bytes of the initial node of "ANYOLDWORD". Since we can look at the node's bytes by entering the Monitor via the .BPT primitive and typing in hexadecimal addresses, it is convenient to construct Logo procedures that convert a decimal address to hexadecimal.

```
TO CONVERT :NUMBER
OUTPUT CONV :NUMBER 16
END
```

```
TO CONV :NUMBER :BASE
IF :NUMBER = 0 [OUTPUT "$ ]
OUTPUT  WORD  CONV (QUOTIENT :NUMBER :BASE) :BASE  HEX
REMAINDER :NUMBER :BASE
END

TO HEX :NUMBER
IF :NUMBER = 0 [OUTPUT 0]
OUTPUT ITEM :NUMBER [1 2 3 4 5 6 7 8 9 A B C D E F]
END
```

(See Abelson's Apple Logo, pp 137-140, or Ross' Introducing Logo, pp 139-148, for an explanation of how the above three procedures work.)

Here is a procedure that gives (in hexadecimal) the first node's address of any word in logo:

```
TO FIND :WORD
PR CONVERT .EXAMINE :WORD
END
```

The procedure DISCOVER will provide the primary node addresses of every Logo procedure, primitive or user defined, in the current workspace.

```
TO DIS :N

If  DEFINEDP  ITEM  :N .CONTENTS [ (PRINT  BY  CONVERT
.EXAMINE ITEM :N .CONTENTS "... ITEM :N .CONTENTS)]
DIS:N + 1
END

TO DISCOVER
CATCH "ERROR [DIS 1]
THROW "TOPLEVEL
END
```

The procedure DISCOVER contains an error trap because the LIST .CONTENTS has only so many elements. Eventually :N (as input to procedure DIS) will exceed that number of elements and result in a rather bulky error message. The LIST .CONTENTS, which is a Logo built-in dynamic list (it keeps growing) of all words and procedures either entered by the user or provided by Logo as primitives, provides a handy summary for procedure DISCOVER to canvass. .CONTENTS also contains pure trash; misspellings, names of procedures that have been erased, and bits and pieces of detritus. The first instruction of procedure DIS insures that the word being processed is a viable procedure.

Try either the procedure DISCOVER or FIND on the primitive WRAP. You will see that the Logo primitive WRAP's first node is at $424E. In order to look at the contents of a node we could use the .BPT primitive and look at the bytes stored at specific addresses. Doing this reveals that the bytes of the first node of wrap are 04 00 40 49 42. Looking at the right branch of this node we will see that the bytes at $4249 are 33 30 42 3A 42.

The housekeeping byte 33 just encountered indicates that this node has two branches. One at 4230, the other at 423A. If we look at the node at 4230 we will find the bytes 08 BE 9B 2B 42. The housekeeping 08 signals that the left branch, $9BBE is a Logo subroutine that controls the turtle graphics screen output so that it "wraps around".

TAMPERING WITH LOGO

In Logo if we make "REDEFP "true (which allows us to erase or change Logo primitives), we can erase WRAP.

To do this type:

```
MAKE "REDEFP "TRUE <return>
ER "WRAP <return>
```

contd.

After these two steps are accomplished we find that the initial node of the word "WRAP" is located at its usual address, $424E, the same as it was before it was erased and that the 5 bytes there are also the same. However, the bytes at right branch are changed to 33 00 40 3A 42. The left branch of this node no longer refers to 4230, but to 4000. $4000 is a dead end. It is the lower limit of the node space and there are no more branches pointed to by $4000. (Oddly enough the bytes at 4000 are 33 00 40 00 40, seemingly referring back to itself.) The subroutine at $9BBE is no longer "mentioned" in wrap's node tree.

SUMMARY:

```
:LOGO PRIMITIVE WRAP ..... Node contains $4249 is
                           33 30 42 3A 42
ERASED WRAP          ..... Node contains $4249 is
                           33 00 40 3A 42
```

WRAP no longer "refers" to 4230, a node that itself referred to a Logo subroutine.

WRAP, the primitive procedure, is gone. There is an "almost-word" "WRAP" still in existence. I say "almost" because it is a word without meaning; it does not refer to a procedure or a thing. Instead it is merely an empty entry in a dictionary, Logo's node space, waiting for a definition.

.....

```
                    57AC

                    14 0040 A757

40 00                                   57A7

                                        33 9357 9D57

                         5793

                         08 FAFC 8E57
          FCFA
```

FIGURE 1

.....

Figure 1 represents the node tree of the procedure SAVE that we have looked at earlier. At the node located at $57A7 we looked at only the left branch. Now it is time to follow the trail on the right.

```
NODE'S ADDRESS              579D
BYTES OF NODE               0A 53 41 A2 57
HOUSEKEEPING BYTE           0A
```

The housekeeping byte 0A signals that the next two bytes are ASCII code, in this case the letters S and A, and therefore there is no left branch; there is however a right branch, namely 57A2.

```
NODE'S ADDRESS              57A2
BYTES OF NODE               1A 56 00 A3 42
HOUSEKEEPING BYTE           1A
```

The housekeeping byte 1A signals that there is only one byte representing ASCII code; it is 56 which is letter V. Therefore there is no left branch, only a right branch at 42A3.

```
NODE'S ADDRESS              42A3
BYTES OF NODE               1A 45 00 00 00
HOUSEKEEPING BYTE           1A
```

Once again the housekeeping byte 1A indicates that only one ASCII character, the letter E (45) is to be connected to previously designated letters. Thus there is no left branch. And it seems that zeros in each of the last two bytes signal the branch. (And this reveals that there are two ways to terminate branching, housekeeping byte 08 and zero's for a left or right branch.)

.....

```
   579D

   0A 5341 A257

      S A
                        57A2

                        1A 5600 A342

                                          42A3
                                          1A 4500 0000
```

FIGURE 2
A more complete node tree for procedure SAVE

.....

To be continued next month.

MODIFICATIONS TO WAP VOLs. 100 & 111

by Vincent M. DiSandro

I recently purchased two utility disks from the club library, Volume 100 Utilities A and Volume 111 Utilities C. I found them to be extremely educational and useful. I made some small changes to two of the programs which I think may be of some interest and may possibly extend their usefulness.

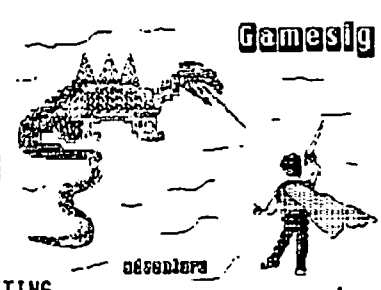
On Volume 100 the Hello program assumes that you have a language card and it automatically attempts to load Integer Basic into the card. It is then supposed to run the WAP menu program. The problem arises if you do not have a language card - the disk will boot but all you get is a system prompt. To correct this, since I don't have a language card and I like the WAP menu, I just changed line 280 in the program by adding GOTO 240. This solved the problem rather neatly because line 240 is BRUN CAT.

On Volume 111 I like the program Letter Typer but I wanted to be able to print the screen. The way the program is set up you need a program called TIGER.OBJ to do that. With just a few changes I was able to make it print the screen on my printer. I proceeded as follows:

1. Change line 20060 to: PRINT D$;"PR#1"
2. Add line 20065: PRINT CHR$(9) "HGR"
3. Change line 20070 to: PRINT D$; "PR#0"
4. Add line 20095: PRINT D$;"RUN TYPER"

A few words of explanation ... I have a NEC 8023 printer with a Pkaso interface card in Slot 1. So PR#1 activates the printer. CHR$(9) is a control I, which is the Pkaso command lead-in character and, of course, HGR specifies the hi-res graphics screen. PR#0 deactivates the printer. Line 20095 reboots the program so you can start again. This is necessary because when you load the print part of the program you overwrite the first part of the program. Of course, you have to adapt these instructions to your own printer and interface card, but I hope the general approach may be illustrative.

GAMESIG by Ronald Wartow



APRIL MEETING

Our second meeting since revival was well attended with several newcomers joining the group. Adventure and fantasy role-playing continues to dominate the preferences of the members, with a few war and arcade gamers thrown in. It was decided to keep GAMESIG unstructured to maintain the pleasant informal atmosphere that prevails at the meetings.

The group was advised that more companies have agreed to send demo or review copies of gaming software to the club and that GAMESIG members will be doled out games of their interest for the purpose of Journal review articles. Of course, all software sent to the club will be kept at the Office, except for the above purpose, for all club members to evaluate.

A report on what is expected to be a flood of hopefully quality gaming software in the next few months for the Apple // series and Macintosh computers seemed to whet people's appetites. The possibility of a rotating list of GAMESIG members on the HOTLINE list to help club members with any gaming matter was discussed.

A lively "show and tell" then ensued with everyone letting everyone else know what games they were currently doing and their critical evaluation thereof. The pros and cons of THE BOOK OF ADVENTURE GAMES was discussed, centering on how it can be a terrible temptation to have a book with all the answers and maps to the great adventure and fantasy role-playing games. The members then proceeded to go through an oral horror list of those games that should be avoided like the plague.

Everyone thought it would be a great idea to survey the WAP members to ascertain the club's likes and dislikes in game software. Sometime in the next few months, a survey form will appear in the Journal and at the Office. The responses will be collated and in plenty of time for end-of-the-year holiday buying, the results will be published in the Journal and kept at the Office for reference purposes. We envision that newer club members and any WAP member who needs an informed judgment on games to buy for themselves or as gifts for others will find the results very useful.

This was followed by Apple // series demonstrations of the new strategy-fantasy game BELOW THE ROOT, the space fantasy SUNDOG, the strategy-arcade hit ARCHON, and the monster hi-res graphic adventure TIME ZONE. (It seems that several people did not believe that such a massive game existed.) Some Macintosh games were demonstrated including another look at the only game released by Apple, ALICE, which also contains an incredible maze generator; CYBORG, a great old adventure converted to the Mac; an entertaining business simulation called MAKE MILLIONS; and the famous chess program, SARGON III.

REMINDER: GAMESIG meets the first Thursday of every month at the Office beginning at 7:30 p.m. All club members are encouraged to attend and participate.

MORE MUSIC FOR THE APPLE by Bernie Benson

With the recent attention music synthesizers have been getting, ie. "The Musical Apple" by Raymond Hobbs, WAP Journal April 1985, I thought it was time for me to review the Applied Engineering "Music Synthesizer". Actually I promised to do this for Rich Wasserstrom last fall; how time hums along.

The AE (Applied Engineering) product is an ALF look alike with a few extra features. See Feb 1981 WAP Journal for a discussion of the ALF synthesizer. Both products fall into the low end or entry level of the music synthesizer product spectrum. While they can simulate various instruments, without some tricky arranging, they tend to sound like an electronic chord organ.

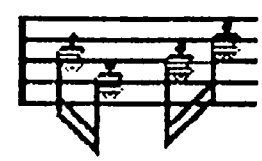
The AE package contains a circuit board, disk, and documentation. The board is small and contains no firmware, therefore, it can be installed in any peripheral slot in your Apple][,][+, or //e, (even slot 3 with an 80-column board resident in the auxiliary slot of the //e). The board has connectors to output 2-channel stereo or 4-channel quadraphonic sound. Like all the AE products, the board is well constructed and comes with a three year warranty.

The disk contains two main programs and several sample ready-to-play songs. One program is used to enter songs for storing and playing. The other program plays the songs. The programs are so similar to the ALF programs it would be very hard to determine which one is better (probably the one you learn first). The programs are well written, require little documentation, are easy to learn and utilize the hi-res color graphics and joystick on the Apple. The software is not protected, allowing programs to be modified for use in other basic programs. Disks called "Albums" containing many songs can be made up and songs played in any predetermined order. No programming experience is necessary to run the programs. However, a general understanding of music theory is required to arrange and enter songs that sound dynamic and use the features of the synthesizer.

The main features the AE product has that the ALF does not include the four channel output, 16 simultaneous voices, four of which are white noise generators. The white noise can be used to produce percussion-like sounds. The ALF synthesizer plays 9 voices through 2 channels. A utility program is provided to convert ALF songs to AE songs but not vice versa. The AE system lists for $159.

The ALF synthesizer has been out for several years, at least since 1980. Two sets of disks containing ready-to-play songs are sold seperately for $30 a set. Each set contains five disks. Also available is another utility disk containing various programs to aid in song composition and manipulation. ALF provides more documentation and music theory than AE. The ALF system lists for $75.

Both products are very good for the money and you can't go wrong with either one.



MICROSOFT BASIC DISK FILE EXAMPLE

by Robert C. Platt

When the Apple][was first introduced, BASIC was the programming language most widely available on microcomputers. Hence, it was the most widely used. Computer Science has advanced a great deal since then, and so-called "structured programming languages" are now available on micros. Hence, if you're sophosticated enough to own a Mac, you probably smart enough to use Pascal or Modula-2 and leave BASIC to the computer history museums.

Yet, should you wish to program in BASIC on the Mac, or even use a CP/M card on an Apple][, you will not be able to rely upon your knowledge of Applesoft BASIC. In most cases, you will have to master Microsoft BASIC which has many subtle differences from the Applesoft dialect.

One of the most important areas of difference is in the use of disk files. This article will illustrate the difference in reading sequential disk files. For a sample problem, suppose that you are programming a sales analysis for the "We Sell Hardware" computer store. Each sale is listed as a separate record on a disk file with the item name, quantity sold, unit price and discount, separated by commas. You are to display this information on the screen and then calculate various statistics for the discounted and undiscounted items. This suggests that the program should be divided into three parts. First, you will need the instructions that will initialize the program. Next, a series of instructions will be repeated for each record in the file. Finally, a set of instructions to calculate and print a report will be needed after all of the records in the file have been read and processed.

Listing 1 is such a program.

Applesoft and Microsoft BASIC took different approaches to sequential disk files. In Applesoft, disk commands are separate from the programming language. DOS is constantly checking over the shoulder of Applesoft for PRINT commands that begin with a Ctrl-D (also known as CHR$(4).) Instead of displaying such commands on the screen, DOS intercepts them and performs the intended functions. In contrast, Microsoft BASIC has a special set of commands built into BASIC so that no PRINT CHR$(4) commands are needed.

A second major difference is the method of referring to files. In Applesoft, only one file can be used at any given time, and it is activated by using its name in a READ or WRITE statement. Thus, if the next file to be used in accessing information from the disk is called SALES DATA, the Applesoft commands:

```
120 PRINT CHR$(4);"OPEN SALES DATA"
125 PRINT CHR$(4);"READ SALES DATA"
```

are needed to tell Applesoft where data in subsequent INPUT statements will be found.

In contrast, Microsoft BASIC allows more than one disk file to be active at the same time. MS-BASIC assigns numbers to refer to the various active files. The OPEN command is then used to associate these reference numbers to file names on the disk. For example,

```
120 OPEN "SALES.DAT" FOR INPUT AS #1
```

tells BASIC that future references to file #1 will be treated as refering to file SALES.DAT.

In Applesoft, when INPUT statements follow a READ DOS command, the data are automatically taken from the disk instead of from the keyboard. But in MS-BASIC, a special form of INPUT command must be used to read from the disk. For example, 190 INPUT #1,ITEM$ will cause file #1 to be used for the value of the variable ITEM$. By adding "#1" after the word INPUT, MS-BASIC knows that a disk command is intended.

Applesoft does not provide an easy way to tell if all of the records in a file have been read. Fortunately, MS-BASIC includes the EOF function that is true when the end of a file has been reached. Thus the line:

```
310 IF NOT EOF(1) THEN GOTO 190
```

will cause the program to loop back to line 190 only if more records are in the file to be processed. The number 1 in parenthesis indicates which file is to be tested. In Listing 1, lines 320 to 400 will calculate the necessary statistics only after all records have been processed.

One more line in this program is noteworthy.

```
410 CLOSE 1
```

ends the association between reference number 1 and file "SALES.DAT". This is the equivalent to the Applesoft command, 410 PRINT CHR$(4);"CLOSE SALES DATA". Again the CLOSE command is built into MS-BASIC.

To see this program in action, type in Listing 1 using MS-BASIC on either the Mac or under CP/M and save it in a file. Next enter Macwrite and type the following three lines in a new file:

```
MONITOR,5,130,10
PRINTER,10,200,25
DISKETTES,30,5,0
```

Save the file with the name SALES.DAT on your MS-BASIC disk using the "Text only" option. (If you are using CP/M, use the editor to type these three lines.) When you return to the finder, you will see that SALES.DAT has a different icon than the icons of your normal MacWrite files. Open the file that has the copy of Listing 1 which you saved. This will automatically execute the program.

One final interesting difference between MS-BASIC and Applesoft sequential disk files is that in MS-BASIC, commas are used to separate the various data items in each record, with carriage returns separating the records. In contrast, Applesoft uses carriage returns to separate each data item. So that if you were to use a text editor to create a data file for an Applesoft version of Listing 1, it would look like:

```
MONITOR
5
130
10
etc.
```

contd.

Listing 1

```
10  REM                                          :
20  REM   PROGRAM NAME          :    INVENTRY.BAS
30  REM                                          :
40  REM                                          :
50  REM                                          :
60  REM                                          :
70  REM                                          :
80  REM                                          :
90  REM                                          :
100 REM                                          :
110 REM OPEN FILES
112 PRINT"                  WE-SELL-HARDWARD-COMPANY"
113 PRINT"                        SALES STATISTICS"
114 PRINT
115 PRINT"ITEM","QUANTITY","UNIT","DISCOUNT","TOTAL",
    "TOTAL INCOME"
116 PRINT"SOLD","SOLD","PRICE","(%)","DISCOUNT","FROM
    SALE"
120 OPEN "Platt to WAP:Sales.Dat" FOR INPUT AS #1
130 LET NUMSALES = 0
140 LET NUMDISC = 0
150 LET BIGDISC = 0
160 LET  SUMOFDISCOUNT = 0
170 LET  BIGINCOME = 0
180 LET BIGQUANTITY = 0
190 INPUT #1,ITEM$, QUANTITY, UNITPRICE, DISCOUNT
200 LET TOTALDISCOUNT = UNITPRICE * QUANTITY *
    DISCOUNT/100
210 LET TOTALINCOME= UNITPRICE * QUANTITY -
    TOTALDISCOUNT
220 NUMSALES = NUMSALES + 1
230 IF DISCOUNT = 0 THEN GOTO 270
240 LET NUMDISC = NUMDISC + 1
250 LET BIGDISCOUNT = BIGDISCOUNT + TOTALDISCOUNT
260 LET SUMOFDISC = SUMOFDISC + DISCOUNT
270 REM ROUTINE FOR BOTH DISCOUNTED AND NON-DISCOUNTED
    ITEMS
280 LET BIGINCOME = BIGINCOME + TOTALINCOME
290 LET BIGQUANTITY = BIGQUANTITY + QUANTITY
300 PRINT ITEM$, QUANTITY, "$";UNITPRICE, DISCOUNT;
    "%", "$"; TOTALDISCOUNT, "$"; TOTALINCOME
310 IF NOT EOF (1) THEN GOTO 190
320 PRINT "NUMBER OF SALES:    "; NUMSALES
330 PRINT "NUMBER OF SALES WITH DISCOUNT:    "; NUMDISC
340 PRINT "TOTAL QUANTITY OF ITEMS SOLD:    ";
    BIGQUANTITY
350 PRINT "TOTAL DISCOUNT ($): $"; BIGDISCOUNT
360 PRINT "TOTAL INCOME FROM SALES: $"; BIGINCOME
370 PRINT "AVERAGE INCOME PER ITEM: $"; BIGINCOME
    /BIGQUANTITY
380 PRINT "AVERAGE INCOME PER SALE:
    $";BIGINCOME/NUMSALES
390 PRINT "AVERAGE DISCOUNT PER SALE ($): $";
    BIGDISCOUNT/NUMSALES
400 PRINT "AVERAGE DISCOUNT PER SALE (%):",
    SUMOFDISC/NUMSALES;"%"
410 CLOSE 1
420 END
```

INVENTRY

```
        WE-SELL-HARDWARD-COMPANY
              SALES STATISTICS

ITEM          QUANTITY      UNIT          DISCOUNT      TOTAL
SOLD          SOLD          PRICE         (%)           DISCOU
MONITOR        5            $ 130          10 %         $ 65
PRINTER        10           $ 200          25 %         $ 500
DISKETTES      30           $ 5            0 %          $ 0
NUMBER OF SALES:   3
NUMBER OF SALES WITH DISCOUNT:   2
TOTAL QUANTITY OF ITEMS SOLD:   45
TOTAL DISCOUNT ($): $ 565
TOTAL INCOME FROM SALES: $ 2235
AVERAGE INCOME PER ITEM: $ 49.666666666667
AVERAGE INCOME PER SALE: $ 745
AVERAGE DISCOUNT PER SALE ($): $ 188.33333333333
```

APPLE CP/M DISK LIBRARY

by Ted Gaugler

The Apple][CP/M Library, 217 volumes (2 disks per volume) is available for $10 per volume (Apple][CP/M Library, at either P.O. Box 477, Kulpsville, PA 19443; or P.O. Box 4273, Cherry Hill, NJ 08033). Most of these disks (converted from "8" to "5 1/4" format) require CP/M-80, but some are for CP/M-86. In the discussion below, an attempt is made to categorize the disks by function, and the disk volume numbers are cited (those already acquired by WAP are underlined). The directory disk (Vol. 0) includes a program "SHOW" that displays the two squeezed directory listings.

CPM-80: **Compilers & Interpreters:** One advantage of having a Z-80 co-processor card for the Apple][is the extensive availability of compilers and interpreters for CP/M. Included in this SIG-M collection are: a COBOL compiler (209); Concurrent Pascal and PL/0 compilers (162); a PL/I-80 library (79); LISP (71, 136, 148) and XLISP (118) interpreters; a Little ADA compiler (92), and a "regular expression compiler" for 8080 to 8086 conversion (164-7, 173, 213-5). There is also a CP/M-80 emulator for the CP/M-86 operating system (217) and a CP/M-80 to CP/M-86 translator (203), as well as a 68000 cross-assembler (92, 140) and an M68000 compiler (171). More esoteric offerings include the "TINCMP" compiler, the "Pidgin Programming System" (43), and PISTOL - Portably Inplemented Stack Oriented Language "in the footsteps of FORTH and STOIC" (V1.0 -59, V2.0 -114). One of the more useful contributions is a collection of HELP files on various languages - CBASIC, FORTRAN, Pascal, etc. (14, 13). In addition, scattered throughout the disks are various routines & utilities to supplement major languages: CBASIC utilities (163); BASIC-80 routines (139); an MBASIC variable mapper (40), cross-reference utility (78), and disassembler (23); FORTRAN routines (13, 140); and benchmark tests for comparing the efficiency of various languages (78).

Other compilers in the CP/M collection include one for JRT Pascal (82, and utilities -129) and a variety of FORTH compilers, as well as utilities for Pascal, FORTH and C. **FORTH COMPILERS:** These include FORTH-83 (V2.0 - 205, V1? - 154), 68000 FORTH (151), Z8000 FORTH (150), FORTH130 (116), FORTH V1.1 (70), and FIG-FORTH V1.1 (13). **Pascal-Z Users' Group:** The 27 volumes in this series encompass a variety of utility routines and other programs. These include: "public-key cryptography" (148); a UCSD Pascal to CP/M Pascal conversion program (144); plotting and sorting programs (131, 24); program cross-referencing (64, 97, 24, 25) and prettylisting/formatting (81, 62); text formatting/indexing/key word search (85, 94, 21) and editing (80); random number generation (64); a fast copy program (63); billing and home remote control programs (28); locating bad CP/M disk sectors and file comparison (24); and scores of other utilities.

C Utilities: These are provided for various C compilers, but primarily BDS C. BDS C utilities consist of a bulletin board (178), a linker (174, 78), a catalog program (87), a supplemental BDS C library (75), and a HELP file (14). Utilities for other C compilers include a trace facility and a program for Aztec C CP/M calls, routines for Micro-C, and a "submit" file for Software Toolworks C. Other programs and utilities include: a routine to check braces in C programs (212, 179), CITADEL - a bulletin board in C (150), a C benchmark program and a C source file lister (78), a screen-based editor in C (76), and programs for screen handling (178) and assorted utilities (179).

Another cluster of CP/M-80 programs focuses on enhancements to database, spreadsheet and word processing programs (i.e., dBASEII, Supercalc and Wordstar). dBASEII programs include a dBASEII toolkit library (217); a demonstration dBASEII modular database (110); an order and inventory system including a FASTBASE search program (129); a phone & address database and a mailing list & record management program (199); a property management program (198-9); a series of programs for date validation, periodical tracking, letter mailing & member tracking, and a banking system (155). SuperCalc programs include templates for interest (193), accounts receivable (177), and depreciation (110). Wordstar enhancements include: a routine to set the printer from Wordstar (202); programs for generating footnotes and removing high bits (196); VT52 terminal and Epson MX-80 printer patches (177); and a Wordstar indexing facility (143). Other word processing/ editing programs in the library include: the ROFF 4 text formatter (V1.6 - 174, V1.5 - 126); a simple word processor - "The Secretary" (109); a text formatter along with expansion/compression programs (40); a line editor and typing tutor (83); and a mail label system (26). There are also specialized database programs - an information management system (61), a library fil- ing & utility system (119), and an accounts receiv- able/payable system (28).

Hardware-related programs concern utilities for interfacing clocks (147, 143, 130-1, 74, 72), printers and hard disks (111, 172). **Communications** programs in the library consist of: RBBS's (92, 60); bulletin board support programs (87, 65-6); a bulletin board security system (217); programs supporting various terminals; a plethora of MODEM communications programs; and other communications programs such as KERMIT (113) and SIGNON (112, 130). In addition to 8 volumes on the Yale Catalog of Bright Stars, there are small subgroups dealing with: statistics (71, 131, 182, 212, 75), sorting (75), and curve-fitting & plotting/graphing (194-5, 181, 144, 131, 75). Music composition and related software (120, 56-8) as well as 3-D (69) and other graphics (75) and various dungeon and adverture games are also included in the disk library. And finally, the most numerous and varied program category could be termed "miscellaneous CP/M utilities" (for want of a better rubric). Only a few of these can be noted in this cursory overview - ZCPR3 (184-192) and earlier versions; a Z-80 assembler (95); a UNIX-like shell for CP/M (180); SYSLIB - assembly language utility subroutines for the M80 assembler (88-90, 106-8); cross-reference and catalog/ master catalog programs (52, 70, 18); a file merge program (16); an unerase command for erased programs (44); a program to speed up CP/M (76), and a host of other goodies.

CP/M-86: Although probably not of much interest to Apple owners, this collection does include versions of FORTH and Small C, MODEM programs, ZCPR, and other CP/M-80 favorites.

63 GENEALOGICAL DATA BASES
by Leon H. Raesly

Researchers: Madeline Lay
Terri Pigford

WOW! Are there really 63 Genealogical Data Bases (DB's)? Yes, and No, depending on how you count!

We culled from five separate software program source books. Any program to be included had to be listed in at least two of those lists. This gave us 64 companies offering programs. Since one was a utility for another Genealogical program, we were left with 63 programs - thus our title.

However, when you count the number of programs on different machines, the count raises to 93! And if all the CLONES were counted ... we stopped counting! Of course after it was complete one more came in, so that makes 65 (or is it 64?).

Not all are represented. We sent three different letters over 4 months with a questionnaire. If they did not respond, they were left off the list.

I learned a lot from this effort, and if I ever do another chart, I will change the questions completely. At least I learned what questions to ask!

In terms of the machines, we selected the major families. Apple also includes Basis and the Franklin (although they went into Chapter 11 bankruptcy 3 months ago, and have since gone out of business completely, there are still quite a number of machines out there). Under the IBM PC are all the CLONES. Generic MS-DOS machines are under MS-DOS, and those semi-clones of the PC (Such as Sanyo, Epson, etc.) are listed separately.

All of the Commodores are grouped together as one family, even though none have a DOS compatible with any other Commodore! The same is true for TRS-80, which is well known for incompatibility between the various DOS's even on the same machine! Also no program written for one TRS-80 will run on another. Atari is not as bad as these, however.

In terms of the machines, the TRS-80 Models have by far the most programs, with 14 programs that will run on it. Next, (surprising to me) was the IBM PC line with 10 programs. Apple trailed 3rd with 8 programs. On the IBM PC the Personal Ancestry File was written (and is sold) by LDS (The Church of Jesus Christ of Later Day Saints).

All of the programs are written in Basic for the particular machine described, and hence are a little slow in sorting. And at this time there are no programs available for the Mac (but the Mac is not an Apple anyway!)

Let's look at the chart. A blank in the chart's field means that no formation was available. And under PC, if it does not say jr, do not assume that it will run on a PCjr (there have been many complaints of NONCOMPATABILITY, so we only listed those that stated that theirs would run on the jr.

COLUMN HEADINGS

PRODUCT NAME & NUMBER - The number is the reference for the company name on the separate chart.
SUB-TYPE - The model type of Microcomputer.
DISK/TAPE - Either Disk or Tape.
GEN. PER DISK - The first number is the # of generations per disk. The second number is the # of RECORDS per disk.
DB is R-H-T-O - Is the DB Relational, Hierarchical, Tree, Other.
INDEXES: SUR FNAME - Indexes the records on Surname or First Name.
CHARTS: PED FGS BLNK - Does the DB prepare Pedigrees, Family Group Sheets & Blank Charts.
GEN CHRT " - Number of generations per chart. Much variation here.
I.D. METH - What method of record identification is used. Two types: Serial (supplied by program), your own method, or both.
LIST NAME MAIL - Does the program provide Name lists and Mailing list of living relatives.
CR FLD - # characters per field.
4080 DISP - 40 or 80 column Display.
PURC COST - Purchase cost.
SHIP COST - Shipping cost, if any.
LANG-UAGE - Program Language.

Good shopping!

contd.

FAMILY ROOTS:
A Review
by Marilyn Black

I would like to tell those of you who are both family historians and computer owners about a new software program called "FAMILY ROOTS". Systems required include Apple][or //e, IBM PC or PC/XT, Kaypro or Epson, Victor 9000 or Commodore 64, and most need at least 64K. I am using the Apple //e with 128K.

The most appealing quality of Family Roots is its unlimited capabilities. You can never run out of room for more names and each name can have its own number. With the complete setup, you can enter all your names and data, then print out the same data for an individual, or the family or entire line. You can change parameters to suit your own interests and needs, whether it be print size or the number of generations. You can go from predecessor backward or from descendant forward. You can also print out the commonly called "crowfoot". In "Sheets", you use forms like those of the Mormons. An individual can be printed out with wives and data and all the children and notes. Family sheets include more data on children. The "Search" program does what it's called, be it name, part of a name, ID number or a date, etc.

There are several more programs to help the researcher do his work. A big help is that the computer does all the cross reference work for you, if you want it to. I had notes here, there, and everywhere which were put together in neat order with the computer asking me the whole time if that's what I wanted. The researcher stays in control, which isn't always the case with some software.

contd. on pg 39

APPLE // family			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
Family (12)	ALL	Disk-1	32 K	8/600				Yes	Yes		5									129.95	1.50	
Roots & Relatives (55%	All	Disk-2	48 K	?/240		Yes	Yes	Yes	Yes		4	Ser/								109.	2.	
Family Roots (20)	All	Disk-2	48 K	8/1200	Rel.	Yes	Yes	Yes	Yes	Yes	15	Own	Yes	Yes	256	Yes	Both			185.	Inc.	Bas.
Family Connection (13)	All	Disk-2	48 K	?/300	Rel.		Yes	Yes	Yes		7									199.95		
Freeware Family Tree (27)	All	Disk-1	64 K	?/300	Other			Yes	Yes										40	149.95		
Genealog II (39)	All	Disk-1	32 K	?/450			Yes	Yes			5									169.50		
My Roots (49)	All	Disk-1	64 K	?/1000	Hier.			Yes	Yes		10									149.95		
Patriarch (51)	All	Disk-2	48 K	?/255	Other		Yes	Yes	Yes				Yes							89.		
Ancestry Link (65)	All	Disk-1		?/1000														4080		169.95		

IBM PC, PCjr & Clones			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
The Ancestor File (2)	PC & jr	Disk	64 K	12/700	Other	Yes	Yes	Yes	Yes	Yes	4		Alt	Alt				80		10.	Inc	Basic
Family File (14)	PC & jr	Disk-1	128 K	?/100	Tree	Yes	Yes	Yes	Yes	Yes	4							80		175.	5.	
Family Roots (20)	PC & jr	Disk-1	64 K	8/1200	Rel.	Yes	Yes	Yes	Yes	Yes	15	IS-O	Yes	Yes	256	Yes	Both			185.	Inc.	Basic
Family Ties (21)	PC & jr	Disk-1	64 K	11600	Other	Yes	Yes	Yes	Yes	Yes	5		Yes							75.	2.	
Family Reunion II (19)	PC,jr,XT	Disk-1	128 K					Yes	Yes				Yes	Yes				80		130.	3.50	Basic
First Family (26)	PC	Disk-2	128 K	50/3000	Other	Yes	Yes	Yes	Yes						Var					130.	4.	
Genealogy on Display (34)	PC & jr	Disk-1	96 K	?/500	Other	Yes	Yes	Yes	Yes		5							80		35.		Basic
Pers. Ancestral File (53)	PC & XT	Disk-2	64 K	?/2000	Tree			Yes	Yes	Yes										35.		Basic
Treesearch (62)	PC & XT	Disk-2	128 K	?/500	Rel.			Yes	Yes		5									200.	Inc.	
Family Tree (64)	PC	Disk-1	64 K	?/200			Yes	Yes			3							80		30.	2.	

CP/M Machines			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
Family Roots (20)	Lots	Disk-1	64 K	8/1200	Rel.	Yes	Yes	Yes	Yes	Yes	15	S-O	Yes	Yes	256	Yes	Both			185.	Inc.	Basic
Family Ties (21)	All	Disk-1	64 K	11600	Other	Yes	Yes	Yes	Yes	Yes	5		Yes							75.	2.	

Atari			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
Ancestors (1)	800/1200	Disk	48 K					Yes	Yes											40.		
Branches (7)	400/800	Disk	40 K	1/191	R/T			Yes	Yes											35.	Inc.	
Twigs (7)	400800+xl	Disk	40 K	1/251	Other			Yes												20.	Inc.	

IBM Semi-Clones			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
The Ancestor File (2)	Sanyo	Disk-2	64 K	12/700	Other	Yes	Yes	Yes	Yes	Yes	4		Alt	Alt				80		10.	Inc.	Basic
Family Roots (20)	Several	Disk-1	64 K	8/1200	Rel.	Yes	Yes	Yes	Yes	Yes	15	S-O	Yes	Yes	256	Yes	Both			185.	Inc.	Basic

Commodore			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
Arbor-Aide (6)	C-64	Disk-1	32 K	8/600	Other	Yes	Yes	Yes	Yes		5	Type	Yes		576					100.	2.50	Basic
FGS/PEDC (20)	All	Disk-1	64 K	4/221	Other			Yes	Yes		4									20.	Inc.	
Family (12)	C-64	Both-1	32 K	8/600				Yes	Yes		5									30.	1.50	
Family Roots (20)	C-64	Disk-1	64 K	8/1200	Rel.	Yes	Yes	Yes	Yes	Yes	15	S-O	Yes	Yes	256	Yes	Both			185.	Inc.	Basic
Family Tree (23)	C64&Vic20	Disk-2	32 K/24 K	?/600	R-H-T	Yes	Yes	Yes	Yes		6		Yes							100.	2.	
Your Ancestors (63)	C64&Vic20	Disk-1	16 K	128	Tree			Yes			4									15.		

TRS-80			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME & NUMBER	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
Ancestors (3)	Color	Disk-1	STND	4/500	Rel.			Yes	Yes	Yes	4							80		40.	Inc.	
Family (12)	Color	Both-2	STND	8/600	Rel.			Yes	Yes		5									30.	1.50	
Gentools (46)	1,3,4	Disk-1	48 K		Utility			Yes	Yes			None								40.	Inc.	Basic
Ancestry I/II (4)	1,3,4	Disk-1	48 K	?/710				Yes	Yes	Yes	5	Arb.						40		70.	2.	
Family Tree (22)	1,3,4	Disk-1	48 K					Yes	Yes									80		30.		Basic
G-Grab 5.0 (37)	2 & 4	Disk 1-2	64 K	?/1000	Rel.	Yes		Yes	Yes				Yes							195.		
Genealog II (39)	1	Disk-1	48 K	?/250			Yes	Yes			5									70.		
Genealog 80 (39)	1	Disk-1	48 K	?/250			Yes	Yes			5									70.		
Genesis 80 (42)	3 & 4	Disk-2	48 K	15/658			Yes	Yes	Yes		3							80		139.		
Genesystems (43)	1 & 3	Disk-2	48 K	?/699	Rel.		Yes	Yes	Yes											129.		
Heritage (48)	1,3,4	Disk-1	32 K	?/160	Rel.		Yes	Yes			3		Yes							24.		
Heritage (48)	4 & 4P	Disk-2	64 K	?/350	Rel.			Yes	Yes		4		Yes							35.		
Soundex (59)	1 & 3	Disk-1	4 K		Other															19.		
Family Tree (64)	3 & 4	Disk-1	32 K	?/100			Yes	Yes		3								80		30.	2.	

TI 99/4A			MEMORY	# GEN.	DB Is	INDEXS->	CHARTS------->	#GENII	D.	LIST---->	# CR	HOT	40801	PURCI	SHIPI	LANG-I
PRODUCT NAME	SUB-TYPE	DISK/TAPE	REQUIRED	PER DISK	IR-H-T-O	SUR	FNAME	PED	FGS	BLNK	CHRT	IMETH	INAME	MAIL	IF	LD	LINE	IDSP	I	COST	COST	UAGE
Genealogical Wrkshop (36)		Disk-1	48 K	1300					Yes									80		50.	Inc.	
Your Ancestors (63)		Disk-1	16 K	128	Tree			Yes			4									15.		

63 GENEALOGIAL DB'S COMPANY ADDRESSES

65- Ancestry Link, The Accelerated Logic 108 East 38th St. #90 New York, NY 10016	20- Family Roots Quinsept, Inc. P.O. Box 16 Lexington, MA 02173	42- Genesis-80 Anthony Svarok 1514 West Mission #14 Pomona CA 91766	56- Roots/89 Commsoft 2452 Embarcadero Lane Palo Alto, CA 943037
1- =Ancestors= Ancestors P. O. Box 2434 Harbor, OR 97415	21- Family Ties Computer Services 1050 East 800 South Provo, UT 84801	43- Genosystems Armstong Geno. Systems 5009 Utah Drive Greenville, TX 75401	58- Roots/M Commsoft 2452 Embarcadero Lane Palo Alto, CA 94303
2- Ancestor File Program J. Davis 10650 Hickory Ridge Road Columbia, MD 21044	22- Family Tree Nichtron Corporation 1691 Eason Pontiac, MI 48054	46- Genotools T.R.A.C.E. 5670 Buckingham Road Haslett, MI 48840	59- Soundex Computer Prg. C & M Systems P. O. Box 22807 San Diego, CA 92122
3- Ancestors Christopor Meek 4132 Lay Street Des Moines, IA 50317	23- Family Tree Genealogical Software P. O. Box 1151 Port Huron, MI 48061	47- Heritage Creative Service P. O. Box 580 Oak Harbor, WA 98277	62- Treesearch Array Systems P. O. Box 295 Brigham City, UT 84302
4- Ancestry I/III Soft-Gene 11 John Swift Road Acton, MA 01720	26- First Family Computerology, Inc. P. O. Box 30113 San Antonio, TX, 78285	48- Lineages Erwin Mandera P. O. Box 1746 Rohnert Park, CA 94928	63- Your Ancestors Your Ancestors P. O. Box 140 Great Falls, MT 59401
6- Arbor Aides Software Solutions 7378 Zurawski Court Custer, WI 54423	27- Family Tree System The Fretwells 2605 Highview Avenue Waterloo, IA 50702	49- My Roots Mark Peters 1513 Towhee Lane Naperville, IL 60565	64- Your Family Tree Acorn Software Products 353 W. Lancaster Avenue Wayne, PA 19087
7- Branches Sysco Software 3593 Cloverleaf Drive Boulder, CO 80302	34- Genealogy on Display Melvin Duke P. O. Box 20836 San Jose, CA 95160	50- Names Virginia Lake P. O. Box 351 Hockessin, DE 19707	:::::::::::::::::::::::::: The following did not respond They are listed below with their Micro's
11- FGS & PEDC & Mini-Util Bytesware 906 West Avenue Monmouth, IL 61462	36- Genealogy Workshop Tenex P. O. Box 6578 South Bend, IN 46660	51- Patriarch I Cyclone Software 3305 Macomb Street Washington, DC 20008	5- Apple Tree III Cyber Services, Inc. 701 Sooner Park Drive Bartlesville, OK 74006
12- Family Petrocci Freelance Assoc. 631 North Houghton Road Tucson, AZ 85748	37- Genealogy- Compiling Armstrong Geno. Systems 5009 Utah Drive Greenville, TX 75401	52- Pers. Ancestrl File LDS Dist. Center 1999 West 1700 S. Salt Lake City, UT 84104	8- Calendar G/J Edwart Swart-IBM PCJr 276 Beachlawn Waterloo, On CanadaN2L5W7
13- Family Connection,The Discovery Software P. O. Box 68821 Indianapolis, IN 46268	39- Genealog II Genealog Software 111 Woodgate Road Middletown, NJ 07748	53- Port for Genealogist Team Approach, Limited 4 Abingdon Drive Ottawa Ontario K2H 7M3	9- Computer Assis. Indexi Brian Harney-TRS-80 Rt. 2, Louisville Road Frankfort, KY 40601
14- Family File Compugen Systems P. O. Box 15604 Fort Wayne, IN 46885	40- Genealogy Werner Enterprises P. O. Box 6276 Glendale, CA 91205	54- Roots II Commsoft 2452 Embarcadero Way Palo Alto, CA 94303	10- Computerized Geneal. Lou Pero-TRS-80 P. O. Box 488 Bend, OR 97709
19- Family Reunion II Personal Software Co. P. O. Box 776 Salt Lake City, UT 84110	41- Generations III Micro-80, Inc 2665 Busby Road Oak Harbor, WA 98277	55- Roots & Relatives M. A. Harrison 639 Consol Winnipeg, MB CanadaR2K1S9	15- Family Generations Rosalie Scharen-Apple // 12126 SE Sequola Milwaukie, OR 97222

Family Roots contd. from pg 37

The drawbacks include the "Text" program. After repeated tries I still keep erasing my text from memory. However, I found it easier to put my text into my word processor. Also, there is the price. The complete setup with everything is $185.00; however, not everyone is going to need this complete setup. For these people, some programs can be purchased separately and then later upgraded if needed: "Lineages" $69, "Family Charts" $97, "Family Sheets" $97, and the manual only is $15.

You can make backups, for those of us who tend to damage disks every now and then.

If anyone would like more information or would like to check current prices, write QUINSEPT, P.O. Box 216, Lexington, MA 02173. Or call and have the information sent more quickly: (617) 641-2930. The people there are very polite and helpful and TRUTHFUL! Or send a SASE to me and I will try to help you, too. Let me close by saying that I do not in anyway work for Quinsept. I am just a very happy owner of the "Family Roots" software.

A Z-80 FOR THE LITTLEST APPLE

by Lawrence A. Husick

Having owned an Apple][+ and a Microsoft SoftCard for several years, I was slightly dismayed when I realized that my new Apple //c was destined never to know the power of my "old standby" favorites like WordStar, dBase II, or XMODEM. The tradeoff, however, of being able to carry the //c in its case with the LCD Panel seemed more than worth the price of losing the CP/M capability.

I should have known that the wizards who continually update the Apple to make it a viable and useful computer after 8 years on the market (an eternity in microprocessor years), would put the best of both worlds into my //c...all I had to do was wait for a little while. It was, therefore, only a mild surprise to see the Applied Engineering Z80c advertised in A+ in January.

Because I knew the quality of other AE products (RAMworks), I had no hesitation in calling the number listed in the advertisement and giving my credit card number. I was told that the Z80c was back ordered, but that I would receive mine in about 6 weeks.

Less than 4 weeks later, a slim cardboard box arrived at my door from Applied Engineering. Inside I found a 20 page purple "User Manual", some promotional literature, a floppy disk, and a plastic bag containing a small circuit board and a piece of double-sided foam tape. While I knew that the card had to be small to fit inside my //c, this card was tiny! I had my doubts about this thing.

The instructions in the purple book were clear enough ... just open up your Apple //c (huh?), put in the Z80c, and put the whole thing back together again. OK ... easier said than done.

Keep in mind that this modification is not for the faint of heart (or screwdriver). In order to get inside the //c, something frowned upon by Apple (it may void your warranty), you must remove 10 screws (of 3 different sizes so don't mix 'em up). Then it's time to pry open the case by pushing on the plastic snap at the front.. The authors of the purple book are clear again...

> "Should the snap break off, it is of little consequence as it is only used by Apple so that they can put the //c together a few seconds faster. When you reassemble the //c, the screws on the back hold it together firmly."

Once inside the case, the rest is easy. Simply pry out the 65C02 chip under the keyboard, insert the 65C02 into the socket on the Z80c, plug in the Z80c, connect the wire with the spring clip to pin 2 of the TMG chip, and close up the case again. No sweat!

Now that it's firmly in there, what next? Place the disk in the drive and turn on the //c...and you see a CP/AM 4.0 (the AE version of CP/M boot message and the heartwarming A>. DIR brings a surprise since CP/AM adds file sizes to the display. Aside from that, all is fine. Boot WordStar (even with my old CP/M 2.23 from Microsoft on the disk) and the Z80c jumps right into it. (This article was done with WordStar on the //c.)

Now for the technical stuff... the Z80c fits into the 65C02 chip socket and uses a custom ROM to map the address spaces for the two processors. (The old SoftCard uses lots of discrete logic for that.) The clock speed is 4MHz (faster than the original SoftCard and equal to the Premium SoftCard //e). Finally, the utilities supplied include a RAMDRIVE utility which converts the upper 64K of RAM into a disk emulator (any drive letter). This emulator even survives COLD (Ctrl-OA-Reset) boots (are you listening, Apple?). The engineers at AE even tell me that the Z80c draws no power when the //c is not running CP/M.

At a price of $159.00, the Z80c is an inexpensive way for the //c owner to get into the world of CP/M. It is compatible with ALL known Apple CP/M software. Since the //c already has 80-column capability, programs for CP/M run without any modification. Additionally, the need for two disk drives is greatly reduced by the presence of the RAMDRIVE utility, since all work can be done on the emulated drive and transferred to a floppy at the end of the session.

All in all, I can highly recommend the Z80c from Applied Engineering, P.O. Box 798, Carrollton, TX 75006. (214) 241-6060.

PRINTERS FOR THE //c

(The following was prepared by a recent WAP member in response to a telephone inquiry from an even newer member. It is being published to encourage others to seek assistance in finding answers to individual problems. That's what WAP is all about!)

Dear ...,

You asked about my experience using a "dot matrix" printer with a IIc. Enclosed are three personal letters that have been printed on an Epson RX-80F/T - two are originals using 12 characters per inch and six and eight lines per inch, justified right and left. One is a Xerox copy of a letter using 10 characters per inch and six lines per inch, unjustified. This letter (an original) is prepared using 10 characters per inch and six lines per inch, unjustified.

I am certainly happy with the printing quality of the Epson and haven't even considered getting a "Daisy-wheel" printer.

You can readily see that making a Xerox copy does "fuzz up" the areas between the dots. But, I believe the originals are good, too! I am much more interested in getting a second disk drive than a "letter quality" printer.

Delores and I paid $379 for our printer last July, plus $30 for a cable. I see from the April issue of Washington Apple Pi that Operant Systems sells the same printer for $305. (Others may have advertised even lower prices, but I didn't do a thorough job of research.) I don't know if a cable is included. I have also seen ads in trade magazines for an Epson RX-80 (not F/T) for $225. My advice would be to buy from a local dealer. He is easier to get in touch with if you have problems.

If you have any other questions, please let me know.

Sincerely,

George Sall

BUGS IN THE //c's SYSTEMS DISK

by Jorge P. Osterling

As a new member of the Apple //c family, one of the first things I did in late October 1984 was to test the system utilities disk (ProDOS 1.0.2--15.Feb.84). I booted it, I tried all its menus and, to my surprise, I discovered that it was impossible to escape from one menu to the main menu; therefore I got caught in Bug #1. That same day, working with the "Identify and Catalog a Disk" menu (#7), I tried to list on my serial non-Apple printer the files that appeared on the screen. Previously I had carefully read all the //c manuals as well as the printer manuals and had set Port #1 within the system utilities disk (menu #8) at 166/1124 and correspondingly adjusted my printer's DIP switches. To my surprise, despite the fact that I had a catalog displayed on the screen, when I ordered a printout nothing happened: Bug #2.

My first reaction was that as a neophyte I had done something wrong. I thought to myself, "How can Apple sell a system utilities disk with two bugs?" I went to my dealer and his answer was that (a) With an Apple //c you should avoid using a non-Apple printer; and (b) we have never heard about the two bugs you are reporting. The dealer - one of the largest and most respected in the area - promised to contact the Apple Computer's Rockville, MD office and call me again. All this occurred in late November 1984. He never called back.

Back home I wrote a letter to Apple Computer headquarters in Cupertino, CA, reporting the two bugs and questioning the compatibility of all the //e software when used on //c's. In December I received a PR response from Apple Computer thnaking me and promising me that I would receive a prompt technical answer from their Regional Technical Support Center in Charlotte, NC. In early March I received a telephone call from Ms. Lynn Hopkins of Apple Computer, CA, who had been asked to solve my problems. Ms. Hopkins commented that yes, there was a bug in the system utilities disk that did not allow it to escape back into the main menu and promised to send me a printout with the instructions for correcting the bug. The instructions suggested the following:

Getting Error 900 When Using the Apple //c Systems Utilities Disk

If after you boot your system with the Apple //c System Utilities Disk that has a new port configuration saved to it, you select any menu option, then press the Escape key to return to the main menu, you'll drop into the monitor with error #900 displayed.

The workaround is:

1. Duplicate your Systems Utilities disk: select the main menu option 5. Boot your system with this new copy.

2. Select main menu option 9 to exit from System Utilities.

3. From the Basic prompt, type in the following:

   Load SU,S6
   List 900

   You will see the listing:

   900 Call 768: Poke 216,0: Onerr Goto 930

4. Change line 900 to:

   900 Poke 216,0: Onerr Goto 930: Call 768

5. Enter the following commands to unlock the file, save the changes to disk and relock the file to prevent accidental damage:

   List 900

   Check once again that line 900 reads properly as in step 4, then type:

   Unlock SU,S6
   Save SU,S6
   Lock SU,S6

Regarding the printer problem I informed her that with the exception of the system utilities software, non-Apple serial printers attached to //c's worked very well on 8 data-bits. However, when working with the system utilities program or when booted with the system utilities software, most printers could only work on 7 data-bits. Ms. Hopkins said that she would refer me to Apple's technical division and to wait for a response. Finally, on April 8, 1985 - almost five months after my complaining letter - I received a second telephone call from Terry Davis, an Apple North Carolina technical advisor. I explained our problem with non-Apple printers and informed him that some //c users had discussed the problem with their respective dealers and were waiting for Apple Computer to solve the problem of having to adjust their printers from 8 data-bits to 7 everytime they needed to print something with the system utilities software.

Mr. Davis' comment was that he had never heard of the problem; that it was standard Apple policy to deal with all complaints exclusively through dealers, regardless; and he advised to me to ask a local dealer (any dealer) to please contact Apple's Rockville office to help us. I replied inviting the Apple people to attend our SIG //c meeting where we (various members) would happily take our //c and printers to demonstrate the existence of the bug. His answer was that he was not authorized to make such a commitment and, again, he invited us to request a local dealer to please make the arrangements for us.

I thought that sharing this kind of "merry-go-round" and "ping pong" experience with other Apple users is important to set the record straight on what consumers' rights are regarding defective (i.e. with bugs) software sold as an essential part of our computers; how Apple Inc. treats its millions of users; and what rights and options users and user groups have open to them in this era of high technology.

DISKCAT

by Bob Velke

The following program displays or prints a complete ProDOS directory or selected parts.

Options 1 and 2 list the entire contents of a directory or a specified subdirectory to the screen or printer, respectively. Nested subdirectories and files are displayed in an indented outline form.

Options 3 and 4 search the directory or specified subdirectory for all files whose complete pathname or file characteristics contain a given character string and lists the pathname of that file to the screen or printer, respectively. For instance, when searching for:

WASHPOST.LTR	- prints the pathname of that file.
.LTR	- finds all files whose pathname contains that string.
*	- prints the pathname of all locked files.
7-APR-85	- finds all files created or modified on that date.
TXT	- prints the pathname of all text files.

Upper and lower case inputs are supported.

DISKCAT can be downloaded from the WAPABBS or from The Crystal City Connection (553-0821) which was my source for some of the original code.

```
100  REM
110  REM                ProDos DiskCat
120  REM                  VERSION 3.0
130  REM
140  REM              by Bob Velke (WAP148)
150  REM
160  REM       Directory access technique adapted
170  REM        from a program by Curt Rostenbach
180  REM
190  ONERR  GOTO 1300
200  FOR Y = 1 TO 50:SP$ = SP$ + " ": NEXT
210  D$ =  CHR$ (4)
220  H = 24:R = 56:S = 3
230  PRINT D$;"PR#";S
240  HT = H:RM = R
250  DIM P$(50),DI$(50),LV(50)
260  HOME : REM  <MAIN>
270  PRINT "            DISKCAT MENU": PRINT
280  PRINT "1.  Catalog a ProDos disk to the screen."
290  PRINT "2.  Catalog a ProDos disk to printer."
300  PRINT "3.  Locate pathname(s) to the screen."
310  PRINT "4.  Locate pathname(s) to printer."
320  PRINT "5.  End": PRINT
330  PRINT "Which would you like (1-5)? ";: GET N$:N
     =  VAL (N$): PRINT N
340  ON N GOTO 390,390,390,390,360
350  GOTO 260
360  PRINT D$;"PREFIX": INPUT CP$
370  PRINT "Current prefix is: ";CP$
380  END
390  L = 1:X = 1:LV(1) = 0
400  PRINT D$;"PREFIX": INPUT CP$: PRINT "Current
     prefix is: ";CP$
410  PRINT "Hit <RETURN> for default"
420  PRINT "PREFIX: ";CP$;: HTAB 9: INPUT "";P$(1)
430  LN =  LEN (P$(1)): IF LN = 0 THEN P$(1) = CP$:
     GOTO 450
440  GOSUB 1100:P$(1) = UC$
450  IF  LEFT$ (P$(1),1) <  > "/" THEN P$(1) = "/"
     + P$(1)
460  IF  RIGHT$ (P$(1),1) = "/" OR  RIGHT$ (P$(1),1)
     = " " THEN P$(1) =  MID$ (P$(1),1, LEN (P$(1))
     - 1): GOTO 460
470  PRINT D$;"PREFIX ";P$(1)
480  IF N < 3 THEN 520
490  HOME : PRINT "Locate pathname(s) within
     ";P$(1)"/"
500  INPUT "Search for which string? ";LF$:LN =
     LEN (LF$): IF LN = 0 THEN 500
510  GOSUB 1100:LF$ = UC$
520  IF N / 2 =  INT (N / 2) THEN  PRINT "Be sure
     printer is turned on and hit <RETURN>";: GET N$:
     GOSUB 1220
530  IF N < 3 THEN 560
540  HOME : PRINT "Searching for "; CHR$ (34);LF$;
     CHR$ (34)"
550  HTAB 56: PRINT "TYPE..MODIFIED...CREATED":
     GOTO 580
560  HOME : PRINT " Pathname: ";P$(1);"/"
570  PRINT " NAME.................TYPE..BLOCKS...
     MODIFIED.........CREATED.........ENDFILE"
580  PRINT D$;"OPEN ";P$(X);",TDIR"
590  PRINT D$;"READ ";P$(X)
600  INPUT L1$,L1$,L1$: REM     <INPUT EXTRANEOUS
     INFO>
610  INPUT F$
620  IF F$ = "" THEN 900
630  IF  MID$ (F$,18,3) = "DIR" THEN 760
640  IF N > 2 THEN 680
650  PRINT  MID$ (SP$,1,LV(X) * 2); MID$ (F$,1,15);
660  HTAB HT: PRINT  MID$ (F$,16,RM)
670  GOTO 610
680  S1$ =  LEFT$ (F$,1) + P$(X) + "/" +
     MID$ (F$,2,15)
690  S2$ = S1$ +  MID$ (F$,18,4) +  MID$ (F$,31,10) +
     MID$ (F$,48,9)
700  FOR Y = 1 TO  LEN (S2$)
710  IF LF$ <  >  MID$ (S2$,Y, LEN (LF$)) THEN 740
720  PRINT S1$;
730  HTAB R + H - 23: PRINT  RIGHT$ (S2$,23)
740  NEXT Y
750  GOTO 610
760  IF L = X THEN 820
770  FOR Y = L TO X + 1 STEP  - 1
780  P$(Y + 1) = P$(Y)
790  DI$(Y + 1) = DI$(Y)
800  LV(Y + 1) = LV(Y)
810  NEXT Y
820  LV(X + 1) = LV(X) + 1
830  DI$(X + 1) = F$
840  P$(X + 1) = P$(X) + "/" +  MID$ (F$,2,15)
850  Z =  LEN (P$(X + 1))
860  IF  MID$ (P$(X + 1),Z,1) = " " THEN Z = Z - 1:
     GOTO 860
870  P$(X + 1) =  MID$ (P$(X + 1),1,Z)
880  L = L + 1
890  GOTO 610
900  INPUT L1$
910  PRINT D$;"CLOSE ";P$(X)
920  REM
930  IF X = L THEN 1010
940  Z = 15
950  IF  MID$ (DI$(X + 1),Z,1) = " " THEN Z = Z - 1:
     GOTO 950
960  IF N > 2 THEN 990
970  PRINT  MID$ (SP$,1,(LV(X + 1) - 1) * 2);
     LEFT$ (DI$(X + 1),Z);"/";
980  HTAB HT: PRINT  MID$ (DI$(X + 1),16,RM)
990  X = X + 1
1000  GOTO 580
1010  IF N < 3 THEN  PRINT : PRINT L1$: GOTO 1030
1020  PRINT : PRINT "All occurances of ";
      CHR$ (34);LF$; CHR$ (34);" have been listed."
1030  PRINT : PRINT
1040  HT = H:RM = R: PRINT D$;"PR#0"
1050  PRINT "<Hit any key to return to main menu>";:
      GET N$
```

contd. on pg 43

APPLE /// SIG NEWS

by Charlene Ryan

I missed a month in Washington Apple Pi's Journal with our column - sorry about that. Between my bad vacation timing and difficulty getting back into the groove after spending two weeks in Hawaii, I goofed. Part of the problem in getting timely information to you in the Apple /// SIG column is the timing of our monthly meetings and the deadline of the magazine. It happens to be three days before the monthly meeting. Our illustrious editor has been gracious enough to fit our material into the mostly completed layout (and I know what a chore it is to do layout), plus alter any other mentions in the publica- tion about our meeting and tutorial decisions without any further explanation from me!

As a result of this column, we have made contact with Apple /// owners who haven't been active for one reason or another, or have heard about our increased activity through Apple][friends who saw the articles in the WAP Journal. Last week, the Apple Pi office forwarded a bonanza of material from fresh new sources. One gentleman from Aberdeen Proving Grounds included two articles in hard copy and diskette ASCII files which will be printed where space permits. The first article is a review of the Titan Emmulation Board (we've all been wondering about how well that performs), and the second is a tutorial article about how to build an inexpensive Apple /// clock! Look for both of these in this month's or future issues. And, thank you VERY much, Col. de Jong, for your efforts. You will be rewarded in Heaven!

We did not have a tutorial this month (April). We planned to teach Business Basic but couldn't get anyone to present it. It's a busy time for us, income tax and such. We will postpone the Basic class until May 6. Please call me if you would like to attend. Try to bring your computer. There are plenty of monitors in the Apple Pi Office.

Our May meeting will be at the Walter Reed site. April's meeting was at the Convention Center Inn on 12th and K Streets. There is plenty of street parking and it's very easy to get to.

The March tutorial took place on March 11 at the Apple Pi office. John Chapman guided us through the files and menus and enlightened us about drivers. One thing I thought I would mention is the tutorial fee. It's $5.00 per person per evening. The standard fee for most other Apple Pi tutorials is $15.00. We picked the figure before we realized there was a standard. We give half to the instructor and keep the other half for postage and postcard costs. Where else can you go out for an evening of fun for $5.00?

If any of our SIG members have the opportunity to travel to Europe and visit computer stores, perhaps you would look into the possibility of mail order purchases for us. The Apple /// is still selling in Europe and Canada. I heard they still make them in Sweden, but I don't know how reliable my information is. Any news in this area will be appreciated. One letter that I received last week was from Ronald Corbett who lives in Panama and is trying to make a living with his Apple ///. He was full of questions mostly about accounting. If anyone is interested in helping Ron out by correspondence, I will be happy to forward a copy of his letter to you.

Ron Askew will be conducting a Pascal seminar for the May meeting. If you interested in attending, watch for details in the Journal or a postcard notice. Attendees at the April meeting will also enjoy the expertise of Ron sharing with us information on what people are doing with their Apple ///'s these days. Unfortunately, this article will be on the streets after the meeting takes place. Ron's Pascal expertise will be followed with a Pascal Tutorial, but the instructor has not been roped - er - employed yet.

Please call me if you have any comments, corrections, or contributions to our column, meetings, or tutorials: 836-0463 (home) and 697-2219 (office).

Diskcat contd. from pg 42

```
 1060  GOTO 260
 1100  REM  <change lower case to upper case>
 1110  UC$ = ""
 1120  FOR Y = 1 TO LN:Z =  PEEK (511 + Y)
 1130  UC$ = UC$ +  CHR$ (Z - (Z > 96 AND Z < 123)
       * 32)
 1140  NEXT Y
 1150  RETURN
 1200  REM  <Turn on printer?>
 1210  IF N / 2 <  > INT (N / 2) THEN  GOTO 1240
 1220  HT = 24:RM = 56
 1230  PRINT D$;"PR#1"
 1240  RETURN
 1300  REM  <Error handling>
 1310  HT = H:RM = R: PRINT D$;"PR#0"
 1320  PRINT  CHR$ (7)
 1330  E =  PEEK (222)
 1340  EL =  PEEK (218) +  PEEK (219) * 256
 1350  IF E = 6 OR E = 7 THEN  PRINT "Pathname ";
       P$(X);"/ not found.": PRINT : GOTO 400
 1360  IF E = 16 THEN  PRINT "Syntax error.": GOTO 270
 1370  IF E = 255 THEN  PRINT "Stopped.": GOSUB 1450:
       GOTO 360
 1380  IF  NOT (E = 20 OR E = 21) THEN  PRINT "Error
       number ";E;" in line #";EL: GOSUB 1450:
       GOTO 360
 1390  PRINT P$(X);" is busy."
 1400  PRINT "Close this open file? (N=End) ";:
       GET Q2$
 1410  IF  NOT ( ASC (Q2$) = 121 OR  ASC (Q2$) = 89)
       THEN PRINT : GOTO 360
 1420  GOSUB 1450
 1430  GOSUB 1200
 1440  RESUME
 1450  PRINT "File(s) closed."
 1460  PRINT D$;"CLOSE ";P$(X)
 1470  RETURN
```

DISKCAT assumes a //c or an 80-col card in slot #3. If you are using a 40-column display take the following steps:

1) add this line:

```
220  H=16: R=24: S=0
```

2) you may want to alter the headers in line #550, 570
3) remove the ending semicolons in line #650, 720, 970
4) add these lines:

```
735  PRINT
985  PRINT
```

Regardless of your screen width, you may want to take steps 2, 3, and 4 above if your ProDos disk uses subdirectories more than four levels deep and long file names. This will avoid formatting problems.

PUT A TIMEX IN YOUR THREE FOR LESS THAN TEN

by Rudolph H. de Jong, M.D.

The ads said "... time-stamp your files ..."; well, yes and no. At first I used the SOS 'set date-and-time' command in Apple Writer ///, or in the Utilities Device Handling menu of routines to set today's date and current time, but I never relished going back every so often to increment the hours. Later, I discovered the unheralded "TimeSet" module in Business Basic, which made it a lot easier to reset the system clock without having to retype the date every time. But it really never was a fully satisfactory arrangement for a sophisticated machine. Like most of us, I kept waiting for the promised clock with battery backup - you know that one by heart: "If you need help, ask your dealer."

Then I stumbled on the November 1982 issue of Softalk magazine where I found the article, "It's /// o'Clock and All's Well" by Apple /// expert John Jeppson. What follows is nothing original, other than the good news that the clock chip works extremely well, plus a few more details to encourage the electronically timid like myself. All you need, I learned from Dr. Jeppson, is a timer chip and (he didn't mention that one) the guts to open the ///'s underbelly. The mounting socket for the chip not only is present and labeled on the motherboard, the circuits are completely pre-wired, and the software calls already are (unbeknownst to owners) installed in SOS.KERNEL. In other words, once you slip the timer chip in its socket you are finished - your clock starts ticking as soon as the power is turned on. The procedure turned out to be simpler and quicker than anticipated.

First, you need to buy the clock chip, model\MM-58167\ (or MM-58167A), which you may be able to locate in an electronic parts store. To save time, I ordered mine by phone and charged the purchase. Without recommending one supplier over another, I found Do-Kay Computer Products in Santa Clara (800/848-8008 in California) helpful and fast. The price of the chip is less than ten dollars - a mere $8.90 (plus $0.58 tax in California). Add $?.00 UPS shipping if you don't want to pick it up. (Speaking of "picking it up", be very careful handling the chip as static electricity can ruin it in a flash.) Alternately, a "Clock /// Kit" with parts and instructions can be purchased for $60.00,plus $2.00 shipping, from Apex Information Systems (415/885-1633) in San Francisco, according to the September 1982 'Gazette'.

Now the scary part: exploratory surgery on your baby. First, flip off the Apple /// power switch on the rear panel. Then unplug everything from the rear panel (including the power cord, just to be sure - Ed. Note: some folks suggest leaving the power cord plugged in to bleed off any residual charge) because you are going to turn the machine over, belly up. With the four rubber feet facing up, orient the Apple /// so that the (upside down) rear panel points away from you and the keyboard (keys down) fronts you. If you can find something the right height, prop it under the keyboard so as to stabilize the machine and keep it from rocking while you work on it.

Covering the bottom of the Apple /// are two rectangular metal plates extending from front to rear, one large, one small. The large metal plate covers about three-fourths of the bottom, contains a row of vent holes over (actually under) the keyboard, and has affixed a large red sticker with the serial number. The sticker has a prominent white arrow pointing to the adjoining smaller shiny rectangular plate, with the warning never to remove it as it holds the power supply. Not to worry, we want to remove the large metal plate because, attached on the reverse side, is the Apple's motherboard. To get to it, unscrew the 11 (eleven) small Phillips head machine bolts that secure the cover with attached motherboard to the Apple's frame. Now gently nudge the cover plate assembly away from the frame, lifting at the small notch cut into the edge of the plate where it adjoins the power supply cover, using the opposite long edge of the rectangular cover plate as a hinge.

As you gently rotate the plate on its long outer edge a few inches, a taut grey cable soon limits your freedom to expose more of the board; we have to unplug that cable. This low-voltage power supply cable (containing ten multi-colored wires) terminates in an opaque plastic 10-pin female plug with a black plastic cover. The plug mates to a male connector, clearly labeled POWER in the G-row, fixed to the motherboard. The female plug slides off very easily! Once the power cable is unplugged, you can flip over the motherboard on its backcover to get at the components - being careful not to stretch, bend or press on some of the other longer cables you'll see in the far corners. If the two-wire black speaker cable gets in your way, unplug its small ivory terminal connector; but do mark the socket for, being small, it is hard to find back. While getting some elbow-room, you'll see a myriad spider-like IC's, resistors and other electronic parts on the motherboard.

Now that the board rests without stretching any cables, note that each socket on the board is labeled in white ink with its contents. Moreover, the board is organized in sections with horizontal capital letters along the left side, and numbers along the short side facing you, so as to help you localize a specific area of the board; for instance intersection G-1 for the power cable receiver plug. Try to identify the area B-3 near the left lower corner. If you can't find it, no worry, inspect the left lower corner of the board till you spot an empty black rectangular chip holder socket with two rows of 12 small holes. It is the second socket from the long left edge of the board, just one row above the several resistors, capacitors and small chips on the short edge facing you; about midway between that edge and the "two-story' memory tower assembly in a 256K Apple ///. Surprise! The empty clock chip holder is clearly labeled with "58167".

Having located the empty socket for the MM-58167 chip, the rest is easy. The only mistake you can possibly make is to reverse the chip in the holder. Align the lettering on the top of your chip the same direction as its neighbors; probably with the top of the letters facing to your left. A second check is to face the small half-circle notch in one of the two short sides of the roof of the chip the same direction as the other chips in the B-row; probably facing you. (Ed. Note: Lettering may not always be the same. It is more important to perform the second check.) Now, very gingerly, place the chip with prongs down into the holder so that every one of the 24 prongs slides into the corresponding socket contact without bending. Once again, read the instructions accompanying the chip regarding static electricity precautions. When positioned lightly in the socket, and without bending or forcing, nudge the chip in evenly and steadily till

contd.

it seats firmly. Test by trying to rock the chip, it should feel snug in its berth. That's it; done!

With the motherboard out in the open anyhow, this might not be a bad time to make sure that all chips are seated firmly in their holders. The several problems that befell the Original Apple /// (no slight to the club intended) reputedly were caused by chips shaken loose during transportation. Gently press down each chip into its holder socket without undue force. Leave the other electronics such as capacitors or resistors alone. Merely look for components that are black and rectangular, like the clock chip you just pressed home.

Start the motherboard cover plate assembly back to its original location by using the outside long edge as a hinge, holding the board by the inside (notched) long edge and rotating the latter back to its spot next to the power supply. When the inside edge is nearly home, plug the dangling power supply cable back into the motherboard socket labeled POWER. Check that all other cables and parts are free; in particular, check out the two grey wide flat ribbon cables feeding to the rear panel's floppy disk drive socket. When all is secure, seat the bottom cover, tighten the 11 screws, flip the Apple right side up, connect the cables for power, monitor, disk and so on. Then insert the System Utilities disk, hold your breath and toggle on the Apple /// power switch.

When the Utilities are loaded, select the Device Handling Commands from the menu. Now look at the upper right corner of the screen for the date and time header. If the clock is working, you should see the time updated every second, even though the date right now reads 00 Jan 00. Select option 'T' (set Time and Date) from the menu, and enter the correct date and time as requested. As soon as you hit return, the right upper corner display is updated, and the new information written to SYSTEM.MISCINFO on the Utilities disk (if not write protected).

As long as the power is on, the clock updates every millisecond, advances minutes and hours, and changes days and months - but it does not update the year. That is done by SOS software, which increments the year at midnight of December 31. In any case, until 1999; then the clock resets to the year 1900 instead of 2000. In the interim, SOS Version 1.3 even corrects the clock calendar for leap years.

Note that the clock data register is written to $FFD0 in the 32-byte block VIA region of uppermost RAM ($FFD0 to $FFEF). This area normally is off-line, hence write-protected during re-boot; it can be addressed directly only by 8F extended addressing. Rebooting a new disk thus does not overwite the clock data register. In other words, as long as your Apple /// is powered up, the clock continues ticking; and, if battery power is supplied, the clock will continue counting in "low-power mode".

Apple clearly intended to put a battery on the board to keep the clock going, independent of power interruptions. In fact,if you looked carefully around the motherboard you would have spotted another unfilled slot, a circular dime-sized depression labeled BATT; for the back-up battery, of course. Frankly, rather than clipping or soldering wires to the board I would just as soon reset the clock each time I restart the machine. Just the idea of a dying battery corroding the precious motherboard is enough to deter me. Speaking of which, if you worry about mounting the clock yourself, buy the chip and have your friendly dealer install it. I believe the current labor rate hovers around $30 per hour.

If you have Business BASIC, you'll love the TIMESET routine on the master disk. It sets the date and time, then automatically calculates the correct day of the week. And its large inverse screen shows a digital clock with the seconds ticking by; that is ultimate assurance your clock is working. While still in BASIC, note that there are two reserved variables - DATE$ and TIME$ - neither mentioned in the manual, nor listed in the table of reserved words. (Apple must not have wished to call attention to its unfulfilled promise!) Try for instance PRINT TIME$; I use the variable in timing programs to show elapsed time, etc.

With the clock set to current date and time, your files will be automatically time-stamped by SOS. That alone is well worth the minimal expense and modest investment of time required to insert the clock chip. Why didn't Apple take care of this long ago?

SAMS COMPUTERFACTS: A Review by Ed Lang

The APPLE, same as any other fruit of the electronic age, sometimes tends to go sour, rot or just hang up. Its chips many not be as chipper as they once were. Judging by the interest shown in a previous meeting, many users are seeking the means of caring for their ailing 'apple-audible' APPLES. Well, don't lose hope - Uncle Sam of SAMS PHOTOFACT now markets a series of "help yourself to your own electronics problems' in his new series, SAMS COMPUTERFACTS. Also, help in the form of hardware/software is becoming available in composite packages of chips, diagnostic disks and backup manuals. The book stores are stocking repair manuals which throw much light on the growing APPLE repair problems.

SAMS, 37 pages of specific "get-to-the-facts" data on the physical, electrical, oscillographical, diagrammatical and part-ical information follows the line of approach satisfactorily carried out in the "Photo-Facts" series so successfully over the years. Volume CC1 contains information covering Apple][: Revisions 0,1,2,3,4,7,RFI and Apple][+: Revisions 7,RFI. A glance at the Index should encourage even some timid souls to "do-it-myself": Adjustments, Block Diagram, Disassembly Instructions, Grid Trace Location Guide, Encoder Board, Logic (Main) Board, Logic Chart, Parts List, Photos, Safety Precautions, Schematics and Troubleshooting. Armed with all of these photofacts, voltages and logic probe readings, one's confidence should be elevated to high levels. Perhaps one may be inspired to delve into the solution of problems in other micros similarly dissected by Uncle SAMS electronic circuit expositors.

There's no need for discouragement and feeling timid about creating motherboard applesauce by delving into Dr. Woz's orchard. In addition to the above Apple road maps, Uncle SAMS is ready to bolster your courage with yet another APPLE-AID, a dictionary (of sorts) that penetrates the roots of the APPLE tree motherboard and fills in any of the gaps of information not covered by CC1 above. It is titled, THE APPLE][CIRCUIT DESCRIPTION, by Winston D. Gayler.

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MacNovice Column

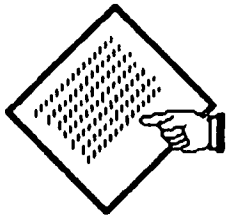
by Ralph J. Begleiter

MacLingo

If you're just getting to know your Macintosh, and especially if you've never used a computer before, you're probably discovering a lot of "computerese" you don't understand. Apple has tried, in its software design, to eliminate much of the computer language others must use to get along with their machines, but there is still some with which you'll have to contend. In fact, it's probably a good idea to get to know at least some computerese, because some of the companies making software for the Mac seem to be unable to shed it when writing their manuals. You're probably seeing a lot of it right here in the WAP Journal, and hearing it in WAP meetings.

But you can understand, even without having to learn a whole new language. And understanding the language will actually help you use your computer in ways you might not have thought of yet.

Here's an example: You've just picked up one of those great Washington Apple Pi disks of public domain software, and you're dying to try it out. You plug in your new disk and try to open one of the icons. The Mac testily informs you that "an application can't be found to open this document." What's an "application" anyway?



MacWrite

("application")

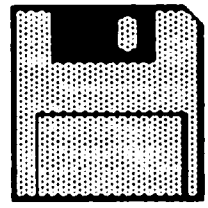
Computer people still use the word "application" in connection with the Mac (even Apple uses it in its manuals), because it seems to be the best available word to describe a software program which enables you to create or work with your computer in a certain way. If you want to draw pictures, you need the MacPaint "application." If you want to write a letter, you need the MacWrite "application." If you want to open that icon on your WAP disk, chances are you need the MS-BASIC "application." The disks don't tell you that, and most people at WAP assume you already understand that when the disk is labelled MS-BASIC, you need the software program called MS-BASIC to use the things on that disk. (By the way, if you're trying to use some of those WAP disks, you'll need to copy the program you want to use onto another disk that already contains the "application" MS-BASIC. Then, when you open the icon you want to use, you won't get that message about "an application can't be found...") Think of the word "application" as computerese for "tool."

You've probably tried to use a brand new disk out of the box, only to have Mac tell you, "This disk is unreadable. Do you want to initialize it?" What's "initialize," anyway?

In the "old days" of the paper-covered computer disks used with most other kinds of computers, "initializing" was called "formatting." Either way, it's computerese for encoding the disk with some very basic information which tells the computer that the disk has a name and some space on it for storage. The disk is divided into imaginary "sectors" by the Mac, so it can later on remember where it puts all the things you'll store on it. Mac asks you to give your new disk a name, so the computer can refer to it in a way you will recognize.

Before you actually use any disk, you must "initialize" it. But, later, after you've got data already on the disk, don't "initialize" the disk again or Mac will erase your data.

If you turn on your Mac and insert first a freshly-"initialized" disk, the computer won't let you work! You'll get an "X" in the little icon on your screen, informing you that there's something wrong with the disk you inserted. How come? After all, you just initailized the disk! Here's another bit of computerese worth learning: When you turn on your Mac, before you can do anything else, you have to feed it a "startup disk." (In the "old days" of other computers, this was called "booting up" and you may still hear people refer to starting their Mac as "booting up.")



Startup Disk

A "startup disk" is a disk on which there is already some encoded information which helps Mac operate. That information is usually contained in the icon called the "System File." It holds (for instance) all the texts for those messages Mac gives you, such as "This disk is almost full" or "Do you want to initialize this disk?" The "System File" also contains other important information you need to work, including the fonts used in word processing. (I plan another MacNovice column in the future dealing exclusively with the care and feeding of the system's fonts file.)

System File

Empty Folder

If you work with a single-drive Macintosh, every disk you use should have a system file on it. Otherwise, you'll be swapping disks constantly, to allow the Mac to retrieve all those messages from the the startup disk. If you work with a two-drive Macintosh, you can keep a system file on one disk (probably the disk with the "applications" you use) and keep the second disk full of stored data. Remember, even when you use a two-drive Mac, the machine needs a system file, so always make sure at least one disk you're using has a system file on it.

If you've opened the System Folder on any of your Macintosh disks, you've discovered a raft of other strange files which can't be opened. There's one called "Finder", another called "Imagewriter", and more files for "Clipboard" and "Scrapbook." You really don't need to know how to open those files, because unless you're a computer programmer, you shouldn't be opening them anyway! But you should understand what they're for, because you can move them around to accomplish some useful things.

The "Finder" is the file which helps you know what's on your disks, and where it is. It's the file which contains all those icons of disks, folders, and files. You may discover later that there are different "versions" of the Macintosh "Finder" and not all versions work the same way. (Just an example: Some early

contd.

versions of the "Finder" reserved New York fonts for "system" use by the Macintosh. In the later versions, New York was replaced by another Geneva font. Maybe that seems insignificant, but there are times when it's good to know which fonts are "mandatory" in which "Finders.")

The "Clipboard" and "Scrapbook" files are storage places for the documents you copy into your clipboard and scrapbook. If you throw those files in the trash, Mac will re-create them the next time you put something in the clipboard or the scrapbook on that disk. As you become more experienced with your Mac, you'll discover that you can label "Scrapbook" files differently, when they contain different sets of saved documents. Then you can "duplicate" them and move them to new disks without having to re-enter each of your documents in the new disk scrapbook. (Suppose you're a lawyer. You create a disk for drawing up wills. In the scrapbook on that disk, you include lots of boilerplate language used frequently in making a will. You label that scrapbook file "Wills Scrapbook." When your first "wills" disk is full, you create a new one, using the same scrapbook file, and all your boilerplate language is at your fingertips again on the new disk!)

The "Imagewriter" file contains instructions to your printer. If you throw it in the trash, you won't be able to print your documents. If you later use a different printer, you can throw away the "Imagewriter" file, being sure you first have a new printer-instruction file (which computerese calls a "printer driver.")

The point I'm trying to make here is: a lot of the "lingo" seems alien to non-computer experts. But a lot of it is easily understandable. And if you take the time to learn some of it, you'll discover new tricks to making your work easier using the Mac.

CONCERTWARE : Professional Quality Music Creation

by John W. Gardner

After experiencing the demonstration of MusicWorks at the November SIGMAC meeting, I got it for our family for Christmas. I thought it was great, allowing music composition on the Macintosh and even printouts of the scores. I tried hooking it into our hi-fi system, which greatly improved the sound quality of the music. However, in February I received a copy of Concert-Ware , which was not only cheaper ($49.95 vs. $79.95) but seemed to have even more features. What follows is a review of the ConcertWare Package from the perspective of a MusicWorks user.

The ConcertWare disk contains 3 applications, 34 instrument files, and 35 music files. The music files are mostly complete renditions of classical and ragtime favorites, many lasting over 5 minutes. When played in succession, they play for 2 hours. The instruments range from stringed instruments (both bowed and plucked) to brass instruments, and include a few originals, such as "Bee" and "Wild Man." The applications are Music Player, to play the music files; Music Writer, to compose music and create the music files; and Instrument Maker, to design your own instruments. To ease the process of using one application after the other, each application includes a Transfer menu which allows quick transfer to any of the other applications, without having to return to the Finder.

One of the first things you notice after starting the Player is the quality of the music, much nicer than MW's, with a richer sound, tempo and dynamics variations, and more realistically sounding instruments. The Player allows you to play music in succession by selecting a number of pieces from the Finder, so you can use your Mac to play a pre-arranged concert. (It will even play it over and over if you wish to leave your Mac unattended forever.) This is not possible in MusicWorks, since you have to press the play button to start playing, and if you select more than one piece from the Finder the extras are ignored. ConcertWare is fun to just sit back and listen to, and as you listen you can enjoy the scrolling display representation of the music and read the historical notes about the current piece, which are displayed on the screen. One thing I would definitely suggest is that you connect your Mac up to your hi-fi system - the quality of the sound is truly amazing when played over a good fidelity system. It isn't quite the same as an orchestra, but you'd have a lot of trouble distinguishing it from a full feature organ.

Also in the Player you can adjust the tempo (but not save it) and you can change the instrumentation for each of the four voices, though each voice can have only one instrument per piece (without stopping and changing them by hand mid-stream, that is). The current instrumentation is represented by a small 'orchestra' with a separate icon for each instrument surrounding a 'conductor.' Pause, Continue, Start Over, and Repeat Piece Continuously are also available. One major limitation of MusicWorks is the maximum length of each piece (64 4/4 measures), thus limiting music to very short pieces or excerpts from longer ones. In ConcertWare the maximum piece length available is 10,000 notes on a 128K Mac (10-15 mins.) and 125,000 on a 512K Mac (several hours).

To compose music you use the Music Writer. This is a visual music editor based on a word processing paradigm (as opposed to the MusicWorks MacPaint paradigm). Thus, you have all the usual word processing functions available, such as a blinking insertion point, highlighted selections, cut/copy/paste, undo, backspace delete, scrolling, etc. Music entry is fast and efficient, as opposed to MusicWorks (how many times do you put the note on the wrong staff line, reach for the eraser to erase it, then try again?). The notes are represented by ovals on a large staff on the left side of the screen. To insert a note, you move the insertion point to the appropriate spot with the mouse (as in MacWrite), choose the note length by clicking on the note length boxes or from the keyboard, and click on the oval for the note you wish to enter (keyboard entry is also available). Since ovals are much easier to hit than lines, mistakes are unusual. The note is inserted in the current key signature (which is also shown on the large staff). To insert an accidental you click on the accidental boxes (or from the keyboard) before clicking on the note. Using the keyboard in conjunction with the mouse makes music entry quite fast. I was able to enter the entire Hallelujah! Chorus from the Messiah in about an hour and a half.

MusicWorks allows only one key signature, one time signature, one initial tempo, and one volume (same on all 4 voices). ConcertWare has none of these limitations. Key signatures, time signatures, tempo changes, and volume changes (independent volume on each voice) can be inserted anywhere within the piece, with absolutely no restriction on the number of such commands. Also, ConcertWare allows repeats with first endings (MusicWorks doesn't allow any type of repeats), and carefully keeps track of measure counting across first and second endings. Also available are slurs (no break between notes as it plays) and transposition by octaves or half steps (during half step transpositions the key signature is also transposed, allowing the piece to be entered in one key and transposed to another!). And ConcertWare doesn't insist on changing sharps to flats and vice-versa as you enter them. In short, ConcertWare allows you to enter music quicker and give a much more realistic representation of the music than does MusicWorks. And the printouts from ConcertWare are quite striking in comparison; instead of leaving blank staffs off the edge of each line, the notes are all proportionately spaced so that each line is full and still ends on a measure boundary. Each line begins with a staff and key signature, and each page contains about 20-30 measures, depending on size, etc. ConcertWare can print in large, small, 50% reduction, and sideways. Printing 50% reduction sideways, I fit the entire Hallelujah! Chorus on a single sheet of paper.

One thing I really miss on ConcertWare is the ability to play the music as you write it so you can see if you like what you are composing. The only way to play music is to save it and transfer to the Player, which then plays it from the beginning. A phone call to Great Wave Software (the publishers) revealed that a new ConcertWare version will soon be released (late April or early May) which will contain a Draft Play option in the Writer. This system will allow you to make a selection and play it, or start at the insertion point and play to the end. All four voices will play the same instrument and repeats will be ignored. Play can be interrupted at any time by clicking a Stop button or by clicking Stop and Move Insertion Point, which scrolls to the point in the music that was just playing. This would make error correction very sim-

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MACWORD: A Second Choice, At Last

by Bonnie L. Walker

Microsoft's WORD was finally released in early February. MacIntosh owners now have another choice in word processing. I ordered my copy from THE BOTTOM LINE for $129.88, a substantial savings over the $195.00 list price. WORD runs on either a 128K or 512K Mac; I am using it on the 512K. After a week or so of adjusting to the differences between MacWrite and WORD, I began to enjoy using this program.

The WORD Master includes the MicroSoft WORD program, MEMO (a sample document), the WORD Help file (a file with online information about most WORD features), the System Folder, and the Printer Drivers Folder. Only Geneva, New York, Monaco, Chicago and two fonts for Daisy Wheel printers, Dover and Dover PS (proportional), are included. You may, of course, add or delete fonts. To get some extra space on the disk, you can delete the Memo, printer drivers you won't be using, and eventually the Word Help document. Although you can use WORD with one disk drive, two disk drives are recommended.

One little annoyance is Microsoft's copy protection scheme which allows you to copy WORD freely, but forces you to put in the Master WORD disk to read the identification from the master disk when you start WORD the first time after turning the computer on. You can boot your copy but when you try to open WORD, it asks for the Master WORD disk which Mac then ejects and asks for the copy. It only takes a minute, but it means keeping the Master and the copy ready at all start-ups. You can order a backup for $10.00, but that doesn't solve the problem.

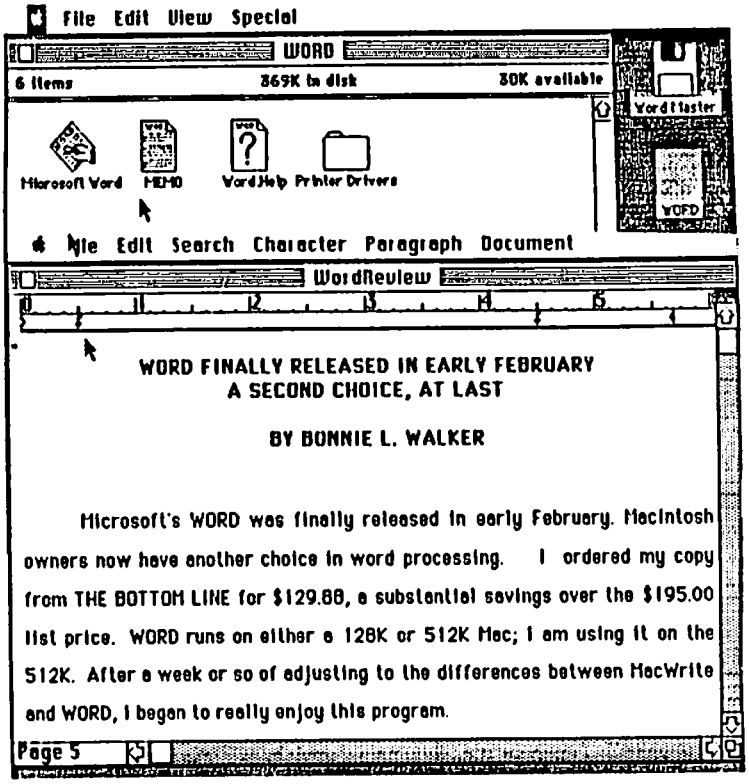

Figure 1

WORD has six menus. Figure 1 shows the menus and the WORD ruler with its tabs and margin markers. You add a tab by clicking on the bottom line of the Ruler. The margin on the left allows you to select a line by clicking. You can select a word by double-clicking anywhere in it. You can select a paragraph to perform functions under the PARAGRAPH Menu by placing the insertion point anywhere in that paragraph. To the right of the screen is the vertical scroll bar with a split bar (the heavy black line at the top) which you can click and drag to wherever you want the split to be to see two parts of a document at once.

At the bottom of the screen is the horizontal scroll bar which allows you to create a document up to 19 1/2 inches wide. At the bottom left, information is displayed about the number of pages in your document (the current page number is shown) and the number of characters. To get the current data you select Repagination from the DOCUMENT Menu or type Command/J.

WORD has several sub-menus which are indicated by an ellipsis (...) after the selection. File, Edit and Search are fairly similiar to the MacWrite menus (See Figure 2.) The File Menu includes the Print Merge command which allows you to print form letters by merging the mailing list and other variable information with the form letter document. Edit includes the show ruler command and a sub-menu called Preferences which allows you to change the Ruler measure from inches to pica settings (10 or 12). You can Search matching upper and lower case with WORD. You can also Goto specific pages of your document.

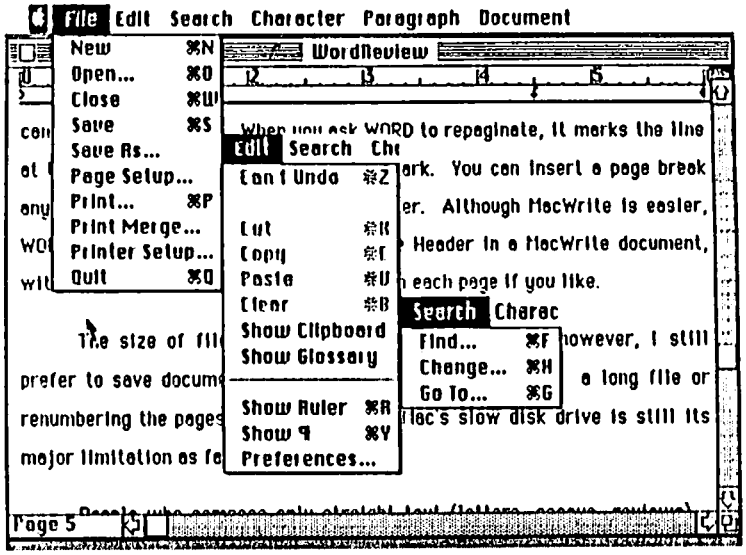

Figure 2

The Character Menu contains the sub-menu Formats (Figure 3) which contains font changes and style selections for individual characters which have been selected. You can change the font and style for your selection without affecting the rest of the document. You can go directly to the Formats Menu by typing Command/D.

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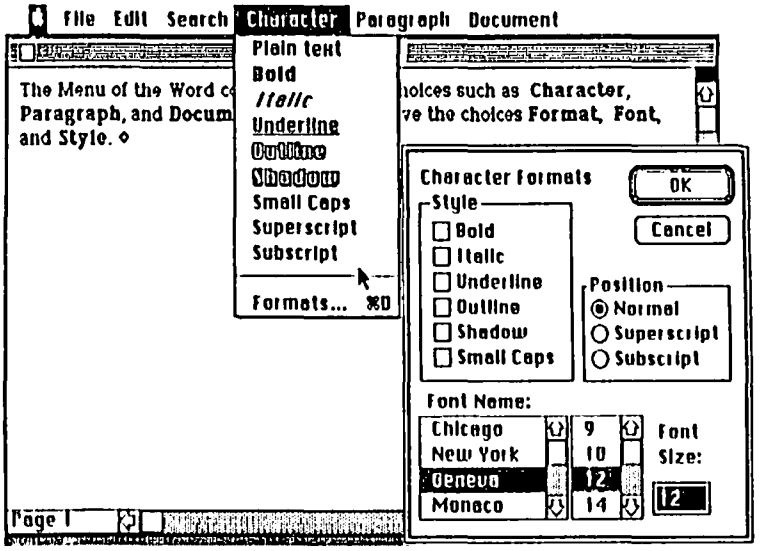

Figure 3

The Paragraph Menu contains the commands that affect paragraphs such as margins, spacing, formats, and tabs. The sub-menu, Formats, (Command/M) allows you to keep a paragraph or lines together when printing. WORD has orphan control, but this feature helps keep lists or parts of an outline together. You can also set tabs for a particular paragraph. You can select alignments and leaders between columns (periods, blanks, dashes, or lines.)

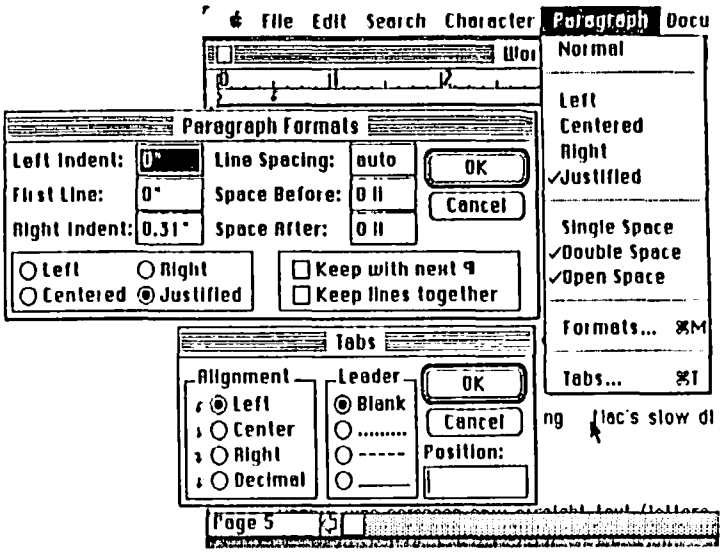

Figure 4

The Document Menu includes three sub-menus: Division Layout, Footnote and Running Head, and the Repaginate command (Command/J). Running Heads replace both MacWrite Header and Footer commands, as they can be placed at the top or bottom of a document. You can also place a page number in the head. The default pagination (if you select automatic numbering) is placed at the upper right hand side of the document. Division Layout allows you to select where you want to breaks to occur (e.g., column, page, etc.) You can select the Page Number Form (e.g., numeric, Roman, Alphabetic). You select where you want the footnotes and the running head to appear, and the number of columns for printing.

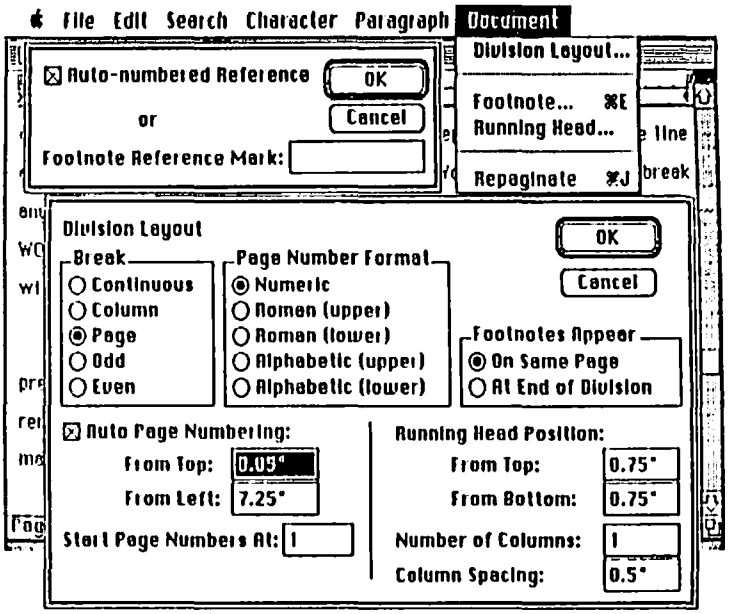

Figure 5

On-line help screens are obtained by either typing Command/? or by selecting About Microsoft Word from the Apple Menu. Figure 6 below shows the Help Menu.

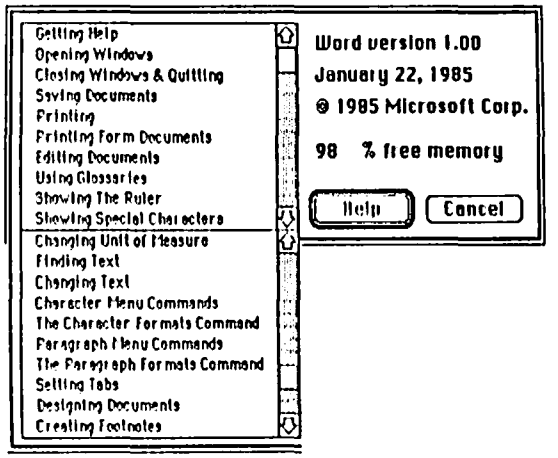

Figure 6

WORD's new features include: Multiple windows (up to four) which allow you to see other parts of the same file or a different file (You can Cut and Paste between windows); Split screens into two windows; A glossary function that lets you type short codes in your text in place of frequently used words or phrases; Horizontal scrolling; Mail Merge, a feature that automatically inserts names and addresses from a mailing list into a form letter; Footnotes placed at the end of the text or at the bottom of each page; Multiple printing formats including multicolumn printing (useful for newsletters or brochures.) The most useful feature, to me, is the extended number of keyboard commands. I particularly find the Command-S for SAVE and Command-P for PRINT to be great time savers. Keyboard commands are provided abundantly by WORD. For example, Shift-Command B produces bold print; Shift-Command S produces Shadow. Also, Shift-Command > selects the next larger type size and conversely < selects the next smaller type. You can also change the font by typing Shift-Command E plus the number of the font.

Keeping track of page breaks is infinitely easier in MacWrite, but it can be done with WORD. When you ask

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WORD to repaginate, it marks the line at the top of each new page with an = mark. You can insert a page break anywhere you choose by typing Shift./Enter. Although MacWrite is easier, WORD is more flexible. You can have one Header in a MacWrite document; with WORD you can have a different one on each page if you like.

The size of file is limited only by disk capacity; however, I still prefer to save documents in several parts because saving a long file or renumbering the pages, takes so long. Mac's slow disk drive is still its major limitation as far as I can see.

People who compose only straight text (letters, essays, reviews) will find that MacWrite is adequate and easier to use. WORD, however, is superior for more complex manuscripts or documents which require multiple columns.

The WORD ruler takes some getting used to. You can set tabs for the entire document or select sections with different tabs. However, this is one feature which is easier in MacWrite. You can also use the TAB command (Command T) to select Tab settings.

One warning: WORD doesn't put documents back in the folders when they are opened for editing. It also creates files named MW0000 when you eject a disk from the MiniFinder. You may be surprised to find yourself out of disk space if these files are not trashed regularly.

You can convert a MacWrite document to a WORD document simply by opening WORD and then opening the MacWrite document from the MiniFinder. You cannot directly open the MacWrite document. All' of the formatting features are saved. You can convert a WORD document to a MacWrite document only by first saving it as a textfile and then opening it with MacWrite.

The WORD manual is satisfactory - better than most, but still not as complete as I'd like. For example, it doesn't explain the appearance of those MW0000 files. These are not the same as WORD Rescue files which are created when you lose power. Too often to suit me, all the information I need about a given feature is not in the same section - you have to page through the entire manual to get all the facts you need. Like most documentation, it is at its weakest when you want to "undo" or change a feature. It was much easier to figure out, for example, how to create a running head and a footnote than to delete them from my document.

WORD is a helpful program for me, mainly because I like the additional keyboard commands and a few features such as Mail Merge which lets me print form letters and the two column printing which helps with the two newsletters I prepare. Still I have some WISHES for MicroSoft or other software developers. I wish I could search a document and change character formats - e.g., make all of a certain word "bold" or underlined. I really wish I could have a line count for each page and a word instead of a character count) for documents. Most of all, I'd like a faster disk drive! I've heard one is on the way soon.

Concertware contd. from pg 48

ple. It will also allow you to play the Mac keyboard as if it were a piano (and enter music this way).

You cannot change instruments within a voice as you can in MusicWorks, which I found to be a major limitation. But you do have a large variety of instruments to choose from for each voice, and if you don't like the ones provided, the Instrument Maker allows you to design and save your own. As in MusicWorks, instruments can be designed by drawing the waveform freehand. However, as we all know, it is very difficult to get nice sounding instruments by drawing them. Instead, instruments are usually characterized by their harmonic content. The ConcertWare manual has a good discussion of the basic principles of waveforms and envelopes, which was very educational for me and my children. ConcertWare allows you to specify the harmonic content of the instrument, and it then calculates the waveform. (The waveform can then be edited freehand, if desired.) At any time you can listen to your instrument by playing on the piano keyboard at the bottom of the screen. Instruments also have varying envelopes, which distinguishes a plucked from a bowed string instrument, for example. This is usually referred to as ADSR (attack, decay, sustain, release). However, instead of simply giving you ADSR control, ConcertWare allows you to draw freehand the entire envelope. By drawing straight lines you can simulate ADSR, but by using freehand drawings, you can create special effects, such as cow bells or drum rolls. To complete your instrument, you can customize it by drawing an icon to represent it (this is what is displayed in the Player). ConcertWare gives you a freedom in instrument design not available on any other computer music system.

I have not yet found any bugs in the programs (I guess in entering the two hours of music they worked out most of the problems), but the disk is shipped so full that it is nearly unusable. If you try to print from it, it will behave as if all is ok, but no printout! Luckily, ConcertWare is not copy-protected so you can easily make a copy, get rid of lots of the music, and have a very usable system. The documentation is very good, especially on the Instrument Maker, which describes waveforms, harmonics, and envelopes quite clearly.

Problems that ConcertWare has that MusicWorks does not have were discussed above. Problems that ConcertWare has that MusicWorks also has include lack of triplets, lack of stemming of eight and sixteenth notes, lack of 32nd or non-standard note lengths, lack of text within the music, lack of a MIDI interface, and lack of other musical embellishments such as fermatas and staccato.

The future of ConcertWare: Great Wave Software is organizing a users group of ConcertWare users to distribute instruments and original musical compositions. Upgrades they are working on include triplets, inclusion of text, ability to change instruments within a piece, stemming, and possibly a MIDI interface. Great Wave Software apparently considers Professional Composer ($495) to be its main competition rather than MusicWorks. Great Wave gave an indication that these enhancements would be added in an upgraded version at slightly higher cost. They also implied that they might only be available for 512K Macs.

The ConcertWare Package can be ordered by sending $49.95 to Great Wave Software, P. O. Box 5847, Stanford, CA 94305, (415) 852-2280 (Visa/MC accepted). Or it is available from several dealers and mail order houses.

ReadySetGo™
ReadySetGo
ReadySetGo

A Review by Jim Graham

Several page layout programs for the Macintosh have appeared in the past few months, notably MacPublisher, from Boston Software Publishers, and ReadySetGo, from Manhattan Graphics. These programs promise to considerably simplify the task of preparing "camera ready" pages on which text and graphics are mixed. This article describes ReadySetGo from the perspective of one who has owned it only a short while.

WHO NEEDS IT, AND WHY?

First, some background. I've been preparing a newsletter for a band booster organization for about three years. I've gone through three iterations in trying to achieve a quality product which doesn't require an inordinate amount of time. First, I used Apple PIE/PIE Writer to prepare columnar articles with justified margins, and used my trusty MX-80 to print them in condensed print for cutting out and pasting up into a master. That worked "well" for several years (it really WAS better than the alternative...)

Second, the Mac and MacWrite came into my life. Seeing exactly what I was getting made the job more satisfying, if not quicker. I found that I could sometimes even print two columns of text on a master, by running the page through the Imagewriter twice and moving the paper to the left, while moving the screen margins to the right. But what a pain! I found myself messing up as often as not, simply because I wasn't always sure where the printing would start or end, or if I had the margins just right.

Third and finally, along came the promise of page layout programs for the Mac, and I felt I could see relief on the horizon. And sure enough, I think one way to spell relief is R-e-a-d-y-S-e-t-G-o.

WHAT DOES IT DO?

First of all, ReadySetGo delivers on its promises. It requires a 512K Mac, and comes with a simple but for the most part adequate manual, on the order of Apple-written Mac documentation. It allows preparation of a standard (8 x 10 1/2 inch) or legal sized page of mixed MacPaint generated graphics, externally- or internally-generated text, and two other types of figures, frames and solids. It will print tall or wide orientation, and when wide is selected with the legal size page, the result is an 8 inch high by 13.5 inch wide page!! The screen page on which this is done can be ruled off in a 1/2 inch increment grid, or left blank. Blocks are placed on the screen for text, graphics, solids, or lines, and they can be activated or deactivated by simply clicking on them. Blocks can be moved behind other blocks to permit considerable flexibility in achieving exactly what you want with the combination. RSG is compatible with Apple's new Laserwriter printer.

The program is amazingly complex in what it will allow you to do, and remarkably simple in that it does all this with logical and straightforward commands. Follow the manual through the learning steps, and play around in the reference section for a bit. Then look at the sample provided. In my opinion, there is no reason one could not be productively using ReadySetGo within an hour.

FEATURES

The program is very Mac-like in most ways. It looks and works like most of the software packages Mac owners have gotten used to using. There are some shortfalls in this area which I'll cover later, but they don't reduce the amazing capabilities of the software.

The first selection on the menu bar is "FILE" -- NEW, OPEN, CLOSE, SAVE, SAVE AS..., PAGE SETUP, PRINT..., and QUIT; FILE works pretty much the way we've come to expect.

"EDIT" includes UNDO, CUT, COPY, PASTE, CLEAR, MODIFY, and DELETE. UNDO currently works only on desk accesories (clearly a place for improvement which Manhattan Graphics has recognized). CLEAR works on an entire block of text or graphics, and will clear block contents after a warning message, leaving the specifications of the block unaffected. MODIFY allows changes to the specifications of a block and is at the heart of what is good about ReadySetGo (more later on this). DELETE removes a block and its structure entirely.

"CREATE" includes choices to create Text, a Frame, a Solid, or a Picture. "FONT" and "SIZE" work practically as we would expect them to, using the fonts that are in the system file. Two new typesetting fonts are on the RSG master disk: Times and Helvetica. There is also an interesting addition which allows selection of any size for the font, even a size not loaded. This produces some interesting results - but whether they will be useful is yet to be seen.

"STYLE" is also similar to that for MacWrite, with a choice of PLAIN, BOLD, ITALIC, UNDERLINE, OUTLINE, or SHADOW. Command key shortcuts are provided, but they are not toggles as we have come to expect. Instead, once such features are turned on, PLAIN must be selected to turn them off.

"SPECIAL" has three choices: SHOW PAGE, an extremely useful command which allows viewing of the entire page and dragging the screen window around on that page (somewhat like the show page command in MacPaint, and the active screen is selected in the same way) See Figure 1 for an example. HIDE GRID/SHOW GRID is a toggle type selection which turns the 1/2 inch grid lines on the screen page on or off. SEND BEHIND is a command much like those in MacDraw or Filevision, which allows blocks to be stacked in the order desired.

USING ReadySetGo

Briefly, to place text on the page, simply choose CREATE TEXT and a box appears at the point 1 inch down, 1 inch over on the screen, relative to the top left corner (see Figure 2). The cursor also appears in the box, and typing will put text in the block. The block can be moved by dragging the top center margin and sized by dragging the lower right corner to a new location. Either of these produces a light gray image of the block as it moves or changes size, until the mouse button is released. Text can be imported into RSG on the clipboard, and, when pasted, will go into the active text window where the cursor is located. If the window is not large enough, it will still be pasted in, and the window can be resized and moved until it appears correct. The frames which

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surround all screen blocks are not printed on the paper copy, but are on the screen to allow sizing and movement handles.

Adjustment of the active block can also be accomplished by using the MODIFY menu selection. This specification sheet (see Figure 3) allows extremely fine tuning of the location, size, and internal characteristics of any block. Selections include thickness of lines; shading and patterns of solids; and spacing, justification, and tabs for text.

Pictures can be brought into RSG on the clipboard, or in the scrapbook, making sure that the scrapbook on the system disk has the picture desired. I find the clipboard method to be preferable, particularly on a two-drive system. An interesting feature is that the full picture on the clipboard is sized and proportioned into the picture block as the block appears on the screen, so it is possible to get distorted graphics the first several times. This can be offset simply by choosing CLEAR, reproportioning the block, then pasting again.

Solids and frames are equally simple. By choosing to CREATE either, and then resizing on the screen, it is easy to get column dividers, space fillers, text perimeters, and other pleasing effects.

To SAVE a page, a choice must be made whether to save the entire page, i.e., block specifications and block contents, or just specifications. By saving only the specifications for a page, identical layouts can be preserved for recurrent use.

Figure 1 shows the page layout for a typical newsletter, with the screen window in the upper left hand corner (note the dotted line). Figure 4 shows that section of the page as it appears in final on the screen, with text, graphics, and several solids (horizontal and vertical lines) included.

A FEW SHORTCOMINGS

The "PRINT FINAL" function prints text heavy (two-strike), but prints pictures single strike. This produces different quality graphics and text, and reproduction will sometimes show this disparity. This shortcoming is shared however by MacWrite, when MacPaint graphics are pasted into a document.

There are a few distinctly non-MacWrite features in ReadySetGo, which are glaring mainly because I have come to believe that certain things "belong" in a text processor, of which RSG is a very specialized example. Some of the keyboard shortcut commands don't seem to work all the time. Specifically, Command-X, -C, and -V (CUT, COPY, and PASTE) in the EDIT menu seem to work erratically. Sometimes they will cause a clipboard item to be saved, cut, or pasted, and sometimes not. (The mouse driven commands do work well in every case, as far as I can tell.)

The backspace key does not eliminate text when a selection of text is highlighted. Further, and even worse, when text is highlighted, and new text is typed in, the old text remains. This is a little hard to get used to...

As mentioned, the STYLE commands (BOLD, ITALIC, etc.) should be toggles. Instead, they require the user to always go back to PLAIN text to change style. And the cursor does not disappear when typing begins within a text window, as it should (picky, picky)...

And finally, I wish there were a hand (a la MacPaint) to move the active screen location. Alas, no software is perfect... yet.

SOME INFO FROM THE PUBLISHER

I spoke with Manhattan Graphics about their plans to fix some of the above "features," upgrades, and future product directions. First, they will be releasing a major upgrade (Version 2.0) toward the end of summer 1985. Its main features will be dynamic linkage between blocks (text flow between linked blocks as content changes), and multipage capability with linking across pages as well. In addition, they have identified and fixed some of the problems above (command key shortcuts will be fully implemented, and the text select/remove/replace feature will be operative). They were interested in the other points mentioned, so other features may be included in the new release as well. Upgrade cost to registered users will be very nominal - but final pricing has not been determined as yet.

The program was copy-protected up to now, but as of early April Manhattan Graphics removed copy protection. Apparently there were some unclear interactions between the protection scheme and the programs used to copy it, resulting in problems for both disks. Nevertheless, before I knew of this, I had no trouble making a backup with Copy II Mac, with no damage as far as I know. But deletion of copy protection, especially for this reason, is a welcome step by Manhattan Graphics.

OVERALL EVALUATION

I haven't used any other page layout program, so I compare ReadySetGo first against what I would do without it, and second, against the Macintosh conventions which have become standard in good Mac software. On the former count, ReadySetGo achieves a solid "A." On the first night I did a newsletter with RSG, I took about one-third as long to produce a much better product, and I think I'll get better with time. I have a feeling that I still have much learning to do on fully using the power of this software. On the second count, there are a few shortcomings, and I guess a "B+" is fair - for this version, considering that many of these will be removed by Manhattan Graphics in the next release.

In conclusion, ReadySetGo is a tremendous asset for anyone wanting to prepare newletters, advertising, or any other standalone type of mixed text and graphics material. I recommend it strongly, based on my own experience. For more detail on this subject, and considerably more on typesetting applications, I also recommend a related article in the May 85 issue of A+ magazine, entitled "Desktop Publishing," by John Barry, Frederic Davis, and Michael Wiesenberg.

ReadySetGo (version 1.0.1), by Manhattan Graphics Corporation, 163 Varick Street, New York, NY 10013; (212) 924-2778; RSG lists for $125, but is widely available for less.

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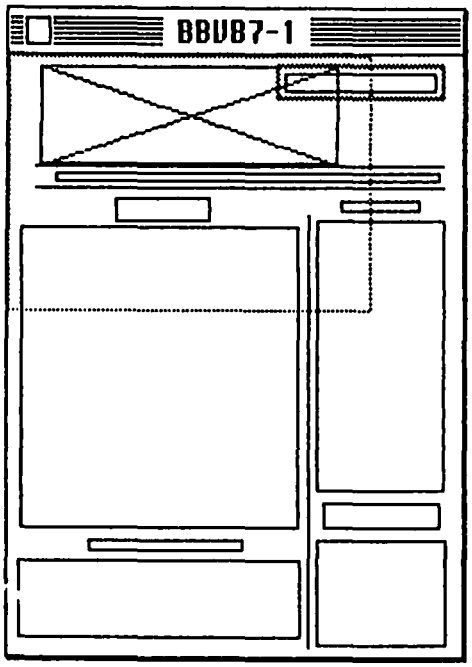

Figure 1

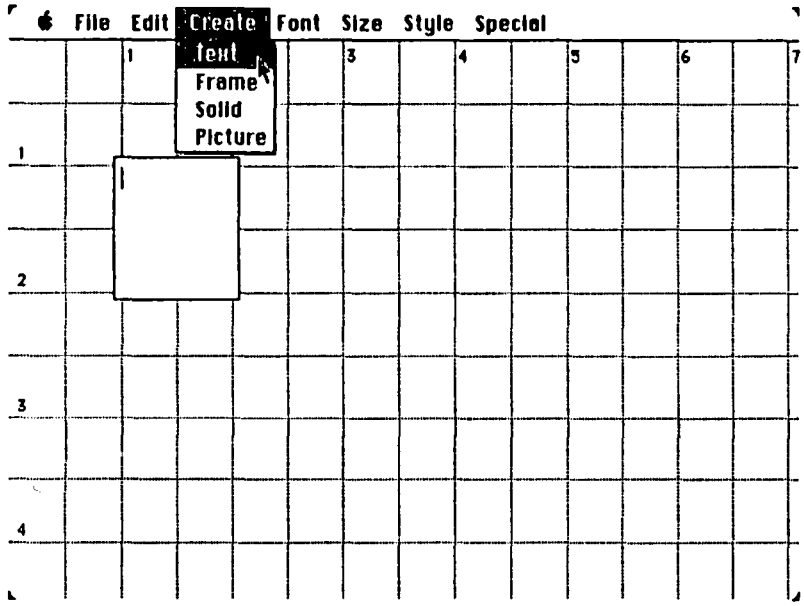

Figure 2

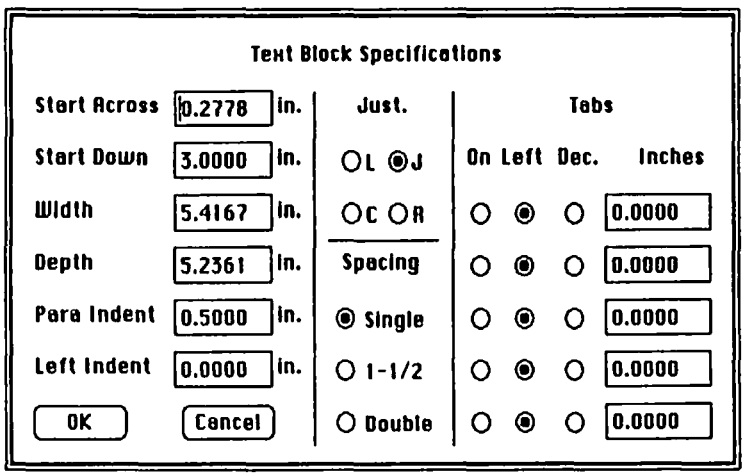

Figure 3

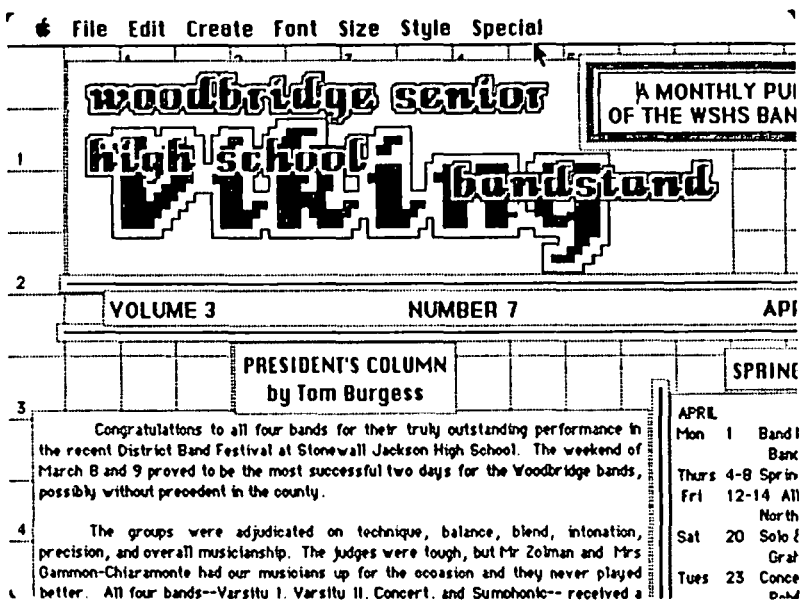

Figure 4

FREDERICK APPLE CORE

A SLICE OF THE WASHINGTON APPLE PI

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Vice President	- Tony Svajlenka
Secretary/Treasurer	- Bruce Taylor
Librarian	- Kurt Holter
Program Chairman	- John Lee
Newsletter Chairman	- John Colaluca
Membership Chairman	- Randy Pasley

HOTLINE MEMBERS

Lynn R. Trusal	(301) 845-2651
Randy Pasley	(301) 695-9416
Kurt Holter	(301) 663-4199
John Colaluca	(301) 473-4566
Bruce Taylor	(301) 371-8181

The above members of the "Frederick Apple Core" (FAC) have agreed to field questions on Apple computer hardware and software for FAC members. Please no calls after 10:00 P.M.

UPCOMING PROGRAMS

April 11 - Panel discussion on word processing programs

May 9 - ProDOS discussion and demonstrations

UPCOMING EVENTS

Armed Forces Day Participation, Saturday, May 18, 1985, Ft. Detrick, MD

Frederick HamFest, Sunday, June 16, 1985, Frederick County Fair grounds.

DATA ACQUISITION FOR THE MACINTOSH

by Lynn R. Trusal

Apple Computer, Inc. is now in a drive to penetrate IBM's grip on the office environment of corporate America. Spearheading this advance is the "Macintosh Office." A smaller and lesser known application of microcomputers is in research laboratories where the personal computer is gaining increased acceptance as a means of data acquisition and analysis (see Popular Computing, April, 1985, p. 67). This market has long been dominated by such companies as Hewlett Packard and Digital Equipment Corporation. More recently IBM PC's and Apple][computers have gained acceptance as suitable and reasonably priced means for data acquisition in research laboratories. Until recently, there was no software available to enable the Macintosh to serve as an instrument for data acquisition. This has been corrected by the release of "Macquisition" by Small Business Computers of New England, Inc., P.O. Box 397, 4 Limbo Lane, Amherst, NH 03031, (603) 673-0228.

I first ran across an advertisment for "Macquisition" in an issue of "Computer Applications in the Laboratory (CAL)" (Huethig Publications), which publishes original articles on the use of microcomputers in research laboratories. I called the company and requested that they send some literature on "Macquisition", which they did promptly. In addition, I purchased a demo disk ($10.00) which neatly presented in text and graphics the capabilities of "Macquisition". The packet that the company sent included a demo disk, a sheet on how to run the demo, a 17-page handout on the use of "Macquisition", a price list, and product literature on the hardware that interfaces between the "Mac" and the scientific equipment. I wish to point out that I have not purchased "Macquisition" for my laboratory since, at the present time, I do not need its capabilities. My article is based on the literature supplied by Small Business Computers, Inc. Since I feel that this product fulfills a capability previously unavailable for the Macintosh, I think it is worthy of report even without personal experience. It also opens up another use for the "Mac" which will help establish its credibility as a serious microcomputer.

First, let me address the hardware portion of "Macquisition." The "Taurus One/05-A ($2595, list price) is the data acquisition peripheral which serves as the interface between the Macintosh and the research equipment. It consists of a 17.75" x 14.25" x 5.25" chassis containing a Z80A microprocessor, two serial channels, 16 analog input channels (12 bit), 16 digital I/O channels, and an 8K expandable memory. The "Taurus One" also allows program selection of gains from 1 to 1,000 (analog inputs) and direct thermocouple input. The two serial channels support RS-232 communications, but one is equipped with an RS-422 driver for data transmission up to 4,000 ft without a modem. In addition, the optional "Taurus One/05-B ($2975, list price) offers two analog outputs (12 bits) and 4 counter/accumulators (16 bits) in addition to the above capabilities. Optional accessories include up to 32K additional RAM ($300, list price) and an IEEE-488 I/O port for $175 (list price). Small Business Computers Inc., will also sell you the whole outfit including the Macintosh, Imagewriter, Taurus One/05, "Macquisition" software, and Microsoft's Multiplan and Basic, for the grand sum of $6,600, or $240 a month for a 3 year lease.

The "Macquisition" software itself lists for $695 and is contained on a single 3.5 inch floppy disk. The software requires only a 128K MAC and 1 disk drive, but since "Macquisition" software and the required system folder occupy about 320K, a second drive greatly increases memory for data storage. The program also functions on the 512K Mac and the Macintosh XL operating under "MacWorks". It is also necessary to have Microsoft's Multiplan, which is required for data collection and analysis, and Microsoft Basic which is the language of "Macquisition".

contd.

The user first sets up Multiplan templates called Application, Output and Analysis. The "application template" serves as an instruction sheet controlling which data are collected and how they are collected. Such things as the sequence for data collecting, trigger information, the number of readings to be taken, and the duration between samples, may be chosen. "Macquisition" reads this information into the application template and translates that into commands for the Taurus front-end. "Macquisition" then executes these commands and collects data into the "output template". The "analysis template" may then be superimposed on the "output template" in order to display both collected data and manipulated data. Analysis abilities include any capability included in the Multiplan program. Over 15,000 data points can be stored in a single template, and "Macquisition" software can handle multiple output and analysis templates for each application. The ability to both collect and merge data into a spreadsheet and also perform automatic analysis on that data, all under software control, is a very useful characteristic. Once the data have been collected and analyzed, results may be printed out or merged with other Microsoft software including Chart, File or Word. It is also possible to place data in MacWrite by using the Clipboard or Scrapbook.

"Macquisition" hardware and software are not cheap and cost between $3290 and $4145, if a fully configured system is desired. This cost also assumes that the user already has a Macintosh and Multiplan. If not, then the cost would be increased accordingly. Keep in mind that this data acquisition system is intended for laboratory use, and such products are priced considerably higher than items for personal use.

Because of a limited market, there are fewer potential sales, and R&D costs must be spread over fewer purchases. The only item that I feel is unreasonably priced is additional memory for the "Taurus One" hardware. The basic system comes with only 8K bytes of system RAM, which is expandable by 32K additional bytes for $300. I am told the memory chips are expensive because of their special design necessary to fit into the Taurus expansion slots. The company informs me that unless the user needs to collect more than 5 data points per second, the additional RAM is not needed.

The demo disk is a very well done series of MacPaint images which form the basis for a slide show demonstrating "Macquisition's" capabilities. "Next" or "Back" dialog boxes guide you effortlessly through the slide presentation, while "Quit" exits you from the demonstration. You may also sit back and let the demo disk automatically move through the slide show at a predetermined rate. The demo disks give you a better feel for the capabilities of "Macquisition" than any literature can, short of an actual demonstration. I commend Small Business Computers, Inc., for their use of this means of presenting what their software will do and at a reasonable price. Small Business Computers, Inc., used the "Slide Show Magician" program to create their demo disk. Although other companies have used similar approaches for the Apple][and IBM PC, this is one of the first that I am aware of that provides a demo disk for Macintosh software. The ability to use bit-mapped graphics and the outstanding capabilities of MacPaint give new meaning to the term "Demo Disk".

Small Business Computers, Inc., is also about to release a program called "Maccontrol" ($695, list price includes "Macquisition") which will increase the capabilities of their existing software. It will include closed loop control within the spreadsheet to include branching and more logic functions, and will be available after April 15, 1985. The company also informs me that they are working with Lotus to integrate the soon to be released "Jazz" with "Macquisition".

In conclusion, I feel that programs such as "Macquisition" will further open new frontiers for the Macintosh by expanding its ability to be taken seriously as a data capture and analysis instrument. Although I have not personally used "Macquisition", it appears to have all the necessary ingredients for collection of digital and analog outputs required in the research laboratory. As such, it is at least worthy of consideration for those individuals with data capture needs.

RAMDISK WITH MICROSOFT WORD

by Lloyd Swift

Microsoft WORD uses 126K. The slimmest System I have been able to come up with for word processing (with necessary fonts, Finder, Imagewriter) uses 145K. If you need a Notepad or Scrapbook, it will be fatter. With the Standard Glossaries file all this will come to at least 275K. The biggest Ramdisk seems to be 316K. So, if you put the System and Application on the Ramdisk, there is only 41K maximum to work with for print files and the like. Besides, I haven't found a way to put Microsoft Word on a Ramdisk without it asking for the Master Disk while the Ramdisk is being created, which is a drag.

Kevin at the Apple Pi office said, "Put your data file on the Ramdisk." I did and it worked! Here is what I did.

1. Booted a startup disk with System, Microsoft Word, Standard Glossary and an empty Ramdisk (formed by making no selection when asked what files to copy on the Ramdisk when opening). I elected to open a Ramdisk of 200K to leave room in memory for the Application and System.

2. Ejected and put in the data disk with the file I wanted to work on (the one I used for trial was about 55K in size).

3. Copied the pertinent file into Ramdisk. This asks for one disk swap. You end up with the startup disk (System and Application) in the Internal Drive and the data file on Ramdisk.

4. Opened the data file from the Ramdisk. (If you are starting with a new document you would open Word from the Finder and Save as to the Ramdisk for printing, etc.) Edited and printed. It did all these procedures without asking for any disk swaps.

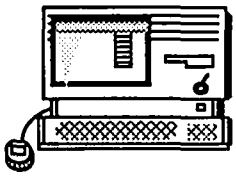
5. Saved the file back to the data disk (requires disk swap(s), number depending on file size, etc.).

As usual with Ramdisk, you have to be careful not just to Save.. your file every once and a while, since that only saves it to the Ramdisk and you are still vulnerable if the current goes off. However, if you are going to go on writing or editing, it is desirable to Save.. to the Ramdisk before you Save as.. to the data disk, as this updates the Ramdisk file which you are going to continue to work on.

MacCORNER

The Macintosh Software and Peripherals Source

Grand Opening Time



Macintosh Peripherals

Maxell, Fuji, Memorex SSDD box (10)	33.95
Haba Drive 800K *	call
MacTablet (Summagraphics)	479.95
Portable 300b Modem (Kensignton)	97.95
TurboTouch (Assimilation)	99.95
ThunderScan	199.95
Ergotron Stand/Drive Holder	79.99
Corvus OmniDrive 5.5 meg	1419.95
MicroDesign Hard Drives	call
Private Eye (I/O Video)	499.00
Okidata 92	379.95
Citizen Printers	call
MacPhone (intermatrix)	149.95
MacVision (Koala)	269.95
MacEnhancer (Microsoft)	199.95
Popcom 1200 P-Modem & Straight Talk...	359.95
The Bernoull Box (Iomega)	1389.00
... 5 meg cartridges (ea)	54.95

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512K Upgrade & RamDisk	175
512k + Video Board	455
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XL/Serve (Inphosphere) *	189
WOS MultiUser D-Base	445
>each additional user...	45
Corvus OmniDrv. 45 meg	4339
GP Hardisk Acct. Multiuser	call
Iomega 5 to 20 meg servers	call

Lisa!

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Hayden Base	99.95
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MS Multiplan	128.95
MS File	128.95
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MS BASIC	99.95
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MacForth II	179.95
MacMemory Disk	24.95
MacTracks	24.95
Mac The Knive II: Fonts	34.95
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Think Tank 512	174.95
Slide Show Magician	44.95
Overvue	189.95
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Lotus Jazz **	call!!
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Forecast	48.95
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DaVinci 1-2-3 (ea)	32.95
MS Logo	94.97
Mind Prober	32.95
Professional Composer	379.95
Home Mac Accntnt	94.95
SAT (hayden)	69.95

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The MacCORNER is finally here!! It is taken a little longer than expected but the Rockville Store should be ready by the time you read this. Please drop by to see our Graphics Corner & Networking Corner with Hard disks,Floppy Drives, printers, digitizers, I/O devices & more than 100 packages in to test drive. Incidentally, our Catalog spans over 300 products with constant additions Give us a ring for opening day details & specials.

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Squire	49.95
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Make Millions	34.95
Tycoon	44.95
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Sargon III	32.95
AirBorne	34.95
Ultima II	45.97

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The above created using the Apple LaserWriter and MacDraw

JAZZ vs. SYMPHONY

by Donald W. Kornreich

On March 9 a presentation on Lotus Jazz was made by a Lotus representative. Since Lotus is expected to assist Apple Computer with its penetration of the office market of personal computers now dominated by IBM, it is of interest to compare the capabilities of Lotus Jazz for the Macintosh to Lotus Symphony for the IBM PC family. I have worked steadily with Lotus Symphony for four months, and I have attended two Jazz presentations. I have worked with LISA (Macintosh XL) including MacWorks for over a year. The following are my current impressions:

JAZZ STRENGTHS

1. The superior bit mapped display and graphics of the Macintosh make it much easier for a person to spend several hours at one time in front of the monitor. Also, I find the white background of the Macintosh monitor preferable to the black background of the IBM PC monitor.

2. Jazz will be much easier to learn than Symphony. With its mouse, icons, and pull-down menus, it is a much more friendly environment than the environment for Symphony and most other IBM PC applications.

3. Jazz is able to dynamically link files with a "hot view" command. This is an easier method than the "file combine" command of Symphony.

4. Jazz is less expensive (list $595 vs. $695) than Symphony. The mail order house are now discounting Symphony to 60% of list price, and so it is reasonable to assume that they will soon discount Jazz to 60% ($360).

5. It is easier to use windows for viewing other files with Jazz because it is faster to double click on icons to open and then to use the size box in the lower right corner to resize the window. With Symphony you must go through at least three layers of commands to retrieve the file and then you must cursor through the names in the proper subdirectory in order to highlight the required file for selection. You then must go through three layers of commands to use the named window. Some of this can be shortened if you remember the proper sequence of keystrokes, but this only happens after several hundred hours of use.

5. There is no need to keep track of Symphony worksheet ranges since these can be separate Jazz files. Symphony starts with one large spreadsheet. If you develop several files or different documents within that worksheet, you must be very careful when copying or moving ranges of information, that you do not accidently write over some other part of the worksheet with valid data. You must also exercise care when adding or deleting columns/rows. One way around this is to place movement restrictions on the various windows with a settings sheet. However, the use of these restrictions is often inconvenient and therefore is not often done. The Jazz use of separate files instead of the Symphony worksheet windows is much easier and safer.

6. You are able to generate new documents faster with a mouse and pull-down menus under Jazz than with a keyboard input and line menus under Symphony. This is particularly important when you are generating documents which usually are used only once.

JAZZ DEFICIENCIES

1. Jazz has no macros (ability to program a string of related commands and then call them for execution with only two or more keystrokes) for repetitive tasks. In my opinion this is the most serious deficiency in Jazz, and it is not one that will likely be corrected in the near future. In our office where I have access to both the Apple LISA (with MacWorks) and the IBM PC/XT, I generally will use the IBM when I set up a spreadsheet or data base management routine that will be used repetitively. The use of macros both speeds up the development/run procedure as well as minimizes the chance of command errors. This is especially true when I have to do a lot of cut-and-paste between documents with Apple software. Macros are easy to use (e.g. in the learn mode Symphony will record the steps for future reuse) and very powerful (additional macro commands are available that make this a rather complete programming language within the Symphony environment). As a result of my favorable experience with Symphony macros, I now require the use of macros as a selection criteria for othet IBM software (e.g. dBASE 111 data base and SPSS statistics both have macro capabilities).

2. Jazz has no print setting sheets for repetitive reuse of several document files per file. This is somewhat the same situation as with macros, because it is only useful if you intend to print out different portions of a file several times. With Jazz you can set the print parameters you will use for a file, and this is all you will need if you will always print out the same part of the file. However, if you want to print out different parts of the file on several occasions, the print setting sheets (each with it own name) are a real time saver. I doubt if this capability will be added to Jazz soon.

3. Jazz has no "datevalue" or "timevalue" functions as alternatives to "date" or "time" for automatic interpretation of normal formats for dates (e.g. 3/9/85) or times. Although you can work around this, it is a handy convenience.

4. Jazz has no automatic transfer of blocks (ranges) of data between Jazz files (such as "File Combine" with Symphony). This must be done as "cut and paste" with Jazz. This is again an inconvenience when you have to move a great many files.

CONCLUSIONS

1. Jazz is best for new or other users requiring minimum time to learn and less than 10 hours per week of use. It would be much more difficult for someone to learn Symphony (unless they had previous Lotus 1-2-3 experience) than to learn Jazz.

2. Symphony is best for experienced or heavy users requiring the power of program micros. Symphony is not for the casual user of personal computers. A casual user would find a need to consult the Symphony Reference Books.

3. The best application in both programs is the spreadsheet. Each is 256 columns by 8192 rows. Each is fast, and has a large number of functions. Each needs a lot of RAM to utilize its size (recommend 640 KBytes for Symphony).

FATTENING YOUR MAC

by David Morganstein

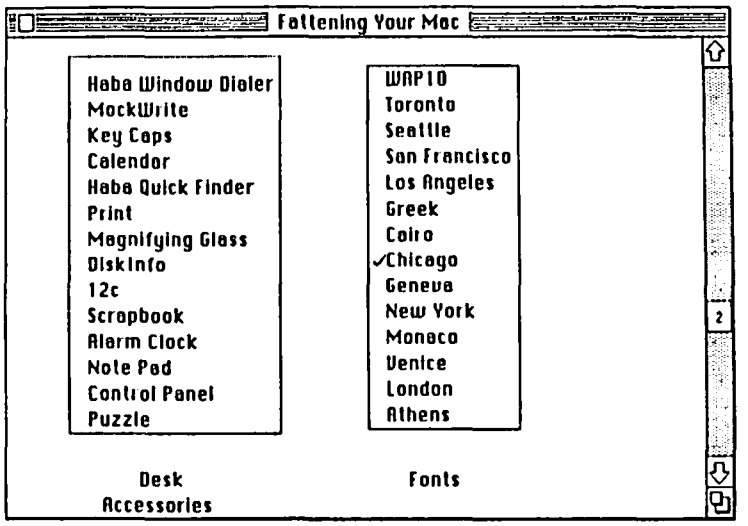
Thin Mac owners are anxious to have access to the power of the 512K machine, and I was no exception. But door to door delivery, I never expected! Who is S2LS (see their ad on page 49 of the April Journal) and why are they offering such a good price to fatten Macs? Two people, T.K. the Executive VP and Eli the VP for software R & D, appeared at my home at 9:00 on a Saturday morning to take my Mac in for minor surgery. By Sunday night, Mac was back, 384K fatter and in fine shape, having had a 24 hour test to insure she could remember things. Now I, too, could run all those programs which need more than 128K of memory can provide.

It turns out that S2LS is the business creation of a group of students at the University of Maryland. Most of the participants are in computer science or electrical engineering. They have recently opened a small office in Bethesda but the hardware upgrades may be performed in many of their homes. Everyone that I have met has been serious and enthusiastic. They seem to me to be committed to doing a quality upgrade and providing any necessary support; although, my 512K machine has worked perfectly without a hitch.

While the official Apple upgrade consists of a board swap, S2LS removes the old 64K chips and inserts high quality, gold-plated sockets and new 256K chips into your existing board. Of course this method voids your warranty and would probably be considered only by people with a ninety-day old computer with an expired warranty. They offer a 90-day "limited warranty" which, as I read the fine print covers only the cost of the parts installed. Their advertised price in the April issue was $412.00 for the entire operation. They appear willing to offer lower prices, especially in light of the falling price of chips. (The latest price I have heard is $5.75 each in quantity one hundred.) In my case, I provided the 16 RAM chips and paid $200.00 for the installation labor and a few other components. In addition to the hardware, S2LS provides a disk with two useful programs. One is a RAM disk program and the other a memory test.

Besides using the extra memory to support certain RAM-intensive programs, I have found the RAM disk to be one method of reducing the time spent during those over-long waits while the Mac swaps things in and out of memory. I set up my RAM disk with a System, Finder, Imagewriter and perhaps one application program, such as MacWrite. (If you put MacPaint on the RAM disk, note that you do not need the Imagewriter Icon for printing purposes). In this way I save a lot of program loading time. In addition, I can set up other disks with two or more applications and no System or Finder. When switching between applications, I still save considerable time in overhead, since the Mac uses the same System and Finder in the RAM disk. This second method allows me to fill a "Master" System file with a lot of Desk Accessories and Fonts which I can access from any application program. Below you can see how many Desk Accessories and Fonts I currently have in the System file.

Getting back to S2LS, their company is experimenting with some interesting developments that they may be offering to the public at some time. They are exploring the possibility of building a 512K board that will fit in your Fat Mac, giving you a megabyte of RAM. They are working on connecting 20 to 400 megabyte hard disks to the Mac, as well. Recall that the Apple I was developed in a garage by people of lesser years of experience. Who knows what we shall see from S2LS in the future?



PROGRAMMERS SUB-SIG

by Jonathan E. Hardis

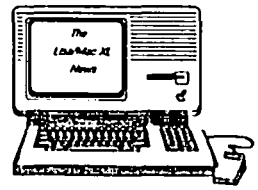
If you want to do serious programming in the Macintosh environment, you should attend the SigMac meetings on the first Thursday of each month at Our Lady of Lourdes School, 7500 Pearl Street, Bethesda, at 7:30 PM. At these meetings we discuss Macintosh internals and other issues of interest to program developers.

The next meeting will be on May 2. To put Inside Macintosh into perspective, we will take as an example an application we all know well, MacWrite. We will discuss which aspects of the program are done with subroutine calls into the Mac ROM, which aspects the program developers had to construct on their own, and we will make educated guesses about how they did it. We hope this overview of a typical application will lead to more detailed discussion about the individual "managers" and how they work together. (How do you put a scroll bar in a modal dialog in a desk accessory?)

The meeting is open to all WAP members, whether or not you have a copy of Inside Macintosh.

LISA/MAC XL SIG NEWS

by John F. Day



The Lisa/Mac XL Section

It seems as if every month brings more exciting things to the world of Lisa and Mac XL. First, I am happy to report that the SIG has over 60 members as of this month, and is growing at a pace that I never thought possible. Even more interesting is the fact that many of the members of the SIG own or supervise more than one Lisa or Mac XL, and that a third of the members own a Lisa and a "regular" Mac. Two-thirds of the SIG members also own an Apple][of one type or another. The SIG is a rather cosmopolitan group indeed!

The February meeting of the Lisa/Mac XL SIG featured a demonstration of the Priam Datatower, a 75 Megabyte (yes, 75) hard disk drive system. Mr. Mark Taber of Priam's office in New Jersey was nice enough to come to DC to show us the Datatower, and to provide us with a Datatower to use and evaluate for 60 days. The Datatower is truly an awesome system to behold, with storage capacity of epic proportions, a built-in streaming tape back-up system, and much faster access times due to it's eight inch voice coil actuated hard disk. Mark gave an excellent discussion on hard disk technology, and answered a host of questions. Our thanks to him and the super people at Priam for making this whole thing possible. Next month's WAP Journal will carry my complete article on the Datatower. For further information on the Datatower, call me at (301) 672-1721, or call Mark Taber at Priam, phone (201) 938-2740.

Our April 6th meeting was a presentation on Lisa programming given by Kurt Schmucker. Kurt is the author of The Complete Book of Lisa by Harper and Row, and a genuine expert on the Lisa. His talk was an opportunity for us to get some real insight into the programming behind the Lisa and Mac, and his explanation of the Lisa Toolkit, Quickport, and Lisa Workshop gave us all some invaluable information about the flagship of the Apple computer line. Kurt told me that he was equally impressed by WAP and the reception he got from the SIG, and plans to attend our meetings in the future. Kurt also told us about his latest project, a book about MacApp, the Mac equivalent to the Lisa Toolkit. Kurt's book about MacApp will be included in each copy of MacApp sold by Apple, so believe me when I tell you that Kurt is a super gold mine of info on new stuff in the Lisa/Mac XL arena. My personal thanks to him for sharing his time with us.

The general agreement of the members is for our meetings to be held at the same place as SigMac, and for them to start after the main SigMac meeting ends. For planning purposes, count on this to be the regular time and place from now on.

LISA NEWS

The big news of the month is that there is now a Lisa Workshop 3.1 supplement available. It contains new Pascal objective files, intrinsic libraries, and several patched auxiliary programs such as a newer Maccom. I will have more details on the 3.1 supplement in the June column, after I have had some time to play with it. The bottom line is that the 3.1 Workshop supplement is designed to bring the Workshop libraries in line with the 3.1 Office System libraries.

There is a new product available which lets you print mailing labels on your Lisa. The product is called LabelList and costs $50. It is available from The Consortium of Associated Schools and Educational Resources, University of Nebraska at Omaha, 60th and Dodge, Omaha, Nebraska, 68182. Again, more details in the June column.

Rumor has it that Absoft, the makers of MacFortran 77 also have a Fortran 77 that runs in the Lisa Workshop. I will get all the details and report in the near future.

The newly available RamStak 2 Megabyte memory board from AST will run all your Lisa software perfectly. Mary Sato, marketing director of AST has provided me with an evaluation board for 60 days with the intent to show our members how the RamStak works. The initial results are incredible! In addition to doubling your memory, the board gives the user a genuine increase in operating speed. I will have a separate article on the RamStak in a future issue of the journal. My thanks to Mary and the folks at AST for providing the board for our use. (The RamStak will also run your Mac stuff as well).

MAC XL NEWS

If you have 1 Meg or more of memory in your XL and aren't also using the Assimilation Process Mac Memory Disk to give you a ramdisk in your XL, your missing one of the best bets of the year. This product lets you create a ramdisk of up to 737K and use it for any purpose you would like. Immediate uses that come to mind are: use as a second disk drive, use as a super high speed Mac by placing the system folder along with an application on the ramdisk and running the whole thing at ram speed, etc, etc. The evaluation copy provided to me by Cassie Stahl of Assimilation ran flawlessly. My thanks to Assimilation for a super product. It is a best buy at $29.95 from your local Apple dealer.

For those of you who are programming types, and have hungered for Smalltalk-80 to run on your machine, wait no more. Smalltalk-80 is available from Apple for $40. The address is Apple Computer, Inc., 467 Saratoga Avenue, Suite 621, San Jose, CA 95129. This Smalltalk runs only on the Mac XL under MacWorks, and takes 2.5 Meg of disk storage to hold all the language and over 512K of free memory to run, making it an XL only product.

I have been playing with several of the newer experimental Finders lately (the latest is Finder 3.0) and have been impressed with how much faster they are than good old Finder 1.1g. Expect great things to happen to your XL when the newer Finders are at last released to the public.

That's it for this month. See ya at the SIG meeting.

Inside Macintosh contd. from pg 62

ins also, if you have friends in San Jose. Their phone number is (408) 988-6009. It is difficult to get through; a recording during off-hours advises you to phone between 1-4 PM (EST).

Once you have the IM in hand, what do you do next? See "SigMac Programmers Sub-SIG" elsewhere in this issue.

THE BEST OF THE WAP ABBS

by =Alexander-

From WP4168 to ALL 03/04 NEW ROMS!!

Apple has finally announced it! They have finished beta testing new roms that give a //e all the special functions of a //c. The kit includes the following: a new autostart ROM; a new monitor ROM (w/mouse text); a 65C02 MPU; a new character generator (w/mouse text). The kit should appear at dealers in late March - Mid April. Estimated cost is around $70. Must be installed by authorized Apple Dealer and old ROMs are kept by dealer.

From WP4795 to:WP4168 03/04 NEW ROMS R

Just a few questions. Does the //e remain able to use all past software made for the //e or able to run on the //e? What are the advantages, speed, etc.? If you don't plan to use a mouse why should you get the mouse ROM? Does cost include installation? If your //e is under APPLECARE is this a free (ha ha) upgrade? Do you know the MHz on the 65C02 they are using? In your opinion where is the best dealer to get the upgrade performed in the Springfield/Alexandria area? That is a lot of questions to put to someone who was just trying to get the word out, and if you can answer any of them I am sure it will be appreciated by all. Thanks. Bob Wood

From WP3274 to ALL 03/11 //e Enhancement

When upgrading your //e with the four new chips to make it into what Apple calls an "Enhanced //e", be aware of some compatibility problems. At least 2 programs I know of - ASCII EXPRESS The Professional and FAMILY ROOTS - may not work right unless you reinstall them to select options telling the programs you have a //c. In AE PRO, the key is the Local Console menu in INSTALL. If choice 4, which most //e people pick, specifies //c as well as //e, you're already okay. This applies to version 4.30p (ProDOS) and to later editions of v4.20 (DOS 3.3). On earlier v4.20 disks and on all pre-4.20 disks, where //c isn't listed, try selecting choice 3, which is called "Type 6 (Pascal 1.1)" - Walt Mossberg

From WP4795 to ALL 03/27 Enhanced //e

Has anyone accomplished the enhancement to the //e (the $70.00 4-Chip Change)? I did and have been satisfied but have noticed some things different now - like the Self-test does not return a Kernel OK any more, just some graphics screens, then nothing (no error message either so I guess all is OK - at least all works fine). Seems to be compatible with all programs that I have as all my application programs work fine. It is cute to see a real Open-Apple on the screen and not the @. I had the work done at Universal Computer during the week in about 45 min. (Super service). I did not get the manual "About your Enhanced Apple //e" (Apple #030-1143-A) but I am on the waiting list for it. Questions/Comments??

From WP3432 to ALL 03/28 Enhanced //e

So far I have had display problems with: 1) Apple Writer //e, the data line has mousetext characters and blank spaces in it. If one uses the tab line display, as I do, there are no problems. 2) VisiCalc //e, the column letter display is all mousetext. 3) PFS file //e, the highlighted areas are a mess. Hayes Smartcom #1, each time a <CR> is sent by this board the cursor remains on the screen. Also a cursor block is always lit in the lower right corner of the screen. The dealer sold me the chip set outright so I still have my old chip set. It took me less than ten min. to swap the chips. Because I now use AppleWorks the above problems are only a small pain in the @%*$&. If your dealer will not sell you the set outright, and you have the above software, try to keep the old character ROM ..... Joe Chelena

From WP3274 to ALL 03/29 Enh //e Compat.

These programs won't boot with the new enhanced //e: SEA FOX and DAVID'S MIDNIGHT MAGIC, by Broderbund, and MINER 2049'ER. These programs run fine but display odd characters in some places: Apple Writer //e (DOS 3.3), PFS: Write, and ProDOS User's Disk. - Walt Mossberg

From WP4795 to:WP3432 03/29 Subject: Enhanced //e

I suggest that you see your dealer and look at the "compatability list" he should have. It tells you what SW & HW has been tested that works with the //e enhanced and also gives update info for some programs. As you have found out AW //e and VisiCalc were on the list as not being compatible. I have the same problem with Smartcom (at least it is not a big problem). Maybe a letter to Hayes would result in a "fix". Also did you get the book for programmers called "About your Enhanced Apple //e" (Apple part # 030-1143A)? It is a free (included in the price) book but my dealer said he had them "on order". That may answer some more questions. I have not had any problems with AppleWorks, Sensible Speller, Dollars & Sense, or Print-Shop Programs.

From WP1095 to:WP4772 03/05 //e 80 col board

Sorry, like I said, the //e 80 column board is not a "real" 80-column board and will drop characters at 1200. The only cures are to write special screen drivers, or get a bona-fide 80 column board.

From [YOU] to:WP1095 03/08 Not REALLY 80-col?

George, I've seen you say this more than once, that the Apple 80-col. boards are not REALLY 80-col. boards. What do you mean by that? =Alexander-

From WP1095 to:[YOU] 03/09 REAL 80 col.

A REAL 80 column board has its own character generation and screen management firmware. It does not use the 6502 and main memory to manage the screen display. The //e 80 column board simply alternates between two interleaved 40 column managers; it demands a lot from the 6502. Therefore, it cannot keep up with 1200 baud data.

From WP3505 to ALL 03/06 65C02 VS 6502C

My accelerator //e has (I think) a 6502C CPU that "replaces" the stock 6502 CPU that came with my //e. Question: is the 6502C the same as the CPU that is used in the //c?

From WAP371 to:WP3505 03/06 65C02 vs 6502C - R

NO! The 65C02 is a 1MHz processor which is made by a different process than the 6502. The 6502C is a 6MHz

contd.

processor which runs faster than the 6502. There may even be a 65C02C which has all of the advantages listed above, but I've never heard of it.

From WP2208 to:WP2521 03/10 PEEKS POKES CALLS

Two sources of CALLS are (1) the PEEKS POKES and POINTERS chart that comes with many Beagle Bros disks and (2) a download file on the NOVAPPLE BBS. Two not listed in these sources are: CALL -3100 (shows HIRES 1 without a screen clear) and POKE 33,99 (will scramble AppleSoft and send your BASIC program off in an unknown direction). - Richard

From WAP538 to:WAP580 03/20 ABBS Inventory

1 Apple II+, 2 modified CCS 7710 serial cards, 2 Anchor Mark 12 modems, 1 256K Legend RAM card, 1 Axlon RAMdisk 320, 1 Mt. Hdw. CPS Multifunction card, 2 Rana Elite III disk drives, Rana controller card, 1 Apple Disk II drive, Apple controller card (on loan to Lee Raesly; I should also mention that one Rana is on loan), 1 5MB Corona hard disk w/ controller.

From WAP538 to:WP4772 03/23 ABBS Inventory

The ABBS runs on most but not all of the equipment in the above message. It doesn't use the RANA ELITE III, as I could not get that drive to handle text files longer than 1 track/sector list. Tom Warrick

From WP5018 to ALL 03/05 AE PRO Downloading

I am using AE PRO on a Franklin with a Hayes 1200. When I use XMODEM to down-load programs (KERMIT) I receive it as a Text file. How do I convert it to Binary for execution? Where can I get the conversion program?

From WP1095 to:WP5018 03/05 AE Pro

I assume that you are receiving a binary file using Christensen protocol from a non-Apple computer; therefore, AE-Pro tags the file as text. You need my "change file type in catalog" utility, which was published in WAP Aug. 83, and also appeared in the WAP library on disk #44. It's too bad there isn't a better understanding of this problem at the AE-Pro factory!

From WP2243 to:WP5018 03/07 AE Pro Text-Bin

Set up your text download as an EXEC type file that will load your binary data into the APPLES memory.

```
FP
MON I,O,C
CALL -151
--- your text ---
BSAVE filename
```

That ought to do it. Brett.

From WP1095 to:[YOU] 03/10 CP/M

Funny, I was just writing up a chart on "why CP/M" for tutorial next Saturday. (First, it should be said that ProDOS goes a long way towards meeting the competition of CP/M 3.0). Reasons for: Faster disk I/O and boot; lots of public domain s/ware; no copy protection; a better programming environment, e.g. the "TYPE" command, "PIP". Best business-grade software is available only in CP/M (dBase II, Wordstar, Super Calc); likewise for serious language buffs - C-BASIC, Turbo-Pascal. Also, CP/M software supports storage of numerical data files without the stupidity of conversion to text strings. Last, CP/M is "closer" to PC-DOS, if you need to transfer files or don't like to learn two word processors, data bases, spreadsheets, etc.

From WP4496 to:[YOU] 03/12 (R) CP/M

Advantages of CP/M depend on what you want to do with it. If you've got a system with 360K disks or a hard disk, the multi-level USER areas offer increased precision in file handling. Word-processing and data base s'ware available for CP/M might be considered better than other operating systems for business applications. You ought to try it at a dealer with a variety of s'ware packages, and compare some of the stuff that's available on DOS and CP/M, like MULTIPLAN, to see what you think of it.

From WP2788 to ALL 03/13 CP/M

CP/M seems to be a waste of time unless you buy commercial software. Anyone with CP/M disks does not seem to want to donate any of them to the library. I keep hearing about all of the public domain software available for CP/M, but you won't find any in our club.

From WP4649 to ALL 03/13 CP/M

The main reason anybody with a modem would want CP/M is as follows: in the U.S. there seem to be more CP/M BBS's than any others (FORUM 80,TRADE 80, COLOR 80, RCP/M, RBBS). Now I regret having a //c for that reason. Most of those BBS's have software for download. Walter Kohl.

INSIDE MACINTOSH

by Jonathan E. Hardis

Inside Macintosh is the standard reference book for programmers using the built-in facilities of the machine. If you want to use menus, dialogs, fonts, quickdraw graphics, the file system, or any other of the things that make a Mac what it is, this is the book for you.

The final edition of IM is not expected to be out until late this summer. It will be published by Addison-Wesley, and will be available wherever finer computer books are sold. As you may also know, an expensive, continually updated looseleaf version has also been available for sometime.

Now, there is a third option which can put IM into the hands of "the rest of us". A paperback version is out, printed on very thin paper in small type. It is like a telephone book, which means that you can expect it to wear quickly. It is not the final edition of IM; there will be more revisions before the A-W edition is published this summer. However, it reflects all updates to last December or February (depending on whom you ask).

The phone-book edition is free if you buy the Apple Macintosh assembler, MDS, which by the time you read this should be at your dealer. MDS has a retail price of $195. If you have bought the MacASM assembler from Mainstay, they will sell you a copy for $20. Call Mainstay for details. Other companies with Mac programming languages may form similar deals with Apple. Call them for the latest information. Apple has passed out free copies at trade shows to developers.

You may also order a copy for $25 from the Apple mailing facility. Send $25 (Calif. residents must add sales tax) to: Apple Computer, Inc., Milestone Group Mailing Facility, 467 Saratoga Avenue, Suite 621, San Jose, CA 95129. They have been know to accept walk-

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( )	May 7 - INTRODUCTION TO APPLE COMPUTER HARDWARE	( )	June 4
( )	May 14 - HOW TO USE YOUR APPLE SOFTWARE	( )	June 11
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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.

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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.

AppleWorks (2 sessions) - Walt Mossberg. Attendees should have an Apple //e or //c and AppleWorks.
Saturday, April 20 & May 11, 9:00 AM - 12:00 Noon

( ) $30 both sessions, with Apple, member ( ) $40 both sessions, with Apple, non-member
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