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Washington Apple Pi

Volume 7   July 1985   Number 7

Highlights

WP for Morse Key Programs
MacNovice: Expense Report
Softviews: MacZap & Quartet
Smalltalk on a Home Computer

In This Issue

OFFICERS & STAFF

EDITORIAL

The passing of an era ... David Morganstein, our intrepid President, who has served in this capacity for four years and as our first disk librarian before that (since the beginning of WAP), is stepping down. In this writer's opinion, David has served unstintingly and exceedingly well. He has, sometimes at considerable sacrifice to his home life, sought out ways to improve the organization and its utility to its membership. While doing this, he has obviously done well within his place of employment and has been promoted to Vice President. This position which requires much time away from home plus the fact that

WAP has grown exponentially since 1978 has undoubtedly contributed to his decision. We sense that he feels unable to spend the time necessary to properly serve as President.

So with some small trepidation and considerable anticipation, we move on to a new President, Tom Warrick. New horizons, new services, and with David contributing as time permits it augurs well for WAP. Welcome, David, in your new role. And welcome, Tom. I'm sure I can write for David, the Board and for the membership, we're ready to help you help us all.

PRESIDENT'S CORNER
by David Morganstein

Many Thanks. While Jim Taylor is basking in the sun of Panama, we send to him our appreciation for handling the arrangements with the staff at USUHS. It has been a trying year with several "out of the ordinary" situations to handle. Through it all, Jim has used his calming influence to straighten out the problems and help us meet our needs for space and equipment. Thank you, Jim! We welcome Leon Moore who has volunteered to step in where Jim left off. The USUHS facilities are excellent and the price is hard to beat. We look forward to your help, Leon, in working with the staff there.

To the past year's Executive Board, a special tribute. The challenge of growth brought about by the introduction of the Mac is still upon us but the Board continues to pull together to find ways to bring service to all our members. Our Vice Presidents, Tom Warrick and Bob Platt, have served the club in numerous ways (albeit Bob has had a handicap of several thousand miles distance); Tom as SYSOP and program chairman and Bob as co-ordinator of special publications. Our Treasurer, Ed Myerson, has with Herculean effort got our bookkeeping organized. We can now see in monthly reports what has happened with our funds and where our accounts are headed. Nancy Little, our Secretary, has shown admirable patience with our nitpicking over the minutes of the meetings. Each of our Directors-at-at-Large has given in their unique way. Bernie Benson has helped many of the new members to learn about the club and their equipment. Peter Combes has served admirably as the EDSIG chairperson and given often of his word processing knowledge. Tom DeMay, a frequent columnist, and his group of hardware helpers have salvaged a number of otherwise "baked" apples. Nancy Philipp, with extensive help from Dana Schwartz, has for several years shouldered the responsibility of the not altogether exciting, yet so absolutely criticial job of membership committee. Jay Thal has served as a most dedicated chairman of the DisabledSIG. Rich Wasserstrom, our group purchase chairman, by a careful scouring of the local dealers and distributors, has found us some of the best buys in hardware and software. Bruce Field's monthly column in the Journal and Q & A session at the meeting have solved more problems for more members than we could possibly count. Please allow me to speak for our membership and to express to you our appreciation for the past year's help.

Fond Adieu. This column will be the 48th and final installment of a series begun back in 1981. Starting next month, another columnist, Tom Warrick, your newly elected President, will fill this space with his thoughts and messages. The Washington Apple Pi has changed a lot in the past four years and the future promises even greater possibilities. We have grown from a few dozen to thousands. We have built one of the best libraries of microcomputer literature in the area. Members can get help in learning how to use their equipment by calling our well-staffed, all-volunteer hotline or taking one of our many tutorials. Without doubt, we have one of the finest microcomputer user-group publications in the world. We make available at a low cost hundreds of programs which help our members gain a better understanding of their machines. We have a well-equipped office, an excellent staff, a balanced budget and money in the bank!

I think of the membership as comprised of three categories. There are those few who have accepted an elected or appointed position and who spend time helping the WAP with many of their precious hours every month. There are the dozens who have written one or more articles for the Journal, who step forward when help is called for or who take the time to make suggestions on ways to improve. There are the thousands who get the Journal every month and learn from and enjoy it. (Of course, we'd love to have all the suggestion makers step forward with a few hours of help to see to it that their excellent ideas bring forth fruit...) We all have a role to play and have done so each in our own way.

There are so many people who have contributed to making the WAP what it is. To attempt to name them all would inevitably find a few overlooked in error and so, I won't even try. Just leaf through the pages of our marvelous Journal and you will see what I mean. Some of the names are newcomers while others have appeared on these pages for years. Still others served with dedication in the past and for personal reasons do not currently appear within our cover. No one individual brought us to where we are. It took and will continue to take the collective energy and contributions of dozens. While these volunteers have all given and continue to give to this organization out of a sense of pride, and find in that good feeling all the reward they need, I wish to extend to each one a personal thank you. We would never have reached member number 7,000 without every one of you.

I would be remiss, however, if I did not express a special gratitude to two of our most dedicated contributors, Bernie & Gena Urban, whose untiring devotion to the WAP has helped insure its success. They have always been there when no one else could be. From all the members, I thank you, Bernie & Gena.

But the real challenge is ahead and not behind. While the Apple corporation seems at times to be afloat, struggling to get its collective act together, we have thousands of members to help lead through the confusion. We have many different interest groups to serve, with more on the way. We are about to assemble a greatly enhanced bulletin board system. There are several special publications in preparation. All of the many Washington area user groups could benefit through the establishment of an umbrella organization which could call upon our combined memberships. If the WAP joined forces with the hundreds of other Apple user groups throughout the country, we could form a coalition which might be heard in Cupertino. We can continue to meet these and other, unknown challenges only if volunteers step forward and give to Tom and the current Board the same help I have seen over the past four years. (A cleverly written clause in our constitution insures that the Past President is automatically a Board member, so I too can continue to chip in...) Our Board has always benefitted from a constant inflowing of new faces bringing fresh energy and creative ideas.

It has meant a great deal to me to be a part of the growth of this organization. It has been an experience I will always cherish. I have you, the membership, to thank for the opportunity.   ⑮

TWAS SAID OF HIM, "I LIKE HIS STYLE"

by Gena Urban

"I'm sorry to hear that David is stepping down from the Presidency - I like his style." A remark heard often enough lately in and around the office that it warrants some thought. Just what is his style, as we have seen it at Board meetings, at general meetings and in personal relationships?

I think a person's style is a reflection of his personality. With David, his style is always underlined with a very basic trait of warmth, compassion and good humour. This comes across whether he is pleased with what is going or, or whether he is expressing a displeasure. Yes, he can be firm and exacting when dealing with someone who has not followed through on a promised action, but at the same time he can be understanding. This is a style that we have seen many times during the past four years.

At Saturday meetings, his style comes across at its best. A bit of showmanship mingled with an uncanny ability to toss in a pertinent "pun" on his own or someone else's remark. This style has prevailed through all the routine announcements, budget discussions, and promises of things to come. It has cajoled many a member into volunteering when tasks needed to be done. (After all, who knows more about volunteering than David, who has volunteered a great portion of his life to the Pi in the last four+ years.)

A style of patience, and on the other hand a style of impatience when things that he thought important were not moving along.

A style of sincerity and genuine interest in the WAP membership. I have seen this style many times when he dropped by the office and answered a phone call or chatted with a walk-in member. The importance of each member's question or problem was evident in his conversations.

A style that puts things into a positive perspective if at all possible. Perhaps, some might say, not wanting to deal with the unpleasant and nitty-gritty. But I rather think he likes to turn unpleasantness into a positive solution and thus cause the nitty-gritty to go away.

As he grew in the Presidency, he developed maturity and wisdom, which shored-up his style and gave it new dimension and depth in dealing with the growth of WAP. As the "style" of the new members changed, he implemented changes to reflect the new needs. At the beginning of his Presidency we were a hard core of Apple users who were familiar with computers and with programming them. But with the advent of turnkey software and then the Mac and //c, the needs of much of the membership changed. His maturity has carried us through these changes and brought us to the point of organization that we have today, and has set the foundation for the changes that will be taking place in the future.

His style! These are but a few of the facets of that style. It is no doubt perceived differently by different people. But whatever it is and however you define it, we like it, and it will be sorely missed.

· July 1985 ·

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	4 See you at the Fireworks! Office Closed	5	6
7	8 Deadline for Journal Articles	9 GAMESIG 7:30 PM Office	10 Executive Board 7:30 PM Office	11STOCKSIG 8PM Office; Apple /// 7:30PM-Conv Cntr. Inn->	<- Thurs. 11th contd. SigMac 7:30PM-Lady of Lourdes	13 SigMac 9AM-Geotown University; LISA/Mac XL GU
14	15 PI-SIG 8:00 PM Office	16	17	18 Pascal SIG 8PM-Office PACKED in App. Pascal	19	20 Forth SIG 10:00 AM Office
21	22	23 Urbans leave for Martha's Vineyard	24	25 No EDSIG meeting in July	26	27 WAP Meeting 9AM-USUHS
28	29 Mac Begin. Tutorial #1 7-10PM Office	30	31 Mac Begin. Tutorial #2 7-10PM Office			

· August 1985 ·

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 SigMac 7:30PM-Lady of Lourdes; GAMESIG 7:30-Off.->	<-Thursday 1st contd. DisabledSIG 7PM CCCC	3
4	5 Deadline for Journal Articles	6	7	8STOCKSIG 8PM Office; Apple /// 7:30PM-Conv Center Inn	9	10 SigMac 9AM-Geotown University; LISA/MacXL GU
11	12	13	14 Executive Board 7:30 PM Office	15 Pascal SIG 8:00 PM Office	16 Urbans Return	17 Forth SIG 10:00 AM Office
18	19 PI-SIG 8:00 PM Office	20	21	22 No EDSIG meeting in August	23	24 WAP Meeting 9AM-USUHS
25	26 Mac Begin. Tutorial #1 7-10PM Office	27	28 Mac Begin. Tutorial #2 7-10PM Office	29	30	31

** Note: Office will be closed on Tuesday evenings during July and August. Thursday evening hours are 7 - 9:00 PM.

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 can be provided for the hearing impaired, but we need 3 or 4 business days notice. Call the office.

Following are dates and topics for upcoming months:

July   27 - Hard Disks (tentative)
August 24 - Gamesig (tentative)

Dates for SigMac are:

July   13 - Georgetown University
August 10 - Georgetown University

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

GENERAL INFORMATION

Apple user groups may reprint without prior permission any portion of the contents herein, provided proper author, title and publication credits are given.

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

Current Office hours are:

Monday - Friday - 10 AM to 2:30 PM
Thursday   - 7 to 9:00 PM *
Saturday   - 12:00 to 3:00 PM

* Note that the office will be closed on Tuesday evenings during the months of July and August, and will close at 9:00 PM on Thursday evenings.

DEALER'S CORNER

In "Dealer's Corner", May 1985 WAP Journal, the price of the Anderson Jacobson daisy wheel printer was erroneously reported. The price is $350, not $295, as stated.   Also, those interested should call the WAP Group Purchase number. We regret the error.   &

MINUTES

APRIL GENERAL MEETING

Washington Apple Pi, Ltd. met at USUHS on April 27, 1985 at 10:00 AM with David Morganstein presiding. Rich Wasserstrom reminded members of the group purchase items on sale in the office. WAP will attempt to increase group purchase activity through local dealers. There is a new group purchase telephone number listed in the Journal, under "Officers & Staff". Beginning May 6, group purchase will be a volunteer activity.   After the meeting there was a Gutenberg demonstration scheduled in the cafeteria. The garage sale is scheduled for June. WAP is attempting to find a location in Northern Virginia.   Members were referred to the tutorials listed in the Journal. The tutorials, however, will be discontinued in July and August, and will resume in the Fall.   A call for volunteers was issued: coordinator and liaision with USUHS, assistance in distribution of the Journal to area businesses, and an assistant to Treasurer Ed Myerson.   It's election time!   Nominations were requested for Officers and Directors-at-Large.   In response to members' requests, a list of the latest version of software available will be published in the Journal.   Members are urged to check their software and send in a note if they have a later version.   A similar form was published sometime ago, but the response was poor. Hopefully, this venture will be more successful.

SUMMARY OF MAY EXECUTIVE BOARD MEETING

The Executive Board of Washington Apple Pi, Ltd. met on May 8, 1985 at the WAP office.   John Malcolm announced that the disketeria has five new Mac disks and one DOS 3.3. Members using //c's will be asked to report any problems they have encountered when using WAP disks.   The election committee will be seeking volunteers to help with the vote count. There will be a budget meeting on May 15th at 7:30 PM in the WAP office.   The garage sale will be held at USUHS, since we could not find a suitable location in Virginia. Adrien Youell will be sound-recording the general meetings, and these tapes will be available at the WAP office.

MAY GENERAL MEETING

Washington Apple Pi, Ltd. met at USUHS on May 25, 1985 at 10:00 AM with David Morganstein presiding.   Next month's WAP Journal will contain a software poll - all members are asked to please vote.   Reviewers are needed for gaming software. Next month's general meeting will be a garage sale. There will be a $1 entrance fee. The Executive Board will be holding a series of budget meetings. Ballots were distributed.&
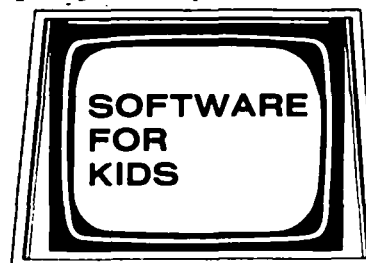
WAP HOTLINE
For Use by WAP Members Only

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	
	Jay Jones (Balt.)	(301) 969-1990	
	Barry Fox	(703) 820-5206	
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	(703) 820-5206	
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	
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	
Digitizers	JoAnn Stewart	(703) 527-4072	
File Vision	Steve Hunt	(301) 262-9080	
Hard Disk	David Jamison(day)	(301) 589-8841	
Helix	Harvey Levine	(301) 299-9380	
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	
MacWrite	Mary Hockmeyer	(301) 897-5495	
MacTerminal	Jon Hardis	(301) 330-1422	
	Mary Hockmeyer	(301) 897-5495	
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	
	Ginny Spevak	(202) 362-3887	
Profile	Barry Fox	(703) 820-5206	
QuickFile II	J.J. Finkelstein	(301) 652-9375	
Graphics			
VisiPlot	Bill Schultheis	(703) 538-4575	
	Lee Raesly	* (301) 460-0754	

Hard Disks			
Corvus & Omninet	Tom Vier (4-11AM)	(202) 887-7588	
Sider	Jaxon Brown	(301) 350-3283	
	Barry Fox	(703) 820-5206	
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 Naef	(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	
	Barry Fox	(703) 820-5206	
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	
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	
Format II	Henry Donahoe	(202) 298-9107	
Gutenberg	Neil Muncy Can.	(416) 298-3964	
& Jr.	Harris Silverstone	(301) 435-3563	
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	
	Barry Fox	(703) 820-5206	
Word Star	Leon Raesly	* (301) 460-0754	
	Dana Reil	(301) 350-3283	

* Calls up until midnight are ok.

There's only one place to buy apples.
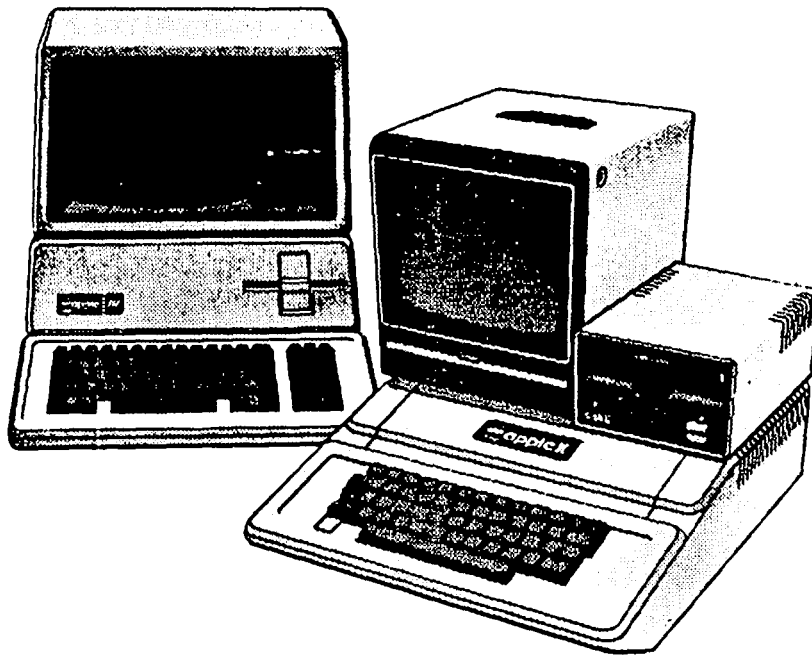
Q & A
by Bruce F. Field

Mike Firth wrote to me about a question I answered earlier concerning using an MX-80 printer with enlarged print, but getting only one line printed in the enlarged mode. At the start of each new line the type reverted back to normal unless you entered another control character sequence to turn it back on. Mike says:

"... you credited a possible Pkaso card with turning off the enlarged print. In fact, the Pkaso does not do this if commands are sent directly to the printer. "I also ran a test in which the size commands were sent to the Pkaso (^I40F) for the Pkaso to interpret and that doesn't shut off at the end of the line either.

"I am almost certain that the problem is the MX-80 which at one time (it may have changed in later ROMs) always turned off the enlarged print at the end of the line. Other prints were not turned off. I always thought his limitation was a bit stupid. I seem to recall other problems related to mixed sizes on a line."

I have gotten a number of questions concerning problems when using a Grappler+ printer interface card and a Hayes Micromodem II. I don't have any answer to these problems but a letter I received from Sydney Long clearly explains the problem.

"I too have an Apple][+, a Grappler+, and a Hayes Micromodem II. My first combination worked fine with the print function. Then my modem would not hang up so it was sent back to Hayes and swapped with another modem.

"With my second modem, I could not get it to print at all! Furthermore, when I was accessing CompuServe, I would get maybe a screen of data then the system would freeze up. If I sent a Ctrl-Q (the CompuServe command to resume), I would get 4 characters. I would go along for about half a screen at 4 characters at a time, when the system would come to life and I would get another half screen without problems. Then it would freeze again. The session would continue to alternate between freezing and not. The only solution Hayes had, was to send me another modem. It has acted exactly the same.

"I have gotten together with a friend and done some peripheral swapping. I used my Grappler+ and printer with his Apple //e, Hayes Micromodem //e, and Smartcom II. Same problem. Every combination continued with the problem until we took out the Grappler+ and substituted an Epson card. It worked perfectly!

"Since my Grappler+ worked perfectly with the first modem, I cannot believe it is the cause of the problem. I wonder if Hayes made some modification to the Micromodem II that is resulting in this incompatibility. The serial number of the first modem is 82508984. The second and third modems are 83541431 and 83534302.

"ASCII Express works perfectly with all the modems. I had absolutely no printer or freeze problems whenever I used it! Hope this helps."

I don't have much to add; we appreciate the thorough job Sidney and his friend did in tracking down this problem. It looks like there are incompatibilities with the Grappler+, Micromodem II (or //e), and Smartcom II. I hope that Hayes and Orange Micro will sort this problem out or everybody will have to start using ASCII Express.

Gilbert Humphrey called the other day to report that he can run ProDOS on his Franklin, using a new F8 ROM chip. Apparently no modifications to ProDOS are required. The chip is available from Larry Washburn, 1542 Norwood Avenue, Blue Ridge Summit, PA 17214 for $16 postpaid.

I have some second hand information that is probably correct although I can't verify it. Several readers have had intermittent problems using AppleWorks with an extended 80-column card. A reader contacted Apple and was told that there is a problem with the MMU chip in the //e which causes glitches in the extended 80-column card. Only certain MMU chips cause this problem, ones with date codes 8314, 8424, 8425, and 8426. There was no explanation as to what Apple is going to do about this.

Q. What's the advantage of adding CP/M and what manufacturers make boards to add CP/M?

A. CP/M is a different operating system that is used on computers with a Z-80 microprocessor chip. It is an alternative to DOS 3.3 or ProDOS. To add it to the Apple you need to buy a card that contains a Z-80 chip that will be used to run CP/M and application programs written for the Z-80. You won't be able to run your standard Apple programs under CP/M, but installing the card does not permanently change your Apple, you just have the option of running Apple stuff or CP/M.

The advantages of adding CP/M are that there are a large number of programs (a lot of public domain stuff) that run under CP/M. Wordstar, for example, is one of the most widely used word processor programs and runs under CP/M. (Wordstar of course is not public domain software.) CP/M programs are generally supplied on 8" diskettes but some can be had in Apple format. I think a good rule of thumb on adding CP/M is that if there is a particular program you want that is only available in CP/M, or you are a computer-techno-jock, then go ahead and get a Z-80 card. Otherwise, you'll probably never miss it.

Z-80 cards for the Apple][+ and //e are available from several manufacturers. Microsoft was one of the earliest, PCPI makes the Applicard, and Applied Engineering makes the Z-80 PLUS. Also, for you //c owners Applied Engineering makes a Z-80 card for the //c that fits inside the case (see also the next question). These manufacturers also provide the CP/M operating system AND the CP/M documentation with the card. Beware of manufacturers that don't include the software and documentation. You can't buy it and if you do get a copy it may not work with your card, and you really need the documentation.

Q. Is there any way to put some of the new 64K or 128K chips or a Z-80 microprocessor into the //c?

A. The //c comes with a full complement of 64K chips
contd.

(16) and there is no room to add more on the motherboard. However, Applied Engineering (see almost any Apple magazine for their ads) makes a Z-RAM card that holds either 256K or 512K of extra memory and a Z-80 microprocessor.

Q. I have just become interested in doing some assembly language programming on my Apple][+. I have a very good book by Dr. Lubbert called "What's Where in the Apple". The book is very informative and provides many hooks to the Applesoft ROM routines. However, in some cases there is a gap between my knowledge and what is provided in the book. Could you point the way for me to other publications or any other sources of information about this type of Apple specific programming?

A. Probably one of the best books on Apple assembly language programming is "Assembly Lines, The Book" by Roger Wagner. This is a compilation of a series of articles that appeared in Softalk magazine (RIP). I don't know who is handling the publication now but to find out I'd write to Roger Wagner Publishing, Inc., 10761 Woodside Avenue, Suite E, Santee, CA 92071, (619) 562-3670. This book gives you the basics of assembly language programming on the Apple, but a better reference for the Applesoft ROM routines is "Call -A.P.P.L.E. In Depth Number One, All About Applesoft". This is available from (not suprisingly) Call -A.P.P.L.E. Although is sounds like it should be for Applesoft programmers, it actually describes the inner working of Applesoft in great detail and is of more use to the programmer who wants to use a combination of Applesoft and assembly language.

Q. Several friends and I have the same problem when printing a spreadsheet created in AppleWorks. Without fail, an "80N" appears in the upper left corner of each printout. I know it's a control code to the printer and I need to shut it off. I've tried reconfiguring the disk for every printer choice and the blasted thing won't buzz off. Apple's glib suggestion is "Call you printer manufacturer." - cleverly avoiding what I still feel is a software problem. My equipment is an Apple //e with the original Grappler and an NEC 8023 printer. Have you got a plan that will help us?

A. AppleWorks is designed to work with the Apple Super Serial card and the Imagewriter printer. Using anything else can produce problems, as you have found out. The problem is usually that the interface card you are using is not compatible with the Super Serial card. (The "80N" is actually a command to the interface card, not the printer.) One way to test your interface card is to type Open-Apple H from within AppleWorks. This should print the screen on the printer. If you get garbage instead of a proper screen dump, you have an interface card problem. Apple has supplied an Interface Configuration Utility disk to modify AppleWorks to work with different interface cards. You need to boot the Configuration disk and then insert your AppleWorks disk which will then be modified. You will have to modify each copy of AppleWorks only once.

Q. I have an Apple //e and an Epson FX-80 printer. When I turn both on and begin to keystroke data into the //e the FX-80 begins to print each keystroke entry. This is troublesome and annoying. What can I do to prevent the printer from printing each keystroke entry?

A. This is an unusual condition. The Apple does not normally print anything to the printer unless you first enable the printer with the PR#1 command (or equivalent). Let's back up a little bit and get some background information. I assume that when you turn your Apple on you have a disk in the drive. If so, the computer will run a greeting or startup program on the disk. If the program enables the printer (even if it doesn't print anything) and then ends without disabling the printer, anything you subsequently type will be printed on the printer. To make sure this is not the problem, start your computer with the System Master diskette that came with your Apple. When you get the Applesoft prompt (]) and the flashing cursor try typing something and it shouldn't be printed on the printer. If what you type is printed you probably have a hardware problem. If nothing is printed then you need to check or modify the greeting program on your other disk. For DOS 3.3 this is often but not always called "HELLO". If you are not sure how to modify the greeting program, press control-RESET before typing anything and this should disable the printer.

Q. I recently experienced a problem with my computer. I'm hoping it will not recur but fear that it will. While entering an Applesoft program I issued the LIST command. I was shocked to find that the last several lines I had entered did not show up in my list. When I tried to append another line it appeared to be entering normally. However once again upon listing it was not added to the program. At that time I typed NEW and started a new program. Nothing however could be entered. This continued until I rebooted with PR#6. The computer and the LIST command then functioned normally. Do you have any idea what could be causing this problem?

A. When you type a line in Applesoft some extra bytes are also stored to tell Applesoft where the next line is in memory, and where the end of the program is. Some of these bytes are used when running the program, but are not used for listing. If these bytes (or possibly some others) get modified, either by POKEs in your program or because of a hardware failure, Applesoft may no be able to list or run your program correctly. It may run properly but not list, or it may list properly but not run. Once these bytes get messed up the best thing to do is to re-boot. Hopefully you have saved your program before the problem occurred. Once you have a problem you may not be able to save your program properly, so if you try be sure and save it under a different name than the previously saved versions. The only sure way to get Applesoft working properly again is to re-boot.

If Applesoft is working, you type in a program but do not ever run it, and then have problems listing it, you certainly have a hardware problem. Turn your computer off, remove and replace all the interface cards, and press down on all the chips. This will usually take care of the problem. This sounds like it may be the problem in your case.

Q. I would like to build a serial/parallel converter. Can you tell me of any construction articles or books for circuits?

A. Probably the best source of circuit designs is Steve Ciarcia's Circuit Cellar that appears monthly in Byte magazine. For example, in the February 1985 issue Steve built a serial EPROM programmer that contains a serial to parallel converter circuit. I also seem to remember some earlier converter designs. His columns have been reprinted

EDSIG NEWS
by Peter Combes

EDSIG Calendar

Thursday, June 27, 1985 at 7.30 p.m.

"The Educational Computer Press"

There will be no meeting in July or August.

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

Meeting Report

Thursday, May 23, at 7.30 p.m.

"Using Computers for Teaching Language Arts in Senior High School"

Carol Thomas, media specialist at Rockville High School, demonstrated various programs from her school's collection. She said that the educational software field was still expanding rapidly, with the newer packages becoming better than the earlier. Her primary criteria for judging programs for use in school are: 1. ease of moving around in the functions; 2. simplicity of operation; and 3. clarity of the manual.

Language arts packages lean heavily in the direction of grammar, sentence structure, and punctuation. Literature programs are very scarce at present, presumably because the content seems somewhat less obviously adaptable to computer use.

Crossword Magic - Computerware ($50.95): This program will actually organize the words and clues that the user types into crossword puzzle form. It will print copies of the crossword with the clues, and with or without the answers. Carol described the program as "really tops" as far as ease of use was concerned. The program can be used by an English teacher, or any other teacher, to create puzzles for the pupils. Carol's advice was to "type in the longer words first" to give the program a better chance at finding intersections. If you type in a word that has no letters in common with those you have typed in already, it will sound a tone, and ask for a different word. However, it will save the word you requested and when, later, it finds a possible intersection, it will then "slot it in." If you dislike the arrangement that the program has produced, you can request the program to attempt to find a different one. The program will save to its own disk or to another, and will edit previously typed puzzles. It will work with a great variety of printers and interfaces. Carol stressed the program's user friendliness - "you just stick it in the machine and go!"

Building Better Sentences - Perfection Form ($49.95): This is a two part program. The first part is "Combining Sentence Parts" and the second "Creating Compound Sentences". The great preponderance of programs in Language Arts are on Grammar and Structure, and this is an example of a Grammar program. Its recordkeeping function can track pupils in a number of classes. It starts at "ground zero" with the concept of Subject and Predicate, with several screens of information, and gives test runs of exercises to identify subject and predicate. Additional parts deal with modifiers and prepositional phrases, and then move on to more complex grammar. "Creating Compound Sentences" uses similar procedures, and both sections

work really well.

Compu-Read - Scholastic ($30.95): This is not liked as well as the previous programs, but does give useful practice in identifying letters and associating them with computer keys. It is not easy to move inside the program, but this might improve with practice.

Other programs mentioned by Carol were:

Analogies	Program Design	$23.95
Capitalization	Hartley	$49.00
Compu-Spell	Scholastic	$29.95
Computer Prep SAT	Edu-Ware	
English Achievement	Microcomputer Workshop	$140.00
Latin Expressions in English	Osez Publications	$25.00
Mastering Parts of Speech	MECC	$35.00
Microcomputer Read and Review	Dracula	
Punctuation	SRA	
Sentence Completion	Scholastic	$25.95
Spelling Demons	Random	$84.00
Vocabulary Builder	Educational	$25.95
Vocabulary Skills	Educational	$44.95
Wordskill	SRA	
Classics	Sunburst	$55.00
Microencyclopedia	Sunburst	$55.00
English Editor	Sunburst	$65.00

Literature Series - Charles Clark Co. (not yet obtained)

High School Literature 1-3	$90.00
Shakespeare 1-2	$60.00
Modern British Literature	$30.00
American Poetry	$30.00
Mark Twain	$30.00
Drama/Theatre	$30.00
Women Authors	$30.00
Huxley/Orwell	$30.00
Steinback/Faulkner/Hemingway	$30.00

Carol also explained Montgomery County Public Schools' review and purchase policy for computer software.

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in four volumes, Ciarcia's Circuit Cellar, Volumes I, II, III, and IV, covering articles that appeared in Byte from September 1977 through June 1983. These books and reprints of past articles are available from BYTE Books, McGraw-Hill Book Company, POB 400, Hightstown, NJ 08250.

For those of you who aren't quite ready to jump in with a soldering iron, there are a number of companies making serial to parallel converters to allow the //c to drive a parallel printer. Discwasher, 1407 North Providence Road, Columbia, MO 65205, Apricorn, 7050 Convoy Court, San Diego, CA 92111, (619) 569-9483, and PBI Software, 1155B-H Chess Drive, Foster City, CA 94404, (800) 843-5722 outside CA, all make //c serial to parallel printer adapters in the $80 to $100 range. PBI also promises a similar adapter for the Macintosh "real soon now".

WAP MEETING REPORT: MAY 25
by Adrien Youell

Auxiliary Meeting: "Roger Wagner Comes to Town - The 2-in-1 Meeting.

As Walt Francis is writing the main subject of the meeting on printers, I have the happy and brief task of doing justice only to Roger Wagner's presentation. Mr. Wagner (of the Printographer, The Toolbox, and Merlin fame) joined Tom and Bruce for the "Q&A", giving his own chat at 9:30, and a second presentation at 11:45. Another happy report is to say how you can get his great selection of programs at discount rates, and to again remind you that the audio cassette tapes of the printer and Wagner meetings are in the Pi library for you to hear the morning in all its auditory glory! It is the intention of the librarian to copy the master tapes of meetings for sale or loan, or for listening in the peace of the Club (with headphones!)

Roger Wagner's discounts are: $10 off for one program, and $25 off for two, or a third program free; and fourth onwards, start over. Shipping is $3, and this offer to WAP members is open until August 31, 1985. Please address requests to Garland Buckingham (619-562-3221) at Roger Wagner Publications, Inc., P.O. Box 582, Santee, CA 92071, and mention your WAP membership number, and meeting date. Garland may take a credit card? Write or call for their catalog. List prices are enticing anyway: under $20 for COPY-CATalog, 2 games, assembly language programming, etc. and under $40 for each Toolbox package. This paragraph is a service to members, and not an advertising stunt for Wagner publications!

We tested a video projector loaned from "Future Views" and the //e output was impressively projected onto the auditorium screen. (Ed. Note: This is the third time that Future Views has come forward to help our organization. Thank you, Mr. Griffon and Future Views.) Fine. We forgot to bring a "Y" connector to allow activation of the //e screen, so that the operator had no monitor to check his typing. Get the 'picture'? Imagine Roger's amusement having to check over his shoulder at the main screen to see how he was doing, which he did like "Amadeus" in the film, playing his instrument in most unusual contortions! It took me a week afterwards to realize that we could have turned the computer sideways! With much gesticulation, leaping up from sitting down at, or bending over the keyboard, Roger introduced himself with calisthenics, and the whole audience did stand up and stretch arms (he used to be a teacher!). He likened the computer to a piano; the skilled pianist can bring Beethoven 'alive' on the keys, but you do not buy a piano that plans Beethoven. You have to learn to play the piano, to learn to play sonatas by Mr. Beethoven. The drift of his philosophy comes across readily.

He explained the ethos of computing - "get the machine to work for you". You can spend two months writing code to save 5 minutes computing time, but which the computer will remember. Most of Wagner Publications' popular disks are utilities, the tools to help you do your computing more easily, except for most noteably, his Write Choice, which is a stand-alone, impresssive word processor. Although he does not have "British (as she is spoken) For the Traveller", he does have the equivalent in Spanish! Roger made magic with axes and graphs (Chart 'n Graph Toolbox), and art with graphics (The Printographer). He went through most of his program utilities, ending this extra hour, to our

amazement, without boredom. I salute you, Sir Roger, and thank Garland Buckingham for insisting so graciously, to give space to his presentation, and after-meeting sales. There were many bemused faces in the audience, all laudatory. Wagner's documentation is exemplary, as I discovered at the meeting, and afterwards as I made backups of my purchases. Oh yes, his programs are not copy-protected. I listen to his tape recording when I feel 'down", as you can, and have sent copies of the tape recording to my long-suffering family.

Ballots were distributed, many received by Sue Roth and her son on Saturday, and the remainder await final scrutiny by the election committee on Thursday, June 20. By the June meeting you will know your senior officers. If you wish to stand for 'office' please volunteer now for any jobs in the coming year, to become KNOWN. Always a good ploy! John Alden volunteered as the next Program Coordinator, obviously billed for high places, contact 686-1656. Please contact the Club office if you have time or expertise to offer.

ADDING A WORD PROCESSOR TO THE MORSE KEY PROGRAMS

by Boris Levine

The programs on the disk described in Ref. 1 are intended to facilitate the use of a computer by disabled persons. Now, a handy word processor program has been added to the disk, which greatly increases its capability and verifies the ease with which it can be expanded. This article describes the way in which the wordprocesser was added and passes on the lessons learned.

To review: The disk operates with a special telegrapher's key plugged into the Apple's game port and permits the user to use the Apple pretty much like the keyboard. The various programs are controlled through a Main Menu (For a description see Ref.1) which is designed so that new programs can be added as desired.

ADDING THE WORD PROCESSOR:

The word processor used is 'simpleWORD', written by Tom DeMay and described in Ref. 2. The general process of adding it was easy enough: the Main Menu, which also serves as the HELLO program was modified to include 'simpleWORD' (sW from now on) and sW itself was modified both to function with the menu and internally to make it more usable by a disabled person. What problems there were came from the same factor that makes the word processor so useful ... it works with an external printer.

MODIFYING THE WORD PROCESSOR

Any word processor is involved with an external printer. But, as we know, there are dozens of printers and interface cards for the versatile Apple, and of course two displays (40 and 80 character). So the first step was for Tom DeMay to prepare both an 80- and a 40-character version of sW. Step 2 was to modify the inner workings for changing and saving the text. And Step 3 was to add program instructions for entry from and return to the Main Menu.

(NOTE: For this discussion, extracts from the listings are used to show the details. The full listings are presented in Ref. 1 and 2.)

The major change in sW is the added subroutine (see Listing 1) which goes from the 'QUIT' option to line 1200; it moves the user from sW to the Main Menu. Note particularly the two precautions included to protect the writer. The writing process may have been slow and difficult and so, to prevent losing the text in a hasty exit, the writer is first asked whether it should be saved to disk. The second precaution appears in handling the response. Unless the writer answers specifically 'N', the program goes immediately to simpleWORD's SAVE routine. This approach trades off a round-about protocol against the permanent loss of text. Then, either directly or after the SAVE loop the user is brought to the Main Menu.

MODIFYING THE MAIN MENU

The work on the main menu consisted of, first, simply adding sW as item 5 in the listing; and second, providing the special techniques needed to handle the word-processing function. The sW was added as item 5 and programmed starting at line 1500. (See Listing 2). Note that the confirmation protocol is also used here. It asks the user to confirm that he is in the right program. (If not, he is returned to the Main Menu via line 270 which reports that the original choice was

not confirmed.) Then comes optional access to some information about the different equipment configurations. And finally, choice between the 40- and 80-character versions of sW.

It is in the optional information that some of the real problems with word processor interrelations are handled. Tom DeMay and I decided that, rather than attempt to match all the possible configurations of printer, interface card etc, he would program for the most popular arrangement (parallel card in slot 1) and we would include some guidance to help the user if his is different. That's what is in lines 2000 to 3200.

GENERAL COMMENTS

The primary purpose of this disk is to expand the capability of a disabled person, and specifically to enable him to use a word processor with the Apple. The programming techniques described above show that useful programs can be added while minimizing the efforts required of the user.

A copy of the completed disk has been provided for the Apple Pi collection. It will be interesting to see how well it works.

(CORRECTION to a note in Ref. 1: The modification to the Morse key was described in WAP Journal, December 1984 (not 1983). The original key was described in December 1983. It seems that I get published in Decembers).

REFERENCES

1. "Programs for use with Morse Code Keys" by Boris Levine; WAP Journal, February 1985

2. "simpleWORD " by J.T. (Tom) DeMay Jr.; WAP Journal, January 1985

LISTING 1

```
   1  PRINT "********* REM *************": PRINT
   2  PRINT "***    THIS IS AN EXTRACT"
   3  PRINT "***    FROM THE HELLO PROGRAM
   4  PRINT "***    SHOWING THE CHANGES MADE
   5  PRINT "***    IN ADDING SIMPLEWORD
   6  PRINT : PRINT "*****************************"
   7  PRINT : PRINT
1500  REM
1505  INPUT "YOU DO WISH THE WORD  PROCESSOR!
      Y/N ....."; A$
1510  IF A$ < > "Y" GOTO 290
1520  PRINT "DO YOU WISH INFORMATION ABOUT THE
      PRINTER CONNECTION ";
1530  PRINT "OR THE LETTER SIZE ?...Y/N ";: GET A$:
      PRINT A$
1540  IF A$ = "Y" THEN  GOSUB 2000
1550  HOME : PRINT "FOR 40-CHARACTER SIMPLEWORD,
      TYPE '4'"
1560  PRINT "FOR 80-CHARACTER SIMPLEWORD, TYPE '8'"
1570  GET A$: IF A$ = "4" GOTO 1580
1573  IF A$ = "8" GOTO 1590
1575  HOME : GOTO 1550
1580  PRINT : PRINT  CHR$ (4);"RUN SIMPLEWORD-40"
1585  END
1590  PRINT : PRINT  CHR$ (4);"RUN SIMPLEWORD-80"
1600  REM
1601  REM
1602  REM    SPACER                        contd.
```

```
1603   REM
2000   REM   PRINTER INSTRUCTIONS
2005   HOME : PRINT "****   PRINTER INSTRUCTIONS
       ****": PRINT : PRINT
2010   PRINT "THIS PROGRAM PROVIDES THE MOST COMMON
       CONNECTION TO THE PRINTER";
2020   PRINT " THROUGH WHAT": PRINT "IS CALLED A
       'PARALLEL CARD' IN SLOT 1"
2025   PRINT : PRINT
2030   PRINT "TRY PRINTING YOUR TEXT, USING THE":
       PRINT "'PRINT OPTION'"
2035   PRINT : PRINT
2040   PRINT "IF YOU HAVE NO PROBLEMS...FINE."
2047   PRINT
2050   PRINT "HOWEVER, IF YOU DO HAVE A PROBLEM,
       ...": PRINT
2055   PRINT : PRINT "(PRESS ANY KEY TO CONTINUE) ";:
       GET A$: PRINT A$
2060   PRINT
2070   PRINT "GET IN TOUCH WITH A KNOWLEDGEABLE APPLE
       COMPUTER USER;";
2080   PRINT " 'WASHINGTON APPLE PI'; OR EITHER OF THE
       AUTHORS."
2100   REM   RETURN TO MENU
2110   PRINT : PRINT : PRINT "TO RETURN TO MENU,
       PRESS 'M'"
2115   PRINT "TO GET INFO ON LETTER SIZE, PRESS 'L' ";
2120   GET A$
2130   IF A$ = "M" THEN   RETURN : REM    TO 1500+
2150   HOME : GOTO 3000
2200   END
3000   REM   LETTER SIZE INFO
3005   HOME
3010   PRINT "****   LETTER SIZE INFORMATION  ***"
3020   PRINT : PRINT
3030   PRINT "APPLE COMPUTERS PROVIDE 40 LETTERS
       ACROSS THE SCREEN, ";
3040   PRINT "OR, BY USING SPECIAL CARDS, PROVIDES 80
       CHARACTERS": PRINT
3050   PRINT "THE 80-LETTER PRESENTATION USES
       NARROWERLETTERS.": PRINT
3065   PRINT "IF YOUR APPLE DOES NOT HAVE THE
       80-CHARACTER CAPABILITY, ";
3070   PRINT " THEN USE ONLY SIMPLEWORD-40"
3080   PRINT
3100   PRINT : PRINT "IF YOU HAVE BOTH 40- AND
       80-CHARACTER   CAPABILITY, ";
3105   PRINT " TRY BOTH SIMPLEWORD-40 AND SIMPLEWORD-80
       OPTIONS ";
3110   PRINT " AND USE THE ONE YOU PREFER."
3115   PRINT
3120   PRINT "WHEN READY TO GO BACK TO THE MENU, PRESS
       ANY KEY ";: GET A$
3130   RETURN

LISTING 2

   1   PRINT "*************************"
   4   PRINT "*************************"
   5   PRINT
   6   PRINT "***   THIS IS AN EXTRACT
   7   PRINT "***   FROM THE SIMPLE-WORD PROGRAM"
   8   PRINT "*** SHOWING CHANGES MADE
   9   PRINT "*** TO WORK WITH MORSE-KEY PROGRAM"
  11   REM
  12   REM    SPACER
  13   REM
 240   PRINT : VTAB 23: HTAB 1: PRINT "SAVE, PRINT,
       CORRECT, RESTART, OR QUIT:";: GET CH$
 245   IF CH$ = "S" OR CH$ = "s" THEN 700
 250   IF CH$ = "P" OR CH$ = "p" THEN 300
 260   IF CH$ = "R" OR CH$ = "r" THEN   RUN
 270   IF CH$ = "Q" OR CH$ = "Q" THEN   GOTO 1200:
       REM   EXIT
 280   IF CH$ = "C" OR CH$ = "c" THEN   PRINT : GOTO 400
 281   REM
 282   REM   SPACER
 283   REM
1200   REM EXIT ROUTINE FROM 270
```

```
1210   VTAB (22): PRINT "BEFORE YOU LEAVE..."
1220   VTAB (23): PRINT "DO YOU WISH TO SAVE YOUR TEXT
       ....Y/N?  ": GET A$
1230   IF A$ = "N" THEN   GOTO 1300
1240   GOTO 700: REM    SAVE UNLESS 'NO'
1300   REM   RETURN TO MENU
1310   HOME
1320   VTAB (5): PRINT "SO LONG"
1330   VTAB (8): PRINT "YOU'RE RETURNING TO THE MAIN
       MENU"
1340   PRINT  CHR$ (1): PRINT D$;"RUN HELLO"
1350   PRINT "END": END : REM   BACK UP EXIT
1999   END
```

LEARNING DISABILITIES - A NEED FOR APPLES

We need your help. Seton Centers, Inc. is a private, nonprofit corporation established in 1975 to provide services to learning disabled children in schools not offering special education programs. Seton Centers would like to install one Apple //c or //e in each of its eight elementary school centers and two systems in each of its two high school centers. The Apple systems would be used to initiate computer based instruction for remedial, drill and maintenance of academic skills. Numerous software packages are available for the Apple systems to assist learning disabled students.

We are interested in obtaining a total of 12 Apple //c's or //e's as donations or at minimal cost to begin our 1985-86 academic year. Seton Centers, Inc. qualifies under the Tax Code 501C as a nonprofit organization and donations qualify as tax deductions. Please contact Tom Worosz during the day at 533-7670 or 978-9598 at night.

For your information, although the Seton Centers are located in parochial schools in Northern Virginia, the organization is non-sectarian and non-discrimnatory in its policies. Its sole source of income is from student tuition and donations. Ten scholarships are awared annually for those students unable to afford this unique service. Seton Centers receive no financial support from the Catholic Diocese of Arlington except the use of classroom facilities at each individual school.

JOB MART

HELP WANTED

Macintosh Development programming expertise, i.e., Unix, Database, Pascal; together with a marketing support background particularly in the VAR/OEM environment. Rockville location, full paid benefits, $50,000+ income package. Start ASAP. Call Dennis Straiter, PCMA, (301) 762-8034.

Local firm seeks a Macintosh C programmer and an Apple][Pascal programmer to work part time converting programs written in Basic. Qualified applicants please call Howard Simkowitz, 829-3121 or 882-4645.

VOLUNTEERS WANTED

Writer doing a book on digitized video (image processing) would like to talk to people with experience in this area. (Your chance for immortality.) Call Eric (703) 749-2412 days, or (301) 762-7145 evenings.

CP/M FOR THE //C: A Review by Michael O'Keefe

After having decided to buy an Apple last September I was faced with a difficult choice, an expandable //e or a complete //c. The //e could be easily expanded with plug in cards but was more expensive fully con- figured (80 column,128K) than the //c (built in 80 column and 128K). After a few weeks of pricing sys- tems I found a deal on a //c that I could not pass up. I felt I had made the right move even though I figured I would never get to run all that CP/M software that //e owners had access to.

Thumbing through a computer magazine six months later I came across an advertisement for a CP/M board for the //c. I read with disbelief and joy that the board fit inside the //c and was only $159. I phoned the same day for more information.

The person at Applied Engineering (the manufacturer of the board) explained how the board was installed and I ordered it. The board arrived about a week earlier than promised, a pleasant surprise. The manual had step-by-step directions for installing the card. The instructions were adequate, however I felt they could have been made easier to understand. Also accompany- ing the directions were several black and white photos but they turned out to be of little use.

The board itself is about two and a half inches square and, including the Z-80, has a chip count of about 6. The installation procedure involves opening the //c case, moving the disc drive aside and disconnecting the keyboard. The 65C02 chip is removed from its socket and connected to the CP/M board which is then plugged into the vacant socket. The entire procedure took about 15 minutes. While it was somewhat unnerv- ing taking apart my //c, the installation was really very simple.

The remaining half of the 20 page manual explains some of the basics of CP/M, although the operating system that is supplied is called CP/AM (product of Applied Engineering). As stated in the manual, I've found that it is completely compatible with genuine CP/M. The System disk comes with some standard utili- ties (PIP,NSWEEP) and a RAMdisc program. The RAMdisc works well and will hold files as long as the power is on.

I now feel like I have two computers in one - I can be working in Applesoft one minute, insert a CP/M disk and be working in Turbo Pascal in a matter of seconds. I find that Turbo edits and compiles as fast as on the Apple ///'s I sometimes use at school.

Overall I feel this is a very sound product and at $159 a very good deal. I would recommend it to any //c owner who wants to be able to take advantage of the great amount of CP/M software out there. ⑤

EDSIG contd. from pg 10
A Crossword produced at the EDSIG meeting using Crossword Magic.

ACROSS CLUES
1. SPECIFIC DEVICES WHICH FORCE WORD S OUT OF LITERAL MEANING
4. INITIAL CONSONANT SOUND IS REPEAT ED
6. "SIZZLING BACON"
8. PATTERN OF STRESSED AND UNSTRESSE D SYLLABLES
9. AUTHOR'S VIEW
12. WORD PLAY
13. NO FIXED RHYME, NO FIXED LINE LEN GTH
15. "CONTRADICT"
18. SAME SOUNDS AT END OF LINES
20. EXPERIENCED BY AUDIENCE
23. EXAGGERATION
24. WORD PICTURES
25. SHAKESPEARE
26. WEDDING RING

DOWN CLUES
1. A METRICAL UNIT
2. "THE BOOK HUGGED THE CORNER OF MY DESK"
3. SIX FEET PER LINE
5. "TOM DID SEE THE BEE SITTING IN T HE TREE"
7. A BIBLICAL REFERENCE
10. EIGHT LINES OF VERSE
11. AN ORDERED SYSTEM OF EXPRESSION I N A COMPRESSED FORM TO COMMUNICAT E IDEAS
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19. A CATEGORY OF VERSE
21. THE HARMONIC RHYTHM (FAST OR SLOW) IN VERSE
22. U[?]

POETRY TERMS

Answers are on Page 20

APPLE /// SIG NEWS
by Charlene Ryan

Update on the Software Status of the Apple ///
OR: What you can do with $604.95 but were afraid to ask...

(Steve Gorman is responsible for most of this information. I just added a word or two, such as phone numbers where I knew them. Thanks Steve for such a wonderous effort.)

Even though the Apple /// is no longer routinely manufactured, the software developers are continuing to improve programs with updates, create new programs, and hardware enhancements.

Word Juggler, Version 2.6.4, comes with Lexicheck, the spelling checker. Catalyst, Version 2.1, includes Discourse, the spooler print buffer. The price of upgrade for each of the above is $30. Mail your original diskette to the following address: Quark Engineering, 2525 West Evans, Suite 220, Denver, CO 80219 (303) 934-2211.

Another source for Catalyst is: The /// Support Service, 2966 Diamond, #433, San Francisco, CA 94131, (415) 239-1318, $135.

Access ///, a self-booting version which can redial busy numbers, act on computer prompts, etc., is available from Ray Wilfinger, 9676 East Lake Seminole Drive, Seminole, FL 22543. Send original diskette with $10.

Business Basic, disassembled version in readable source code text file. Contact Daryl Anderson, 3792 Windover Drive, Hamburg, NY 14075, (716) 648-2462. No mention of price.

C/PM, version 2.21, fixes many bugs in earlier versions. Send a blank diskette and return postage to Gary Fortune, Motioneering, PO Box 444, Rodondo Beach, CA 90277 (free).

The following updates and programs are available from The /// Newsletter (a weekly), annual subscription is $35, 3201 Murchison Way, Carmichael, CA 95608. Public domain programs are also available on the BBS: (916) 929-3879, USERNAME is Sara, and operates from 6 PM to 8 AM, Monday - Thursday, and continuously from Friday, 6 PM, to Monday, 8 AM.

Super Apple Writer ///, the latest version of Apple Writer ///, can use full Apple /// memory, bridges to Apple Speller, 255 column capability, and WPL programs. Send original Apple Writer ///, Version 2.0, diskette with $15.

Business Basic, version 1.2.3, has many fixes over the 1.1 version with no limit to memory. Send original diskette with $10.

Fortran 77 is now available. Must submit your Apple /// Pascal, version 1.0 or greater original diskettes with $35. Code can be linked to Pascal code and assembly language files. Includes manual.

Pascal, version 1.2, send original Pascal 1.1 diskette with $20.

Pascal, version 2.0 compiler. Send original Pascal 1.1 diskette with $20. Manual is included.

Driver Files: includes one to run Apple][Super Serial Card on ///. $10.

Backup /// allows Profile owners who have not received their BACKUP /// disks to have the ability to back up Profile volumes onto floppy disks and restore. (No price mentioned.)

Access ///, a Business Basic program to store your BBS data for the Access /// invokable module, and includes auto-dial. Submit Access /// diskette with $15.

Confidence Program checks the ///'s RAM, disk drives, microprocessors, etc. $10.

Apple /// Service Manual and Dealer Diagnotics Disk, $70. This was written for service personnel, and is therefore technical. The 400 page manual comes in a binder.

/// Public Domain Programs from The /// Newsletter:

Business Basic input module allows you to replace BB INPUT command, includes text UPSHIFT assembly language module.

Business Basic Tools utilities include disk cleaning, string search, and finding and replacing file text. $10.

Fixer allows disks that have been booted into Catalyst to again be booted and used. $10.

Public Domain #1 includes a /// version of ELIZA, the artificial intelligence program that simulates interacting with a psychologist. $10.

Public Domain #2 includes loan amortization and STAR TREK programs, $10.

Public Domain #3 includes EPSON printer, Apple plotter, and MONITOR ROM programs, $10.

New Programs and hardware:

Cap'n Magneto is a game developed for the ///. The premise: The captain is stranded on an unknown planet, and must find his way off. Involves the use of wits, not eye-hand coordination and speed. From POWERTOOLS, 1206 Karen Avenue, Austin, TX 78757, (512) 454-8201. $40.

Fruit Machine is a high-resolution game selling for $15. Mel Astrahan, 11401 Kensington Road, Los Alamitos, CA 90720.

Apple Chomp is a pacman-type game written for the Apple ///, 128K minimum. No joystick required, $10. The Backwoods Software Co, 108 Marie Drive, Downers Grove, IL 60516.

Cursor /// joysticks, $44.95. Mel Astrahan, 11401 Kensington road, Los Alamitos, CA 90720.

For those of us who don't read A+ Magazine because there's nothing in it about Apple ///, the following small piece was there last month: "The Association of Independent Microdealers (AIM) has announced a new promotion called Apple III Is for Me. AIM plans to act as a central clearinghouse for Apple III owners and microcomputer dealers. AIM hopes that the Apple

THE APPLE /// BOOKSHELF
by David Ottalini

When it comes to the printed word, there are very few places Apple /// users can turn for help. Sure, there are the books included with the software we buy. But it only takes a few moments at any local bookstore to know that there's more available for the Kaypro or Osborne than the ///. However, those books that <u>are</u> available are useful and deserve an important place on our bookshelf.

To bring our Apple /// users up to date, I've compiled the following list and reviews of ///-specific books, as well as a taste or two of other books that were at least kind enough to give it more than just a mention.

In beginning, I recommend that all /// users get hold of the latest version of the "Resource Guide for Apple /// and /// Plus Software and Hardware." It's the only free publication we /// users will ever get from Apple. To obtain a copy, write or call Teresa Mitchell. She's (to my best knowledge) the only Apple /// contact left at Apple. She works in the used equipment sales office (make your own judgement on that fact!). The address is mail stop 30-F, 600 E. Hamilton Ave., Campbell, CA 95008, and the phone number is (408)-370-4712. She also handles upgrades for Apple Writer and (I believe) other /// software.

The Resource Guide is your best (and only) real source of information about Apple /// software available up to early 1984. It's impossible to say if all of it is still out there (you could cross-check it with those recent A+ "articles" that purported, "as a public service", to present a list of the "latest" Apple /// software available.)

NOW TO THE REVIEWS

The best (and only) general book on the /// is published by Osborne/McGraw Hill. Appropriately, it's called "The Osborne/McGraw Hill Guide to your Apple ///" and was authored by Stanley M. Miastkowski. The book has a 1983 copyright, so it does not include comments on the ///+. The book is broken into two parts. The first is a beginner's guide to getting the /// up and running properly. There are lots of pictures, and the explanations of how the /// works and how to use it properly are joys for the beginner. It also serves as a good refresher for those of us who have used the machine for a while.

The second, and most important part of the book concerns itself with Business Basic as well as the .Grafix and .Audio Drivers. Other than the more straight-forward Eddie Adamis books, I have yet to find a more useful guide through Business Basic. I consider the book a must for all /// user's libraries, although I think it could stand to be updated a bit to reflect the changes made in the ///+.

That said, there are two other excellent soft-cover texts on Apple /// Business Basic. Both are written by the afore-mentioned Eddie Adamis and published by the Wiley Press. The first is called "Business Basic for the Apple ///". It's touted as the "ideal working introduction and keyboard-side tool" for those wishing to take advantage of "the language's power."

Adamis explains each command word of Business Basic and illustrates it with examples, including some routines that could be included in other programs. The companion text is called "Basic Keywords for the Apple ///" and serves as a dictionary of Business Basic command words. There is only one Basic command word per page, and includes explanation, example and usage. Each book is a must for those /// users serious about programming in Business Basic.

None of the books discussed above bother to go into the differences between Applesoft Basic and Business Basic, something I would have been interested in. Business Basic is a much more powerful version of Basic than Applesoft, but there are a lot more Applesoft programs out there. So it would be great if there had been some expanation of the differences and how to deal with them when trying to convert from one Basic to the other.

There is a utility program available to convert Applesoft Basic to Business Basic (from International Apple Core called "Apple-Con"...cost $10.00). There's also a plug-in card available that allows the /// to go way beyond the limitations of the emulation program (Titan's Three Plus Two card).

For those of you looking for public domain software for the ///, your single source is "How To Get Free Software" by Alfred Glossbrenner. It's another softback published by St. Martins Press. What a super book! I have never seen any single text that so completely details where you can find public domain software for the /// and most other pc's.

Included are discussions about user groups, online database services – just about anything you might think of (or perhaps not!) when it comes to finding free or, at least, inexpensive programs you can use in your computer.

As for specific tutorials to help you better use programs such as VisiCalc, Apple Writer ///, and others, I'm afraid there just aren't many. There is a Van Nostrand book by Alves, Curtin and Briggs called "An Apple Business User's Guide" that provides a tutorial for VisiCalc users on the // and ///. The purchaser can also obtain a disk with the text's templates. There are also more general texts about using VisiCalc. I've even used one, that provides some VisiCalc templates on paper, which I used to plug into my /// Easy Pieces spreadsheet (I understand Haba now has a disk full of templates you can plug into the spreadsheet directly).

I have managed to find an excellent tutorial for Apple Writer /// users. It's fairly new, in fact, and published by Scott, Foresman and Company. Written by Barry and Phyllis Leshowitz, "Apple Writer Tutor" makes sense out of things the Apple Writer manuals did not. You should note, though that this book was written primarily for the Apple // family and manages to include the /// mainly through the use of end notes that describe the differences in the /// version versus the][,][+, and //e (there are few real differences between the Apple // and /// versions). The book covers only the 1.1 version of Apple Writer, by the way.

I like the format used in this book. It's non-technical and easy to read and use, and it has specific reference lists in the back for the /// along with the //. It's worth having.

Steer clear of a new book called "Business Power for

Your Apple" published by Van Nostrand Reinhold. It has a picture of the /// on the front but never mentions the machine once inside.

Van Nostrand has published another text, however, called "Using Apple Business Computers" that deals specifically with the ///. It was written by Kenniston W. Lord, Jr. Mr. Lord is a prolific author, who has written numerous computer books using the same title but simply inserted "IBM", Osborne, Trs-80, etc. in the place of "Apple". The only review of the book I have seen was a very negative one (inCider, October 1984). Mr. Lord has gone to what would seem to be incredible lengths to provide programming specifically for small-business use. But /// Easy Pieces or Visi-Calc would provide essentially the same usefulness without the tired fingers incurred from typing in all those lines of Basic code. I have this one for my library, but yours wouldn't lose much if it weren't there (you'd also save the $20.50 price).

Finally, I will mention that dilithium Press is supposed to have published "AppleWorks and /// EZ Pieces: The Tutorial" this past fall, but I have not personally seen it on the dealer's bookshelves.

That's essentially it for the moment. If any readers know of other books that deal with the ///, I'd appreciate knowing about them. The Apple Pi office, by the way, has only the Osborne Apple /// book on hand. I've requested a new copy of the /// Resource Guide and will donate it once it comes in. &

Apple /// SIG News contd. from pg 15

III Is for Me program will help Apple III users locate products for their computers and that it will help dealers and manufacturers locate potential customers. For further information, contact Ronald A. Wallace, President, Association of Independent Microdealers, 3010 N. Sterling Avenue, Peoria, IL 61614 (309) 685-4843."

Al Lambert is making a vigorous effort to collect public domain software for our Apple /// library. Carl Bowman will assist with booting and documentation and whatever it takes to makes the diskettes nice little packages like they have done with the Apple][diskettes. Surely, we have some unsung heros in our group who have managed to create clever routines that deserve sharing. Now is your chance to get known and get credit. Even if it's not completely perfect, the fact that other people will try it out can entertain ideas to improve it. Now is the time to unload that program with the bug you could never solve. Contact Al Lambert, (301) 589-7534. &

PI SIG NEWS
by
Raymond Hobbs

PI SIG is currently investigating the whys and wherefores of commercial software development. At our May meeting, we took an overview type of look at market research, target buyer, the business plan, application development guidelines, user interfacing, documentation, marketing and distribution. We will look at each of these areas more closely in weeks to come. Among the questions we will be attempting to answer are:

1. Why is documentation generally so poor, and what can be done to make it better?

2. Why does educational software lag so far behind business and game software in terms of utility and adaptibility?

3. Why is the failure rate so high for software developers?

4. What should we as buyers look for in a software product?

5. Who controls the marketplace for software products?

There should be some good information exchanges forthcoming on these topics, and we believe that there's something there for everybody. All WAP members are invited to these meetings (you don't have to be an assembly language programmer to follow what's going on!).

I have received a number of calls on the subject of Music Synthesis (which PI SIG discussed for several months). Quite a few people seemed interested in the possibility of forming a SIG in this area. To the best of my knowledge, there are eight music systems currently in use which are supported by Apple computers. These systems range from about $150 to $2000 for Apples and around $50 if you are using a Mac (which has the synthesizer built in). PI SIG is willing to serve as a temporary "big brother" to a fledgling Music SIG if there is enough interest in forming one. Anybody who wishes info is invited to call me at (301) 490-7484 evenings.

Recent talk indicates that there may be a few unpleasant surprises for those folks who choose to save a few bucks by purchasing a non-Apple 512 upgrade for their Macs - it seems that once the upgrade has been made, Apple doesn't know your board from Adam, and if your board goes down, you have little choice but to buy a new one from Apple (Apple is the only manufacturer of the boards). Another frightening note is that General Computer Company (makers of Hyper-Drive) won't pop their speedster into a 512 homebrew board unless they were the ones that brewed the brew. Similarly, GCC won't touch a MegaMac, which makes the HyperDrive incompatible with the 1024 upgrade from Micrographic Images. A pity, because Micrographic is reputed to do a really great job with ceramic chips which operate as well as or better than the real thing. It's a shame that these companies don't seem to be able to talk to each other (and of course, nobody can talk to Apple). These notes were pulled together from two editorials from MacUnderground.

At this time, I would like to thank Kona Coffee, without whose help this month's articles could not have been written.   ⍥

TELECOM
SIG NEWS
by George Kinal

The Telecommunications SIG meeting which was to have been held on May 25 after the main meeting was more or less preempted by Roger Wagner's unexpected visit and demonstration, which went on well past 1:00 PM. A few SIG members did meet in the cafeteria nonetheless; this article is an attempt to convey some of the information which would otherwise have been given out at the meeting.

The SIG's collection of CP/M communications software disks (primarily, versions of MODEM7/40) is expanding. The Telecom SIG will distribute copies to interested members on the same basis as Disketeria disks (i.e. $5 each), with the proceeds going to WAP. Telecom SIG disk #1 contains MODEM7/40 for the Apple SSC, the CCS 7710, and the SSM (ASIO, AIO), all running under Microsoft and compatible CP/M cards. Telecom SIG disk #2 will contain MODEM7/40 for the Apple Communications card (and clones) modified for 1200/ 300 baud, with Microsoft CP/M; source and .COM code for a Turbo Pascal version of MODEM called PMODEM, set up for the Hayes Micromodem and Microsoft; MODEM7/40 for the Novation AppleCat, again under Microsoft CP/M; and (at last) MODEM7/40 for the 6 MHz Applicard CP/M and the CCS 7710 interface card.

In other news of interest regarding telecommunications, Apple is now advertising software sold by the discount stock brokerage of Charles Schwab. This software allows you to track investments via modem. But what's more, Schwab allows you to enter trading instructions electronically as well. All of this is done via a local telephone number access to a TYMNET node. We are looking for a WAP member who has used this software to tell us more about it. Anyone out there?

About two years ago, the SIG bought a number of Comm. Card clones at a very attractive price on a "minigroup purchase". Now, clones of the Apple Super Serial card are available at roughly the same price (about $60). The SIG will consider a group buy if there is enough interest. For the information of those who want to buy one on their own, the supplier is Memory Plus, 2632 W. Baseline, Mesa AZ 85202. (NOTE: This is provided for information only; it is NOT an endorsement of the supplier or the product!)

A reminder to newer SIG members about the upcoming thunderstorm season. Thunderstorms can cause serious and expensive damage to modems and the associated computers. A power line surge protector does absolutely nothing to protect the telephone line, and the carbon-block lightning protector which you may have (or may not, depending on the local telephone company's whims) on the line is also inadequate. The safest solution is to unplug the modem from the telephone line when not in use. If you must keep it connected, for auto-answer use, a telephone line protector should be inserted. Such protectors vary in cost from $10 to $80, though I believe that the cheaper ones may not be as effective.   ⍥

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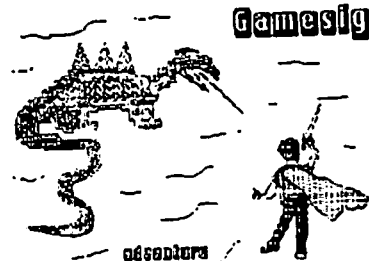
JULY MEETING CHANGE AND THANKS

Since our regular monthly meeting day falls on July 4th and the office is closed, alternative arrangements have been made. The July meeting will be held on Tuesday, July 9, starting at 7:30 p.m. at the office. We will resume the regular "first-Thursday" monthly meetings on Thursday, August 1, beginning at 7:30 p.m. at the office.

Our thanks go to Pryority software for providing WAP with a review copy of their new Macintosh graphics adventure game - GATEWAY. Ray Hakim's comprehensive review is presented below.

Additional thanks goes to Blue Chip Software which sent us copiable sample disks on its finanacial games Squire on the // series and Baron on the Macintosh. They are at the club for your perusal at any time.

GATEWAY:
A Review
by R. S. Hakim

GATEWAY, by Pryority Software, is a text adventure, with pictures for the MacIntosh (including Mac XL).

This story begins with you examining your deceased (?) uncle's shop to determine the value of your inheritance. Upon reading his journal, you come to recognize that your legacy is a peculiar one: a chance to visit another world by traveling through a mysterious gateway, and there to unravel mysteries associated with a spreading evil that is also moving between the worlds.

GATEWAY is an adventure game. Your character searches for items, such as weapons or treasure, accumulates them, and uses them as need be. While, within a section of the game such as the uncle's shop you can visit any area in any order, there is, in fact, a preferred order for your moves . Certain items must be taken immediately or they will disappear, while others can only be acquired, or utilized, after other events have transpired. Some moves are one-directional. For example, once you have moved through the gateway, you can not return to your uncle's shop. The consequences of your actions are not necessarily apparent immediately. Sometimes 50 or more moves occur between an action, such as picking up an unknown item, and an event which depends upon either having picked up the item, or indeed, having avoided the item in the first place. Save this game early and often, and keep the early saved versions available. Otherwise, some of the delayed action traps will have you restarting the game.

Although many adventure commands must be typed, the program uses the mouse for many of the repetitive commands like compass directions, examination of the surroundings, and diagnosis of your health. GATEWAY gives you information in 3 ways. There is a text description after every move. At some places, effective graphics appear, whereupon you can toggle

between a text description or a picture. (Use both, as the picture often will show you things that are not apparent from the text description.) In three places you are purposefully given inadequate descriptions of the location on screen. Instead, you are expected to refer to the 3 full color art prints provided in the game package for a description of items to get or use. (I find this a nice method of copy protection, first used in this company's previous Mac adventure, FORBIDDEN QUEST.) Without the first picture, your character will not go anywhere in this game. The other two pictures complement the text descriptions but are not crucial. In fact the second picture is labelled "Inside Building" but is actually drawn for the location labelled "Greek Building" in the game.

This is an moderately difficult adventure game for players at all levels. However, Mac owners new to adventure games will appreciate the well constructed on-line hint service which you can use whenever you get stuck - You can choose a subtle hint, a substantial hint, or the complete answer. Also, there is a character you meet midway through the adventure which will give you five or six hints if you ask the right questions. Despite these hints, if you are new at this type of game, you should be prepared to be frustrated at times. The parser is adequate. (A parser is that part of the program that recognizes your input and acts upon it. If you type in a command and the parser does not recognize it, or a word in the command, the program will prompt you to try something else. The better the parser, the more playable the game.) While the puzzles are generally logical there are maddening exceptions.

All in all this is an interesting adventure game for the Mac. I'd recommend it to people looking to explore a text and picture adventure. Do not expect the sophisticated parser or puzzles of an Infocom (Zork I, etc.) adventure. ⌘

Answer to Crossword, pg 14

ANSWERS: POETRY TERMS
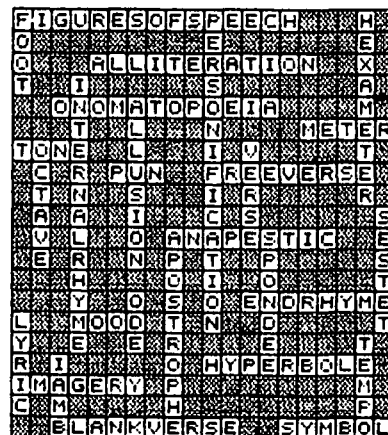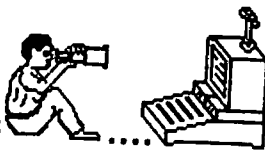
Although I am not a dedicated gamer, once in a while there comes along a game which traps me, and then I get good and hooked. In previous articles, I have reviewed two such games, Castle Wolfenstein (Muse) and Aztec (Datamost). This month I have two more games which roped me in - Pyramid of Peril (Aegis) for the Macintosh and Beyond Castle Wolfenstein (Muse) for the Apple][,][+ and //e. Both are of the action/strategy type - you have a goal to accomplish, a ton of obstacles in your way, your choice of playing strategies, and when you accomplish the goal, the game is over (or when you expire, for that matter).

Beyond Castle Wolfenstein (BCW from now on) picks up where its predecessor left off. You are behind enemy lines somewhere in Germany during WWII, and must enter Nazi headquarters, find a suitcase bomb somewhere in the castle, deliver it to a conference room where the fuhrer is waxing eloquent, and escape. Like Wolfenstein, you must pass through a maze of rooms on several levels, elude guards and SS stormtroopers (or waste them), find a randomly hidden object (the bomb) and escape. In BCW, though, you must also find the fuhrer and deposit the bomb (after setting the fuse, of course) before you escape. You need passes or artillery to go from place to place in the castle, and you may bribe guards for passes (you start off with some money, and may "appropriate" more along the way). If you choose to shoot your way through, every guard in the joint will be alerted and will come after you. On the other hand, you may use commando tactics (a knife) and hide bodies in convenient closets in order to avoid detection. Like Wolfenstein, there are many interesting quirks of the enemy which, once learned, can be exploited to your advantage.

Although it really isn't necessary, the game gets progressively more difficult as you display more skill. Graphics are superb, and audible cues are provided (it helps to know some German). Quite addictive.

Pyramid of Peril is another adventure game, similar to Aztec (which was reviewed a few months ago). You enter a pyramid in Egypt to search for lost treasure, and must elude or fight the ghosts and creepies that inhabit the pyramid. Battles with these creatures takes it toll - you lose strength (in percentage points) if you are bitten, struck or just scared silly. At about 60 percent strength level your next battle is likely to be your last. Fortunately, there are a number of artifacts lying around the pyramid for you to put into your collector's sack, and among these are vessels of a powerful elixer which restoreth your strenght level. Other goodies include jewels, gold, increasingly more effective weapons (you start out with a stick), skulls (which can either help or hinder) and messages left by previous greedy explorers. The messages aren't particularly helpful, but are worth reading for the whimsy packed inside by the package's creators. Battles with creatures is quite active. You use the mouse to position your weapon over the evasive antagonist and click to strike it - and you have to be fast to avoid getting "hit". Otherwise, the game moves along at a moderately relaxed pace. Pull-down menus provide help screens and an inventory of what is in your explorer's sack, as well as maps of all levels. The maps, however, are filled in only to the extent that you have traversed the level represented - you don't get to see a map of anywhere you haven't been.

The most engaging feature of Pyramid is the dual look you get of the pyramid. On the left, you get a first-person view of the pyramid's interior as it looks from where you are standing at the moment, and on the right is an interactive map showing the layout of rooms where you have been previously, your current location and the direction you are facing. Movement is controlled with the mouse, either by selecting movement buttons or by selections from a pull-down movement menu, while the manipulation of your current weapon is directly mouse-controlled.

Graphics are well-done and quite responsive. I found this game to be both fun and habit-forming. Good work, Aegis.

THE LIFE OF THE GAME OF LIFE
by William R. Fry

The Game of Life is not a computer game at all. It is a concept for exploring relationships which seem, in an eerie way, to provide analogies to forces at work in biology, society, and human life cycles. Since it involves calculating relationships of thousands of "cells" over many generations of change, it could not easily be executed before computers, and so it has been explored via computers which do the repititious work and show the sometimes startling and unpredictable results on the screen.

Programming the Game of Life onto a computer is itself a free-form game allowing great variety. The programming of it is quite simple, accessible to novices. Unlike most computer programming, no fixed result is sought, and a Game code can be revised, expanded, extended and churned about in an endless exercise of programmatic experiments and conceptual whimseys. The Game envisions a series of adjacent objects, or cells. Some are randomly invested with "life" at the outset. Whether they survive, or whether dead cells come to life, depends on the conditons surrounding them, i.e., whether adjacent cells are alive or dead. In a single generation, every cell is checked for the condition of surrounding cells. Some die, some survive, and some new cells come into being. As generations progress, patterns of cells emerge, grow, and creep throughout the matrix, perhaps to then die, or merge with others.

One way to handle this on the computer is to create arrays of cells, perhaps one array for each line. A "live" cell is given the value of 1, and a dead cell = 0.

In computer theory there is a similarity between the Game and the Turing machine in which information is derived through a shuttling across adjacent cells of information. If you are a farmer you might think of stocking a fish pond with bass and bluegills, which is the usual stocking pattern. The little ones eat algae and minute animals on the food chain. Then bigger bass eat little blue gills. The blue gills who survive and get big (for blue gills) may eat newborns of either species, and finally the big bass eat all the big blue gills, if they can catch them. Now, how many bass and blue gills are needed to start the stocking? At what proportions will there end up being only bass? It is a game of life, perhaps replicable on a computer simulation.

It is said that rats forced to live below a certain square foot per rat ratio will succumb to depresssion and eat their young. Presumably human living conditions have similar limits on congestion. There is a belief in urban planning that the human limits of congestion foretell when a social cluster will decline, and that there are limits at the opposite end of the scale when too sparse a population.spells decline to zero - that is, humans need some proportion of adjacent humans to thrive, and it can not be too high nor too low.

In biology it is known that the behavior of a cell is determined partly by the configuration of surrounding cells. For example, cells of an immature animal can change functions if they are relocated. A cell from a finger can be implanted among cells of the eye, and will convert from a cell which makes skin to a cell which serves as part of the retina, dictated by what the surrounding cells are up to.

Thus the Game of Life may be a paradigm of functions in the real world, and interest in how it works can derive from life quesitons, as well as interest in the process of the Game itself.

In its simplest form, the Game determines the state of a cell by the surrounding four cells. Imagine an Apple lo-res graphics screen of 40 x 48 cells. At the start, a random number of the cells are alive (shown by being "plotted" or turned on as a rectangle). Looking at the four abutting cells, there are five cells involved. The rule can be set: if the center or subject cell is alive, and 2 or 3 adjacent cells are alive, it continues to live. Otherwise, it dies. If the center cell is dead, and exactly 3 adjacent cells are alive, the center one comes to life. This is the entire set of rules. A "generation" is a sweep through all the cells to determine whether they live or die. Successive generations will show patterns, clusters of living cells, and areas where life has been too sparse to suport the first generation, or to create new life. Even with this simple structure a programmer can play with options. For example, in the random seeding of the first generation, below what percentage will the whole culture die? What is the effect of heavy seeding, say 80% of the cells starting off live? Would fishing in a stocked pond be better if it was originally crammed with bass and bluegills at the start, or is there a natural balance which will always be found provided the initial seeding is sufficient?

Or, what about the cells along the edge of the 40 x 48 matrix? They have little chance to survive since they are missing one of their four possible neighbors. Should the design create a wrap-around as if the screen were a cylinder and the cells on the top row were considered to be neighbors of the cells on the bottom row?

Before looking at how a BASIC program can set up and run the Game, let us consider some of the possible variations and extensions. For one, a cell on an Apple lo-res screen has more than four possible neighbors, measured by touching. There are four cells with common borders, and four more with common corners.

```
-------------------------------
!   A   !   B   !   C   !
-------------------------------
!   D   !   E   !   F   !
-------------------------------
!   G   !   H   !   I   !
-------------------------------
```

With E as the main cell, all the other cells are touching in this two dimensional picture. Imagine converting to three dimensions and you will see that a cube imbedded in a cluster of cubes (imagine the center of a Rubix cube) has 26 adjacent neighbors. The possibilities for complex rules of survival are suddenly astronomical. Consider yet another extension - assign colors to a three dimensional relation of a main cell and 26 neighbors, and create rules not about numbers of live adjacent cells, but number of live-and-a-specified-color cells. Perhaps this Game of Life would begin to approximate the conversion of DNA into real life.

Getting back to a more simple version, here is a program for the two dimensional model above which

looks at the eight adjacent cells to determine survival. For symmetry the program uses only 40 of the 48 rows, so the whole martix is 40 x 40, or 1,600 cells. (The programs was written on an Apple][+.)

```
1   REM :"GAME OF LIFE"
5   HOME: GR: COLOR = 8
8   REM : CREATE ARRAYS ACROSS EVERY LINE
10  DIM A(40,40) : Y = 0
15  FOR X = 0 TO 39
20  A(X,Y) = 0: NEXT X
25  Y = Y + 1: IF Y < 40 GOTO 15
27  REM : CREATE SECOND SET OF ARRAYS
30  DIM B(40,40) : BY = 0
35  FOR BX = 0 TO 39
40  B(BX,BY) = 0 : NEXT BX
45  BY = BY + 1: IF BY < 40 GOTO 35
55  REM : MAKE 200 RANDOM CELLS ALIVE
60  FOR Z = 1 TO 200
65  H = RND (1) * 40 : H = INT (H)
70  V = RND (1) * 40 : V = INT (V)
80  A(H,V) = 1 : NEXT Z
83  REM : DISPLAY THE FIRST GENERATION
85  Y = 0
90  FOR X = 0 TO 39
92  IF A(X,Y) = 1 THEN PLOT X,Y
93  NEXT X
94  Y = Y + 1: IF Y < 40 GOTO 90
100 X = 1 : Y = 1
105 REM : CHECK HOW MANY ADJACENT CELLS ARE ALIVE
110 N = A(X,(Y - 1)) + A(X,(Y + 1)) + A((X - 1),
    (Y - 1)) + A((X - 1),Y) + A((X - 1),(Y + 1)) +
    A((X + 1),(Y - 1)) + A((X + 1),Y) +
    A((X + 1),(Y - 1))
115 REM : IF CELL IN "A" ARRAY IS ALIVE STORE
    RESULT IN "B" ARRAY
120 IF A(X,Y) = 1 AND N = 2 OR N = 3 THEN B(X,Y) =
    1 : GOTO 130
125 IF A(X,Y) = 0 AND N = 3 THEN B(X,Y) = 1 : GOTO
    130
126 B(X,Y) = 0
130 IF B(X,Y) = 1 THEN PLOT X,Y : GOTO 140
135 COLOR = 0 : PLOT X,Y
140 X = X + 1 : IF X = 39 THEN Y = Y + 1 : X = 1
150 COLOR = 8
160 IF Y < 40 GOTO 110
165 Y = 0
170 FOR X = 0 TO 39    •
175 REM: REPLACE OLD "A" GENERATION WITH NEW "B"
    GENERATION
180 A(X,Y) = B(X,Y) : NEXT X
190 Y = Y + 1 : IF Y < 40 GOTO 170
200 REM : REPEAT AS LONG AS DESIRED.  CTRL C TO
    STOP
220 GOTO 100
```

Notice that there are two arrays created - one serves for the just previous generation, and one for the upcoming generation. A cell's survival depends on the last generations's state. Using the above picture of cells, imagine that the main cell, E, is alive, and that of all the neighbors only H is also alive. Now, as the new generation sweeps across the screen, cell A comes to life (because of neighbors, some of which do not appear in the picture). This does not, however, mean that cell E has two live nieghbors and will itself stay alive. Its survival depends on the state of its neighbors in the previous generation, not upon the changing state of its neighbors on the new generation. So, until the whole screen is analyzed, one array keeps the old generation, and another records the evolving new generation.

Those who try the Game of Life have many challenges to consider. First, there is no reason to follow the sample program - other approaches may work better. Second, the sample does not take care that cells on the edge relate to neighbors on the opposite edge. Third, the program provides for no saving of the end

result of each generation. Because the program runs slowly, there is no dramatic sense of the shifts between generations. It would help if the end result of each generation were saved, and the final versions could be shown sequentially on the screen without the painfully slow scanning process. If the program were in machine language or compiled BASIC, maybe the generational swings would be fast enough to observe. Perhaps people could share any improvements in coding, and insights into what this all means. ✍

SAVING HI-RES PICTURES TO THE PRINTER

by Steven Pearce

When Apple Computer put together the Apple][, it did not provide any convenient way to save a hi-res picture to a printer. This probably occurred because early printers did not have graphics capabilities and later ones all handled the problem individually. There were several hi-res screendump programs written for the Paper Tiger printer (which can be found in the WAP disk library) several years ago, but with the availability of commercial programs like Zoom Graphics (copy protected) and graphics printer cards like the Grappler, people seemed to stop writing screendump programs. I have an Imagewriter printer connected to an Apple Super Serial Card (this seems to be a fairly common combination). The SSC is not a dedicated printer card and will not handle screendumps. Rather than replace an expensive card for a graphics card, I wrote a program which will dump any picture on hi-res page one to the printer. The program is written in 6502 assembly language for speed and to make it independent of any language. Because it is language independent, it can be run under Applesoft, Integer, straight machine language, or Apple Pascal (a text version for the UCSD assembly is provided.

I also wanted the program to be independent of the machine language routines on the ROM in the SSC because that firmware occasionally will not pass certain control characters to the printer, and yet any control character (i.e. any 8-bit data) may be part of a screendump. The program is completely relocatable. The choice of ORG $1000 is arbitrary. It keeps the program out of the way of short Applesoft programs. It assumes that a SSC is in slot 1 and that it is attached to an Imagewriter. It also assumes that the dip switches on the printer are set to 9600 baud (the standard factory setting). I will not discuss in detail how the hi-res screen works, since that has already been done (see "Understanding Hi-Res Graphics", Applesauce, vol. 1 no. 7, Oct 1979, and reprinted in Peeking at Call-A.P.P.L.E., vol 3, 1980, p.25-33).

Briefly, you must realize that the Apple][stores each dot on the screen in horizontal bytes, but that the printer wants to print out 8 vertical bits at a time. So the screen will be printed in rows of 8 vertical dots, each row being 280 dots long. Since the Apple does not store each horizontal byte consecutively, the actual address of the byte in memory which corresponds to the seven dots that you see on the screen must be calculated. Fortunately, there is a routine in the Applesoft ROM which will do this. Its name is "HPOSN" and it begins at $F40D. You enter with the Y-coordinate (0-191 on the Y-axis starting from the upper left-hand corner) in the Accumulator and the address of this byte will be found in locations HBASL, HBASH. You then add the byte containing the X-coordinate to get the final addresss of the byte where a particular dot is. Remember that there are 7 dots (bits) for each horizontal byte, and so you will print out seven dots before you move on to the next horizontal byte (the eighth bit is used for color control).

Each vertical line of 8 dots forms one "character" which is sent to the printer. When 280 "characters" have been printed, that row is finished and the program moves down 8 vertical dots to print the next row. Before the first character is printed, the printer is initialized: the ACIA registers on the SSC are reset, then the printer is set to print 16/144

characters/inch (so that vertical lines are connected). I prefer to see the graph centered on the page, so the centering commands are sent, and finally, a better-looking graph is obtained if the printing is done in one direction, rather than bi-directionally. With each new row, the printer must be instructed to print graphics rather than try to interpret each "character" as an ASCII charactaer. This is done with routine NEWLN (lines 197-206). These commands are in the Imagewriter manual.

At the end of the screendump, a software reset is done (this is the same as turning the printer off and on again). Since I prefer to have my zeros slashed, this command is sent to the printer before the program ends.

A few notes about the DOS 3.3 version of the program: line 94 contains a RTS and assumes that the screen dump progam was called from an Applesoft program. If you intend to save the screendump program on a disk and BRUN it by itself, replace the RTS with JMP $3D0 to warmstart DOS. If you want to dump hi-res page 2 instead of page 1, change line 150 to $40 instead of $20. If your SSC is not in slot 1, then you must change lines 14 to 17 to reflect the correct memory locations. This is explained on page 45 in the SSC manual.

A second listing is provided which is specific for the UCSD assembler and allows the program to run under Apple Pascal 1.1 (I'm pretty sure it will run under version 1.2 but I haven't checked). This program must be entered and assembled. It can be used from a calling program if you insert the statement "PROCEDURE GRAFDUMP; EXTERNAL;" in the calling program. Then compile the calling program and LINK it to the GRAFDUMP program. You can RUN this final version. There is one catch: generally, you will want to use this PROCEDURE in a program which also USES TURTLE-GRAPHICS. Pascal will not directly allow you to run a program which USES a unit from SYSTEM.LIBRARY and also declares a procedure to be EXTERNAL (it gets confused as to where it should look for code file subroutines). The problem is solved by making PROCEDURE GRAFDUMP an intrinsic UNIT (I call mine GRAFSTUFF) in SYSTEM. LIBRARY. Any calling program will then contain the statement "USES TURTLEGRAPHICS, GRAFSTUFF". A listing of the UNIT GRAFSTUFF is also provided. Note that the SSC must be in slot 1 (that is where Pascal expects a printer card).

The program is pretty well commented and hopefully the logic will be easy to follow. Interested Pi members may want to expand it to allow for double-size and inverse hi-res dumps.

```
1   ************************************************
2   *                                              *
3   *          HIRES GRAPHICS DUMP FOR             *
4   *          IMAGEWRITER PRINTER                 *
5   *               AND                            *
6   *          APPLE SUPER SERIAL CARD             *
7   *                                              *
8   *      WRITTEN APRIL, 1985 BY STEVE PEARCE     *
9   *          BIG MAC.LC ASSEMBLER                *
10  *                                              *
11  ************************************************
12  *
13  * ASSUME SUP. SERIAL CARD (ACIA) IS IN SLOT #1.
14  CONTROL  EQU  $C098   ;ACIA CONTROL REGISTER
15  COMMAND  EQU  $C09A   ;ACIA COMMAND REGISTER
16  STATUS   EQU  $C099   ;ACIA STATUS REGISTER
17  RWREG    EQU  $C098   ;ACIA READ/WRITE REGISTER.
18  HBASL    EQU  $26     ;LO-BYTE OF VERTICAL ADDRESS
19  HBASH    EQU  $27     ;HI-BYTE OF VERTICAL ADDRESS
20  ************************************************
                21         ORG  $1000
1000: A9 0B     22         LDA  #$0B    ;RESET THE ACIA COMMAND REG.
1002: 8D 9A C0  23         STA  COMMAND
1005: A9 1E     24         LDA  #$1E    ;SET CONTROL REG TO 9600 BAUD
1007: 8D 98 C0  25         STA  CONTROL ;NO PARITY, 1 STOP BIT.
100A: A9 8D     26         LDA  #$8D    ;FLUSH PRINT BUFFER
100C: 20 26 11  27         JSR  SNDCHR  ;WITH A CR.
100F: A2 00     28         LDX  #0
1011: BD 10 10  29  LOOP1  LDA  SETUP,X ;SET UP PRINTER FOR VERTICAL
1014: F0 16     30         BEQ  MORE1   ;SPACING OF 16/144 INCH -->
1016: 20 26 11  31         JSR  SNDCHR  ;"ESC T 16" --> $1B,$54,$31,$36.
                32  * CENTER OUTPUT ON PAGE BY SETTING LEFT MARGIN TO 23 -->
                33  *          "ESC L 023" --> $1B,$4C,$30,$32,$33.
1019: E8        34         INX
                35  * ALSO MAKE PRINTING UNIDIRECTIONAL FOR BETTER-LOOKING
                36  * VERTICAL LINES --> "ESC >" --> $1B,$3E.
101A: 4C 11 10  37         JMP  LOOP1
101D: 1B 54 31
1020: 36 8D 1B
1023: 4C 30 32
1026: 33 8D 1B
1029: 3E 00     38  SETUP  HEX  1B,54,31,36,8D,1B,4C,30,32,33,8D,1B,3E,00
102B: 08        39         CLD          ;SET ALL ADDITIONS TO BINARY.
102C: 20 5C 11  40  MORE1  JSR  NEWLN   ;SET UP EACH LINE OF GRAPHICS.
                41  *
102F: 20 17 11  42  LOOP2  JSR  ADDRESS ;GET ADDRESS OF THIS BYTE.
1032: AE 78 11  43         LDX  XSAVE   ;RETRIEVE X-REG CONTENTS.
1035: 20 3D 11  44         JSR  GETBIT  ;ISOLATE EACH BIT OF
                45  *                    ;THIS BYTE.
1038: EE 79 11  46         INC  TEMP1   ;MOVE DOWN ONE DOT ON
103B: EE 75 11  47         INC  VERT    ;Y-AXIS.
103E: AD 79 11  48         LDA  TEMP1   ;DONE 8 VERTICAL BITS?
1041: C9 08     49         CMP  #8
1043: F0 03     50         BEQ  MORE2   ;YES - PRINT THEM.
1045: 4C 2F 10  51         JMP  LOOP2   ;NO - GET ANOTHER VERT BIT.
1048: AD 76 11  52  MORE2  LDA  CH      ;FINALLY HAVE 8 VERTICAL BITS.
104B: 20 26 11  53         JSR  SNDCHR  ;IN LOCATION CH; PRINT IT.
104E: A9 00     54         LDA  #0      ;NOW CLEAR CH.
1050: 8D 76 11  55         STA  CH
1053: 8D 79 11  56         STA  TEMP1   ;CLEAR TEMP1 (VERTICAL
                57  *                    ;8-BIT COUNTER).
1056: AD 77 11  58         LDA  COUNTER ;RESTORE VERT TO VALUE
1059: 8D 75 11  59         STA  VERT    ;IN COUNTER.
105C: EE 78 11  60         INC  XSAVE   ;INCREMENT XSAVE TO GET NEXT
                61  *                    ;HORIZONTAL BIT.
105F: AD 78 11  62         LDA  XSAVE   ;DID WE GET ALL 7 HORIZ BITS
1062: C9 07     63         CMP  #7      ;IN THE HORIZ BYTE?
1064: D0 C9     64         BNE  LOOP2   ;NO, SO CONTINUE WITH
                65  *                    ;THIS HORIZONTAL BYTE.
1066: A9 00     66         LDA  #0      ;YES, SO SET XSAVE BACK
1068: 8D 78 11  67         STA  XSAVE   ;TO ZERO.
106B: AD 77 11  68         LDA  COUNTER ;RESTORE VERT TO VALUE
106E: 8D 75 11  69         STA  VERT    ;HELD IN COUNTER.
1071: EE 74 11  70         INC  XHOLD   ;INCREMENT XHOLD TO GET NEXT.
1074: AD 74 11  71         LDA  XHOLD   ;HORIZ BYTE.
1077: AD 74 11  72         LDA  XHOLD   ;HAVE WE DONE ALL
107A: C9 28     73         CMP  #$28    ;40 HORIZ BYTES? (40=$28)
107C: D0 B0     74         BNE  LOOP2   ;NO, BACK TO GET NEXT HORIZ BYTE.
107E: A9 00     75         LDA  #0      ;YES - FINISHED WITH THIS
                76  *                    ;HORIZONTAL LINE.
1080: 8D 74 11  77         STA  XHOLD   ;CLEAR XHOLD FOR NEXT HORIZ LINE.
1083: 18        78         CLC
1084: A9 08     79         LDA  #8      ;INCREMENT COUNTER BY 8 TO GET
1086: 6D 77 11  80         ADC  COUNTER ;NEXT HORIZ LINE -
1089: C9 C0     81         CMP  #$C0    ;HAVE WE DONE 192 VERTICAL DOTS?
                82  *                    ;(192 = $C0)
108B: F0 09     83         BEQ  END     ;YES - FINISHED WITH DUMP.
108D: 8D 77 11  84         STA  COUNTER ;NOT FINISHED, SO RESTORE VERT
1090: 8D 75 11  85         STA  VERT    ;FROM NEW VALUE IN COUNTER.
1093: 4C 2C 10  86         JMP  MORE1   ;AND START NEXT HORIZ LINE.
1096: A2 00     87  END    LDX  #0      ;DO A SOFTWARE RESET OF
1098: BD A7 10  88  LOOP5  LDA  STRING2,X ;PRINTER --> "ESC c".
109B: C9 FF     89         CMP  #$FF    ;STRING DELIMITER IS $FF.
109D: F0 07     90         BEQ  RTN3
109F: 20 26 11  91         JSR  SNDCHR  ;SET PRINTER TO PRINT
10A2: E8        92         INX          ;SLASHED ZEROS.
10A3: 4C 98 10  93         JMP  LOOP5
10A6: 60        94  RTN3   RTS          ;RETURN TO CALLING PROGRAM.
10A7: 1B 63 80
10AA: 1B 44 01
10AD: 8D 1B 5A
10B0: 07 00 80
10B3: FF        95  STRING2 HEX 1B,63,80,1B,44,01,8D,1B,5A,07,00,80,FF
                96  ************************************************
                97  * HPOSN SUBROUTINE IS RIGHT OUT OF THE APPLE MONITOR, STARTING
                98  * AT $F400.
10B4: 8D 11 11  99  HPOSN  STA  YO      ;ENTER WITH Y IN A-REG.
10B7: 48        100        PHA
10B8: 29 C0     101        AND  #$C0
10BA: 85 26     102        STA  HBASL   ;FOR Y-COORD=00ABCDEF
10BC: 4A        103        LSR          ;CALCULATES BASE ADDR
10BD: 4A        104        LSR          ;IN HBASL, HBASH FOR
10BE: 05 26     105        ORA  HBASL   ;ACCESSING SCREEN MEMORY
10C0: 85 26     106        STA  HBASL   ;VIA (HBASL),Y
10C2: 68        107        PLA          ;ADDRESSING MODE.
10C3: 85 27     108        STA  HBASH
10C5: 0A        109        ASL          ;CALCULATES
10C6: 0A        110        ASL          ;HBASH=PPPFGHCD,
10C7: 0A        111        ASL          ;HBASL=EABAB000.
10C8: 26 27     112        ROL  HBASH
10CA: 0A        113        ASL          ;WHERE PPP=001 FOR $2000
10CB: 26 27     114        ROL  HBASH   ;SCREEN MEM RANGE AND
10CD: 0A        115        ASL          ;PPP=010 FOR $4000-7FFF
10CE: 66 26     116        ROR  HBASL
10D0: A5 27     117        LDA  HBASH
10D2: 29 1F     118        AND  #$1F
10D4: 0D 14 11  119        ORA  KPAG
10D7: 85 27     120        STA  HBASH
10D9: 8A        121        TXA
10DA: C0 00     122        CPY  #0      ;DIVIDE XO BY 7 FOR
10DC: F0 05     123        BEQ  HPOSN2  ;INDEX FROM BASE ADR
10DE: A0 23     124        LDY  #$23    ;(QUOTIENT) AND BIT
10E0: 69 04     125        ADC  #4      ;WITHIN SCREEN MEM BYTE
10E2: C8        126  HPOSN1 INY         ;(MASK SPEC'D BY REM'DR.)
10E3: E9 07     127  HPOSN2 SBC  #7     ;SUBTRACT OUT SEVENS.
10E5: B0 FB     128        BCS  HPOSN1
10E7: 8C 13 11  129        STY  KNDX    ;WORKS FOR XO FROM
10EA: AA        130        TAX          ;0 TO 279, LOW-ORDER
10EB: BD 11 10  131        LDA  MSKTBL-$F9,X ;BYTE IN X-REG, HIGH
10EE: 8D 15 11  132        STA  HMASK   ;IN Y-REG ON ENTRY.
10F1: 98        133        TYA
10F2: 4A        134        LSR
10F3: AD 12 11  135        LDA  KCOLOR  ;IF ON ODD BYTE (CARRY SET)
10F6: 8D 16 11  136        STA  HCOLOR1 ;THEN ROTATE (*)
10F9: B0 01     137        BCS  CSHFT2  ;BIT ROT 180 DEGREE SHIFT
10FB: 60        138        RTS          ;PRIOR TO COPY TO (*).
10FC: 0A        139  CSHFT2 ASL         ;ROTATE LOW-ORDER
10FD: C9 C0     140        CMP  #$C0    ;7 BITS OF HCOLOR1
10FF: 10 08     141        BPL  RTS1    ;ONE BIT POSN.
1101: AD 16 11  142        LDA  HCOLOR1
1104: 49 7F     143        EOR  #$7F    ;XXTXYXYX -> ZYXYXYXY
1106: 8D 16 11  144        STA  HCOLOR1
1109: 60        145  RTS1   RTS
110A: 81 82 84
110D: 88 90 A0
1110: C0        146  MSKTBL HEX 81,82,84,88,90,A0,C0
1111: 00        147  YO     HEX 00
1112: 00        148  HCOLOR HEX 00
1113: 00        149  HNDX   HEX 00
1114: 20        150  HPAG   HEX 20      ;HPAG=20 FOR HIRES PAGE ONE.
1115: 00        151  HMASK  HEX 00
1116: 00        152  HCOLOR1 HEX 00
                153  ************************************************
1117: AD 75 11  154  ADDRESS LDA VERT   ;FIND ADDRESS CORRESPONDING
111A: 20 B4 10  155        JSR  HPOSN   ;TO Y-AXIS LOCATION (0-191).
111D: 18        156        CLC
111E: A5 26     157        LDA  HBASL   ;NOW ADD X-COORD BYTE (0-39)
1120: 6D 74 11  158        ADC  XHOLD   ;TO GET FINAL ADDRESS OF BYTE.
1123: 85 26     159        STA  HBASL   ;FINAL COMPUTED ADDRESS IS
                160  *                    ;IS HBASL, HBASH.
1125: 60        161        RTS
                162  ************************************************
1126: 48        163  SNDCHR PHA         ;PUSH CHAR ONTO
                164  *                    ;STACK TEMPORARILY.
1127: AD 99 C0  165  LOOP3  LDA STATUS  ;GET STATUS REGISTER.
112A: 48        166        PHA          ;STORE IT ON STACK ALSO.
112B: 29 10     167        AND  #$10    ;IS XMIT REGISTER EMPTY?
                168  *                    ;($10=EMPTY, $00=NOT EMPTY).
112D: D0 04     169        BNE  BUFFCK  ;IS EMPTY, SO CHECK
                170  *                    ;PRINTER BUFFER.
112F: 68        171        PLA          ;NOT EMPTY, SO RESTORE STACK AND
1130: 4C 27 11  172        JMP  LOOP3   ;LOOP BACK.
1133: 68        173  BUFFCK PLA         ;GET STATUS REGISTER BACK
                174  *                    ;FROM STACK.
1134: 29 40     175        AND  #$40    ;IS PRINTER BUFFER FULL?
                176  *                    ;($40=FULL, $00=NOT FULL).
1136: D0 EF     177        BNE  LOOP3   ;YES, IT'S FULL, SO LOOP BACK.
1138: 68        178        PLA          ;NOT FULL, SO GET CHAR FROM STACK
1139: 8D 98 C0  179        STA  RWREG   ;AND SEND IT TO THE PRINTER.
113C: 60        180        RTS          ;BACK TO CALLING ROUTINE.
                181  ************************************************
                182  * X-REG DETERMINES WHICH BIT OF THE BYTE WE SELECT.
113D: A0 00     183  GETBIT LDY #0
113F: B1 26     184        LDA  (HBASL),Y ;ISOLATE INDIVIDUAL BIT OF
1141: 3D 54 11  185        AND  MASK,X  ;BYTE WITH MASK,X.
1144: F0 0D     186        BEQ  RTN2    ;IF BIT=0, THEN DON'T ADD
                187  *                    ;IT TO CH.
1146: AC 79 11  188        LDY  TEMP1   ;IF BIT=1, THEN ADD TO
                189  *                    ;APPROPRIATE BIT POSITION
1149: B9 54 11  190        LDA  MASK,Y  ;OF CH (DEPENDS ON VALUE IN
114C: 18        191        CLC          ;TEMP1).
114D: 6D 76 11  192        ADC  CH
1150: 8D 76 11  193        STA  CH      ;STORE NEW VALUE FOR CH IN CH.
1153: 60        194  RTN2   RTS         ;RETURN TO CALLING ROUTINE.
1154: 01 02 04
1157: 08 10 20
115A: 40 80     195  MASK   HEX 01,02,04,08,10,20,40,80
                196  ************************************************
115C: A2 00     197  NEWLN  LDX #0      ;SEND CR AND LF, THEN SETUP
115E: BD 6B 11  198  LOOP4  LDA STRING1,X ;EACH LINE FOR GRAPHICS -
1161: F0 07     199        BEQ  RTN1    ;"ESC G" = $1B,$47.
1163: 20 26 11  200        JSR  SNDCHR  ;"280" = # DOTS PER LINE.
1166: E8        201        INX
1167: 4C 5E 11  202        JMP  LOOP4
116A: 60        203  RTN1   RTS
116B: 8D 8A 1B
116E: 47        204  STRING1 HEX 8D,8A,1B,47
116F: 30 32 38
1172: 30        205        ASC  '0280'
1173: 00        206        HEX  00
                207  ************************************************
1174: 00        208  XHOLD  HEX 00
1175: 00        209  VERT   HEX 00
1176: 00        210  CH     HEX 00
1177: 00        211  COUNTER HEX 00
1178: 00        212  XSAVE  HEX 00
1179: 00        213  TEMP1  HEX 00

--END ASSEMBLY--

ERRORS: 0

378 BYTES
```

contd.

```
;          HIRES GRAPHICS DUMP FOR IMAGEWRITER PRINTER
;                 AND APPLE SUPER SERIAL CARD
;          (PASCAL 1.1 VERSION) WRITTEN APRIL 1985 BY STEVE PEARCE
;
;          THIS PROGRAM SHOULD BE ASSEMBLED AND THEN LINKED (USING
; THE LINKER) TO A CALLING PROGRAM.  THE CALLING PROGRAM SHOULD HAVE THE
; STATEMENT "PROCEDURE GRAFDUMP;  EXTERNAL;" SOMEWHERE IN IT.  ALTERNATIVELY,
; THIS PROGRAM CAN BE ASSEMBLED AND STORED IN SYSTEM LIBRARY UNDER SOME
; UNITNAME AND THEN THE CALLING PROGRAM WILL DECLARE "USES UNITNAME".  THEN
; GRAFDUMP WILL BECOME A PREVIOUSLY DECLARED PROCEDURE TO THE CALLING PROGRAM.
; DO IT THIS WAY IF YOU WANT TO USE TURTLEGRAPHICS IN THE CALLING PROGRAM.


             .MACRO  POP
             PLA
             STA     %1
             PLA
             STA     %1+1
             .ENDM

CONTROL      .EQU    0C09B           ;ACIA CONTROL REGISTER
COMMAND      .EQU    0C09A           ;ACIA COMMAND REGISTER
STATUS       .EQU    0C099           ;ACIA STATUS REGISTER
RWREG        .EQU    0C098           ;ACIA READ/WRITE REGISTER
HBASL        .EQU    26              ;LO-BYTE OF VERTICAL ADDRESS
HBASH        .EQU    27              ;HI-BYTE OF VERTICAL ADDRESS
RETURN       .EQU    0               ;PASCAL RETURN ADDRESS


             .PROC   GRAFDUMP

             POP     RETURN
             LDA     #0B             ;RESET THE ACIA COMMAND REGISTER
             STA     COMMAND
             LDA     #1E             ;SET CONTROL TO 9600 BAUD, 0 PARITY,1 STOP BIT
             STA     CONTROL
             LDA     #8D             ;FLUSH PRINT BUFFER
             JSR     SNDCHR          ;WITH A CR
             LDX     #0
LOOP1        LDA     SETUP,X         ;SET UP PRINTER FOR VERTICAL SPACING
             BEQ     MORE1           ;OF 16/144 INCH -->
             JSR     SNDCHR          ;"ESC T 16"

; CENTER OUTPUT ON PAGE BY SETTING LEFT MARGIN TO 23 --> "ESC L 027"
; MAKE PRINTING UNIDIRECTIONAL FOR BETTER-LOOKING VERTICAL LINES -->
; "ESC )" --> $1B,$3E.

             INX
             JMP     LOOP1
SETUP        .BYTE   1B
             .BYTE   54
             .BYTE   31
             .BYTE   36
             .BYTE   8D
             .BYTE   1B
             .BYTE   4C
             .BYTE   30
             .BYTE   32
             .BYTE   33
             .BYTE   8D
             .BYTE   1B
             .BYTE   3E
             .BYTE   00

             CLD                     ;SET ALL ADDITIONS TO DECIMAL
MORE1        JSR     NEWLN           ;SET UP EACH LINE OF GRAPHICS
LOOP2        JSR     ADDRESS         ;GET ADDRESS OF THIS BYTE
             LDX     XSAVE           ;RETRIEVE X-REG CONTENTS
             JSR     GETBIT          ;ISOLATE EACH BIT OF THIS BYTE
             INC     TEMP1           ;MOVE DOWN ONE DOT ON


             INC     VERT            ;Y-AXIS
             LDA     TEMP1           ;DONE 8 VERTICAL BITS?
             CMP     #8
             BEQ     MORE2           ;YES - PRINT THEM
             JMP     LOOP2           ;NO - GET ANOTHER VERT BIT
MORE2        LDA     CH              ;FINALLY HAVE 8 VERTICAL BITS
             JSR     SNDCHR          ;IN LOCATION CH.  PRINT IT.
             LDA     #0              ;NOW CLEAR CH.
             STA     CH
             STA     TEMP1           ;CLEAR TEMP1 (VERTICAL 8-BIT COUNTER)
             LDA     COUNTER         ;RESTORE VERT TO VALUE
             STA     VERT            ;IN COUNTER.
             INC     XSAVE           ;INCREMENT XSAVE TO GET NEXT
             LDA     XSAVE           ;HORIZONTAL BIT.  DID WE GET ALL 7 HORIZ
             CMP     #7              ;BITS IN THE HORIZ BYTE?
             BNE     LOOP2           ;NO, SO CONTINUE WITH THIS HORIZ BYTE
             LDA     #0              ;YES, SO SET XSAVE BACK TO ZERO
             STA     XSAVE
             LDA     COUNTER         ;RESTORE VERT TO VALUE
             STA     VERT            ;HELD IN COUNTER
             INC     XHOLD           ;INCREMENT XHOLD TO GET NEXT
             LDA     XHOLD           ;HORIZ BYTE  HAVE WE DONE ALL 40
             CMP     #28             ;HORIZ BYTES?  (40=$28)
             BNE     LOOP2           ;NO, BACK TO GET NEXT HORIZ BYTE
             LDA     #0              ;YES - FINISHED WITH THIS HORIZ LINE.
             STA     XHOLD           ;CLEAR XHOLD FOR NEXT HORIZ LINE
             CLC
             LDA     #8              ;INCREMENT COUNTER BY 8 TO GET
             ADC     COUNTER         ;NEXT HORIZ LINE
             CMP     #0C0            ;HAVE WE DONE 192 VERTICAL DOTS?
             BEQ     END             ;YES, FINISHED WITH DUMP
             STA     COUNTER         ;NOT FINISHED, SO RESTORE VERT
             STA     VERT            ;FROM NEW VALUE IN COUNTER
             JMP     MORE1           ;AND START NEXT HORIZ LINE
END          LDX     #0              ;DO A SOFTWARE RESET OF
LOOP5        LDA     STRING2,X       ;PRINTER --> "ESC c"
             CMP     #0FF            ;STRING DELIMITER IS $FF
             BEQ     RTN3
             JSR     SNDCHR          ;SET PRINTER TO PRINT SLASHED
             INX                     ;ZEROS.
             JMP     LOOP5

RTN3         LDA     RETURN+1        ;PUT RETURN ADDRESS BACK ONTO
             PHA                     ;STACK FOR PASCAL CALLING PROGRAM.
             LDA     RETURN
             PHA                     ;END OF PROCEDURE GRAFDUMP.
             RTS                     ;RETURN TO PASCAL CALLING PROGRAM.

STRING2 .BYTE   1B
        .BYTE   63
        .BYTE   8D
        .BYTE   1B
        .BYTE   44
        .BYTE   01
        .BYTE   8D
        .BYTE   1B
        .BYTE   5A
        .BYTE   07
        .BYTE   00
        .BYTE   8D
        .BYTE   0FF

HPOSN   STA     Y0              ;ENTER WITH Y IN A-REG
        PHA
        AND     #0C0
        STA     HBASL
        LSR     A
        LSR     A
        ORA     HBASL
        STA     HBASL
```

contd.

```
        PLA
        STA     HBASH
        ASL     A
        ASL     A
        ASL     A
        ROL     HBASH
        ASL     A
        ROL     HBASH
        ASL     A
        ROR     HBASL
        LDA     HBASH
        AND     #1F
        ORA     HPAG
        STA     HBASH
        TXA
        CPY     #0
        BEQ     HPOSN2
        LDY     #23
        ADC     #4
HPOSN1  INY
HPOSN2  SBC     #7
        BCS     HPOSN1
        STY     HNDX
        TAX
        LDA     MSKTBL-0F9,X
        STA     HMASK
        TYA
        LSR     A
        LDA     HCOLOR
        STA     HCOLOR1
        BCS     CSHFT2
        RTS
CSHFT2  ASL     A
        CMP     #0C0
        BPL     RTS1
        LDA     HCOLOR1
        EOR     #07F
        STA     HCOLOR1
RTS1    RTS


MSKTBL  .BYTE   81
        .BYTE   82
        .BYTE   84
        .BYTE   88
        .BYTE   90
        .BYTE   0A0
        .BYTE   0C0
Y0      .BYTE   00
HCOLOR  .BYTE   00
HNDX    .BYTE   00
HPAG    .BYTE   20          ;HPAG = 20 FOR HIRES PAGE ONE
HMASK   .BYTE   00
HCOLOR1 .BYTE   00


ADDRESS LDA     VERT        ;FIND ADDRESS CORRESPONDING
        JSR     HPOSN       ;TO Y-AXIS LOCATION (0-191)
        CLC
        LDA     HBASL       ;NOW ADD X-COORD BYTE (0-39)
        ADC     XHOLD       ;TO GET FINAL ADDRESS OF BYTE.
        STA     HBASL       ;FINAL COMPUTED ADDRESS IS IN HBASL, HBASH.
        RTS


SNDCHR  PHA                 ;PUSH CHAR ONTO STACK TEMPORARILY
LOOP3   LDA     STATUS      ;GET STATUS REGISTER.
        PHA                 ;STORE IT ON STACK ALSO.
        AND     #10         ;IS XMIT REGISTER EMPTY?
```

```
{$S+}
UNIT GRAFSTUFF; INTRINSIC CODE 24;

INTERFACE
PROCEDURE GRAFDUMP;

IMPLEMENTATION
PROCEDURE GRAFDUMP;      EXTERNAL;

BEGIN
END.

{FIRST, ASSEMBLE.PROC GRAFDUMP AND SAVE IT
AS GRAF.ASM.TEXT & CODE.  NEXT, COMPILE THE
ABOVE UNIT GRAFSTUFF AND LINK IT EXPLICITLY
(USING THE LINKER) TO CREATE A NEW FILE
GRAFSTUFF.CODE WHICH HAS THE COMPILED UNIT
AND THE ASSEMBLED PROGRAM (GRAF.ASM.CODE)
LINKED TOGETHER.  NEXT, EXECUTE "LIBRARY.
CODE " ON APPLE3: AND INSERT THE FILE
GRAFSTUFF.CODE INTO ONE OF THE LIBRARY
SLOTS.  CALL YOUR OUTPUT FILE "NEW.LIBRARY".
NEXT, ENTER THE FILER, DELETE THE OLD
"SYSTEM.LIBRARY" AND CHANGE YOUR "NEW.
LIBRARY" FILE TO "SYSTEM.LIBRARY".  IF USING
PASCAL 1.1 (AS OPPOSED TO VERSION 1.2), DO A
COLD RESTART OF THE SYSTEM (USE THE "H"
OPTION AT THE COMMAND LEVEL) TO GET THE NEW
VERSION OF SYSTEM.LIBRARY INTO MEMORY.  FROM
NOW ON, ANY FILE WHICH "USES GRAFSTUFF"
SHOULD RUN OK.}
```

```
                            ($10=EMPTY, $00=NOT EMPTY)
        BNE     BUFFCK      ;IS EMPTY, SO CHECK PRINTER BUFFER.
        PLA                 ;NOT EMPTY, SO RESTORE STACK AND
        JMP     LOOP3       ;LOOP BACK.
BUFFCK  PLA                 ;GET STATUS REGISTER BACK FROM STACK.
        AND     #40         ;IS PRINTER BUFFER FULL?
                            ($40=FULL, $00=NOT FULL).
        BNE     LOOP3       ;YES, IT'S FULL, SO LOOP BACK.
        PLA                 ;NOT FULL, SO GET CHAR FROM STACK
        STA     RWREG       ;AND SEND IT TO PRINTER.
        RTS                 ;BACK TO CALLING ROUTINE.

; X-REG DETERMINES WHICH BIT OF THE BYTE WE SELECT.
GETBIT  LDY     #0
        LDA     (HBASL),Y   ;ISOLATE INDIVIDUAL BIT OF
        AND     MASK,X      ;BYTE WITH MASK,X.
        BEQ     RTN2        ;IF BIT=0, THEN DON'T ADD IT TO CH.
        LDY     TEMP1       ;IF BIT=1,
                            THEN ADD TO APPROPRIATE BIT POSITION
        LDA     MASK,Y      ;OF CH (DEPENDS ON VALUE STORED IN TEMP1).
        CLC
        ADC     CH
        STA     CH          ;STORE NEW VALUE FOR CH IN CH.
RTN2    RTS                 ;RETURN TO CALLING ROUTINE.

MASK    .BYTE   01
        .BYTE   02
        .BYTE   04
        .BYTE   08
        .BYTE   10
        .BYTE   20
        .BYTE   40
        .BYTE   88

NEWLN   LDX     #0
LOOP4   LDA     STRING1,X   ;SEND CR AND LF, THEN SET UP
        BEQ     RTN1        ;EACH LINE FOR GRAPHICS -
        JSR     SNDCHR      ;"ESC G" = $1B, $47.
        INX                 ;"0280" = # OF DOTS PER LINE.
        JMP     LOOP4
RTN1    RTS

STRING1 .BYTE   8D
        .BYTE   8A
        .BYTE   1B
        .BYTE   47
        .BYTE   30
        .BYTE   32
        .BYTE   38
        .BYTE   30
        .BYTE   00


XHOLD   .BYTE   00
VERT    .BYTE   00
CH      .BYTE   00
COUNTER .BYTE   00
XSAVE   .BYTE   00
TEMP1   .BYTE   00

        .END                ;END OF ASSEMBLY LISTING.
```

I AM WHAT I AM... AND WHAT I AM, I AM

by John A. Love III

In the December 1983 issue of Washington Apple Pi, Dr. Charlie Brown presented his program entitled "User-Defined Programmable Function Keys". This program allowed the user to build his or her own Macro table. Each Macro was accessed by typing a "Ctrl-F" plus the Macro key itself. For example :

```
"CTRL-F" + "O" = PRINT CHR$(13) + CHR$(4) ; "OPEN
   FILENAME" <cr>
```

In the above article, Dr. Brown presented his Applesoft Driver which allowed the user, via monitor screen prompts, to define his unique set of Macros. These Macros, both the Macro keys and their associated Function definitions, were tacked onto the end of a Binary Code that Dr. Brown also presented. Subsequently, this Binary Code was meant to stand alone; that is, when this Code was BRUNned, your Macros became instantly available.

Since I was relatively new to Assembly Language at the time, I accepted Charlie's utility as a challenge because ONLY the Binary Code was presented. I disassembled this Code and presented it in my June 1984 article in the Washington Apple Pi Journal.

Towards the end of my June 84 article, I promised certain key changes to Charlie's utility, among them being :

1) Conversion of the "GET" commands in the Applesoft Driver to "INPUT (anything)". In this manner, I maintain the error-correcting capabilities of INPUT and the input-of-anything (commas, colons, etc.) capabilities of GET.

2) The capability to NOT display the actual command and displaying ONLY the result of executing the command. For example, NOT displaying

```
PRINT "A" <cr>
```

but displaying just

```
A
```

3) In Dr. Brown's utility, "ESCape" negates the efficacy of the user's Macros and "RESET" re-installs them. As I mentioned in June 84, "ESCape" is widely used by word processors and other editors. Therefore, I proposed changing "ESCape" to some other key.

Since last June I have thought of some more changes and/or additions :

4) The capability of using imbedded Macros, that is, one Macro calling another.

5) The use of totally re-locatable Assembly Code so that the Applesoft Driver can move the resulting stand-alone Binary Code anywhere the user chooses.

I have provided the WAP Library with the resulting two-part Code ALONG WITH some other "goodies" :

1) My previously published "LIST Formatter" for BASIC Code.

2) My previously published Menu-driven Machine Code Editor for those folks without an Assembler.

3) My previously presented Binary <--> HEX <--> Decimal number converter via the Ampersand Vector.

4) My previously published "NIFTY" utility that included resurrecting DELETEd files.

All this on ONE disk -- folks, you simply cannot afford to pass up this one!!

Well, enough of the commercial. In the process of adding to Charlie's utility, I began to think that it would be very nice to enhance the Macro capabilities of Neil Konzen's great "Global Program Line Editor" published by the famous Beagle Brothers. So I undertook the "small" task of dis-assembling Neil's 4,539 Byte Code for his 48K version, "PLE.48" (DOS 3.3). What resulted was a 51 page listing - profusely commented, I assure you. No, Bernie, I am not asking you to publish it!!!

Neil's Code consists basically of a 443 Byte Driver Code whose function is to :

1) Test for the presence of at least 48K DOS.

2) Present the appropriate credits on the monitor screen.

3) Load the remaining 4,096 Bytes ($8D00 -- $9CFF) directly from the G.P.L.E. disk by using the RWTS routine. This 4 kilobyte Code is protected by placing it between the DOS File Buffers and the start of DOS @ $9D00.

4) Set up the Ampersand, CTRL-Y and RESET Vectors.

5) Set up the I/O hooks = (KSW) & (CSW).

6) Exit to Applesoft via a JuMP to $9D84.

Neil uses his Code to both construct AND edit his Macros that are executed, or awakened, via the "ESCape" key. It turns out that his Macro table is stored between $9880 and $9CFF on his 48K version of the G.P.L.E. This gives a whopping 1,151 Bytes, not including the trailing HEX 00 which his Code depends on to recognize the end of the Macro table.

So, what's to enhance????? Good question! The ONLY reasonable answer is to expand or increase the 1,151 Byte limit. But before I get to this expansion, let me explicitly state what I have only implied so far. IF your Macro sets do NOT individually exceed 1,151 Bytes, then use "PLE.48" on your G.P.L.E. disk to construct and edit each separate set. THEN, type after each set is complete :

```
BSAVE NAME, A$9880, L$480 <cr>
```

Do this for several names/sets. And, then, when you BRUN "PLE.48" you can follow this with :

```
BLOAD NAME <cr>
```

Voila!!! You are no longer hampered with Neil's Macros OR the Macro set you re-initialized on your G.P.L.E. disk when you first received it. You might even want to consider a separate disk devoted strictly to Macros. Think about it!!! A whole disk just for your many Macro sets that you can selectively BLOAD at whim.

But, what happens when you need "under one roof", so-to-speak, a Macro set consisting of more than 1,151 Bytes. Neil's Code cannot accomodate you. But, the re-vamped "PLE.48" Driver to follow can!!!

In effect, I make available 511 more Bytes of Macro table (not including the mandatory trailing HEX 00 just as in the case of Neil's Macro table). I lower HIMEM to $8400 vice Neil's $8600 and place my added Macros between $8800 and $8CFF which is just BELOW where "PLE.48" exists. So, mine are protected between the DOS File Buffers and DOS just as Neil's are. There are only two disadvantages to my approach :

1) HIMEM is lowered, thus making less memory available for your Applesoft program(s).

2) Neil's Macros cannot communicate with mine and vice-versa. By the way, whereas Neil uses "ESCape" to alert G.P.L.E. that the next keypress is a Macro, I use "Ctrl-K". Furthermore, whereas Neil uses "Ctrl-E" + "?" to list his Macros on the monitor screen, I simply use a "Ctrl-L". It was mandatory that I use two keypresses NOT otherwise used by Neil to prevent any conflict. Think of "K" for "Kall" and, of course, "L" for "List". In absolutely every other aspect, you construct and edit these additional Macros just as you do Neil's.

One more thing before I present the new "PLE.48" Driver. Once you assemble the new Driver, it is absolutely mandatory that you save the resulting Object Code under the same name :

    PLE.48

and save it on the G.P.L.E. disk itself. I have taken great pains to begin and end the changed Driver at the same memory locations as Neil's Driver. The saving under the same name is mandatory to insure that the Track/Sector List pertinent to the new Driver is absolutely identical to Neil's T/S List. Examination of the Code to follow will show you why.

By, by the way. If you choose to use the changed Driver, you've got two "BSAVEs" to do and, of course, two reciprocal "BLOADs" to do for each large Macro set. For my 511-Byte set :

    BSAVE NAME, A$8B00, L$200 <cr>

You may even want to consider using distinctive prefixes to differentiate between the two sets; for example, "ESC.NAME" and "K.NAME".

```
1   ********************************                          ASSEMBLED CODE
2   *                              *
3   *         "PLE.48.KON"         *
4   *                              *
5   *    The Driver for "PLE.48"   *
6   *                              *
7   *        BY: Neil Konzen       *
8   *                              *
9   *                              *
10  *                              *     MERLIN
11  *        as modified by:       *     Assembler
12  *        John A. Love, III     *
13  *                              *
14  *                              *
15  * (Note: $0214 thru $03CE is   *
16  * the Driver. $8D00 on up is   *
17  * loaded by the Driver directly *
18  * from the G.P.L.E. disk.)     *
19  *                              *
20  ********************************
21
22
23          ORG  $0214      ; Mandatory address due to
24  *                       ; other G.P.L.E. utilities.
25
26  *------------------------------------------
27  *       General EQUates.
28  *------------------------------------------
29
30
31  LOCO      =  $00       ; Contains "JMP $043C".
32  ADDmac?   =  $06       ; Is keypress an added Macro??
33  RWTSPARM  =  $08       ; Points to RWTS parameter list.
34  FNPARM    =  $1E       ; Points to FM parameter list.
35  HORpos    =  $24       ; Horiz dist. from left margin.
36  LEFTmar   =  $28       ; Base screen pos. (left marg).
37  A1L       =  $3C       ; Pointers for moving RAM.
38  A2L       =  $3E
39  A4L       =  $42
40  STATUS    =  $48       ; Must set = 0 after RWTS call.
41  MOREmac   =  $8B       ; CTRL-K calls added Macros.
42  listADD   =  $8C       ; CTRL-L lists added Macros.
43  ESCAPE    =  $9D       ; "ESCape" key.
44  DOSwarmV  =  $03D0     ; Vector JuMP to DOS warm start.
45  DOScoldV  =  $03D3     ; Vector JuMP to DOS cold start.
46  DOSrwtsY  =  $03D9     ; Vector JuMP to RWTS routine.
47  FMinY     =  $03DC     ; (A,Y) = FM parameter list addr.
48  GETIOB    =  $03E3     ; Locate the RWTS parameter list.
49  DOSHK     =  $03EA     ; Makes the I/O hooks permanent.
50  FILLER    =  DOSHK+3   ; DOS 3.3 has 2 "NOPs" here.
51  SOFTEV    =  $03F2     ; DOS re-start addr via RESET.
52  PRWEDUP   =  $03F4     ; Power-up Byte to enable RESET.
53  AMPERY    =  $03F5     ; JuMPs to Ampersand Vector.
54  CTRLyV    =  $03F8     ; JuMPs to CTRL-Y Vector.
55  COL4:8sw  =  $8D00     ; In 40- or 80-column video??
56  *------------------------------------------
57  * Additional information on RAM Page $8D :
58  *
59  *    $8D01 contains a Flag that enables or dis-ables
60  *      the Type-Ahead Buffer,
61  *    $8D02 --> $8D7E contains "stuff" for your
62  *      80-column Card,
63  *    & the rest of Page $8D contains all HEX 00's.
64  *------------------------------------------
65  RESETvec  =  $8E00     ; Entry point upon "RESET".
66  START     =  $8E10     ; Start of main program.
67  ENDtbl    =  $8F8C     ; PLE.48's routine that tests
68  *                      ; if end of Macro table is
69  *                      ; under DOS @ $9000.
70  LISTmac   =  $8FCB     ; List Macros on monitor.
71  ESCptr    =  $9646     ; Routine that points to
72  *                      ; beginning of Macro table.
73  intoPLE   =  $9758     ; Couples "Function Keys"
74  *                      ; to "PLE.48".
75  EDnewMAC  =  $97F7     ; = $02 if editing added Macro.
76  BEGpleMC  =  $9880     ; Start of PLE.48 Macro table.
77  ENDpleMC  =  $9CFF     ; End of PLE.48 Macro table.
78  DOSbuf    =  $9D00     ; Holds address of Filename in
79  *                      ; the highest DOS Buffer.
```

```
80  COL80on   =  $C300     ; Turns on 80-Column Card.
81  KEYIN     =  $FD1B     ; Input keypress.
82  COUT1     =  $FDF0     ; Output to monitor screen.
83  MOVE      =  $FE2C     ; "Almost" general MOVE routine.
84
85  *------------------------------------------
86  *        End of EQUates.
87  *------------------------------------------
88
89
90          0214: 24 01    DRIVER  BIT  LOCO+1      ; Offset for G.P.L.E. utilities.
91          0216: AD ED 03          LDA  FILLER     ; See Code @ $028B. G.P.L.E.
92  *                                                ; already run??
93          0219: F0 37             BEQ  YES:48K     ; Yes!! Must not MOVE 2 times.
94          021B: AD D2 03          LDA  DOSwarmV+2
95  *------------------------------------------
96  * DOS 3.3 has "JMP $9DBF" @ $0300 - 48K machine.
97  * However, this test BY ITSELF won't work when DOS
98  * has already been moved to the Language Card. In
99  * this case, the Vectored address has been changed to
100 * RAM Page $80 or upwards.
101 *------------------------------------------
102         021E: C9 9D             CMP  #$9D
103         0220: F0 18             BEQ  MAKErm
104         0222: C9 80             CMP  #$80
105         0224: B0 14             BCS  MAKErm
106         0226: A0 00     NO:48K  LDY  #$00        ; Need minimum of 48K of
107         0228: 20 2E 02          JSR  MSGout      ; RAM to run G.P.L.E.
108         022B: 4C 00 03          JMP  DOSwarmV
109
110 *------------------------------------------
111
112         022E: B9 70 03  MSGout  LDA  MESSAGE,Y
113         0231: F0 06             BEQ  fin         ; HEX 00 signals end
114         0233: 20 F0 FD          JSR  COUT1       ;   of the message.
115         0236: C8                INY
116         0237: D0 F5             BNE  MSGout      ; Always!!
117         0239: 60        fin     RTS
118
119 *------------------------------------------
120 * Make room for G.P.L.E. between $8D00 and $9000
121 * and our added Macros between $8800 and $8D00.
122 * Later on, HIMEM will become $8400 and the
123 * available DOS Buffer area will occupy the memory
124 * area $8400 --> $8AF8 (see Code @ $0368).
125 *
126 * Neil originally wrote a generalized MOVE routine.
127 * In order to gain room for my changes, however, I
128 * chose to utilize the "almost" general MOVE routine
129 * already available in the F8 Monitor @ $FE2C. The
130 * latter presents NO problems so long as the Source
131 * range does NOT overlap the Destination range.
132 *------------------------------------------
133
134         023A: A0 FF     MAKErm  LDY  #-1         ; Move RAM Pages $8B <--> $9C
135         023C: 84 3E             STY  A2L         ;   to $79 <--> $8A. Here :
136         023E: C8                INY              ;    (A1L) = start of Source.
137         023F: 84 3C             STY  A1L         ;    (A2L) = end of Source.
138         0241: 84 42             STY  A4L         ;    (A4L) = start of Dest.
139 *
140         0243: A9 9C             LDA  #$9C
141         0245: 85 3F             STA  A2L+1
142         0247: A9 8B             LDA  #$8B
143         0249: 85 3D             STA  A1L+1
144         024B: A9 79             LDA  #$79
145         024D: 85 43             STA  A4L+1       ; (Y) still = 0 for $FE2C.
146 *
147         024F: 20 2C FE          JSR  MOVE        ; Move it!!!
148
149 *------------------------------------------
150
151         0252: A0 17     YES:48K LDY  #$17        ; Display credits.
152         0254: 20 2E 02          JSR  MSGout
153
154 *------------------------------------------
155 * BLOAD command reads the VTOC via $B1C9, points to
156 * the T/S List, and reads the latter into RAM @ the
157 * T/S List buffer. This buffer will be MOVEd down
158 * 18 Pages of RAM when PLE.48 is BRUNned.
```

                                                                              contd.

```
                      159  *-------------------------------------------------
                      160
0257: 20 DC 03        161  FILE:MGR JSR  FMinV     ; Get address of File Mgr
025A: 84 1E           162           STY  FMPARM    ; parameter list - $B5BB.
025C: 85 1F           163           STA  FMPARM+1
025E: A0 0E           164           LDY  #$0E      ; ($B5C9) - T/S List
0260: B1 1E           165           LDA  (FMPARM),Y ; buffer (low) = $800.
0262: 48              166           PHA
0263: C8              167           INY            ; ($B5CA) - T/S List buffer
0264: B1 1E           168           LDA  (FMPARM),Y ; (hi) = $97, first, then $85.
0266: AE ED 03        169           LDX  FILLER    ; G.P.L.E. already run??
0269: F0 03           170           BEQ  run2      ; Yes!! When G.P.L.E. is run
026B: 38              171           SEC            ; 1st time, $B5C9,A = $9700.
026C: E9 12           172           SBC  #$12      ; When run after that, $B5C9,A
026E: 85 1F           173  run2     STA  FMPARM+1  ; = $8500 = the location of
0270: 68              174           PLA            ; the first available T/S List
0271: 85 1E           175           STA  FMPARM    ; buffer after RAM is moved.
                      176
                      177  *-------------------------------------------------
                      178
0273: 20 E3 03        179  RWTS     JSR  GETIOB    ; Get address of I/O
0276: 84 08           180           STY  RWTSPARM  ; Buffer = $B7E8.
0278: 85 09           181           STA  RWTSPARM+1
027A: A0 0C           182           LDY  #$0C
027C: A9 01           183           LDA  #$01      ; #$01 = READ Command
027E: 91 08           184           STA  (RWTSPARM),Y ; Code @ $B7F4.
0280: A9 00           185           LDA  #$00      ; #$00 = matches any
0282: A0 03           186           LDY  #$03      ; Volume # @ $B7EB.
0284: 91 08           187           STA  (RWTSPARM),Y
0286: A0 08           188           LDY  #$08
0288: 91 08           189           STA  (RWTSPARM),Y ; $8D00 = READ buffer addr.
028A: C8              190           INY            ; G.P.L.E. starts loading
028B: A9 80           191           LDA  #$8D      ; from here on up.
028D: 91 08           192           STA  (RWTSPARM),Y
                      193
                      194  *-------------------------------------------------
                      195  * Read T/S pairs from disk to generate
                      196  * G.P.L.E. Code between $8D00 and $9D00 :
                      197  *   First: Track $0F, Sectors $09 thru $00.
                      198  *   Then : Track $0E, Sectors $0F thru $0A.
                      199  *-------------------------------------------------
                      200
028F: A2 10           201  readT:S  LDX  #$10      ; Start @ $8510,1 for T/S pairs.
0291: 8A              202  RDmore   TXA
0292: A8              203           TAY
0293: B1 1E           204           LDA  (FMPARM),Y ; Read above 16 T/S pairs until
0295: F0 24           205           BEQ  FINrdDSK  ; Track # = #$00 (DOS 3.3).
0297: A0 04           206           LDY  #$04
0299: 91 08           207           STA  (RWTSPARM),Y ; Track # into IOB @ $B7EC.
029B: 8A              208           TXA
029C: A8              209           TAY
029D: C8              210           INY
029E: B1 1E           211           LDA  (FMPARM),Y
02A0: A0 05           212           LDY  #$05
02A2: 91 08           213           STA  (RWTSPARM),Y ; Sector # into IOB @ $B7ED.
                      214  *
02A4: 8A              215           TXA
02A5: 48              216           PHA            ; Save value of (X).
02A6: 20 E3 03        217           JSR  GETIOB    ; IOB @ (A,Y) = $B7E8.
02A9: 20 D9 03        218           JSR  DOSrwtsV  ; Read above T/S pair.
02AC: 68              219           PLA            ; Retrieve (X).
02AD: AA              220           TAX
02AE: E8              221           INX            ; INCrease (X) twice for
02AF: E8              222           INX            ; the next T/S pair.
02B0: A0 09           223           LDY  #$09
02B2: B1 08           224           LDA  (RWTSPARM),Y ; ($B7F1) - Page # of READ
02B4: 18              225           CLC            ; buffer address. If not
02B5: 69 01           226           ADC  #$01      ; #$FF, read next T,S pair.
02B7: 91 08           227           STA  (RWTSPARM),Y ; Page # starts @ $8D and is
02B9: D0 D6           228           BNE  RDmore    ; INCremented each time.
                      229
                      230  *-------------------------------------------------
                      231  * I re-wrote parts of this section of Neil's Code
                      232  * also in order to save even more Bytes for my
                      233  * additions which begin at "CONNECT".
                      234  *-------------------------------------------------
                      235
02BB: 8D ED 03        236  FINrdDSK STA  FILLER    ; See Code @ $0216 -- do NOT
                      237                           ;   move memory 2X in a row.
02BE: 85 48           238           STA  STATUS    ; Zero the Monitor STATUS
                      239                           ;   register after RWTS call.
02C0: AA              240           TAX
02C1: A9 20           241           LDA  #$20
02C3: 4D 05 C3        242           EOR  COL80on+5  ; This pertains to the 80-column
02C6: 4D 07 C3        243           EOR  COL80on+7  ; board for the Apple ][e.
02C9: F0 03           244           BEQ  :2
02CB: 8E 00 8D        245           STX  COL4:8sw   ; $00 for ][e board & 40-col.
02CE: A9 10           246  :2       LDA  #<START    ; Place "$8E10" in the
02D0: 8D F6 03        247           STA  AMPERV+1   ; Ampersand Vector
02D3: A9 8E           248           LDA  #>START    ; and "$8E00" in both the
02D5: 8D F7 03        249           STA  AMPERV+2   ; CTRL-Y & RESET Vectors.
02D8: A9 00           250           LDA  #<RESETvec
02DA: 8D F2 03        251           STA  SOFTEV
02DD: 8D F9 03        252           STA  CTRLyV+1
02E0: A9 8E           253           LDA  #>RESETvec
02E2: 8D F3 03        254           STA  SOFTEV+1
02E5: 8D FA 03        255           STA  CTRLyV+2
02E8: 49 A5           256           EOR  #$A5       ; Enable RESET Vector
02EA: 8D F4 03        257           STA  PWREDUP    ;   via "funny" EOR #$A5.
                      258  *-------------------------------------------------
                      259
                      260  * All of the Code stored on disk has now been loaded
                      261  * into RAM and all pertinent DOS Page 3 Vectors have
                      262  * been set up. Neil's Driver is essentially complete
                      263  * (He continues @ "MAIN" ($0365) through $03CE).
                      264  *
                      265  * Neil directly accesses the keyboard @ $975B wherein
                      266  * "JMP $FD1B" exists. Therefore, THIS is the place
                      267  * to which we hook OUR input filter in order to see
                      268  * if we are addressing OUR Macros. As shown below,
                      269  * the very first instruction in our filter's Code
                      270  * accesses the same $FD1B routine in the F8 Monitor
                      271  * ROM. If we see OUR Macro wake-up or alert key -
                      272  * "CTRL-K" (Neil's - "ESCape"), we then change several
                      273  * important memory locations in Neil's Code in
                      274  * order to "fake out" PLE.48 into thinking it has
                      275  * found an "ESCape" Macro. If we don't see "CTRL-K"
                      276  * or a "CTRL-L" to LIST the additional Macros, we
                      277  * simply return, leaving everything as it was.
                      278
                      279

02ED: A9 0A           280  CONNECT  LDA  #<INPUT    ; Replace "JMP $FD1B"
02EF: 8D 5C 97        281           STA  intoPLE+1  ;   with "JMP INPUT".
02F2: A9 03           282           LDA  #>INPUT
02F4: 8D 5D 97        283           STA  intoPLE+2
                      284  *
02F7: 85 06           285           STA  ADDmac?    ; Initialize "ADDmac?" Flag.
                      286  *
02F9: A0 00           287           LDY  #$00       ; Put HEX 00's throughout
02FB: 98              288           TYA             ;   Pages $8B and $8C.
02FC: 99 00 8B        289  store8B  STA  $8B00,Y
02FF: 88              290           DEY
0300: D0 FA           291           BNE  store8B
0302: 99 00 8C        292  store8C  STA  $8C00,Y
0305: 88              293           DEY
0306: D0 FA           294           BNE  store8C
                      295  *
0308: F0 5B           296           BEQ  MAIN       ; Always!!
                      297
                      298  *-------------------------------------------------
                      299
030A: 20 18 FD        300  INPUT    JSR  KEYIN
030D: C9 8B           301           CMP  #MOREmac   ; Added Macro call??
030F: D0 07           302           BNE  nextCMP    ; Nope!!
                      303  *
0311: A9 00           304           LDA  #$00       ; Yes!!
0313: 85 06           305           STA  ADDmac?
0315: A9 98           306           LDA  #ESCAPE    ; "Fake out" PLE.48 .
0317: 60              307  ret1     RTS             ; Continue with PLE.48 .
                      308  *
0318: C9 8C           309  nextCMP  CMP  #listADD   ; List added Macros??
031A: F0 1B           310           BEQ  LIST       ; Let's!!
                      311  *
031C: 48              312  neither  PHA             ; Save keypress.
031D: A5 06           313           LDA  ADDmac?    ; If ")" immediately preceeded
031F: F0 23           314           BEQ  CHGadr     ;   this key, change crit. addr.
                      315  *
0321: A9 FF           316  reINIT   LDA  #<ENDpleMC ; If not, return critical
0323: 8D 8E 8F        317           STA  ENDtbl+2   ;   addresses to original state.
0326: A9 9C           318           LDA  #>ENDpleMC
0328: 8D 93 8F        319           STA  ENDtbl+7
                      320  *
032B: A9 7F           321           LDA  #<BEGpleMC-1
032D: 8D 47 96        322           STA  ESCptr+1
0330: A9 98           323           LDA  #>BEGpleMC-1
0332: 8D 4C 96        324           STA  ESCptr+6
                      325  *
0335: 68              326           PLA             ; Retrieve the keypress and
0336: 60              327  ret2     RTS             ;   continue with PLE.48 .
                      328  *
0337: A9 FF           329  LIST     LDA  #<$8B00-1  ; Added Macros are stored
0339: 8D 47 96        330           STA  ESCptr+1   ;   @ $8B00 --> $8CFF.
033C: A9 8A           331           LDA  #>$8B00-1
033E: 8D 4C 96        332           STA  ESCptr+6
0341: 4C C8 8F        333           JMP  LISTmac    ; Always!!
                      334  *
0344: A9 7F           335  CHGadr   LDA  #<$8D00-1  ; Added Macros end @ $8CFF.
0346: 8D 8E 8F        336           STA  ENDtbl+2
0349: A9 8C           337           LDA  #>$8D00-1
034B: 8D 93 8F        338           STA  ENDtbl+7
                      339  *
034E: A9 FF           340           LDA  #<$8B00-1  ; Added Macros start @ $8B00.
0350: 8D 47 96        341           STA  ESCptr+1
0353: A9 8A           342           LDA  #>$8B00-1
0355: 8D 4C 96        343           STA  ESCptr+6
                      344  *
0358: AD F7 97        345           LDA  EDnewMAC   ; Re-initialize "ADDmac?" Flag
035B: C9 02           346           CMP  #$02       ;   ONLY if NOT editing.
035D: F0 04           347           BEQ  edit
035F: A9 FF           348           LDA  #$FF
0361: 85 06           349           STA  ADDmac?
                      350  *
0363: 68              351  edit     PLA             ; Retrieve the keypress and
0364: 60              352  ret3     RTS             ;   continue with PLE.48 .
                      353  *-------------------------------------------------
                      354  *-------------------------------------------------
                      355  * All set-up is NOW complete. Execute the MAIN Code.
                      356  *-------------------------------------------------
                      357
0365: 20 10 8E        358  MAIN     JSR  START
0368: A9 8A           359           LDA  #$8A       ; DOS File Buffers moved
036A: 8D 01 90        360           STA  DOSbuf+1   ;   from $9600 to $8400.
                      361  *-------------------------------------------------
                      362  * This Vectored JuMP accesses $9D84 to effect a DOS
                      363  * COLD start. In so doing, it transposes the RWTS's
                      364  * current Drive & Slot #'s to the File Manager Keyword
                      365  * Values table; sets up the Applesoft ROM Entry Point
                      366  * Vector table; makes the changed I/O hooks permanent
                      367  * via $A851 and finally JuMPs to the ROM Applesoft
                      368  * COLD start routine @ $F128.
                      369  *
                      370  * $F128 eventually accesses $064B to reset various
                      371  * BASIC program pointers, including that for the program
                      372  * end @ $AF,BC. Set = $0803, this pointer results in
                      373  * RAM "forgetting" any BASIC programs in residence.
                      374  *
                      375  * Upon exit from $F128, we JuMP to the main Applesoft
                      376  * Command Loop @ $D43C to handle all additional
                      377  * immediate mode input via the now-permanent I/O hooks.
                      378  * The Applesoft PROMPT, "]", is output on the monitor,
                      379  * thus enabling DOS' initialization.
                      380  *
                      381  * This initialization takes place when DOS first
                      382  * accesses (KSW) for input. We subsequently JuMP to
                      383  * $9E81 which places my I/O hooks into (KSW) & (CSW).
                      384  * Eventually, we test for a COLD start and, if so,
                      385  * access $9DEA. $9DEA, in turn, calls $A704. The
                      386  * latter re-builds the DOS File Buffers and resets
                      387  * HIMEM according to the address stored in (DOSbuf)
                      388  * = ($9000).
                      389  *
                      390  * It turns out that I place MY Macros BELOW PLE.48
                      391  * between $8B00 and $8D00. Therefore, I displace
                      392  * the DOS File Buffers two RAM Pages further down
                      393  * than Neil did. In this manner, I add a extra
                      394  * 512 Bytes strictly for Macros, thus making the
                      395  * cumulative space = 1664 Bytes. Neil already
                      396  * has 1152 Bytes reserved for Macros between
                      397  * $9880 and $9CFF. Both of these areas include
                      398  * a trailing HEX 00 to depict the end of the
                      399  * two tables.
```

Last month we examined waveforms in the time domain, and touched briefly on a few of the problems that can be encountered in trying to synthesize particular combinations of waves. This month I would like to digress from the strictly creative side of music synthesis to go a little deeper into one of the bigger problems we encountered - that of foldover, or aliasing.

You will recall that we discovered a false tone, or "alias", when we included all the harmonics associated with a relatively high note. At that time, I indicated that the computer must store a table of digital values of time-amplitude coordinates to describe a waveform, and that the table must be read and converted from digital information to an analog signal to be reproduced as a musical tone. The problem of foldover occurs essentially when the frequency of the tone is so high that the speed of the computer is insufficient to keep up with it (since waveform frequencies are in terms of cycles per second). Now, let's see how this actually happens.

Suppose that we sample a waveform which has a frequency of 12,000 cycles per second. Suppose further that the computer has a maximum sampling rate of 20,000 samples per second, or 1 sample every 1/20 millisecond. The waveform being sampled is represented in the diagram below by the solid line, while the actual samples are represented by the heavy dots. As can be seen, there is another waveform which can fit the sample - the one represented by the dashed line.

Time in Msec.
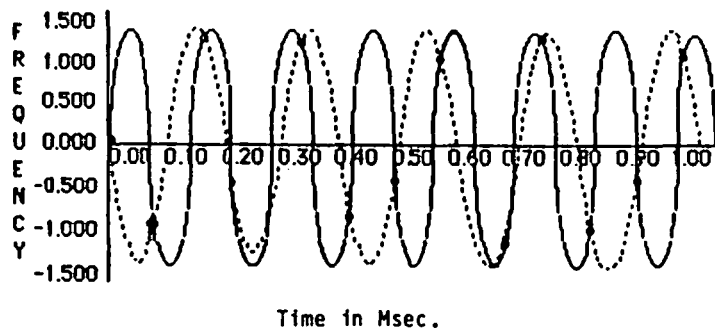
This is possible because the samples (the dots) represent the only information that the computer has stored about the waveform being sampled. The waveform that the computer might produce (the one depicted by the dashed line) is about 8,000 cycles per second. The resulting ambiguity is what is termed aliasing.

In practice, both the Apple and the Mac can sample at rates greater than 20,000 cycles per second. However, the problem of aliasing is present in both music synthesis systems. In order to eliminate the ambiguity which results in aliasing, it is necessary for the computer to produce at least two samples for each complete cycle of the waveform. Thus, if our computer can take 36,000 samples per second, the highest frequency we can produce without aliasing would be 18,000 cycles per second. A musical tone pitched at 880 cycles per second (A below high C) would produce overtones of 17,600 cycles per second at the 20th harmonic, necessitating a sampling rate of 35,200 samples per second. This would (and does) begin to reach the limits of the synthesizers available to us on our micros. Correspondingly higher tones will

necessitate omitting the higher harmonics from our synthesis in order to avoid foldover.

We will attack the other problem areas of music synthesis as they arise, and we will also find a few (possibly) pleasant surprises, such as the fact that we are not restricted to the standard "well-tempered" tuning of a piano or organ in our synthesis. We will see that we can define such things as 14-tone scales and really dynamic instruments. Next month we are going to take a look at envelopes of individual harmonics, and suggest a way to simulate them. In doing this, we will also see how we may modify our essentially mathematical music model to account for non-linearities in natural musical tones.

Looking ahead a little further, we have the unique opportunity to test out seven or eight synthesizers for our computers, and we will do this in conjunction with the regular software review column. In all, it should be a pretty lively summer for us music enthusiasts.

(Ed. Note: Who is that masked stranger running around on your frequency chart?)

SUPER-TEXT PROFESSIONAL: ERRATA
by Merle Block

The Muse Software "Super-Text Professional Word Processor" instruction manual describes two uses for the <Ctrl-I> key in the "Add" Mode. First, on page 3-3, the <Ctrl-I> key is described as moving the cursor to the next hard tab (every 8 characters). That function works as described. Then on page 4-16 the same key is listed as one of the six "User definable" keys. These serve to direct codes to the printer that will either change the printer font or print characters that are not on the keyboard. (See Chapter 7 of the instruction manual for the details.) The <Ctrl-I> key is not directly usable for the "User definable" function. Muse technical support (Mr. David Collins) immediately responded to my letter on that subject with the following instructions:

After the parameters for the User definable key are installed in accordance with Chapter 7, the <Ctrl-I> key function is obtained by typing a "dummy character", such as *, in the text when in the "Add" mode. Then, before printing the file, the "dummy character" is changed to the <Ctrl-I> key with the "Replace" function, as described on page 3-9. (Any other seldom-used character, such as ¢, %, or @, can be used as the "dummy character".)

Of the six word processor programs that I have used, the Super-Text Professional program best meets all of my needs for a word processor. (However, the files are not saved in DOS 3.3, which can be a problem when trying to use the file with another program.)

Announcing the only devoted entirely to

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The second standard in business computing has arrived, and it's called the Macintosh Office. The power, flexibility, and ease of use of the Macintosh offer you the alternative you've been waiting for. And the introduction of the Macintosh Office provides all levels of business with a choice.

The Macworld Exposition is your chance to see it all in one place—software, hardware, and peripherals developed for the Macintosh. See for yourself the products available now that will help you work faster, easier, and smarter.

All of the elements of the Macintosh Office will be on display. The 512K Macintosh, the LaserWriter, and AppleTalk™, as well as Jazz™ from Lotus™, are just a few of the products you'll get to see.

The Macworld Exposition has a targeted schedule designed to fit your busy schedule. As a dealer, a distributor, a retailer, a business user, or an educator, the three-day conference and exposition is designed for you.

Day one is for dealers, distributors, retailers, and other third-party vendors to talk to Apple and the 100+ exhibiting companies about their products.

Days two and three are specifically geared for people interested in the Macintosh as a tool for business and anyone else interested in the Mac.

Who should attend?
Industry: Dealers, distributors, retailers, wholesalers, manufacturers, systems houses, consultants, technical programmers, all other ISOs
Business: CEOs, presidents, vice-presidents, managers, comptrollers, owners partners
Professionals: Doctors, nurses, bankers, lawyers, engineers, stockbrokers, real estate and insurance agents, CPAs, consultants
Education: Administrators, faculty, students

Here's a look at some of the conference sessions designed for you:

- The Outlook for the Mac in the Office
- Developing Software for the Macintosh
- How to Start and Survive in Business with a Macintosh
- Maximizing MacPaint™
- The Mac Clinic
- A Guide to Better Business Graphics
- Maximizing MacWrite™
- Database Management on the Macintosh
- Getting the Most out of Spreadsheet Programs
- How to Get Your Programs Published
- What's Available in Mac Software
- File Management Tips and Techniques
- Maximizing Macintosh Disk Storage
- The Mac in the Classroom
- The Mac in Higher Education
- Developing University Courseware with a Macintosh

computer show the Macintosh™

Here are some of the companies who will be showing Macintosh products:

Advanced Logic Systems
Aegis Development
Ann Arbor Softworks
A+/Ziff-Davis Publishing Co.
Apple Computer, Inc.
Applied Logic Systems
Apropos Software, Inc.
Artline Industries
Assimilation, Inc.
Blue Chip Software
Boston Software
Brain Power, Inc.
Cadmus Computer Systems
The Cobb Group
Communications Packaging Corp.
Computer Additions
Computer Identics
Computer Learning Systems
Computer Shopper
Computer Software Designs, Inc.
The Computer Store
Corvus Systems, Inc.
Consulair Corporation/ T/Maker
Creighton Development, Inc.
Diablo Valley Design
Diversions, Inc.
EDP Supply North
Enterset
Esoft Enterprises
ExperTelligence
Express Computer Supplies
First Byte, Inc.
Forethought, Inc.
Frontrunner Computer Industries
Future Design Software
General Computer Company
Haba Systems
Hayden Book Company
Hayden Software

Hayes Microcomputer Products
Hippopotamus Software
Icon Publishing
ICON Review/Mindwork
Infosphere, Inc.
InfoWorld
Innovative Technologies/ Communications
Intermatrix, Inc
Intersol
Iomega Corp.
The Kette Group
I/O Video
Kraft Systems
Layered, Inc.
Living Videotext, Inc
Loki Engineering, Inc.
Lotus Development Corp.
Mac Packs, Inc.
MacTutor
MACWORLD
Micro Design
Micro Marketworld
Miles Computing, Inc.
Microsoft
MPH Computer Products
Mycroft Labs, Inc
New Line ™
Odesta Corporation
Optimum Computer Luggage
Organizational Software Corp
Palantir Software
Paradise Systems, Inc.
PBI, Inc.
Peripheral Computers & Supplies
Peripheral Systems
Personal Computer Peripherals
Prometheus Products, Inc.
ProVUE Development Corp.
Queue, Inc.
Scott, Foresman & Co.
Servidyne Micro Systems, Inc.

Sierra Information Systems
Silicon Beach Software
Small Business Computers of New England
SofTech Microsystems
SoftIdea
Software Arts, Inc.
SoftWeave
Softworks Limited
Stoneware
Sunol Systems
Systems Control
Tecmar, Inc.
Telos Software Products
Video ™
Warner Software

EMACWORLD EXPOSITION

BOSTON

MAC Q & A
by Jonathan E. Hardis

Mac Section

This inaugurates the Macintosh question and answer column that SigMac members suggested at the May meeting. Unfortunately, there was no opportunity at a June meeting for members to pose questions. On the other hand, I get the fun of making up my own questions!

These questions are inspired by items in the June WAP Journal, the message traffic on CIS/MAUG and the WAP SigMac BBS, and other snippets I picked up along the way. In the future, I hope to include more questions of general interest from, or inspired by, the membership.

Q: At the May SigMac meeting, you said the latest Finder was version 4.2. All my dealer had was version 4.1. What gives?

A: I accept the responsibility, and the blame, for this misinformation. The latest, officially released version of the Finder is version 4.1. I was thinking of the Desk Accessory named SkipFinder, which is at 4.2. Independently of my mistake, some wise guy modified the version number (and only the version number) of Finder 4.1 and started a 4.2 circulating among the various bulletin boards. (Ha, ha, ha.) Andrew Kaplan reports on the WAP SigMac BBS that a new, test version numbered 4.3 is starting to make the rounds. But the last blessed-by-Apple version is 4.1, and likely will remain so for some time to come.

Q: Where and how do I get the new versions of the Finder, the Font Mover, MacPaint, and Mac-Write?

A: Your dealer has received two disks from Apple with the new versions. You should be allowed to copy them for free onto either your old disks, or new blanks which you could buy at that time in the store. (At least one dealer in the area prefers to sell you copies he made in advance, at his leasure.) The WAP office has copies, too. The first of the disks contains files with information and instructions. You would be best advised not to follow them, however!

Start with the cleanest, least modifed version of the Apple distribution "System Disk" you can find. Copy that disk onto another, so if something goes wrong you can start over. Apply the "System Update" program to your copy. This updates the Finder, Imagewriter driver, and certain sections of the System file. (Note: do not use the System file on the update disk for anything but running the System Update program. That is, do not copy it for use on your own disks.) (It is important that you don't try to update any disk you previous updated to "Imagewriter 15". The new Imagewriter driver and the associated System file changes are the final, blessed versions, and differ from other versions which showed up with several recent products.)

Next, customize the System file to the way you like it. Add and delete desk accessories and fonts. Finally, make additional copies of this "Master Disk" to build working disks for MacPaint, MacWrite, etc. That is, copy the applications and documents to your build disks.

There are dangers which appear when running the System Update program directly on commercially distributed disks, as Apple suggests that you do. Some vendors (especially of game programs such as Airborne and Frogger) named their program "Finder". When Update replaces the old "Finder" with the new, bye, bye software. Other vendors use copy protection schemes and rely on features which might be disturbed by changing the System file or by moving things around on the disk. Newer software, such as Microsoft Word and MacProject, come with Imagewriter 15 files.

As a general rule, consult first with the vendor before running "Update" on their product. They may prefer to send you a new version themselves. If you experiment, only apply Update to an extra, backup copy.

One more thing - don't overlook the special surprises in the Scrapbook of the upgrade disk.

Q: Help! The new Font/DA mover crashes all the time.

A: The new Font/DA mover has a bug which shows up on 128K Macs. When trying to move large Fonts, you get a bomb with error numbers 4,-1. I haven't heard of a cure other than a 512K upgrade.

Q: Help! My Desk Accessories which used to work don't work anymore.

A: Not all of the desk accessories in the field, especially those written outside of Apple, were written according to a standard. Desk accessories may have "private resources", things such as dialogs and menus which they use. Each DA in your System file has to have a unique number (seen only by the operating system, not the user), and the private resources have to have numbers which match. When a correctly written DA starts up, it finds out its current number, and then it computes the corresponding numbers of its private resources. In order to prevent numbering conflicts, DAs and their private resources may be renumbered when they are installed. Further, when DA installer programs (including both the old DAM and the new Font/DA mover) renumber things, they should also "back-patch" (change) some resource numbers within the private resources.

contd.

Some DAs will only work when they are one particular number. These may fail when moved with the new Font/DA mover, which does frequent renumbering of DAs. The old DAM doesn't renumber as often, but when it does, it doesn't back-patch the private resources correctly. In time, I expect to see most of your favorite DAs corrected and redistributed in the new format.

(Before you get mad at Apple for this, I have to point out that there are only a few different numbers that a DA can have. With the growing popularity of DAs, the new F/DAM fills a necessary purpose.)

Q: Help! Finder 4.1 doesn't work with my Tecmar hard disk.

A: The new Finder uses an operating system call that the old one didn't, and one which Tecmar doesn't support. You can patch the new Finder to make it not use this call, and thus make it compatable with the Tecmar. Using FEdit (a shareware program found on SigMac disks 17 and 9 -- Pay Up!), hex search for the consecutive bytes A00257CA. Change all occurances of these four bytes, and the two which follow, to 4E714E714E71.

Further, if you are using Tecmar's 2.0 software, copy the DRVR resource named .PRINT from the System file on the original Tecmar boot disk to your newly modified System File. You may use REdit or RMover (on SigMac disk 13) to do this. This is for the print spooler. (Thanks to Mike Cohen and other MAUGers for this information.)

Q: What about the update to MacTerminal I received a letter about?

A: Don't expect the new version of MacTerminal until late summer, at the earliest. The main reason for that letter was to get a good mailing address from you, and secondarily to warn you that the new manual won't match your present software. There are no major overhauls to MacTerminal planned. The next version will be mostly bug fixes and the addition of the MacBinary transfer protocol, the new CIS/MAUG file transfer standard. Some folk are beginning to receive the promised copy of the new manual.

Q: Where is the copy of MacDraw I was promised with my 512K upgrade?

A: According to an unofficial message on MAUG from someone who works at Apple, they expect to ship the remaining copies of MacDraw withing 1-2 weeks. That time will have expired by the time this Journal is printed. However, they've been late before. Certainly if you sent your card in more than 6 weeks ago, and if you haven't received your MacProject yet, call (408) 988-6009 to put a tracer on it.

Q: Going back to MacTerminal, even though I don't "Save lines off the top", MacTerminal still spins the disk and delays me, while I rather it wouldn't. Is there anything I can do?

A: Yes. After every 8 1/3 seconds of inactivity, MacTerminal saves a copy of the screen image to the disk. This is to protect you against power failures. Using FEdit you can change the time constant to other values. Search for the Hex string 000001F4. To change it to mean (slightly under) 30 seconds, substitute 00000700. If you don't know how to use FEdit with confidence, only experiment on a backup copy of MacTerminal! These longwords (numbers) are time intervals measured in "clock ticks". There are 60 "clock ticks" per second. 1F4 is hexadecimal for five-hundred, meaning 8 1/3 seconds.

Q: And what is MacBinary?

A: MacBinary is a way of sending complete Macintosh files, any Macintosh files, to a remote Mac while preserving all of the file's attributes (such as its Icon). While similar in purpose to MacTerminal's "Mac-to-Mac" feature, it improves upon it by allowing you to send the Mac file to any other computer first using common XMODEM. That is, you will be able to store a Mac file on any BBS, whether it be on an Apple II, an IBM, or a Brand-X CP/M machine. And when it reaches another Mac, it will be intact, without the need for BINHEXing or other conversion. (The only requirement is an 8-bit data path.) You can also transfer complete Mac files in this manner to the many mainframe and minicomputers which implement Columbia University's Kermit protocol. Red Ryder 5.0 implements MacBinary and Kermit together. MacBinary is the new standard for uploads to CIS/MAUG, and will be available on many popular terminal programs ih the future. The public domain program "FreeTerm" currently implements MacBinary to get you started. (The technical specifications of the public domain MacBinary protocol can be found in DL 8 on CIS/MAUG/MacUser Sig.)

Q: Why doesn't Smartcom II run with the Apple 1200 modem? I thought it was "Hayes Compatible"?

A: The Apple 1200 modem, and the USRobotics Password modem on which it's based, are not identical in function to the Hayes Smartmodem. While most major features are similar, there are significant differences. Most software writers take pains to use only the set of common features, and in that sense, the software may be called "Hayes compatable". Smartcom, by Hayes themselves, had no such motivation. Note, too, that some of MacTerminal's bugs (such as the failing of the "Wait for Call" menu) are due to the differences between the Hayes and the USR.

Q: What is DMA, and why is it good that the Hyperdrive uses it?

A: The Hyperdrive does not use DMA, contrary to popular myth. DMA, "Direct Memory Access", is a method on some computer systems for peripherals, such as disk drives, to send data directly to and from memory, without going through the Microprocessor or CPU. It is several times faster to do it this way, since no program execution is

contd.

needed. However, on the Mac, the data bus (a common set of wires used to send data from one point to another) is shared on alternate cycles between the video display and the microprocessor. This would make it very difficult to synchronize a DMA data transfer with the needs of the video display. The Hyperdrive does, however, connect directly to the data bus, which contributes to its superior performance.

Q: What is the latest word on the Hyperdrive? Will Apple support my Mac after I install it?

A: Check with your dealer for the latest information. You should know, though, you no longer have to modify a 512K Mac motherboard to install a Hyperdrive. GCC has a new way to clamp the connection to the 68000, without removing it. The current Hyperdrive ROM is specific to the Mac ROM, so it would have to be replaced with a newer version when you get the new version of the Mac ROM (expected later this year). While not a serious problem, you may face added time delays if you have to wait for GCC to produce and install the ROMs for you.

Q: Can you recommend one of the companies that do memory upgrades cheaply?

A: No. If you modify your Mac motherboard now, before Apple product announcements later this year, you would be rolling dice that are not weighted in your favor. Any operation that modifies a motherboard, such as do-it-yourself memory upgrades (including those done by well meaning entrepreneurs) are very risky. You may be unable to swap the modified board for a new, improved variety, or to swap the modified board for a service spare at your Apple dealer. (Currently, new 512K boards cost the dealer $700. You would have to pay more.)

Q: How do I send information from my Radio Shack Model 100 to the Mac? Using Mac-Terminal, each line overwrites the previous one.

A: By default, the M100 sends carriage returns, but not line feeds. Many Mac terminal programs, such as RedRyder and MacTEP, can tolerate this. MacTerminal can not. However, you can tell 'TELECOM on the M100 to send linefeeds too, by entering POKE 63066,1 in M100 BASIC. By the way, the Imagewriter cable can be used to connect the M100 to the Mac. For more information, see Steve Hunt's article on page 46 of the June WAP Journal.

Q: My dealer hasn't gotten AppleTalk kits yet for the Lisa/MacXL. How do I connect it to AppleTalk, to use the LaserWriter, for example?

A: As of this writing, no such kits have been shipped. However, you can make an adapter (or have one made for you) which allows a Mac AppleTalk kit to fit on the Lisa. Get a 9-pin Female and 25-pin Male data connector from your favorite supplier, perhaps Radio Shack. Using as short wires as possible, connect (25-Pin -> 9-Pin): 2->5,

3->9, 19->8, and 20->4. (Thanks to Dennis Brothers for this information.)

Q: What is the latest on the Switcher?

A: This answer is sure to be outdated by the time you read this. Version 3.0 was meant to be the final one, but it was not completely satisfactory. Andy is up to 3.1 now. The final version will likely be widely distributed by Apple, and free.   ✑

WHEN EDITORIAL POLICY GOES TOO FAR !   by Lynn R. Trusal

As an enthusiastic Macintosh owner and avid reader of MacWorld magazine, I often enjoy reading the "Open Window" section of the magazine. This section presents readers with ideas and discoveries about the Mac that are not found in users mannuals. Therefore, I reacted with enthusiasm when I learned that a letter I had submitted to MacWorld had been accepted for publication in the June issue. My letter dealt with "Fast Presentation Graphics for the Mac" (see p.44, April 1985 WAP Journal).
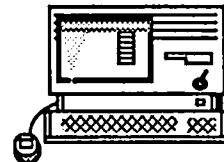
When I received the June issue, I read with dismay my contribution to the "Open Window" section of MacWorld (p. 149), for I hardly recognized it. Although I accept the need for editorial changes to include grammar, punctuation, and word choice, I quickly noticed that my letter bore little resemblance to the published product. Throughout the letter was "added material" not included in my original letter. The worst example was the addition of the entire last paragraph that I did not write and whose conclusion I did not agree with. In all, 24 out of 63 lines (38%) were added by the editors under my signature! Even "60 Minutes" paraphrases its letters when the producers have added material to a listeners letter. Perhaps MacWorld feels it is acceptable to add material to submitted letters because it pays $25 to $100 for accepted ideas. Editorial license does not cover adding material to submitted letters under the author's name without signifying it as such. This is particularly important since the author may not agree with the conclusions added by the editor. I hope that MacWorld will reconsider its current policy, because this is an example of When Editorial Policy Goes Too Far!   ✑

work in MacWrite, and nowhere else. You can, however, copy the Tracks file to another disk which has MacWrite on it, and those tracks will then work with MacWrite on that disk, so you don't have to redefine tracks for the same application on another disk. It would be nice if there were a "global" track recording capability, in which you could define tracks which span applications, but that is not possible in the current version of MacTracks. Despite these problems, at $29 this product is well worth it and I would recommend MacTracks to all Mac afficcianados who are interested in getting more out of their Mac. It is a good tool and could be a real timesaver in selected applications.   ✑
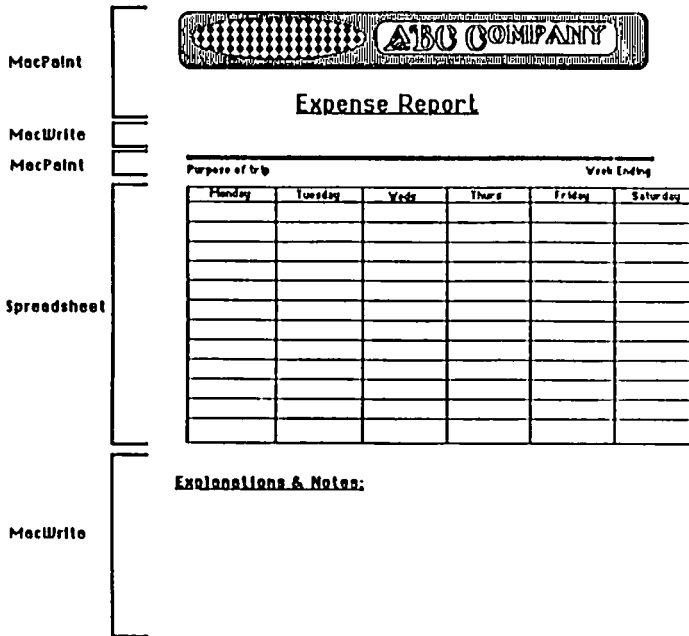
MacNovice Column

by Ralph J. Begleiter

Expense Report

Just in case you're lucky enough to have convinced your employer to start using the Macintosh in your office (and even if you're not), here's the way to help yourself to easy Expense Account reporting in the form your company prefers, while allowing Mac to do most of the time-consuming work.

Create a personalized Expense Account Reporting Form. It offers you the following features:

• It's easy to use.
• It matches your company's format, so the folks in Accounting

  won't flip when they see it.
• It calculates totals for you.
• It's flexible enough to allow for variations, footnotes and unusual

  expenses to be explained without having to leave the simple form

  you are about to create.

It will look something like this when you're through:

MacPaint

ABC COMPANY

MacWrite
MacPaint

Expense Report

Purpose of trip				Week Ending	
Monday	Tuesday	Weds	Thurs	Friday	Saturday

Spreadsheet

Explanations & Notes:

MacWrite

The "heart" of your expense report will be an electronic financial "spreadsheet" or "worksheet." If you're unfamiliar with the terms, they simply mean a "ledger" created and used on a computer. The one I'll use here is Microsoft's "Multiplan"^{tm}, but any of the available financial spreadsheet software programs will fit into this scheme.

First, create your ledger using your financial spreadsheet software. Be sure to imitate your company's expense report format as closely as possible. Use titles across the top of your spreadsheet to indicate days-of-the-week, "other" and "totals." At the left, list all the categories of expenses your company permits, and feel free to include categories your accounting department may not have thought to include. (You know, the ones you're always having to write in by hand, such as international currency exchange fees, travellers check fees, publications, etc.) Remember, you're in charge of this form, so you can include anything you want!

Following the instructions with your spreadsheet software, make sure the spreadsheet calculates all the appropriate totals, by day-of-week, by expense category, and, of course, the "Grand Total." Don't forget to make space in your spreadsheet for the computer to automatically calculate whether you own the company money, or it owes you! You can even have the computer figure international currency exchange rates if you travel abroad often enough to make the effort worthwhile.

As you design your expense ledger, keep in mind the value of holding its dimensions to those manageable on a standard-sized sheet of paper. Of course, you can go to two pages, but it'll be a lot handier if you can confine your ledger to about half the size of an 8-1/2 by 11-inch sheet. Use abbreviations. Use smaller font sizes (with Multiplan^{tm}, that's possible - instructions have appeared in MacWorld magazine; with many other spreadsheet software programs, changing fonts is impossible).

Remember to preserve your spreadsheet, once it's all set, as a FORMAT by choosing "SAVE AS..." from the FILE menu and naming the document "Expense Wksheet." That way, whenever you're ready to submit an expense report, you won't have to go to the trouble of re-creating the spreadsheet with all its formulas. You'll just fill in the numbers for each expense item, let the spreadsheet calculate the totals, then "SAVE AS..." your "Exp Rep [date]". You'll still have the blank format for the next time.

Say goodby to your spreadsheet software for awhile. OPEN MacPaint next and create a new document. Using Mac's graphics tools, "paint" a copy of your company's letterhead, logo, and other Expense Report heading elements. Again (to keep the accounting department happy), try to imitate the original form as closely as possible. (If you want to spring for some of the "optical scanner" hardware now available, you could even have your Mac take a picture of the original form and translate it into an on-screen image.)

As you create the MacPaint heading, keep in mind whether you need to fill in certain information inside that portion of the page for each expense report. If you do, be sure to leave space across the entire width of the page for a line or two of "MacWrite space" so you can "write" later, after pasting the

contd.

"painting" onto your final form. [This is actually one of the trickiest parts of this project, so, for simplicity's sake, you might want to keep the company logo as a separate image, leaving room beneath it for filling in timely information such as date and time of submission.]

When your MacPaint Expense Report heading is complete, preserve it by choosing "SAVE" and naming it "Expense Heading." You'll want to cut-and-paste from it in a moment. Now, you're ready to create your final Expense Report Form. OPEN MacWrite and create a new document. Set your margins as wide as you can. (Remember that you can move the MacWrite window around on the screen and make it larger when you do, so you can set very wide margins beyond the dimensions of the Mac screen (see your MacWrite instruction manual for how to do this, if necessary).

At the top of the page, enter a few "RETURNS" to leave a few blank lines at the top. (You'll use them in a few minutes.)Next, INSERT a new RULER. The new ruler will duplicate the one at the top of the page. But you need to set lots of TABS in this ruler... one tab for each column in your spreadsheet/ledger. It's hard to set them accurately the first time, so just leave an equal amount of space between each tab across the ruler.

Now, QUIT MacWrite, naming your new document "Exp Rept Format" as you leave. OPEN your spreadsheet software by OPENing the document you created earlier ("Expense Wksheet"). Now, SELECT the spreadsheet you created... JUST the part of the spreadsheet you are actually using (Multiplan^{tm} allows you to easily select the cells you are using by simply clicking and "dragging" across the spreadsheet.) COPY the spreadsheet into Mac's clipboard. Then, QUIT the spreadsheet software and return to your MacWrite document called "Exp Rept Format."

Once you're back in the final format document, position your cursor below the second ruler (the one with all the tabs). Choose PASTE from the EDIT menu. Your spreadsheet will appear! Don't panic! It probably looks all screwed-up. That's just because you have to adjust the TABS in the ruler above the spreadsheet. Adjust them carefully, one-by-one, until your spreadsheet looks the way it's supposed to look. Add more TABS, if needed. Remove some, if you've added too many. Also adjust the MARGINS, if necessary, to allow enough space for the spreadsheet. This adjustment process is painstaking, but remember, once you get it right, you'll never have to do it again, because you will "SAVE AS..." a FORMAT later on.

With your spreadsheet in place, move your cursor back up to the top of the page, between the two rulers (where you earlier inserted a few RETURNS, remember?). Now, QUIT the document, answering YES when Mac asks you if you want to "save changes?"

Back to MacPaint now. OPEN your "Expense Heading" document and find the company logo and heading you created. SELECT it by surrounding it with the MARQUEE (the dotted

rectangle tool in the upper- left corner of the screen). COPY the heading into the clipboard. QUIT MacPaint and return to your final format "Exp Rept Format" document in MacWrite. Make sure the cursor is between the two rulers. Choose PASTE from the EDIT menu. Suddenly, your "Expense Heading" appears in the MacWrite document! Make adjustments in centering, etc., by selecting the picture and grabbing it by one of its borders and moving it left or right. (Don't try to move it up or down on the page this way. Do that by inserting or deleting "returns" above the heading.)

Your Expense Report Format is beginning to take shape. Just below the newly-inserted heading, but above the second ruler, add whatever MacWrite lines you may need for date, name, purpose of trip, etc. If you leave a few lines, you can always "write" in them later, when you're actually submitting an expense report. Now, position your cursor on the topmost ruler... up in the num- bered-bar area. Click. The ruler will turn black (it will be "selected"). Choose COPY from the EDIT menu. (Now there's a copy of that ruler in the clipboard.) Move your cursor to a point below the last line of your spreadsheet on the page. Choose PASTE from the EDIT menu. The copied ruler will appear below the spreadsheet. Below this ruler, type the words "Footnotes" or "Explanations" or "Notes"... or whatever other title your company uses for additional information on an expense report. This space will be used for explaining any unusual expenses listed in the spreadsheet above.

You're finished! Choose "SAVE" from the FILE menu, and your new Expense Report Format is complete.

Whenever you are ready to file a Report, first go to your "Expense Spreadsheet" document in your financial spreadsheet software, fill in the numbers, and let the spreadsheet do the calculations. Choose "SAVE AS..."and name the document "Report [date]." COPY the spreadsheet from that document into the clipboard and transfer it into your "Expense Report Format" (in MacWrite)...substituting it for the "dummy" spreadsheet which is already there. Fill in whatever's necessary in the MacWrite portion of the page (dates, explanations, etc.). Next, "SAVE AS..." "Exp Rept [date]" and print it out. It'll look just like your company's form!

And the best part is... the only part of this procedure you'll have to repeat, ever again, is the last paragraph above. Nothing else, because you've saved the rest as a FORMAT for reuse each time you file a new Expense Report.   ❦
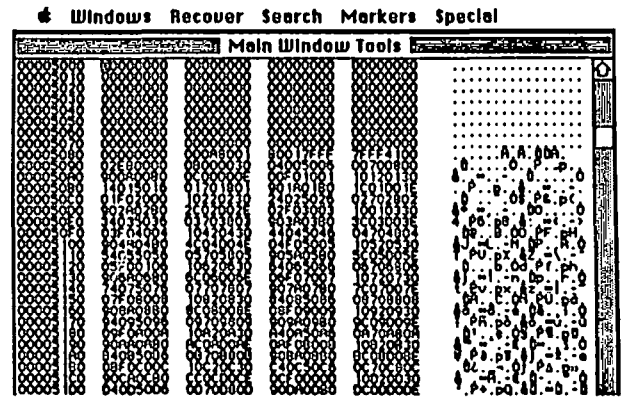
SOFTVIEWS
By David Morganstein

Mac Zap (Micro Analyst Inc.) Are you or did you ever want to be a MAC hacker? Well, having the right tools won't make you one, but not having them makes it almost impossible. ZAP programs are utilities which allow you to go behind the operating system to study the contents of and modify blocks of data on your diskettes. Many users of a personal computer would never want to or need to do this. However, knowledge is power and knowledge of how the disk system stores and retrieves data can give you the power to solve otherwise insurmountable problems. With utilities like MAC ZAP, you may be able to resurrect a lost file. With enough effort, such a tool can reveal the inner workings of the operating system or of applications programs, allowing you to make modifications which give you greater use of your equipment. For example, hard-disk owners may find out how to move programs onto their hard-disk and to disable any requests to "insert the Master disk" which slow down the operation and defeat the purpose of a hard-disk.

MAC ZAP is unique in the numerous functions it performs. It is entirely "Mac-like" in it use of pull-down menus and window displays. It permits you to: disassemble in 68000 assembly language a selected block of hex code from a disk, obtain volume and file information about blocks used, file characteristics and directory contents and view bit-mapped graphics as they will appear on the screen. All Zap programs provide you with the capability to read, display and modify a selected block from the disk. The MAC ZAP program and documentation go far beyond these in its translation and interpretation of the hexadecimal codes you will see when you examine the bytes on the disk.

An easy to use window allows you to select the drive and block to be examined or written to. Sequential blocks can be read just as easily and placed end-to-end in memory for viewing. When a selected block is read, it appears on the screen in both hexadecimal and ASCII form. Using the familiar vertical scroll bar, you can easily scan through the data and by pointing and clicking make modifications. Changes to the hex side of the display are entered in hex, while pointing and clicking to the ASCII side allow entry in that format.

disk user. When you have purchased an expensive piece of equipment to speed up your work activities by collecting many programs onto a single storage device, you don't want to search through them to find a Master every time you run a program.

MAC ZAP hex/ascii memory display

Disk/block selection menu

Disassembly. Those who know or are learning 68000 assembly language can convert the memory display to a disassembled translation. A disassembly provides the knowledgeable user with a tremendous tool for taking greater control of their computer. As mentioned earlier, many commercial programs require that a master disk be inserted every time the program is run. Someone familiar with 68000 machine language can find the calls to such routines and disable them thereby eliminating a time-wasting impediment to getting his job done. The request is even more of a nuisance to a hard

Volume & File Info. Occasionally, you will inadvertently trash a file you need or your diskette will show that things are not as you remembered them. You can use MAC ZAP to examine the directory of the disk, to locate all blocks associated with any file or to examine the blocks to find specific information which you wish to change. Files can be locked, made invisible or protected by pointing and clicking.

contd.

```
[Drive 1] [Drive 2]   Block Allocation Map For DISK --->Micro Related   ]
      0123456789ABCDEF0123456789ABCDEF0123456789ABC]
0000
0030
0060
0090
00C0
00F0
0120
0150
0180
01B0
01E0
0210
0240
0270
02A0
02D0
0300
```

VOLUME ATTRIBUTES	>0040	SIZE OF ALLOCATION BLOCKS	>000C
NUMBER OF FILES	>0013	NUMBER OF BYTES TO ALLOCATE	>000C
FIRST BLOCK OF DIRECTORY	>0004	NEXT UNUSED FILE NUMBER	>000C
NUMBER OF BLOCKS IN DIRECTORY	>000C	INITIALIZED	>08:38 05/15/
START OF ALLOCATION BLOCKS	>0010	BACKED UP ON	>11:40 05/15/
NUMBER OF UNUSED ALLOCATION BLOCKS	>00FC		

Volume Information Window

```
[=========== File Information ===========]
[New File] [Update]   Allocation Map For FILE --->68000           0004
                              On Volume -->Micro Related 0000F8
      0123456789ABCDEF0123456789ABCDEF0123456789ABCDE
0000
0030
0060
0090
```

[HOT LOCKED]   [VISIBLE]   [NO BUNDLE]   [HOT SYSTEM]   [UNPROTECTED]

Starting Allocation Blk of Data	>0013	File Flags	>00
Data Fork Logical End of File	>00002000	Version Number	>00
Data Fork Physical End of File	>00002000	File Number	>00000005
Starting Allocation Blk of Resource	>0000	Date Created	>21:51 04/17/04
Resource Fork Logical End of File	>00000000	Date Modified	>21:52 04/17/04
Resource Fork Physical End of File	>00000000		
Finder data > 010000000080045A		[Type] PHTO	[Creator] MPNT

File Information Window

Searching. Using MAC ZAP you can search through memory for a string of characters. An entire disk can be searched, as well. This function can be used to compare two disk blocks to find any discrepancies. As described in the manual, these operations can be used to locate and modify specific calls to the Macintosh ROM or operating system.

```
Search  Markers   Special
┌──────────────────────────┐
│ Search Memory            │
│ Search Disk              │
│··························· │
│ Compare Disk Blocks      │
│ Compare Disk Blocks and Tags │
│··························· │
│ Enter Search String      │
│ Show  Search String      │
│··························· │
│ Enter Search Range       │
└──────────────────────────┘
```

Setting Markers. Although purchasers of commercial software are permitted to make archival copies of their purchases to help protect them against failure of the magnetic media, this is not always easy to do. Special copy-protection systems are often used by software distributors. These systems often use different formatting codes to prevent the standard operating system from accessing the disk. MAC ZAP allows the owner of such software to specify different "markers" which may be helpful in making archival back-up copies of their commercial programs.

```
Markers  Special
┌──────────────────────────┐
│ Normal Data Marker       │
│ D5 AA AD                 │
│··························· │
│ Set Abnormal Data Marker │
│··························· │
│ Normal Address Marker    │
│ D5 AA 96                 │
│··························· │
│ Set Abnormal Address Marker │
└──────────────────────────┘
```

Special Functions. If the functions already described were not enough, MAC ZAP provides a number of other options and enhancements, as seen in the pull-down menu shown below. While most of the entries are fairly self-explanatory, a few may require a comment. Changing the device driver number (and resetting it to the normal Sony Disk Device Driver) will allow you to use MAC ZAP with files stored on a RAM disk or on a multi-volume hard disk. The device driver number is a pointer to software which is used in accessing "external devices", such a disks and RAM disks. Reading or writing multiple blocks permits you to transfer more than a single 512 byte block at one time, something you may need to do if you are examining graphics, for example.

```
Special
┌──────────────────────────┐
│ Volume List              │
│ Unit Table List          │
│ Standard File Info       │
│ Standard Volume Info     │
│ Results To Data Window   │
│··························· │
│ Enter Device Driver Number │
│ Hard Disk or RamDisk     │
│ Use Unit Table DevDrv Entry │
│··························· │
│ Set Normal Sony Disk Driver │
└──────────────────────────┘
┌──────────────────────────┐
│ Enter Large Drive Number │
│ Hard Disk or RamDisk     │
│ For Drives Greater than 2 │
│··························· │
│ Read Multiple Blocks     │
│ Write Multiple Blocks    │
│ Multiple Block Buffer    │
└──────────────────────────┘
```

Documentation. As mentioned earlier, this powerful utility is made more useful by its accompanying 57 page manual. You will learn, not only how to use MAC ZAP, but in many instance, why its functions are helpful and when you would need them. To help you learn to use the program, a short tutorial is provided which leads you through the steps needed to search a disk for a specified string and to modify that string. An appendix describes the process of reconstructing a disk which is unreadable (while this may not always work, it could save you hours of time needed to replace lost information). The manual also contains descriptions of the way directories and files are structured. All in all, MAC ZAP can be recommended to those who can take the time to learn about the bits and bytes behind the Mac's operating system.

Summary. While there are some "free" public domain ZAP programs, such as FEDIT, MAC ZAP is so complete and its documentation so helpful that you should consider paying the higher price for it. If you want to snoop around on the disk, it is a superb tool. Micro Analyst, Inc., PO Box 15003, Austin, TX. 78761 Phone: (512) 926-4527. Price: $60.00.

Quartet. While Apple computer has ballyhooed Lotus' recently released integrated package, Jazz, for the Macintosh, others have been developing and making available competing software products. Haba Systems recently released Quartet, a program built around a spreadsheet which purports to offer several other valuable functions. First, let me describe what it actually offers, then what it does not. Quartet provides a 62 column by 1000 row spreadsheet with many, though not all, of the common spreadsheet functions. It allows the user to produce pie, line or bar charts instantaneously in sub-regions of the spreadsheet based upon selected sheet entries. As the values in the spreadsheet change, the graphs change. The user can define a rectangle of the sheet to be text and enter, in notepad form, up to 1000 characters of information. Since the spreadsheet can be sorted by two columns, it might be used to access simple rectangular data bases. It does a good job as a spreadsheet and its integration with graphs is quick, but as I will elaborate on later, it is neither a word processor nor a data base package. Perhaps it should have been called Duet.

Spreadsheet. I found the spreadsheet fairly easy to use. The cells, as you can see below are labelled alphabetically by column and numerically by row, similar to VisiCalc. Moving around on the sheet is done in any of the following ways: clicking in the desired cell when it is visible; typing in the cell identifier, as in a "GOTO" operation; or clicking on one of the eight directional arrows which appear in the upper right-hand corner. A single click on the arrows moves one column or row, a double click moves a whole page. Column widths can be changed easily by clicking on the vertical line between the column identifiers and dragging the column right margin to the left or right. Each cell may contain either a value or a label. All entries are assumed to be values unless they are preceded by an apostrophe.

When entering data, a RETURN takes you down a row and a TAB moves you to the next column. There is no method for entering multiple rows of data so that, as you reach the end of a row, the cursor moves down one row and back to the left-most column.

Most of the functions found in other spreadsheets are available. Among the math functions provided are: average, min and max, power, and count. Quartet also gives you a date function which is useful for determining the number of days between two dates. The financial functions include: future and present value, net present value, and payment amounts. The standard logical and look-up functions are also included. One of the things I like about a competing spreadsheet, Multiplan, is the ease of entering a range into a formula. You need only click and drag the Mouse across the desired cells and the program automatically enters the range into the formula. Quartet does not provide this handy approach. Ranges must be entered manually by typing the appropriate cell identifiers. There is no option to name a cell or set of cells and use that name as a reference.

Two parts of the spreadsheet can be viewed at one time. By grabbing a vertical or horizontal bar shown near the up/down arrows in the upper left-hand corner of the screen, you can pull

to the right (or pull down) to split the screen. You can easily jump between screens or have them scroll synchronously.
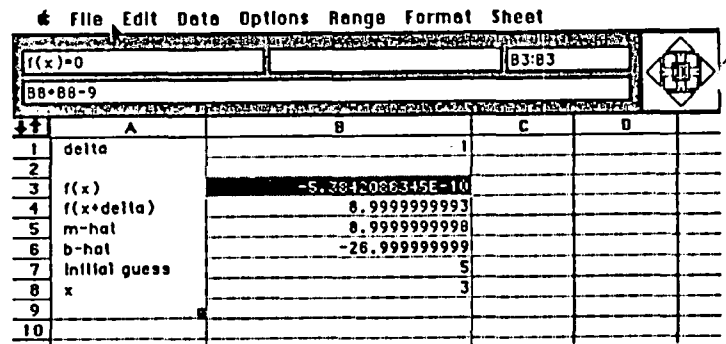

Quartet Spreadsheet

Quartet allows for iteration which makes it useful for solving certain mathematical problems. The screen above demonstrates an iterative procedure to solve for the zeros of an equation, $f(x)=0$. Note that cell B3 is pretty close to zero. The area A1:A9 has been set up as a text area, more on that later.
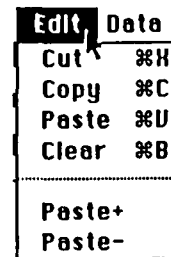

An interesting feature provided by Quartet allows you to add or subtract the contents of the clipboard to cells on the spreadsheet, denoted above as Paste+ and Paste-. This facility allows a manual method for aggregating data from a number of spreadsheets but is fairly inconvenient to use with more than one or two other sheets. Each table would have to be called up, Copied from, and Pasted back into the one sheet holding the combined totals. It is not an automatic linking of spreadsheets as provided by Multiplan.
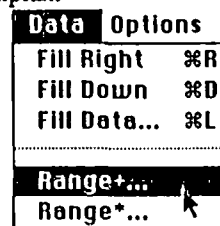
Quartet has a valuable editing function which permits you to either add to a range by a constant (Range+) or multiply all of the selected cells by a constant (Range*). You could, for example, increase a column of prices by 10% by doing a Range* using the constant 1.1.

Graphics. As I mentioned earlier, Quartet allows you to create three types of graphs which are displayed in selected areas of the spreadsheet (as opposed to appearing in separate windows). Below, you see a pie chart which is using the data in cells C1:C5 as the legend.

contd.
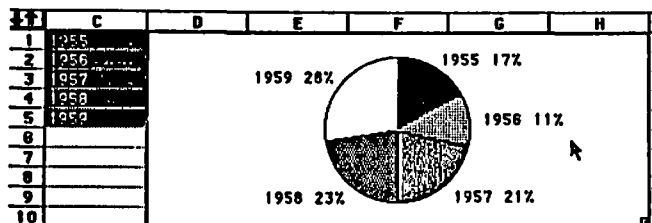
Quartet Pie Chart

The graph area can be immediately resized by grabbing and moving the lower right-hand corner. Line and bar charts can contain up to four separate series while pie charts, always shown as percentages, are limited to one. Two series are shown in the bar graph below. The vertical scaling of the line and bar charts is done either automatically by the program or manually by you. While this is this most flexible approach, there is a "down-side" or what is sometimes called an undocumented "feature". When the limits of the Y-axis are entered manually, the X-axis and its labels may be cut off, as shown in the two bar charts below. The first was scaled automatically while the second graph of the same numbers using the same X-axis labels, was manually restricted to the range 20 to 60 with a step size of 10. You can see the results...
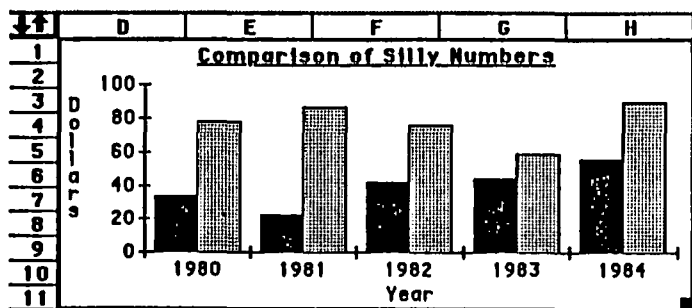
Quartet Bar Chart - Two Series
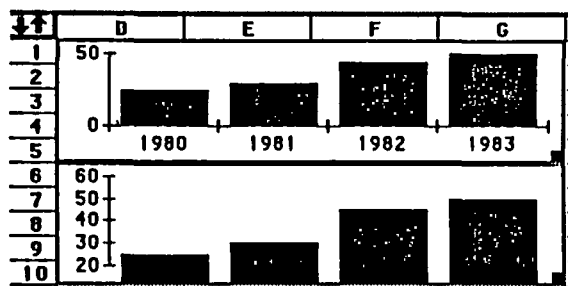
Automatic vs. Manual Scaling

Text Entry. Quartet allows you to label areas of your spreadsheet with text in a notepad-like format, as you saw earlier. By selecting a rectangle of the sheet and defining it to be text, you can enter up to 1000 characters of text. Like the desk accessory notepad, you can not change fonts or font size. Words are chopped off at the end of a line, not wrapped around as they are handled in MacWrite. About the only formatting option is the ability to underline words. Unlike spreadsheet data and graphs, text can be cut and pasted between other applications and Quartet.

Data Base. While the term "data base" appears in two chapter headings in the manual, Quartet is no more a data base

than is Multiplan. It can handle only a single rectangular array of alphanumeric information. It can sort the rows of the spreadsheet but not at a very fast pace. It took about 10 minutes to sort 200 five field records. It has no report generating or storage capability. There is no search function. In fact, since alphabetic information must be entered into the spread- sheet as a label, you are required to begin each alpha field with an apostrophe; otherwise, Quartet will try to interpret it as a mathematical function.

Manual. I found the 180-or-so-page manual to be clear and easy to follow. The first half consists of a tutorial with many examples, while the second half contains references for easy look-up. An accompanying 26-page pocket guide will serve you well after you have mastered the basics. The manual contains, an index, a table of contents and a stiff cardboard reference guide.

Weak Points. A serious deficiency is Quartet's inability to share data, values or graphics, with other applications. The clipboard can ONLY be used to exchange text. Quartet does not support the SYLK format for exchanging data with Multiplan. About your only option for graphics is to make a screen dump of an area around a graph and edit the resulting Screen 0 file with MacPaint, but that is not a satisfactory approach to an important requirement. Quartet has its own printing routine. The routine in the initial program release did not work with the Mac XL but the Haba people have indicated that a new release is now being distributed which will work with either hardware. The package is copy protected. You can move it to a hard disk but when you run it, you will be asked to insert your master disk. When moving it to the hard disk, the manual informs you that you must use the Font Mover to move a special font onto your hard disk system, as well.

The standard Macintosh interface has you answering a question about wanting to save the current data in the affirmative when you leave a program. In Quartet, you are faced with this dialog box when you quit:
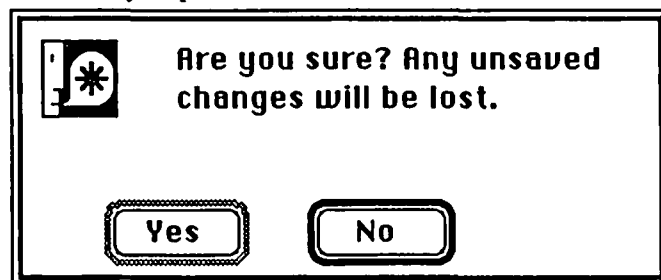
Summary. Spreadsheets and graphics are very desir- able computer applications. Given the relatively low price of the package, it shows considerable promise as an integrated program. Multiplan and Chart, its closest competition both in features and price, when combined with Switcher are, I believe, a superior solution. If Haba can correct the graphics problem mentioned above (manual scaling) and add the ability to Cut and Paste with other applications, the decision will be a harder one. An easier data entry interface which allows for automatic data entry within a rectangle (e.g. as used in Mulitplan) and easier selection of ranges would result in an equivalent package at a lower price. Haba Systems, 15154 Stagg St., Van Nuys, CA. 91405. Phone: (818) 901-0701. Price: $200.00.   ☦

Hayden Speller: A Spelling Checker for the Mac

by Chris Klugewicz

Just about everyone who has used a word processor has had the experience of printing a long document only to discover a typo or spelling error in an otherwise perfect document. Various spelling checkers have appeared to help insure that that sort of thing is kept to a minimum, but until recently none was available for the Macintosh. At last, Hayden Software has developed Hayden Speller, a full-featured spelling correction program designed specifically for the Mac.

The Hayden Speller Master disk actually includes two programs, the spelling checker itself and another program called "Convert Dictionary." This second program allows you to convert a Hayden Speller dictionary (but not the main dictionary) to a text file for editing and then back into a dictionary readable by Hayden Speller. Also on the disk are a sample document called "DEMO," the main dictionary, and a System Folder [Figure 1].

The first thing that greets you when you open Hayden Speller is a blank desktop. To set things in motion, you open a document from the File menu. This gives you a window showing the type of document and some information about it. Hayden Speller then proceeds to check the document against its main dictionary, a personalized dictionary named "∂/MY-WORDS," and the dictionary specific to that document if one exists. This operation is very fast (much faster than Mac•Spell•Right from Assimilation Process), and you are soon presented with the number of valid words and the number of suspected misspellings. At this point, you have several options: you can display the valid and/or suspect words [Figure 2], you can print them, or you can go ahead and start making corrections. If you choose the last option, there are two methods of correcting: by word alone or in context. The second method is the one I think is most useful. A large dialog box appears, showing one or two lines from your document with a large hand pointing to the suspected misspelling [Figure 3]. You can tell Hayden Speller to Accept the word as correct, Accept and Save the word (put it in a dictionary), Postpone Action on the word, or Replace the word with the correct spelling. To assist in this last option, there is a check-box called "lookup" that displays Hayden Speller's best guesses at the correct spelling of the suspected word. To choose a word from the lookup list, just click on it, and it appears in the Replace box. When you've made your choices, click on OK to go on to the next word. When you're finished correcting, you are returned to the Hayden Speller desktop. You can now review your corrections (and fix any mistakes you made in correcting--a very useful feature) or close the document. If you choose the latter, Hayden Speller will ask if you want to save
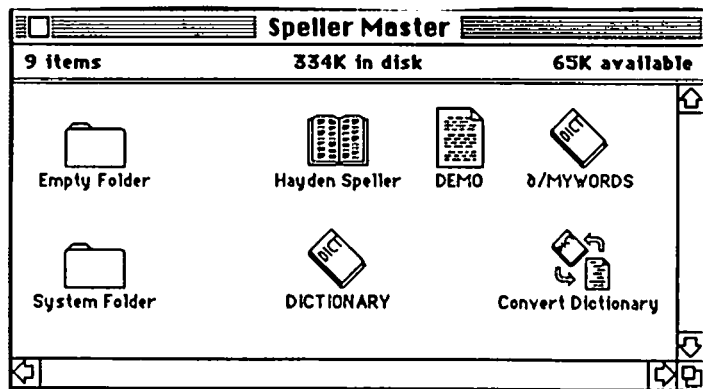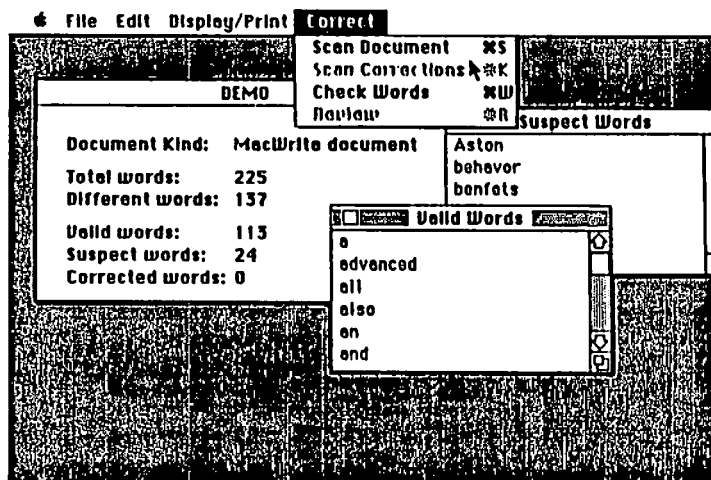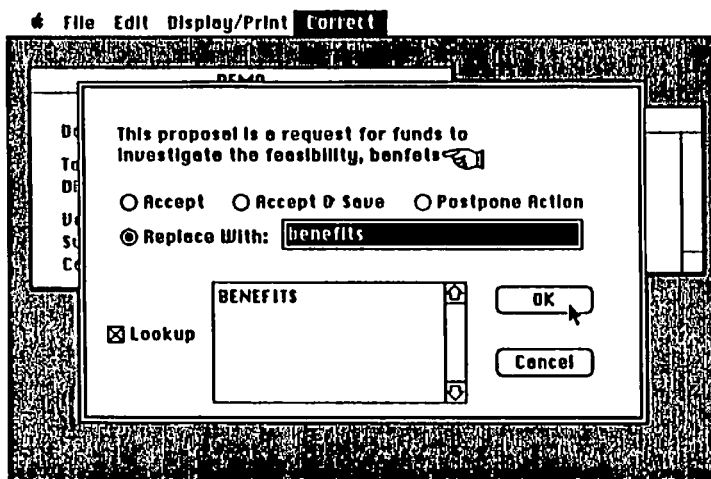

Figure 1

Figure 2

Figure 3

your corrected document under the same name as the original, then asks you if you want to save the words you told it to learn in the dictionary ∂/MYWORDS (for general use) or in a separate dictionary specific to that document. If you try to quit without finishing your corrections, Hayden Speller will remind you that some suspect words remain and offer you the chance to go back and correct them.

There are a couple of problems with Hayden Speller. First, though the documentation claims that the main dictionary contains something like 99% of the most commonly used

MacTracks: A Review
by Don Shepherd

When the Macintosh computer was introduced in 1984, one of the stated goals of Apple Computer was to encourage the development of low-cost, easy-to-use software for its new computer. Since then, and especially during the last 6 months, a significant amount of software has been released for the Macintosh. Most of this software could probably be categorized as relatively "easy-to-use", particularly that which takes advantage of the unique Macintosh user interface guidelines such as pull-down menus, icons, dialog boxes, and so on. But the retail cost of the software released for the Macintosh has not been substantially lower than the cost of software for other personal computers, including the IBM PC and the Apple II. Prices for Macintosh software range from "free" (for public domain software, of which there is a great amount for the Mac) to over $500 for the sophisticated business packages. However, there are companies producing low-cost, quality productivity aids for the Macintosh. One of the better of these companies is Assimilation, Inc., maker of Mac Memory Disk, Mac Turbo Touch, and, its latest product and the subject of this review, MacTracks.

MacTracks is a utility program for the Macintosh that records keyboard strokes and movements of the mouse and lets you assign individual keys to play them back. These are called "Tracks". MacTracks can be used either from the desktop or from within an application, such as MacWrite. Since MacTracks is a desk accessory, it can be used from any application that supports the standard Apple desk accessory pull-down menu. To use MacTracks, you first pull down the Apple menu and choose MacTracks. You then tell it that you wish to begin defining a series of keystrokes and mouse movements, and you designate which key (cloverleaf-a, option-shift-cloverleaf-x, etc.) will be used to define the recorded actions. You then enter the keystrokes and make the mouse movements that you wish to record. When you are done, you click in a MacTracks dialog box in the lower right-hand corner of the screen to tell MacTracks to stop recording. From that point on, whenever you enter cloverleaf-a, or whatever key you have defined, all of your keyboard entries and mouse movements that you just entered, including menu pull-downs and menu choices, will be repeated. At a suggested retail price of $29, MacTracks is a real bargain.

MacTracks is not copy-protected, as this would render it rather useless since you install MacTracks on your own disks. Installing MacTracks on one of your application disks is pretty straightforward. You simply copy the MacTracks Installer icon to your own disk. Your disk must have the System file on it (since Mac- Tracks works as a desk accessory, it incorporates itself into the System file). You double-click on the MacTracks Installer icon, answer the prompts, and it is installed. You now have a brand new desk accessory called, amazingly enough, MacTracks. After you have installed

MacTracks, you can trash the MacTracks Installer from your disk, thereby freeing up about 21K. After installation, MacTracks seems to take up about an extra 15K in the System file, and it also uses another file on your disk where it records what keystrokes and mouse movements go with your designated cloverleaf keys. This latter file, of course, gets bigger as you define additional tracks, but the total disk space required by MacTracks is negligible. If you desire, you can easily remove MacTracks from your disks with a simple procedure.

Recording a track is very simple. Just tell MacTracks what key you want to define, enter your text or mouse commands (up to 5000 characters can be stored, but I have not tried that many), and tell MacTracks when you are done recording. You also have the capability to pause (temporarily stop recording while you do some things you do not want recorded--just like the pause button on a tape recorder), to record without doing (for example, if you want to record the menu selection "Quit" without actually quitting your document at that moment). You can also start over if you have made a mistake during the recording and wish to get a fresh start. All of these options are available to you, while you are recording, from a dialog box in the lower right-hand corner of the screen. This dialog box keeps re-displaying itself every few seconds in case it is overwritten by one of the application's windows. You can give each track a descriptive name, and there is a "Library" function which you can call up to see all of the tracks that you have recorded for an application. You can also delete tracks, change a track to a new key definition, or change the descriptive name if you want.

Everyone will find a different use for this utility. My first use was in MacWrite. Whenever I start a business letter, I always put the current date on line 2, skip 2 lines, then enter my name and address. With MacTracks, I can define a single key to do all that. That is a simple example; the real power of MacTracks is it's ability to automate any constant, repetitive series of keystrokes and mouse movements. I think all of us have seen situations where we wished for a way to automate a standard series of keystrokes or menu commands; MacTracks is the answer to that wish.

There are a few problems that I have found with MacTracks. I could not install it on a disk where I had already installed the MockWrite and MockPrinter desk accessories; I had to remove them before I could successfully install MacTracks. On the desktop, for some reason MacTracks does not sense when you have selected several icons by dragging the selection rectangle around them; you must select them individually by shift-clicking. Tracks that you record are defined only for the application that you are working with when you record them. That is, tracks that you record while in MacWrite will only
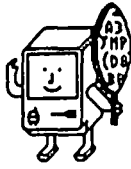
MAC INNARDS

..by Raymond Hobbs

In our previous discussions of the Macintosh innards and Quickdraw, we focused on the Quickdraw data structures and concepts, and on the procedures which utilize the QD data structures. Graphics-oriented applications will make extensive use of the facilities provided in Quickdraw, but "normal" applications (whatever that means in the Macintosh environment) need use only one - InitGraf. Why is this? Actually, Quickdraw is a medium- level programming tool. That is, while it may be used directly, it is commonly called by higher-level procedures to perform some detailed task which the caller doesn't want to worry about. QD is routinely called by higher-level managers such as the Window Manager to perform the details of drawing the window properly, so that the Window Manager can focus on the status of the window itself - the content, title bar, grow area, scroll areas and close area. In this manner, the programmer need only be concerned with how the application uses its windows, the Window Manager can concern itself with how the windows are displayed, and Quickdraw can do the artwork directed by the Window Manager.

To carry this concept one step further, if the programmer uses menus in the application (as is normally the case), the application is interested in the content of the menu and what to do when the user selects a particular event. The Menu Manager arranges the appearance of the menu items; the Window Manager (a menu is a window, after all) controls the appearance of the window and locating the mouse within it; finally, Quickdraw draws what the Window Manager tells it to. What does the programmer have to call from Quickdraw? Only InitGraf. The Mac's managers take care of the rest. InitGraf is only the hook between the windows' grafports and the drawing procedures called on by Quickdraw.

We should be aware of one other thing. The various Macintosh managers, including Quickdraw, are collections of data structures only. The procedures which we associate with them are really the routines located in ROM which are collectively known as the "Mac Traps", or the "Toolbox". These trap routines (and I'll explain what is meant by that anon) are hierarchical in nature - that is, one routine will call another. As the routines are executed, they expect to find certain data structures to work on. If the structures aren't where they are supposed to be, the routines will fail. Therefore, all structures which are to be used must be initialized. In our above example, this includes *InitWindows* and *InitMenus* as well as *InitGraf.*

The purpose of the foregoing discussion is to allow us to create a meaningful application for study. This implies setting up a normal (though simple) Macintosh application environment. In Mac parlance, this is a shell.

The Macintosh is not programmed from the top down, as is customarily done for other microcomputers, but rather from the inside out. This means that we must first create an environment for our application to live in, including all of the standard Mac interface features we wish to use (such as pull-down menus, windows, etc.), and then program the application to live in that environment. Although this seems like a ton of work to do for an application (which it is), there is a bright spot on the horizon - the shell which we create can (by and large) be used for every application. Think of the environment as a hotel room, with each application being a tenant; although some tenants want the bridal suite while others want no more than bed-and-breakfast, the rooms in a hotel are largely the same. We won't need to do that much modifying to our shell program to get it to work with any given application. As a matter of fact, if space weren't the premium commodity that it is in the Mac, we could build a bridal suite type of shell and just use that part of it which any given application needed. In any event, we will be going on to build a shell which uses menus, windows, dialog boxes, controls (buttons), graphics and text. This will entail the use of Quickdraw, the Window Manager, Menu Manager, Dialog Manager, Control Manager, Event Manager and Text Edit. We may also use the Font Manager and Resource Manager and others along the way.

Unfortunately, the way the Mac managers are structured is totally interdependent. While this is good from the standpoint of programming the application, it is quite befuddling from the standpoint of learning to create the environment. Although Inside Macintosh provides a "roadmap", each chapter of the documentation assumes some knowledge of other chapters - there really isn't a good place to start (unless it is Quickdraw itself). Most Mac programmers seem to simply pick a manager that looks interesting and start playing with it, finding out what it does and how it does it before moving on the the next interesting manager. These articles of mine have followed that same pattern, and will more or less continue to do so until we have a shell made. For the record, however, here is an overview sketch of what our shell will have to do:

1. Initialize all the managers we need.
2. Set up menu parameters for all menus we want to include.
3. Set up a window control procedure (to move windows, change
   size/shape of windows, edit text inside of them, scroll window contents, etc.).
4. Set up dialog boxes.
5. Set up control buttons.
6. Set up an event loop (in simple terms, a CASE statement*
   which tests for anything a user might do to menus, windows and such).
7. Set up a desk accessory handler, if desk accessories are to be supported.
8. Create an action procedure for each action to be taken as the result of a user event occurring.

Smalltalk on a Home Computer: A Review

Kurt J. Schmucker

In August of 1981 BYTE Magazine devoted an entire issue to the language Smalltalk-80™, a revolutionary language developed at the Xerox Palo Alto Research Center (Xerox PARC) during the 1970s. The BYTE editors were heavily criticized for giving so much space in their magazine to a language that, at that time, could only run on very expensive workstations (greater than $50,000). Their reply was "Wait, Smalltalk will be on the next generation of personal computers." They were correct. Three months ago Apple released Smalltalk for the Macintosh-XL.

Before I begin my review of the Apple Smalltalk, let's review what Smalltalk is and what it isn't. Smalltalk is a programming language, a comprehensive programming environment, and a grand experiment in changing the way people use and interact with personal computers. It is not an end-user application, though it can be used to generate these; it is not just another programming language of the Pascal-C-Ada-Modula flavor - it is an entirely new way of approaching the development of software and of designing workstation applications. Of these many facets of Smalltalk, the one that may be of the greatest initial interest to the Mac/Lisa community is that Smalltalk is the grandfather of Lisa and the great-grandfather of Mac. The Smalltalk experiment is the well from which many of the ideas of the Lisa/Mac revolution were drawn, including multiple, overlappable windows on a high resolution screen, icons, bitmap graphics editors like MacPaint, the use of many fonts and type faces in a text editor like MacWrite, program debugging facilities like Macintosh Pascal, the heavy use of the mouse for user interaction, among many others.

Required Hardware. The release in March by Apple of Smalltalk-80 for the Macintosh-XL marked the first entry of any company into the Smalltalk market for a low-to-medium priced workstation. Smalltalk is available at cost ($45 for the six microdiskettes and the documentation) and will run on any Macintosh-XL with exactly 1000K of memory. (It will not work with the 512K Macintosh-XL nor will it work with any memory extensions such as the AST RamStak.) Apple is not advertising this release since this version of Smalltalk is unsupported by them. A fully-supported version of Smalltalk that will run on the 512K Macintosh is now being planned. The current Smalltalk release, and probably the future releases, requires a significant amount of hard disk space. As you can see in Figure 1, Smalltalk takes up about 2000K of disk space and you need an additional 1300K temporarily during the installation procedure for intermediate files that are generated and then later discarded. For those running MacWorks off a 5MB Profile, the entire Profile must be devoted to MacWorks. For those with the internal 10MB disk, at least 5MB must be devoted to MacWorks - this is how I run Smalltalk. My 10MB
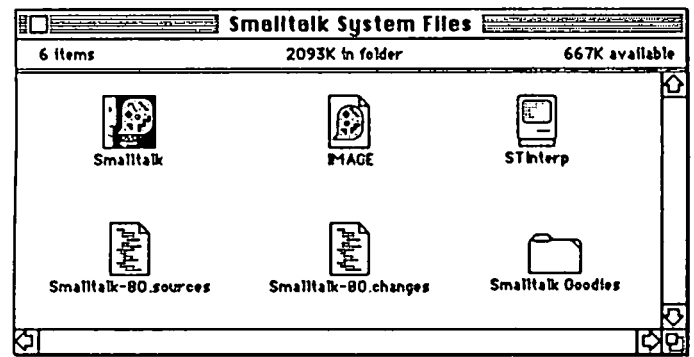

disk is shared equally between MacWorks and the Lisa 7/7 Office System combined with the Lisa Pascal Workshop. (For those of you who are wondering, my four external Profiles provide the space for my Office System documents and my Pascal, C, Clascal, and Object Pascal programs.)

Using the Macintosh XL Smalltalk. Although Apple is very apologetic in the Macintosh-XL Smalltalk documentation, they need not be. This Smalltalk is excellent. It provides "hooks" into the Macintosh file system, can print on the ImageWriter, and can generate MacPaint and MacWrite documents to communicate with the outside world. The speed of the system, the failing of every Smalltalk implementation, is fine for study of the Smalltalk language and its associated environment or for the design of prototypes - one of the best uses of Smalltalk. It is not yet fast enough to be used for real applications. It is as robust as any language/environment in which the user has full access to all the system code. Yes, full access! If I wanted to change the way the compiler worked, or the manner in which Smalltalk interfaced to the Macintosh file system, I could. In such an environment, it is easy to blow the system out from underneath you. I have done this twice - and both times I kicked myself for not being quick enough to realize that what I was doing would HAVE to result in a disaster. What language is the Smalltalk system written in? Smalltalk, of course. Thus, not only does a Smalltalk programmer have complete access to the entire system, but this access is all in a higher-level language.

The Apple MacWorks Smalltalk (as it is sometimes called) follows to a great extent the published Smalltalk documentation. (See the list of references at the end of this article.) The few differences have to do mostly with hardware differences between the ideal machine that Smalltalk was designed for and the real machine it runs on - Macintosh XL. The biggest such difference is that the ideal Smalltalk machine has a mouse with three buttons. Apple provides the Smalltalk programmer with several way around this dilemma including the use of two of the keys on the keyboard as additional mouse buttons and the modification of the basic Smalltalk program editor (the Smalltalk browser) to work better on a one-button workstation.

Let me give you an idea of how this programming works by detailing some Smalltalk work I did yesterday. I needed to be able to make MacPaint files from Smalltalk. This was a little too deep into Mac system magic for me, so I asked two of my

friends at Apple, Dan Ingalls and Mark Lentczner, for some help. They provided me with ?? lines of Smalltalk code that solved the most difficult problems. To enter this into my Smalltalk system, I used the browser which is a combination text editor, compiler, and filer. (See Figure 2.) Once I had entered this into my Smalltalk system, I could immediately make limited MacPaint files from the screen in a manner similar to the MacPaint "marching ants" selection rectangle. Just entering the code into the browser compiled the code, linked it with the rest of the system, and made it available for immediate execution. Further enhancements were up to me and proved not to be too difficult.
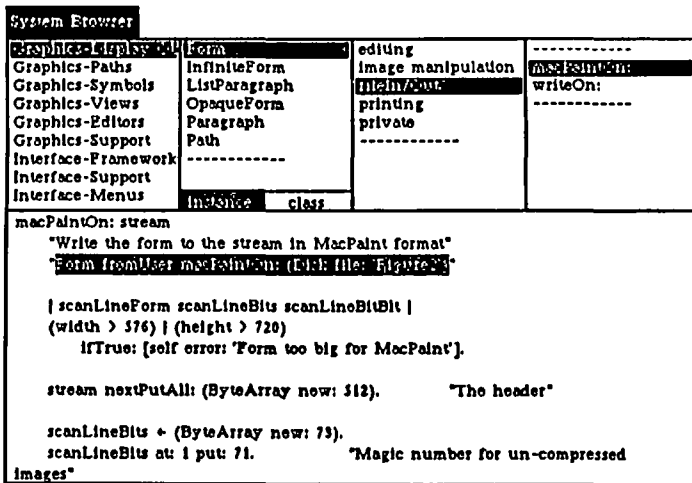
Smalltalk has its own MacPaint, the Smalltalk Form Editor - in fact, the Form Editor is the great-grandfather of MacPaint. Figure 3 shows the Form Editor window - note the use of the iconic palette like MacPaint. How does the Smalltalk Form Editor compare to MacPaint, you may ask? Such a comparison is unfair. The Smalltalk Form Editor was designed to answer the question: "Is it POSSIBLE to write a program that would enable a person to edit a bitmap graphic in something like the manner in which a text editor enabled a person to edit a text file?" The answer proved to be an enthusiastic "Yes" and MacPaint took it from there to improve the functionality and increase the ease of use.
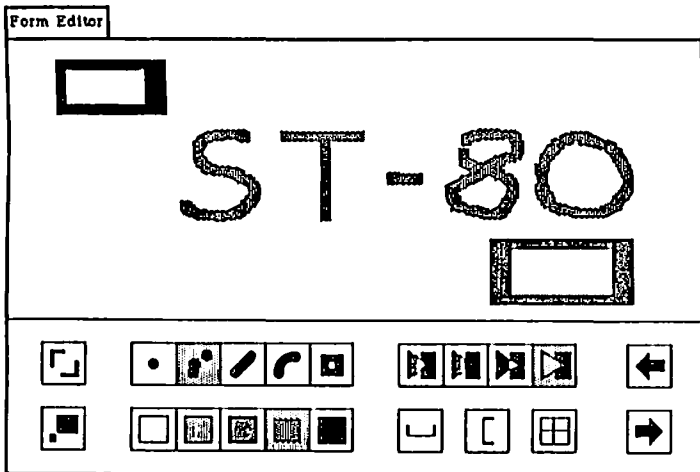
Why should you use Smalltalk? Smalltalk is the ancestor of an entire family of languages and a new style of programming that is now gaining great popularity especially for the development of sophisticated workstation software. This style of programming is called object-oriented programming and it is best done from languages that have built into them the support for the basic notions of object-oriented programming. These so-called object-oriented languages include Clascal, Objective-C™, Neon™, Object Pascal, ExperLisp™, and many others. Smalltalk is their ancestor and yet it not out-dated. While a thorough introduction to the principles of object-oriented languages is beyond the scope of this article, suffice it to say that Smalltalk is the purest embodiment of these principles and thus can be the best introduction to this style of programming - a style of programming that many people think will be the dominant programming style in the late 80s, especially for workstation software. By releasing Smalltalk for the Macintosh (as well as Clascal), Apple has squarely tossed its hat into this corner of the programming world. By studying Smalltalk, you can evaluate this programming style for you own use.

MacWorks Smalltalk can be obtained from Apple's mailing facility: R.S.I., 520 Weddell Drive, Suite 8, Sunnyvale, CA 94086, Phone - (408) 747-1288, for $45.

References:

Smalltalk-80 - The Language and Its Implementation, Adele Goldberg and David Robson, Addison-Wesley, 1983.
Smalltalk-80 - Bits of History, Words of Advice, Glenn Krasner, 1983.
Smalltalk-80 - The Interactive Programming Environment, Adele Goldberg, Addison-Wesley, 1984.
"Clascal - An object-oriented Pascal ", Tim Endres, Computer Language, Volume 2, Number 5 (May 1985), pp. 49-52.
Object-Oriented Programming for the Apple Macintosh, Kurt Schmucker, Hayden Press, 1985 (in preparation).
Object-Oriented Programming: A Power Tool for Building Systems, Brad Cox, Addison-Wesley, 1986 (in preparation).
Smalltalk-80 - Creating a User Interface and Graphical Applications, Adele Goldberg, Addison-Wesley, 1986 (in preparation).   ⑮

* For you BASIC folks, a CASE statement is like a multiple IF- THEN nesting. I plan to show how to do this stuff in BASIC as well as PASCAL, C and Assembly.

In effect, once we have done all of the setups, the application program consists of sitting around and waiting for the user to do something, and when he or she does, we respond to it. If we were boxers, we would be strictly counterpunchers. Actually, this is quite typical of the average Macintosh application procedures.

While all this is going on, we will also be investigating the other major managers, such as the Window Manager, Menu Manager and Event Manager. Our application will make direct use of Quickdraw data structures and procedures, so we will get a feel for both high and low level control of the Mac.   ⑮

A TALE OF TWO CABLES
by J.T.(Tom) DeMay Jr.

I have had my Mac for over 15 months and have not had any hardware problems. The Mac and my //e have been taking turns talking to my Imagewriter with pleasing results. But when I purchased OverVUE, something strange happened. The files I attempted to print were printing as garbage after the first 3/4 of a page was printed. This didn't make much sense since I had been using the Mac and Imagewriter together for so long. Maybe I had forgotten to set the switches in the Imagewriter since I had last used it with the //e. No, they were set properly. It must be the software. All hardware people blame the software first.

While cleaning up the area around my desk I found a hint of what the trouble might be. There was a sheet of most common OverVUE questions included with the program that I had overlooked. No wonder I overlooked it; I didn't even read the manual. I would rather "get it up and running" and then read the manual, especially with Mac software. In my opinion, if you need a manual to get started, then it is too complicated. The insert suggests changing dip switch 2-3 to the OPEN position. This, according to the Imagewriter manual, selects Data Terminal Ready instead of XON/XOFF protocol.

It is a fact of life that mechanical equipment (printers) cannot produce as fast as electronic equipment (computers). To work properly together, some means must be established to allow communication between them so that when one is ready to "talk" the other is ready to "listen". (Ed. Note: We could use this for people, too.) Two such methods are XON/XOFF, and Data Terminal Ready. XON/XOFF stands for Transmission ON/Transmission OFF. It works like this: When the printer receives information faster than it can print, it sends a signal (usually Ctrl-S) to the computer to tell it to stop sending data. When the printer is ready to accept more data it sends a resume signal (usually Ctrl-Q) to the computer. These control signals are sent over the transmit-receive wires. In the case of the DSR protocol, two additional wires are used. They are CTS (clear to send) and DTR (data terminal ready).

I changed the switch setting and tried again. The results were not any different. Back to the insert. The next paragraph suggests determining which Imagewriter cable you are using. (I didn't know there was more than one!) "Is it the same color as the Macintosh with no thumb screws? If so, try swapping that cable for a newer one. The newer ones are darker in color and do have thumb screws." Sure enough, my cable was the earlier one. It looked like the easiest solution was to get a new cable from APPLE. If the cable I got with my Mac was defective, surely they would replace it, or give me a trade in for a newer one. The dealer I called said that there was indeed a newer cable, and that he would be willing to sell it to me for $45. There must be a cheaper way. I build cables often for many different configurations, and certainly can build one for a lot less than $45.

The first step was to determine which wires were needed by the Mac and the Imagewriter. This information can be found in one of the SigMac disks and the Imagewriter Users Manual respectively. Armed with a volt/ohm meter, I discovered that the old Imagewriter cable was wired like this:

Mac	lead		Imagewriter	lead
1	not connected			
2	+5 volts	6		not connected
3	signal ground	7		signal ground
4	not connected			
5	transmit (-)	3		receive
6	no connection			
7	clear to send	8		not used
8	receive (+)	1		frame ground
9	receive (-)	2		transmit

Something suspicious here! The insert with OverVUE said to change switch 2-3 to open which selects DTR (Data Terminal Ready). Pin 20 of the Imagewriter is defined as DTR, and it is not connected in the old Imagewriter cable. It should be connected to the CTS (Clear To Send) lead at the Mac. The people in the service department of Frederick Computer Products confirmed my suspicion, and offered the following wiring diagram for connecting the Mac to the Imagewriter. (The colors are the ones used in the Imagewriter cable which came with my Mac):

Mac	color	Imagewriter
1	no wire	1
3	red	7
5	orange	3
7	green	20
9	white	2

The fix should be simple, just disconnect the wire from pin 8 of the Imagewriter end and connect it to pin 20. It is not that easy. The cable has molded connectors on each end which makes re-asseambly almost impossible. The cheapest answer was to cut the connecter off of the Imagewriter end, and wire a new one available from Radio Shack as part # 276-1547 (connector) and 276-1549 (hood). Since the Mac end of the Imagewriter cable didn't have a wire on pin 1, this fix will not connect the frame grounds together. This shouldn't be a problem unless your Mac and Imagewriter are a considerable distance apart, (over 50 feet).

The most interesting part of this experience is that the Mac and the Imagewriter have been working properly for a long time. It just goes to show that there is always some little GNOME waiting inside your equipment to jump out, just at the wrong time and "get" you. BEWARE!!!   ⑯

BEST OF THE MAC ABBS
by Regina Litman

From WAP342 to All   04/20   Hyperthoughts

Saturday the 13th, I heard Andy Hertzfeld talk about
what not to do to your Mac. He said that there was "a
possibility" that add-ons from third party vendors
that required modifying the Mac hardware might not
work with the new Mac enhancements. When asked about
the hyperdrive, he repeated the above phrase. The 512
is "ok" to get done. He also said that the switcher
would be distributed free by Apple later this summer,
probably in June. He is working on a program to
allow you to define keystrokes to be used as an
alternative to mouse actions, like those used in Mac-
Write.   These new keystroke commands will become part
of the application Program. Tom

From WP5416 to All   04/27   Rumor Control

To reemphasize the warning in the opening bulletin, do
not, I repeat do not, modify your Mac motherboard with
a non-Apple memory upgrade or a hyperdrive until the
double-sided Sony issue is settled. It appears that
Macs manufactured before mid-Feb (85) will need a
board swap to get the new disks. If you modify your
board, you may lose rights to a swap. Don't panic if
you already have had such a modification;, the details
are not settled on this yet, and the only issue for
you is added cost. But unless you absolutely, posi-
tively need a non-Mac upgrade or a hyperdrive before
Fall, your best bet is to wait.

From WAP884 to All   04/27   Non Mac Upgrade

I have heard from a reliable source that "Apple
doesn't care what you have done to the board, as long
as it works." Thus meaning that a 512K board is
"swapable" as long as it works. Andrew

From WP5566 to:WP5814 04/20   MDS

I havn't seen it yet, but a recent letter from the
author of MDS makes it fairly clear that MDS will just
be an assembler and related stuff; no C or Pascal -
that would be too good to be true. The IM in MDS will
be the "phone book" version, not the final or the
looseleaf.

From WP5814 to:WP5566 04/20   MDS 512

The system I was talking about is the MDS 512 I think
and Apple has confirmed that there is such a MDS
under development and I heard that it should be going
to beta test now and in release in Sept. or Oct. I
hope it is a good product. The idea behind it that
you can write code in any of the three and link them
together sounds interesting.

From WP5416 to:WP5814 04/27   (R) IM and MDS

An -interim- version of Inside Mac and the MDS assemb-
ler sell (retail) for $195. No Pascal and no C are
included. Yell at your friendly neighborhood dealer
for not having it in stock, then call Sunrise for a
good WAP deal. ($150 + 5 shipping).

From WAP519 to All   04/27   Small $ 10mg Mac Drv

First Peripherals acknowledged at the Pi meeting today
(Sat, April 27, '85) that they would have a Mac 10
megabyte hard disk in August for about the cost of the
Sider for the //e ($695. Complete!!!).   For more

details, write them, or ask someone who was able to
stay for the talk afterwards. Lee

From WAP884 to All   04/30   Apple XL, etc.

Apple offically dropped the XL(Lisa) on Monday. They
said they were originally going to produce it through
the Fall, but demand tripled and parts ran out much
faster than they thought. Also on Monday, Apple
announced that they will be producing a 20meg drive
for the Mac some time in summer or Fall. Also, Apple
says they will continue as planned with MacWorks XL
and all the other stuff.

From WP3181 to:WAP371 05/08   Dead XL

The XL is dead, long live the Mac. Yes , Virginia,
the XL is dead. Rumor mill has it that the reason
Apple announced it is that they plan to announce
sometime next year upgrades to the Mac which would
make the XL a computer without a reasonable market
share.   They actually planned to continue manufac-
turing them thru most of this year from parts on hand,
but the renaming of the Lisa to the Mac-XL turned out
to be a stroke of (unwanted) marketing genius, as
sales shot up thru the roof and they ran out of needed
parts, thus being forced to either order more or shut
down production earlier than they had planned.

From WP5099 to:[you]   05/03   Ramdisk & 4.1

I haven't experimented with 4.1 & Ramdisk yet, but
there seems to be a consistent thread on the various
boards I check into that 4.1 & the Ap Ramdisk don't
like each other particularly well. 4.1 speeds things
up partly by keeping more stuff in memory, and there's
evidently some potential for conflict w/Ramdisk.

From WP4985 to All   05/03   Idle Mac Screen

There is a DA to "idle" the Mac screen. It rotates a
Mac small image around a blackened screen. Clicking
the mouse brings you to full clearscreen display
again.   It is ideal for leaving your Mac on all day
without fear of burning in your screen. I have it.

From WP5417 to:[you]   05/05   Compatibility

When I got finder 3.0x I used the Minifinder success-
fully with Macterminal, Binhex v4.0 and MacWrite (2.2,
I think). I also used it with MacWrite 2.2 and Hayden
Speller. When I got Finder 4.0 the Minifinder would
not work with Macwrite 2.2 and Speller. Maybe I did
it wrong?

From [you] to:WP5417   05/05   Minifinder

Goodness!   I haven't even figured out how to use it
yet!   Maybe someone can let me in on it. When I've
tried to do it, I get a message about the application
needing to be in the active window. Problem is, I
have a tendency to keep my major application in the
desktop area. When the desktop is the "active win-
dow", this still doesn't work. Anyway, newer Finder
is 4.1.

From WAP930 to:WAP538 05/11   Ultimate Hack

Under cover of darkness, I infiltrated the famed WAP
ABBS room located at a secret location in Maryland. I
thought that because a Mac BBS had been instituted

that I would find both an Apple][and a Mac sitting happily side by side in the secret BBS chamber. But much to my horror and surprise, I found that the Mac BBS is a lowly Apple][without lower case! What deception.

From WP4893 to All   05/15 SigMac Disk 19

Has anyone tried the mock accessories already installed on the system of SigMac Disk 19? I find repeated open and closing (without doing anything) will eventually eat up all my memory. I thought the purge bit problem was fixed long ago. I'm not sure the problem continues if you install the accessories on another system.

From [you] to:WP4893 05/15 Mock Desk Access.

Be sure that whatever desk accessory mover (from C.E.) is dated 8/31/84 (or later!). This date is on the intro screen you get after entering the program. If you're using the system exactly as installed on SigMac Disk 19, it's possible that the DA's were installed using the old DAM. Note that Mockprint "forgets" to print the last line.

From WP4893 to:[you] 05/19 Mock Desk Accs.

The desk accessory mover on SigMac Disk 19 is specially tailored for mock accs. only and is unlike the two previous DAMs (one known to be bad!) supplied on SigMac disks. I still think at least the system on SigMac 19 is buggy. With the new Font/DA mover on the Apple sys. upgrade, I don't know what to do with the old C.E. DAMs - trash them I guess.

From WAP538 to:WP4893 05/20 Desk Accessory Mover

Keep the version of desk accessory mover on SigMac 13 - you will need it to move in & out the desk accessories on other SigMac disks. Font/DA mover will not work on those desk accessories. (At least, I have not been able to get it to work. Have others?)   Tom Warrick

From WP6861 to All   05/20 C.E. Desk Acces...

To change C.E. DA's into Apple Font/DA mover format:
1. First load into the System file using C.E. Mover.
2. Then download using apple's Font/DA mover. Very simple.

From WP4621 to All   05/19 Taliesin Font

Can anyone get this new pictorial font to work??

From WP4985 to:WP4621 05/19 Taliesin & Macpaint

Taliesin is the new Mac font designed to work with the new Font/DA mover - part of the new 4.2 finder upgrade. It is not a Macpaint document. Hence you cannot "open" taliesin w/ Macpaint. If you need new system upgrade (4.2), contact your local friendly dealer or send me blank disk & sase. As to demo-ing games at SigMac, you will have to contact Steve Hunt.

From WP4985 to:WP4621 05/19 Taliesin Font

You need the new combined Font/DA mover in order to use the new Taliesin Font - which is a pictograph font not unlike Cairo. Your local dealer should have this available now. I have given same to the SYSOP for dowloading from this BBS. If not available soon, send me disk and sase and I will provide it for you.

From WP6530 to All   05/17 Spell Checker

I am interested in Macspell+ or any program like it which can be used without quitting MS Word. If you

have used such a program, I would appreciate any info on how well they actually work. I have Hayden Speller but I have to quit Word to use that spelling checker. Appreciate all assistance. Doug

From WP4985 to:WP6530 05/19 Macspell & MS Word

Doug, you cannot use Mac*Spell*Right with MS Word. Only Hayden Speller works with it now. Like you, I am not very happy with Hayden's Speller; it's creaky and of limited value in terms of its dictionary size. I understand a new glossary and speller (GAS) software is due out from Applications Unlimited (303)699-0441, in July, but don't hold your breath.

From WP5292 to:WP6530 05/21 Word Speller

Assimilation will be releasing its spelling checker for MS-Word "real soon now". It's called the "Right* Word" and will work within the program just as Mac* *Spell*Right works within Macwrite. Takes up a lot of disk space though. Bailey

From WP6558 to All   05/19 Write 4.5 and Spell

I just found some bad news today, Hayden Speller will not work with the new (4.5) version of Write. I don't know why yet, if anyone has it figured out please let me know. Rick

From WP5417 to:WP6558 05/21 Hayden Speller

I had Hayden Speller working with Macwrite 2.2. When I tried it with 3.8 and 4.0 it did not work. Also, I have had a problem using the Minifinder of the new Finder (4.1) with Speller although I could use the Minifinder and Speller when I was using Finder 3.0.

From WP5566 to:WP5417 05/22 Hayden Speller

I called Hayden yesterday. The upgrade for Macwrite 4.5 will be released soon at a cost of $7.00 to registered owners. Hayden will mail out a notice, perhaps later this week.

From WP4985 to All   06/01 New 80-Column Format

Tom Warrick has just updated the ABBS system to allow for direct input of 79 columns, 5 lines. Thanks, Tom, this is a major improvement for Mac owners.

From WAP884 to All   06/01 Jazz

I have received a copy of Jazz. Lotus sent out a full functioning "pre-release" copy on the 29th. They gave no indication as to whether the real version has been released or not. Stop by Computerland of Gaithersburg if you are interested in seeing Jazz. Andrew   ⑮

words, I've had to add to my personal dictionary quite a few words that I thought were common, such as "bibliography," "dialog," and--believe it or not--"misspelling"! Also, correcting words requires a lot of switching between the mouse and the keyboard, which is mildly annoying after a while.

Overall, though, Hayden Speller is an excellent program. It makes extensive use of the Macintosh user interface, and the documentation is fine (though it isn't even necessary to read it to use the program). The main dictionary is reasonably complete, and the custom dictionary feature is very good. Prospective buyers should note, however, that Version 1.00 of Hayden Speller works best with Microsoft Word documents, well with MacWrite 2.20 documents, but does not work at all with disk-based MacWrite documents (MacWrite versions 3.0 and above). I highly recommend this program.   ⑮

FREDERICK APPLE CORE
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Upcoming Programs - August 8, 1985 - Panel Discussion of Databases

Meetings are held the second Thursday of each month at 7:30 PM in the large conference room of the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, MD 21701.

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.

The Frederick Apple Core announces the formation of a Special Interest Group (SIG) for the Macintosh (MAC) in the Frederick area. The first meeting will be held on Tuedsay, June 25th, 7:30 PM. Call Lynn R. Trusal at (301) 845-2651 for details and directions.

A PLOTTER DRIVER FOR THE MAC
by Lynn R. Trusal

When Apple first introduced the Macintosh, there was only one printer that could be driven by the available software; that was the Imagewriter. Within a short time, "drivers" became available from third parties for other dot matrix printers. At least three companies have released "drivers" for letter quality printers. Although dot matrix graphics can be of good quality, they do not compare with pen plotters currently on the market. Plotters from companies such as Apple, Hewlett-Packard, Houston Instruments, and Epson offer the capability to generate multi-colored graphic output at a reasonable cost. It was not too long ago that pen-plotters cost thousand of dollars and were beyond the cost of all but business users. Now, one-pen plotters can be purchased for as low as $225 and six-pen ones for just under $1,000. These prices are bound to drop further as sales increase.

There is now available for the Macintosh a plotter-driver called Plot-It from Mesa Graphics of Los Alamos, NM ($95, list price). This driver supports the Apple 410 color plotter, Hewlett-Packard 7475A (6-pen), and the Houston Instruments DMP-29 and PC-695. Plot-It runs on either the 128- or 512-K Mac and requires MacPaint since all plotter output is accomplished from MacPaint. This has some advantages and disadvantages which I will discuss.

One of the major advantages of any plotter, compared to a dot matrix printer, is the ability to plot continuous lines and curves. Plot-It faithfully reproduces horizontal and vertical lines, but diagonal lines and curves display the characteristic stair-step appearance produced by dot matrix printers (Figures 1 and 2). This is particularly noticeable when diagonal line graphs are plotted. While plotting, the "driver" causes the pen to plot partial letters as it skips across a line of text, making several passes to complete each letter. This is not really annoying, but is in contrast to watching plotter output from programs such as PFS Graph or Prime Plotter on the Apple //e. This is evidently due to complications of driving a plotter with bit-mapped output.

Plot-It comes with two identical disks and a small user manual (14 pages). Plotter dip-switch settings are provided for the four supported plotters. The Imagewriter cable does double-duty by serving as a means to connect the RS-232 connector to the plotter and the DB-9 end to either the printer or modem port on the back of the Mac. This is particularly convenient since no new cables are needed and you don't even have to switch ports on the back of the Mac. When the disk is inserted and the plotter icon opened, an icon for Plot-It and three folders are evident. One folder holds the system files, another is empty, and the third contains four graphic samples to demonstrate Plot-It's capabilities. If the Plot-It icon is opened, the user can select several plotting parameters. These include the speed of plotting, the particular plotter used, the Mac port used for the connection, the size of the paper, and a "color on or off" option. Once set, these may may be saved for future use.

It is important to remember that anything that can be pasted into MacPaint can be plotted. This includes graphs from Microsoft's Chart, Text from MacWrite or Word, and paintings and drawings from MacPaint. Since many plotters work with text programs, the ability to plot graphics out of MacPaint is also a nice advantage. Parameters that can be adjusted for each plot include the plotting area, the portion of the drawing to be plotted, and the color of the pen to be used. The pull-down menu suggests colors for each pen location (up to 8), but you can place pens in any location. If two drives are used, MacPaint files in the second drive may be accessed from a pull-down menu option, "Open MacPaint Documents". A dialog box appears on the screen and documents from both drives may be viewed.

Results obtained from Plot-It are shown in Figures 1 and 2, demonstrating two of the sample drawings provided on the disk. For anyone with predominantly text plotting needs, Plot-It will probably be satisfactory. I found that a flow chart was plotted quite nicely,
contd.

although the size of the plotting area and the thickness of the pen used did influence the quality of the finished product.

For those of you who do not immediately need a plotter, you may be better off waiting for several months until the official release of a program called MacPlots II (Computer Shoppe, 615 Guilford-Jamestown Road, Greensboro, NC 27409, (919) 229-4843, $195, list price). This program will be released within 60 days after the release of MacDraw, although there is a version now available for the Lisa (Macintosh XL) called Plots II (list price of $295). Instead of using Mac-Paint, MacPlots II uses MacDraw as the plotting vehicle. This approach has several advantages. First, with the use of MacDraw, there is no longer the stair-step appearance of lines that are not horizontal or vertical. MacPlots II will produce continuous one-piece drawings from multi-page drawings, ignoring page breaks. If you use "E" size plotters, you can produce up to a 36" x 96" output. Scaling the drawing up or down is also possible just prior to plotting.

MacPlots II does not support all features of MacDraw, i.e. "clipping" (the hiding of lines or objects with other objects) and line-pen patterns. In addition, not all fill patterns will be applicable for all objects to be plotted, but variable line thickness will be supported. In a manner similar to Plot-It, Macplots II can plot virtually anything that can be pasted into MacDraw (i.e. documents, text, charts and graphs). Since MacPlots II has not yet been released for the Macintosh, I cannot attest to its actual performance. Such an evaluation will be the subject of a later article.
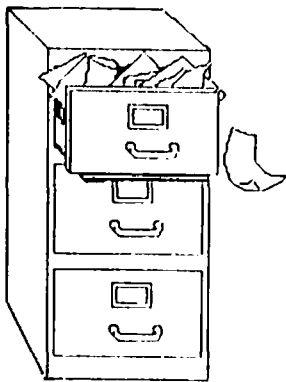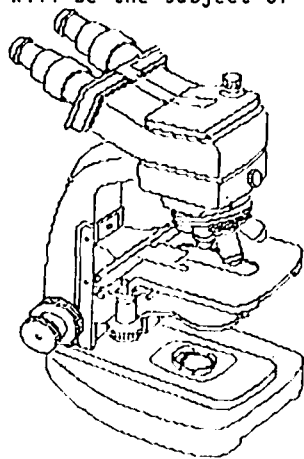

Figure 1

Figure 2

USEFUL READING ON APPLEWORKS by Milton R. Goldsamt

The July issue of A+ magazine has devoted its cover, editorial message and three articles to "Exploring AppleWorks". To quote the magazine, "The first article, 'Amplifying AppleWorks', covers a wide variety of add-on software products such as spelling checkers, mail-merge programs, graphics programs, and others. The second article, 'Business AppleWorks', teaches you how to set up sample records for a small business. The final article is 'Personal AppleWorks', which takes a look at how to use AppleWorks for recording and analyzing home finances." The latter two articles were written by Charles Rubin whose new book, AppleWorks, will be published by Microsoft Press in July. (Incidentally, the magazine's table of contents is incorrect; the glossary of terms on page 25 by Steve Rosenthal deals entirely with another article, not the AppleWorks articles, as indicated.) ⑤

MACGUARD: A Review
by Bernie Urban

Let's face it. Surge protectors are ugly. Some are uglier than others. The real question is, do they do their job? The need for one that works is readily apparent. Steve Hunt, our illustrious SigMac Chairman, while demonstrating some newly acquired software at one of our meetings, experienced a power surge and one expensive fried Mac (or was it flame broiled?). Our man-in-the-hat columnist, Lee Raesly, has stories to tell about how having surge protectors galore didn't help him any when lightning struck nearby and passed through two protectors, leaving them unscathed but frying 3 Apple //'s. See his Ole Malev article, "Wednesday's Child is Full of Woe", in the November 84 WAP Journal.

You can make your own surge protector from power strips and varistors. See an article by our own Tom Riley in his book, "The Computer Controller Cookbook" (available at discount at the Pi office). But beware, one power surge later the varistor has popped and you may or may not know that your "intelligence amplifier" is no longer protected.

Surge protectors come in various sizes and shapes and in various flavors, e.g. lemon, lime etc., but the one I am reviewing is the MacGuard by Systems Control, a division of M. J. Electric, Inc. Though I have written earlier that surge protectors are ugly, Mac-Guard is not. Placed on the right side of a Mac as recommended by SC, it looks fairly unobtrusive and functional. It is fastened to the Mac by means of two dual-lock fasteners with pressure sensitive adhesive backs. Dual-lock fasteners are high-tech velcro fasteners.

Follow their advice concerning installation - hold the unit to a properly cleaned Mac side wall firmly for 10 seconds, and do not try to remove the MacGuard for 24 hours. Otherwise, it may not properly adhere to the surface in use. Since there are two switched outlets on the back, there may be four heavy electrical cables extending from it at one time and you may forget when turning on the system by means of the switch on the back and apply sufficient pressure to the unit to tear it away from the Mac. Yes, there are four wires possibly in use. The Mac power cord is plugged into the MacGuard. The short extension on the unit is next plugged into the Mac. Then, for example, you may choose to plug in both your Imagewriter and Laserwriter into the switched outlets.

There is a green LED which should glow to indicate that your wall outlet is properly grounded. If it doesn't, and you are capable of checking your house circuits, check for improper grounding of that outlet. Otherwise, call your friendly (but expensive) electrician.

Next, take note of the 1"x5" pad on the side and above the LED. This is there to enable you to drain off any static electricity charges which you may have built up. Good practice would call for your touching that pad each time you sit down to use the Mac.

Specifications for the technically inclined as provided by System Control are:

Line Voltage: 120 volts AC, 50/60 Hz
Max. Current: 6 amps
Circuit Breaker: 6 Amp magnetic circuit breaker
Temperature Range: 0 to 55 degrees Centigrade

Peak Power at 1 millisecond: 40 kW
Surge Energy Dissipation: 70 Joules
Peak Surge Current: 6500 Amps
Clamping Response Time: <5 nanoseconds
Insertion Loss as Measured in a 50/50 Ohm System, 200 KHz to 30 MHz: 22dB to 40dB Common Mode (Line to Ground; 20 dB to 64dB Differential Mode (Line to Line)
Anti-Static Pad Surface Resistance: 3.9x10 Ohms

I am acutely aware of the Achilles tendon of the Apple][- its on/off switch. So far, I have not experienced nor have I heard of anyone experiencing difficulties with the on/off switch on the Mac. A bad switch on the Apple][may cost you about $90 (you need to replace the power supply). So beware of weak switches and as a minimum buy a switchable power cord to use in lieu of your Apple switches. Surprisingly, the unlighted switch on the MacGuard seems to be a bit flimsly. Perhaps this is typical of circuit breaker-protected rocker switches. Only time will tell if this is the Achilles tendon of the MacGuard.

For those of you who would prefer to go all the way, ask your electrician to install Groundfault Interrupter circuits in your home and heavy duty surge protection devices to protect your Mac, your stereo hi-fi, your hi-fi video entertainment center, etc. Better still, put in your own power generator with clean power supply regulators and ask for bids on an EMP protection system.

But do as I do, and as Lee Raesly does, before leaving on vacation or during a possible thunderstorm, unplug everything and leave the power cords a couple of feet away from the outlets, surge protected or not. &

I AM What I AM contd. from pg 30

```
              400  *-----------------------------------
036D: 4C 03 03 401        JMP  DOScoldv
              402
              403  *-----------------------------------
              404  * Various Messages displayed on the monitor.
              405  *-----------------------------------
              406
0370: 8D 8D 8D 407  MESSAGE  HEX  8D,8D,8D,87
0373: 87
0374: D2 C5 D1 408           ASC  "REQUIRES 48K DOS"8D,8D,00
0377: D5 C9 D2 C5 D3 A0 B4 B8
037F: CB A0 C4 CF D3 8D 8D 00
0397: 8D 8D 8D 409           HEX  8D,8D,8D
03PA: A0 A0 A0 410           ASC  "    GLOBAL PLE (48)"8D
038D: A0 C7 CC CF C2 C1 CC A0
0395: DD CC C5 A0 A8 B4 B8 A9
039D: 8D
039E: A0 A8 C3 411           ASC  " (C) 1982 NEIL KONZEN"8D,8D
03A1: A9 A0 B1 B9 B8 B2 A0 CE
03A9: C5 C9 CC A0 CB CF CE DA
03B1: C5 CE 8D 8D
03B5: A8 CD CF 412           ASC  "(MODIFIED BY: J. LOVE)"8D,8D,8D
0398: C4 C9 C6 C9 C5 C4 A0 C2
03C0: D9 BA A0 CA AE A0 CC CF
03C8: D6 C5 A9 8D 8D 8D
              413
              414  *-----------------------------------
              415  * Neil's mysterious (!!) trail of HEX 00's used
              416  * to appear here, but it disappeared due to the
              417  * addition of my Code. The reason is because the
              418  * very last byte of this Driver MUST be @ $03CE
              419  * in order to exactly match Neil's. Only in this
              420  * manner will my T/S List exactly match his.
              421  *-----------------------------------
              422
03CE: 00      423           HEX  00
              424
              425
              426  *-----------------------------------
              427  * End of Driver. The remaining Code has already
              428  * been loaded directly from the G.P.L.E. disk.
              429  *
              430  * Note that this Driver stops just short of the
              431  * DOS Vector table ($3D0 ---> $3FF) as it must.
              432  *-----------------------------------

--End assembly, 443 bytes, Errors: 0                    &
```

THE LISA MAC/XL SIG NEWS

by John F. Day

This has not been a good season for Lisa/Mac XL owners. The unexpected announcement by Apple of the discontinuation of the Mac XL has sent shock waves through the Apple community. The gist of the announcement was that the Mac XL would begin to be unavailable for purchase in some areas by late May. The reason given was that Apple had made a specific number of XLs in advance and that the assembly line had then been shut down for good. The number of XLs made was based on the previous sales of the Lisa. The subsequent sales of the XL exceeded Apple's estimate causing the XLs to be sold out much faster than Apple had expected. Apple had expected that the XLs would last until the release of several Mac products which would essentially replace the XL . SURPRISE!!!

After the January stockholders meeting, where Apple legitimatized the Lisa by re-naming it the Mac XL, the sales of the XL took off like wildfire. One out of every 15 Macs sold was an XL. The stock of XLs that they had thought would last a year lasted only three months.

I won't bemoan what has happened. Things change. Time marches on. New replaces old. The Lisa/XL couldn't last forever (like the // series, ha-ha). The important thing we need to know now is will we be supported in the future? The answer is YES! I had a long talk with Apple's Mac XL product manager, Stephanie Littel, and she assured me that Apple will continue to support the XL. I asked about specific items and was assured about each one. They include:

1. When newer ROMs become available for the Mac there will be a corresponding newer MacWorks (i.e. the 128K ROMs);

2. The Lisa to Mac migration package will be released in the near future, to include one version that will transfer to Lotus Jazz, and another that will transfer to the Microsoft products;

3. The Mac XL Screen Modification Kit (as Apple is calling it) will be out at the end of May;

4. The new MacWorks XL kit will be released next week, and will contain 3 disks - two MacWorks XL disks and one System disk that has the new Finder 4.1 and revised system folder, and a new MacWorks manual. The update will be through a coupon you get from your dealer that you mail to Apple along with $29.00;

5. Apple will continue to support the Lisa Workshop; and

6. There will be a software bundle containing several products to include MacDraw, MacProject, the Lisa to Mac Migration package, MacWorks and Lotus Jazz, all for a special price for Lisa/XL people.

Several days after I talked with Stephanie, I received a letter in the mail from Apple that said essentially the same things that she had told me and added that Apple would continue to service and support the XL for at least the next five years.

The effect of the continued support for the XL was enough to satisfy me. Perhaps you feel differently. I solicit your comments. I also want everyone to know that I have invited Stephanie Littel to come out to one of our meetings in the near future and talk to us about things at Apple. I believe that she will accept. It should be a very interesting meeting.

LISA NEWS--------

My thanks to Marvin Mark, who gave a talk at the April meeting about Brock KeyStroke for the Lisa. Marvin did a super job, complete with handouts, and fielded many questions regarding KeyStroke. For those who don't know what it is, KeyStroke is a full database that runs on the Lisa and is a regular Lisa 7/7 desktop tool. I encourage others like Marvin to share your knowledge with the SIG.

I had a chance to look deeper into the Lisa Workshop 3.1 update and find that it fixes many things. The 3.1 Workshop release is an update to the 3.0 release with the latest, most up-to-date Workshop tools. It includes: a new Assembler (V 3.76), two fixes to the Mouse Editor, a new Linker (V 0.9.3.1), an update MacCom utility (V 3.11), Pascal Compiler (V 3.74), a new Code Generator (V 3.63), ProcNames (V 4.31), ShowInterface (V 1.5), XRef (V 4.39), RMaker (V 7.11) which allows twice as much resource input, an updated SANELIB (V 0.9), and a new Workshop shell (V 3.5). The new stuff is installed by running an exec file called startupdate, and following the prompts. The update comes with three disks, and 22 pages of documentation.

Soon there will be another Workshop update that will provide a C compiler, but before you get too excited about it, you should know that it will only generate Macintosh code. It is designed purely to allow developers to write Mac source code in C. More details on this next month.

There is a new product available for the Lisa Workshop called TexSys. Made by ToolMasters, Ltd. of Reston, Virginia, TexSys is a text control system that records all changes to text files and assigns a version number to each change. With TexSys, you can keep all old versions of a program in one file and know why each one is different. TexSys is installed using the File Manager and comes on one disk that is copied to the Workshop. TexSys is run from the Workshop prompt by typing R for run and answering with TCS. A command line is presented and you're off and running. TexSys comes with 9 pages of documentation that is punched to fit in the Workshop documentation binder. TexSys should be a major help to you programmer types out there and is certainly a bargain at $49.95. Order one from ToolMaters, Ltd., 1810 Michael Faraday Drive, Reston, Virginia 22090. The phone number is

contd.

(703) 478-0220.

Last month I mentioned a rumor of FORTRAN 77 for the Lisa Workshop, however further investigation proved that to be false. Sorry.

MAC XL NEWS-----

There is a new version of a Font and Desk Accessory Mover that should be out very shortly from Apple. Called Font/DA mover, it does just that, moving fonts and DAs from one utility. It also lets you see what is on not only the disk you are running, but on disks in other drives as well. This product is on the same disk that has the new Finder on it, so look for it when you get the new released MacWorks XL package that I mentioned earlier.
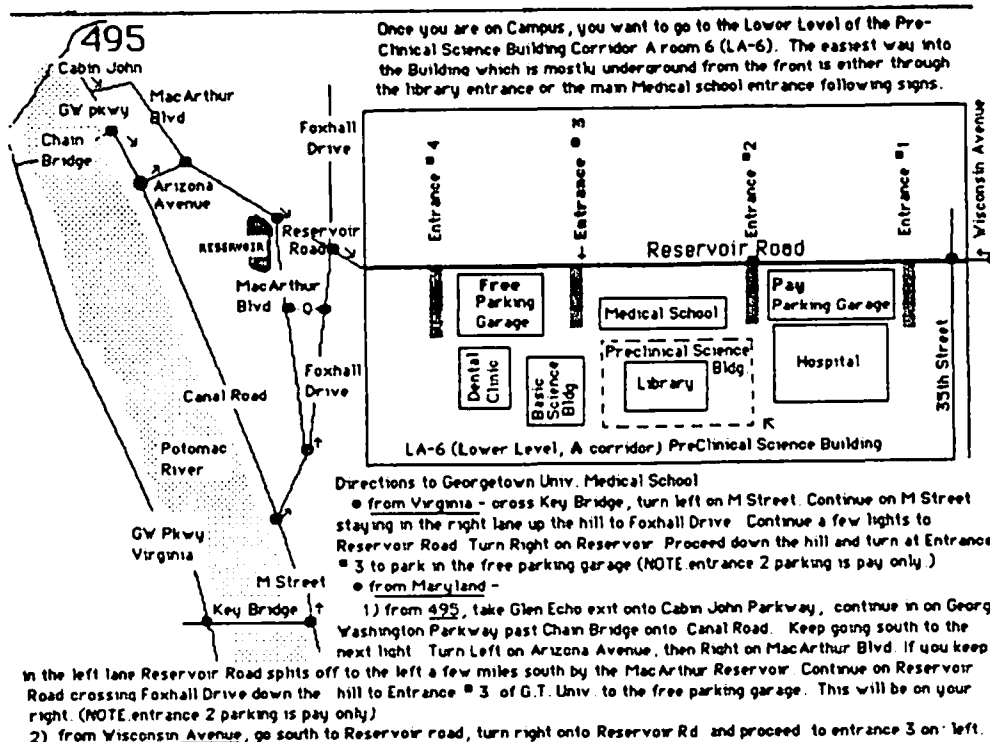
The latest Finder is now version 4.1, and will be the updated, released Finder. It now supports 500 files, and is much faster. It has several nice features, such as a print catalog command that works at the Finder level, much as the print catalog in MacPaint works. BE CAREFUL WITH IT!! My initial experiments with it indicate that 4.1 is much more than just a new Finder. The system file is also different, and when you update old disks, if you only change Finders and not the system also, you will meet with some nasty surprises. When you get the new Finder update disk there is a utility program that allows you to update disks that have the old Finder on it. You should try the update on a backup copy of the disk first, since several programs have already shown to be incompatible with Finder 4.1.

If you have not gotten the Switcher application program yet you're missing one of the nicest things going. Switcher is FREE for downloading on Compuserve in the MAUG DL5 under the name SWITCH.BIN. I have managed to run (all at the same time) Multiplan, MS Word, MacDraw, and MacPaint without a problem. ·Switcher lets you work with virtual concurrent operation in four different programs by dividing the memory of the XL into 4 separate memory spaces that the XL thinks are separate Macs. It takes about 1 second to switch between programs. The documentation for Switcher is also in DL5, so be sure to copy that as well. The advantages of 1 Meg of memory with switcher are that you can dial in how big each partition will be and run several 512K programs at once, whereas the normal Fat Mac user can only use 128K Mac programs (in most cases). Switcher must be seen to be believed. I will demo it at the July SIG meeting. My hat is off to Andy Hertzfeld for another nice piece of work for the Mac. The only drawback that I have seen yet is that the AST RamStak 2 Meg memory card will not run the Switcher. However, AST says that they will fix this shortly.

If you have not tried MS Word yet, I strongly recommend it. It is a full fledged word processor with all the bells and whistles and allows for real industrial strength writing. Word runs without a hitch on an XL.

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

SigMac MEETING LOCATION FOR JULY

Once you are on Campus, you want to go to the Lower Level of the Pre-Clinical Science Building Corridor A room 6 (LA-6). The easiest way into the Building which is mostly underground from the front is either through the library entrance or the main Medical school entrance following signs.

Directions to Georgetown Univ. Medical School
● from Virginia - cross Key Bridge, turn left on M Street. Continue on M Street staying in the right lane up the hill to Foxhall Drive. Continue a few lights to Reservoir Road. Turn Right on Reservoir. Proceed down the hill and turn at Entrance #3 to park in the free parking garage (NOTE entrance 2 parking is pay only.)
● from Maryland -
    1) from 495, take Glen Echo exit onto Cabin John Parkway, continue in on George Washington Parkway past Chain Bridge onto Canal Road. Keep going south to the next light. Turn Left on Arizona Avenue, then Right on MacArthur Blvd. If you keep in the left lane Reservoir Road splits off to the left a few miles south by the MacArthur Reservoir. Continue on Reservoir Road crossing Foxhall Drive down the hill to Entrance #3 of G.T. Univ. to the free parking garage. This will be on your right. (NOTE entrance 2 parking is pay only.)
    2) from Wisconsin Avenue, go south to Reservoir road, turn right onto Reservoir Rd. and proceed to entrance 3 on left.

WORD PROCESSING WITH GUTENBERG SR. —
MY FIRST TWO MONTHS

by M.D. Redd, Sr.

My first public words using the new, improved version of Gutenberg Sr. will offer homage to the man who inspired my interest in this program - Harris J. Silverstone. Harris, in a tremendous labor of love and personal devotion to Gutenberg Sr., shared with us his accomplishments in the use of this program by way of an article which appeared in the February issue of the *Washington Apple Pi Journal*. Since being captivated by his exuberant description of the awesome power of Gutenberg Sr. and the beautiful fonts this program offers, my word processing, and, indeed, my time before the CRT have not been quite the same.

After reading Harris' article, I resolved to possess the Gutenberg Sr. program. I took note of the fact that the *WAP* Journal in the same issue announced a special meeting of the Maryland Apple Corps — the existence of which I was unaware up until that time — for the express purpose of introducing Johann Wagner, author of the Gutenberg Sr., and, as I later learned, to provide an opportunity to purchase the program at an appreciably reduced price. Well, the stage was set. All of the necessary ingredients were to be assembled for my sampling at a future point in time. All that was left for me to do was to wait impatiently. March 30, the appointed meeting day, finally arrived. With high interest, trusty tape recorder and checkbook in tow, I journeyed to Towson, MD where the meeting was to be held.

JOHANN WAGNER

Never having had the experience of meeting an author of software, I was anxious to do so. I think it is a human tendency to form a mental image of someone you've never met before, and this occasion was no exception. Mr. Wagner was soft of voice and strong of spirit and as I later discovered, also strong of handclasp. Mr. Wagner apologized to the audience for what he perceived was his lack of appropriate preparation for the task at hand, this being his first attempt at such a presentation. I used my tape recorder quite liberally during the ensuing 1 hour+ talk by Mr. Wagner. Mr. Wagner, who emigrated from Germany to Canada where he now resides with his family, provided us with an overview of his work experiences in the printing industry, described his personal exposure to early computer technology, and finally traced the development and refinement of the Gutenberg Sr. Word Processing program. As he spoke, it became very clear to me that before me stood the personification of what we refer to as the "work-ethic". Here was an individual who literally taught himself what he needed to know about computer hardware and software technology in an industrial environment which was at times somewhat less than benign to that purpose. The results of his tenacious efforts are manifested in this superlative program. Gee, I sound just like Harris! Following his presentation came the inevitable *questions and answers* session which personalizes an event such as this and makes it more meaningful. One gentleman in the audience, incredulous at the lack of credit Mr. Wagner wished to acknowledge as belonging to himself for his work on Gutenberg, jokingly offered that the development and use of the quill pen by the early calligraphers, rather than the skill of these artists, was no doubt responsible for the beautiful results which were achieved.

THE BUY

Obviously, I purchased Gutenberg Sr. Amid the mutual, reciprocal congratulations being shared among us fortunate new owners of Gutenberg Sr., the impact of what I had just done seized me. Here I was about to turn my back on the likes of Apple Writer and AppleWorks, two excellent word processing packages with which I had grown to be fairly competent and at ease over the last year. To make my temporary anguish worse, I knew that in addition I would have to forsake my very efficient and dutiful Epson FX-80 Printer, and ante up the money for an Apple Imagewriter Printer and associated Super Serial Card if I was to exploit fully the power of Gutenberg Sr. Davy Crockett was alleged to have said, "Make sure you are right, then go ahead". In this instance, I knew that I was right and my very brief history using Gutenberg Sr. continues to demonstrate that point to me, as well as to my colleagues who exclaim over the appearance of my Gutenberg Sr. aided text. I have not looked back!

LEARNING GUTENBERG

I have always enjoyed putting prose to paper, and more recently I had begun to appreciate the order and form of the written opus and the fonts used therein. Gutenberg Sr. has satisfied every aspect of my expectations in this regard. Mastering Gutenberg Sr. is going to take a while. However, reaping useful advantage from the program can occur nearly right away. As was the case with me, and as Harris has exhorted, invention, discovery and accomplishment with the program have truly followed need. It offers a host of canned formatting routines which were designed to complement one another and to offer the user an opportunity to tailor formats to suit his or her own individual needs. To learn Gutenberg Sr., especially if one did not start out with Gutenberg Jr., takes time. However, given that time, the rewards for one's labors are unparalleled in word processing. The exquisitely bound Gutenberg Sr. manual that was unavailable to Harris when he wrote the article to which I previously referred consists of a tidy 750 pages, thank you very much. Approximately one-third of the manual is devoted to a tutorial with abundant examples to be studied and tried. The remainder of the text consists of an overview section and large reference section. In the reference portion there is a glossary of print commands and variables which are cross-indexed to the chapter which pertains. The specific page numbers are noted as well. The program disk segments are very

BEST OF THE WAP ABBS

by =Alexander-

From WP2754 to ALL   05/16   AppleWriter //e-HELP

I want to be able to not number the first page of my
documents with the second page having its respective
-2- where it belongs... how do I do that???

From WAP029 to:WP2754 05/16   AW Page Numbering

If you want to number only the second and succeeding
pages in a document insert somewhere in the second
page the following: .bl //- # -/ This will print the
number centered at the bottom of the page. Leave the
BL in the print menu blank. If you run a second copy
you'll need to reset BL. It's a good idea to put .bl
at the beginning to clean it out. - Bruce Field

From WP1629 to:WP2754 05/17   R- Applewriter //e

In order to prevent page 1 from being numbered you
have to embed a '.BL' somewhere in the text of page 2.
This is a problem if your entire page is a paragraph
(no CR's). To determine where the second page begins
set PRINT DISPLAY to 0 (PD0). - Leave a message and
I'll try again. - Bill

From WP1821 to ALL   05/21   Word Process-Need one

Well, after many years my Apple Writer I (Yes, one.)
has died. I am in need of a new word processor and
don't know really what's out there. If you can help
please do. Here is an idea of what I'm looking for:
good easy to use/remember editor (includes search &
replace, insert other files, hyphens, etc.); what-
you-see-is-what-you-get display; printer control
(boldface, italics, expanded), 80-column compatibility
(don't know with what since I also need an 80-col card
- if you can help there please do), compatible with my
Apple][+ with 64k, 2 drives, Imagewriter.   Money
isn't a concern so, please, if it's a good general
purpose word processor let me know. ** Ken **

From WP2208 to:WP1821 05/22   (R) Word Processor

I went from Apple Writer I to Apple Writer II to Apple
Writer //e and found the changes very easy to learn.
ApWr //e does anything you would want to do in 80
columns and has a very powerful Word Processing
Language.   It will also convert your old I files.
- Richard

From WP2243 to:WP1821 05/22   WP Program

Hmmm, can't think of -any- that run on the Apple that
will give you 'see what U get' all the time. However,
for an Apple][+ I would reccomend LJK's program
'Letter Perfect'. It's the WP program that we use
here at work. If you have a //c or //e w/128k, get
'Simply Perfect', by the same folks. That is a WP &
DBMS program all rolled into one. Brett

From WP4011 to:WP1821 05/22   Word Processor

I'd suggest 'The Writer' - It's a very inexpensive
($40) word processor with surprising ease, sophistica-
tion, and has a lot of features. It configures itself
for just about anything that the computer has. The
only problem with it is that if you don't have an 80
col, there's no lower case (but all uppercase are in
Inverse).. It supports Shift Key mod. Oh, yeah, two
other problems with it: To change pre-set default or
whatever settings for the editor, the printer, etc,

you'd have to load on another program - Takes a pretty
long time.. But it has a lot of features as I said,
and the manual and index are excellent. Give it a
try! Joshua Mendelsohn

From WP3297 to:WP1821 05/22   Word Processor Idea

My favorite word processor is ScreenWriter. It shows
40 cols on the screen, but in runoff mode, it shows
you your text in 80 cols w/o printing. It does all of
what you want a processor to do. Including hyphena-
tion! Try it at a software store.   P.S. Try a
spelling checker too!

From WP2513 to:WP1821 05/22   R - W.P.

Ken - I could not recommend any word processor to
better suite your needs other than WordStar. Yes,
you'll need a CP/M card, but they are getting VERY
cheap these days ($50-100).   I have been using
WordStar for more than a year and no other can touch
it for the "seeing is what you get" effect. Chris. PS
- WordStar is NOT hard to learn!!

From WP2857 to ALL   05/29   Personal Secretary

The December, 1984, issue of Byte has an article on
low cost word processing programs. The "Personal
Secretary" from Sof/Sys Inc. got an excellent review -
many useful features at a low price. Does anyone have
any experience with this program, and can you tell me
where I can get it. I haven't seen it in any of the
magazine ads. Thanks. Charlie Brown

From WP1348 to ALL   05/17   CP/M +WP

Does anybody out there have the Appli-Card 2.0 CP/M
board? Is it any good? I got this notice from
Broadreach saying that they are selling WordStar for
$164.95, and they will throw in a Appli-Card CP/M
board free (new, with warranty, 64K, 6MHz, 70 column,
CP/M version 2.2, and allows transfer between DOS 3.3
and CP/M) Please help. PS: It's version 2.0 (WS 3.3)

From WP4496 to:WP1348 05/20   R- Applicard & WS

Applicard version 2.0 with 2.2 CP/M is dandy. Comes
with assorted digital & PCPI utilities. As for the
WordStar 3.3, check which release of it you're
getting.   There's one version of 3.3 which is not
"patchable" as easily as others. With most 3.3's, you
can enter a '+' at the end of the install and get
access to the standard hex patching sequence.   One
release of the WS 3.3 doesn't allow this, and you'd
have to use DDT or ED to alter it. If you don't want
the delays built into WS, and you don't know the patch
addresses, you're flat out of luck. Beware - the '+'
command is not documented and is supposed to be a big
secret, so the dealer probably won't know about it.
Good luck.

From WP3544 to ALL   05/18   Consumer Info

There should be more consumer reporting on this board.
The info posted is very helpful. For example: evalua-
tions of products; where to buy them at cheapest
prices; reliability of dealers; good deals; etc.
Like WAP's own version of CONSUMER REPORTS.

From WP2136 to:WP3544 05/19 Consumer Info

I emphatically agree with you about WAP's potential as a center for consumer information about local computer goods and services. Perhaps, if there is enough interest among other members, we could volunteer to start a SIG, or even just do a few good polls and make the results available in the journal. Joe England

From WP3544 to:WP2136 05/20 Consumer Info

Joe, I agree on both approaches. If there is sufficient interest, a SIG could provide a forum for exchange of consumer info, and a poll like WASH. CONSUMER CHECKBOOK could gather it. Meanwhile, a consumer update should be a regular feature of monthly WAP meetings. Eli Bergman

From WP3544 to:WAP208 05/21 WAP Consumerism

You have made excellent proposal for creation of Better-Business-Bureau function within WAP. You are absolutely correct that WAP should be totally consumer oriented. Suggest you make a motion at forthcoming WAP meeting to create a "Consumer Affairs Committee" to initiate some of these actions.

From WP3195 to ALL 05/22 Consumerism

Several meetings ago someone spoke from the floor outlining his visits to various area dealers (hardware & software) to see what discount they would give a card-carrying WAP type. His speech was well received and I think he said, "Soon there will be a list". Who was he??? How's he doing??

From WAP208 to:WP3195 05/25 WAPsumerism

If there are about 3000 WAP members, and each WAP member spends about $200 per year, then that represents $600 thousand in buying power. If we aggressively and collectively used that buying power, we could make dealers very responsive to us. At a minimum, there should be a monthly survey of dealer prices for a "shopping basket" of Apple products in the Journal.

From WAP580 to:WP0136 05/27 WAPsumerism

The job of comparing prices throughout the area is already being done on a continuous basis and is available to anyone for a small fee. The service which I just subscribed to is called BUYLINE and run by General Electric information Services. I received this letter in the mail a while back urging me to call 301-258-8823 to sign up for the service. Costs nothing to sign up and there are no connect charges. Price bulletins are what you pay for. These run 50 cents for a bulletin of 300 characters or less. Bulletin of 301 to 1500 is 75 cents. They included with their letter a sample price bulletin which listed printers from many sources with prices. The source for this sample was ads in Post and PC Monitor. Maybe WAP could sign up for service and post the downloads at the office, but at that price I don't see any reason for anyone to not sign up.

From WP3544 to:WAP208 05/27 Shopping Basket

Splendid idea to have monthly survey of prices for selected bundle of hardware and software published in the Journal. The information also should cover local services. In addition to publication, this consumer update should be a regular feature of monthly WAP meeting. How about taking lead in organizing this project? I would be willing to help as would others.

From WP1326 to ALL 05/23 Poor Support

For general comment: I am amazed by the depth of ignorance by most of the Apple dealers on Apple products, manuals, and resources. I could not find a single dealer who had any real understanding of the effects of the enhanced chip set that they were offering and installing! The request for the programmer guide was a general "Huh, What's that?". John Massey

From WP2513 to:WP1326 05/23 R - Poor Support

John has a very good point about some Apple dealers being very ignorant about products, manuals, etc. I ask you, John, what was the name of the dealer who did not know what the programmer guide was? I think that falls into our wonderful category of "Consumer Avoidances". Anybody else out there have really poor support from an Apple Dealer? Lets hear from you! - Chris

From WP4795 to:WP1326 05/23 Support

That is my specific experience. I had my //e "enhanced" by Universal with the assurance they had the manual on "back order". A month later they would "order" it; now two months later they say they have "ordered" it today - be in in two weeks. This seems to be the mode of almost all dealers I have come into contact with (also letters to Apple don't help).

From WP5284 to ALL 05/27 Enhanced //e

Recently bought Apple //e and when removed from package it contained ProDOS. This raised question as to whether it is an enhanced Apple. I visited numerous Apple dealers and was amazed at their lack of knowledge and inability to help. Most did not know of or have on hand the pamphlet which lists software which is compatible with DOS 3.3 or ProDOS. Moreover, none could tell me how to determine whether or not I had an enhanced Apple. Finally, at Clinton Computer I was told (without their seeing the computer) that it is not the enhanced version. I am still puzzled as to why I received ProDOS with other than the enhanced Apple. Any answers? Manny

From WP4488 to:WP5284 05/30 Enhanced //e - ProDOS

I understand that Apple started shipping ALL //e's with ProDOS shortly after ProDOS came out; and well before the //e enhancement came out. Thus, your //e could well have ProDOS and not be an enhanced. However, //e's are now being produced with the enhancement, so if yours was made recently enough it might have it. If so, you should be able to generate mouse characters. Look at the inverse characters in the alternate character set. Kevin.

From [YOU] to ALL 05/17 CP/M Ed or BMH?

Anybody know of a good editor for CP/M? The MS one is the most abstruse one I have ever seen. Or, how 'bout Birmingham, AL. Any good things I can do down there next week? +Alexander-

From WAP713 to:[YOU] 05/17 A horse is a horse..

of course of course... Actually ED.COM, the editor that you refer to, is a product of Digital Research. Or rather I should say it WAS their product as they just stopped ED distribution after a millenium of use. Actually, it's quite good for small editing... not obtruse at all if you have good docs. & have used it a little while. Sam Swersky.

contd.

From WP2136 to:[YOU]   05/19 CP/M Editor

I have to agree with you about the dreaded ED on the
CP/M master. The old standby for CP/M is Wordstar, but
if the price isn't right, I'd suggest buying Turbo
Pascal. It has a nice little editor built in which is
fine for normal text/letters/etc. What's more, you
get a free Pascal compiler in the deal and the whole
thing is only $35 to $45 dollars. Joe England

From WP4160 to ALL   5/28 Need IBM Compatible

Edgar Allan Poe never had such bad dreams. By writing
Apple programs, I have been offered a commission to
write programs. BUT for MS DOS and MS Basic for IBM
compatibles. This means I need to buy a small,
expandable IBM compatipalble (sic.). If you have any
ideas as to the best machine to buy, please leave me
a message. (What a bummer!) Euclid

From WP2507 to:WP4160   05/28 IBM Compatible

The best compatible for the buck is Leading Edge. It
runs twice as fast as the IBM and is probably the most
compatible of the compatibles. Check out a price at
VF Associates. 652-4232. Good luck. Scott Paisley

From WAP}0 to:WP4160   05/28 IBM Compatible

Just the other day, Heathkit was offering the hs-151
with 640K and one disk with serial and parallel port
for $1500 as a kit or $1900 assembled. This is one of
the most highly rated ones for compatiblilty, and you
can run color graphics on a regular green or amber
monitor. I think this is the best bet. The reason
the price is dropping is that Zenith is introducing 5
new models of enhanced PC's and AT's. Read Jerry
Pournelle in byte for his hurrahs about the Heath/
Zenith 150 clones. Phil Noguchi...

From WAP556 to:WP4160   05/30 IBM Compatibles

I like Compaqs except for keyboard feel. The Deskpro
Compaq runs an 8086 at 8 MHz which makes it 2-4 times
faster than IBM. There is also a kit you can buy for
$1650. According to PC Week it takes about 2-4 hours
to put together and it gives you 99% compatability.
Will try to dig up name and address of company and
send it to you. Nick Santelli

From WAP148 to ALL   05/17 //c "Secret" Msg!

Some time ago I asked if anyone could confirm a rumor
about a "secret" message imbedded in the firmware by
the designers of the //c. No one had heard of it.
Well, now I've found it! Boot up the //c with no disk
in the drive and then hit <CTRL>-RESET. Then type in
and RUN this program: 10 IN# 5: INPUT A$: PRINT A$
(not awesome but interesting). This information (and
much more) from a new book "Inside the Apple //c" by
Gary B. Little, published by Prentice-Hall. In spite
of its name, this book should not be confused with the
tons of similar books for the //c. It begins with an
assumption of a thorough understanding of Applesoft
and a familiarity with assembly language. It starts
from there. A great programmer resource. -Bob

From WP4772 to ALL   05/18 SS Help

Does anyone know how I would find the middle value of
a number in a set of three in a spreadsheet? Ex., if
the set is 3,4,10 the middle value is 4. I have
VisiCalc and AW. Would like to use AW though.

From WP6223 to:WP4772   05/19 SS Help - Try

If your numbers are in a range, and if there are only
three, you could try SUM-MAX-MIN.

From WP6223 to:WP4772   05/19 SS Help - 2

If you'd rather try logic than math, you could try to
implement something like: IF (A<B AND B<C) THEN B
ELSE IF (B<C AND C<A) THEN C ELSE A.   I like
SUM(A,B,C)-MAX(A,B,C)-MIN(A,B,C), but this may intro-
duce "inaccuracies."

From WP1095 to ALL   05/15 DAK - Very Impressive

I agree that the latest DAK catalog has some incredi-
ble buys, including the $469 Olivetti lap portable,
$129 for the Gorilla Banana printer in either parallel
or serial interface!; a combination phone & modem for
$69; a communications software program for $10; and
CompuServe starter kits (incl. 5 hours time) for $24.
DAK, 8200 Remmet, Canoga Park CA 91304.

From WP4609 to:WP1821   05/16 Disagree

I purchased a phone intercom from DAK. Quality left
alot to be desired and I then went to C+P'S intercom.
However, the service at DAK was excellent. They
promptly returned my money.

From WP5158 to ALL   05/14 Newsroom

Has anyone had experience with new software called
"NEWSROOM"? I understand it is excellent - lays out
copy in newspaper format w/ artwork, etc. Should be
great for user group newslatters, etc. Apple is
offering a $5 rebate!

From WAP762 to:WP5158   05/14 Newsroom

I had a chance to play around with a friend's copy and
found it to be as advertised. I wasn't too happy with
the type, however. You have a very limited choice...
two styles and as I remember, two sizes. The lines
are very close together, too. I found the type hard
to read, especially printed out on an Epson. It did
look a little better on an Imagewriter. I suggest
that you take a look at some finished copy (not the
sample that comes with the program and is printed from
an original) and see if it satisfies you. Otherwise,
a darn clever program with lots of uses. Hope this
input helps.

From WP4772 to:WP5158   05/18 (R) Newsroom

I have used the Newsroom program for about two months
already, and find it everything they said and more.
They have a great deal in that if in 30 days you are
not happy with the program then return it for a
refund! Not bad if you ask me.

From WP3297 to:WP5158   05/19 Newsroom News

I have found Newsroom to be quite satisfactory! My
little brother uses it more than his arcade games. My
instructor at school is raving about all of its fea-
tures, and has me writing a report about it, on it, to
send to the area school office to get it for all
schools. If you are in charge of a group of any age
or size, I say Newsroom is a must! There are so many
different things you can do with the vast amount of
pictures and functions. One problem though, I don't
have anyone to share my articles with. It has a modem
function to send mail, but who wants a newspaper?
-=<(ANDY)>=-

From WP4772 to ALL   05/28 Newsroom/Printer

I use Newsroom w/ NEC 8023A w/ Grappler, so I see no
reason why it would not work. They do offer a money
back guarantee if you are not 100% happy.

From WP5158 to ALL   05/31 Newsroom

There is a new version of Newsroom out now that prints
                                              contd.

with greater density. Springboard Software will exchange the former version for the update w/ new user guide. Also, 600 new images are avail. for "clip art". Soon to go retail for around $30.00.

From WP6630 to ALL   05/06   Online Banking Query

Does anyone know of a bank in the DC/VA (sure, even MD) area that offers online review of customer accounts?   Let's say for example I have a checking account - is there a bank that will let me dial up, enter my account number, and then look at my balance, deposits credited, and checks cleared? And if not, why not? -Lars Hoel

From WP4488 to:WP6630 05/17 Online Banking

A number of banks offer online banking through Compuserve.   None, last time I checked, were in the DC area.   You'd have to do your banking by mail.   By the way, any such system offered directly by a bank needs much more security than just the account number before I'd use it. Everybody who gets a check knows your account number. A password at least. Kevin.

From WP4292 to:WP4488 05/18 Y=0/L Banking in DC!

Madison Natl Bank has O/L banking for Apple, IBM, and Commodore.   In addition to a 24-hour banking # (not your account number!) you enter a 4-character "PIN" number to access the account. Citibank will soon start it up in the near future.

From WP1446 to:WP6630 05/23 Online Banking

I have been banking in Memphis for a year and a half now, using the online service of a bank there.   They use the CompuServe network and don't charge any online fees.   I find it very useful. Give me a call if you want to know more. Bill Cook, 626-2030 (days)

From WP3214 to ALL   05/14   Shift Key Mod][+

I am about to begin my search to have the shift key mod applied to my][+. Can anyone suggest/recommend a good shop and a fair price for the service? Jim Scott

From WP3797 to:WP3214 05/14 Shift Key Mod

Jim, don't pay to have the shift key mod installed! Get a clip lead from Radio Shack and a piece of small solid wire. The clip hooks onto the second pin from the right of the keyboard connector that's just under the front lip of the opening. The other end goes in the fourth hole back on the right side of the game connector. -tom vier

From WAP538 to:WP3214 05/14 Shift Key Mod

Re msg 27 from Tom Vier: You don't even need to mess with the game connector. Clip the motherboard end of the wire to the rightmost pin closest to you of the 74LS251 right in front of the game connector.   Make sure the clip does not touch the second pin. This is even easier than stuffing a wire in the game connector. Tom Warrick

From WAP713 to ALL   05/18   //e Shift Key Mod

Since I recently switched from a][+ to a //e, I was dismayed at "losing" the use of several programs that assume the user has a][+ with shift key mod: e.g. ScreenWriter][, Gutenberg, and others. Losing an old word processor can be tough, but I just got 'em back! There is a simple mod, documented on page 39 of the //e Reference Manual.   The mod take 2 minutes to perform, and requires soldering closed a small solder pad on the motherboard (X6 to be precise).   Works great and all ScreenWriter commands are back to normal! Sam Swersky

LETTER TO THE EDITOR

Dear Editor,

Before I joined Washington Apple Pi, not quite a year ago, I had seen one copy of the Journal and was quite impressed.   Since joining, the consistently superior quality of the Journal has never ceased to amaze me. It is hard to believe that it is the newsletter of a users' group and not a professionally published magazine.

I regret that prior to now I have been unable to contribute to the Journal.   Just after joining, I had to return to North Carolina at the start of the new school year.   I have been so busy this year that I have not had a chance to write anything outside of papers for my classes, However, I intend to make up, at least in part, for my past inactivity.   Enclosed please find a 3.5" disk containing a review of Hayden Software's "Hayden Speller". ..... Many thanks for an excellent Journal, and keep up the good work - it is appreciated.

                          Christoper J. Klugewicz ⑮

appropriately keyed to the topic at hand and to the manual. Comparatively, I consider the personal and gracious assistance I received from Harris Silverstone on Gutenberg Sr. to be at minimum of co-equal importance to my understanding of the program. Without his enthusiasm and encouragement, I would not be as far along in my use and enjoyment of this program as I am.

ARE YOU READY FOR GUTENBERG?

If you have an Apple //+, //e or //c, an Apple Imagewriter Printer and Super Serial Card, and preferably two disk drives, you are well on your way to fulfilling all of the requirements for Gutenberg Sr. ownership. Essentially, all that is left as a prerequisite is that you have a yen for prose that is not only grammatically correct, but is aesthetically pleasant to look upon. Time to spend learning Gutenberg Sr. is the last ingredient. If you think this profile describes you or your desires, then you really owe it to yourself to discover all the possibilities when you word process with Gutenberg Sr.   ⑯

DISKETERIA DISPATCH
by Fred Edwards

New DOS 3.3 Disks:

VOLUME 160: UTILITIES & GAMES

This 'something for everyone' disk is based on programs contributed by the following WAP members: Gary Hayman, George Kinal, Tom Warrick, someone who calls him/her self Pentagon, and Fred Edwards.

U T I L I T I E S

{160.1} CALENDAR 1985 - This is the program that generates the monthly calendar of events that appears in the Washington Apple Pi Journal. It is a menu-driven program that allows you to enter up to 55 characters of information for a given date and to print out that data in a conventional calendar format.

{160.2} CALENDAR INSTRUCTIONS - Running this will give you very detailed screen instructions for using "CALENDAR 1985". A printer option is included.

{160.3} CP/M TO DOS - APLXFR.COM from WAP Disk 402 is now being provided as 'CP/M TO DOS', running under DOS 3.3 This is a program provided by Microsoft as an application note for Softcard users. It performs the reverse function of 'APDOS'. Use of the program permits transfer of CP/M files to DOS format.

{160.4} CP/M TO DOS INSTRUCTIONS - Running this will give you screen instructions for using the "CP/M to DOS" conversion utility. A printer option is included.

{160.5} CP/M DIRECTORY READER - To use the "CP/M to DOS" utility you must know the exact CP/M file name. Running this program will give you a CP/M directory from DOS 3.3

{160.6} REINVESTMENT - This program deals with one of the most perplexing and confusing issues which arise with investment plans or programs in which dividends are used to purchase additional shares of the same security or fund. When holdings in such a fund or plan are eventually sold, some of the shares sold are those originally purchased, some may be shares purchased at a later date through additional investment contributions, and some are shares purchased with the 'reinvested' dividends. A proper accounting of these transactions, e.g. to establish capital gains or losses, requires an identification and separation of these various pieces. This program establishes disk-based files to do that.

{160.7} REINVESTMENT INSTRUCTIONS - Running this will give you screen instructions for using the "REINVEST-MENT" program. A printer option is included.

G A M E S

{160.8} BRIDGE - This menu-driven program offers four options: Play computer dealt hands, Set up your own deal, Load and Play a saved deal, and Deal and Play special deals. After you have played a hand you are offered a recap of the hand and a chance to replay it. The game does not go though a bidding routine but rather shows you your hand and the dummy's and asks you what contract you want to try to make.

{160.9} CHECKERS - You against the computer in this graphics game. The system of identifying your moves is a little confusing at first but you'll get used to it. Instructions are in the program.

{160.10} SCRAMBLED WORDS - This is a truly delightful text game complete with songs, razzes, and congratulatory messages when you get the right answer. Four categories of 'scrambled words' are included: States, Capitals & States, Famous Movie Stars and Famous Sayings. If you think you are really good see what you can do with that fourth category.

{160.11} READ ABOUT.SCRAMBLED WORDS - Running this program will give you a screen description of the game.

VOLUME 208: EAMON - THE GAUNTLET

You were talking to some men in the Main Hall and you heard of a new and strange place that sounded intriguing. Nobody had ever been there but there were rumors that some kind of god lived there as well as other very powerful creatures. It was said that someone had gone in and returned with twice his former strength and agility.

To satisfy your own curiosity, you decide to try to find this place on your own. Since you have no idea where to start on your quest, you seek an oracle in a nearby town. He gives you some sketchy instructions and after wandering for a week you finally stumble on a place in the hills where the very air seems charged with magic.

GOOD LUCK !!!

DISK ERRATA

Volume 113: BUSINESS B - The five main programs on this disk all send printer output to PR#4. Listed below are the program names and line numbers where changes to reflect your printer slot should be made. All copies sold by the Disketeria after 1 June 1985 will send printer output to PR#1.

```
DECISION - Line 11030
REGR DATA - Line 12000
BIVAR REGR - Line 12320
MULVAR REGR - Line 13320
LINPROG - Line 14940
```

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

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

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

DOS 3.3
( ) Volume 41 IAC 25 Mach. Lang. Util.
( ) Volume 42 One Key DOS ***
( ) Volume 43 IAC 29 Utilities H
( ) Volume 44 Utilities I
( ) Volume 45 Diversi-Copy ***

( ) Volume 70 Business/Math/Statistics
( ) Volume 71 Music
( ) Volume 72 Keyboard Games
( ) Volume 73 Text Adventure Games
( ) Volume 74 Paddle Games
( ) Volume 75 Color Graphics for Fun
( ) Volume 76 Education
( ) Volume 77 Utilities

( ) Volume 90 Spreadsheet C Genl. Bus.
( ) Volume 91 Spreadsheet D Investment
( ) Volume 92 Spreadsheet E Bus. Recd.
( ) Volume 93 VisiPlot & VisiTrend
( ) Volume 94 CALCULINK ***

( ) Volume 100 Utilities A
( ) Volume 101 Utilities B
( ) Volume 102 Games A
( ) Volume 103 Merry Christmas
( ) Volume 104 Business A
( ) Volume 106 Science Engineering
( ) Volume 107 Games B
( ) Volume 108 IAC 10 (Graphics)
( ) Volume 109 IAC 11 (Applesoft Tutorial)
( ) Volume 110 Personal/Education
( ) Volume 111 Games C
( ) Volume 112 Utilities C
( ) Volume 113 Business B
( ) Volume 115 IAC 12/13 Misc.
( ) Volume 116 IAC 14 MicromodemII
( ) Volume 117 Picture Packer
( ) Volume 118 Utilities D
( ) Volume 119 IAC 15 Misc.
( ) Volume 120 IAC 16 Misc.
( ) Volume 121 WAPABBS 1.1 Doc. **
( ) Volume 122 IAC 17 Misc.
( ) Volume 123 French Vocabulary
( ) Volume 124 Utilities E
( ) Volume 125 IAC 18 Misc.
( ) Volume 126 Sights and Sounds
( ) Volume 127 Math/Science
( ) Volume 128 Games D
( ) Volume 129 GLAQ
( ) Volume 130 Diversi-DOS ***
( ) Volume 131 Personal/Educ. 2
( ) Volume 132 IAC 19 - Utilities F
( ) Volume 133 IAC 20 - Pascal & DOS 3.3
( ) Volume 134 New Members Disk

DOS 3.3 contd.
( ) Volume 135 WAPABBS 1.1 Disk 1 **
( ) Volume 136 WAPABBS 1.1 Disk 2 **
( ) Volume 137 IAC 21 Spreadsheet A
( ) Volume 138 IAC 23 Utilities G
( ) Volume 139 IAC 24 Education 3
( ) Volume 140 Education 4
( ) Volume 141 Special Data Bases
( ) Volume 142 IAC 28 Pinball Games
( ) Volume 143 Sports
( ) Volume 144 IAC 27 Applesoft Prog.
( ) Volume 145 Apple Logo Tool Kit
( ) Volume 146 Logo Documentation
( ) Volume 147 Apple Logo Sample Prog.
( ) Volume 150 EDSIG1 (Elem. Math)
( ) Volume 151 1983 Tax Template
( ) Volume 152 IAC 31 Miscellaneous
( ) Volume 153 Investments A
( ) Volume 154 Investments B
( ) Volume 155 IAC 33 Miscellaneous
( ) Volume 156 IAC 35 Applesoft-AW//e
( ) Volume 157 IAC 36 Arcade Games
( ) Volume 158 Apple Logo Programs
( ) Volume 159 Recipe Files
( ) Volume 160 Utilities & Games

Eamon Series
( ) Volume 180 Dungeon Designer
( ) Volume 181 Beginners Cave
( )*Volume 182 Lair of Minotaur
( )*Volume 183 Cave of the Mind
( )*Volume 184 Zyphur Riverventure
( )*Volume 185 Castle of Doom
( )*Volume 186 Death Star
( )*Volume 187 Devil's Tomb
( )*Volume 188 Caves of Treas.Isl.
( )*Volume 189 Furioso
( )*Volume 190 The Magic Kingdom
( )*Volume 191 The Tomb of Molinar
( )*Volume 192 Lost Isl. of Apple
( )*Volume 193 Abductor's Quarters
( )*Volume 194 Quest for Trezore
( )*Volume 195 Underground City
( )*Volume 196 Merlin's Castle
( )*Volume 197 Horgrath Castle
( )*Volume 198 Deathtrap
( )*Volume 199 The Black Death
( )*Volume 200 The Temple of Ngurct
( )*Volume 201 Black Mountain
( )*Volume 202 Nuclear Nightmare
( )*Volume 203 Feast of Carroll
( )*Volume 204 The Master's Dungeon
( )*Volume 205 The Crystal Mountain
( )*Volume 206 The Lost Adventure
( )*Volume 207 The Manxome Foe
( )*Volume 208 The Gauntlet

Pascal   (See also Volume 133)
( ) Volume 300 PIG0: ATTACH 1.1/BIOS
( ) Volume 301 PIG1:
( ) Volume 302 PIG2:
( ) Volume 303 PIG3:
( ) Volume 304 PIG4:
( ) Volume 305 PIG5:
( ) Volume 306 PIG6:
( ) Volume 307 PIG7:
( ) Volume 308 PIG8:
( ) Volume 309 PIG9:
( ) Volume 310 PIG10:
( ) Volume 311 PIG11:
( ) Volume 312 PIG12:
( ) Volume 313 PIG13: Guerilla Guide
( ) Volume 314 PIG14:

CP/M
( ) Volume 401 Master Catalog
( ) Volume 402 Utilities 1
( ) Volume 403 Communications
( ) Volume 404 Utilities 2
( ) Volume 405 Utilities 3
( ) Volume 406 ZCPR2 Install
( ) Volume 407 ZCPR2 Documentation
( ) Volume 408 ZCPR2 Utilities
( ) Volume 409 Modem 730

Forth
( ) Volume 700 Assembler/Disassembler
( ) Volume 701 Full Screen Editor
( ) Volume 702 GoForth Tutorial
( ) Volume 703 Fig-Forth
( ) Volume 704 Floating Point Arithmetic

Macintosh - @$7.00 (see above)
( ) SigMac 1 MS-BASIC Pgms
( ) SigMac 2 Atkinson's Goodies
( ) SigMac 3 Fonts
( ) SigMac 4 MS-BASIC Pgms
( ) SigMac 5 Desk Accessories
( ) SigMac 6 Mac Paintings
( ) SigMac 7 Desk Calendar & MS-BASIC
( ) SigMac 8 MacFORTH Programs
( ) SigMac 9 Not One Byte
( ) SigMac 10 Mostly BASIC
( ) SigMac 11 MacFonts} Recommended as
( ) SigMac 12 MacFonts} a pair.
( ) SigMac 13 RAM Disk and Altered Finder
( ) SigMac 14 Filevision Templates
( ) SigMac 15 Progammer's Playground
( ) SigMac 16 New Members Disk 1985
( ) SigMac 17 Red Ryder 5.0 ***
( ) SigMac 18 MusicWorks Collection I
( ) SigMac 19 Mock Accessories ***
( ) SigMac 20 MacPaintings II

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

(NOTE: ALLOW 3 TO 4 WEEKS FOR MAILING.)   Total Order = ___ disks.; postage $___ ; Total amount enclosed $_____

NAME   _____

ADDRESS   _____

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SOFTWARE POLL--PRIZE

GAMESIG is sponsoring this poll to assist club members in software buying. The results will be published in a fall Journal issue. The club member selecting the exact order of all-time favorites or "worsts" will win a valuable(?) prize. Please drop your ballots at or mail them to the Office, or use our BBS's. BE SURE TO CHECK OFF YOUR COMPUTER. If you own several, use separate ballots.

Macintosh ( )   Apple // series ( )   Apple /// ( )
Lisa ( )

ADVENTURE/FANTASY
1. _____
2. _____
3. _____

SPREADSHEET
1. _____
2. _____
3. _____

STRATEGY
1. _____
2. _____
3. _____

UTILITY
1. _____
2. _____
3. _____

EDUCATION
1. _____
2. _____
3. _____

WORD PROCESSING
1. _____
2. _____
3. _____

DATABASE
1. _____
2. _____
3. _____

COMMUNICATIONS
1. _____
2. _____
3. _____

ALL-TIME FAVORITE
1. _____
2. _____
3. _____

ALL-TIME WORST
1. _____
2. _____
3. _____

—— Operant Systems ——

—— HARDWARE ——

PRINTERS—
```
Epson FX-80+ (160 cps, tractor/single sheet)........... 359
      FX-100+ (wide carriage version of the above)..... 519
      LX-80 (replaces RX-80—call for specs).......... 275
      LQ-1500 (200 cps, fantastic letter-quality mode). 995
Okidata 192 (replaces Oki 92—call for specs)........(call)
        193 (132 column version of above)............(call)
Toshiba 1340 (144 cps draft, BEST letter-qual matrix).. 559
Texas Instruments TI-855 (150 cps draft, 35 cps NLQ)... 795
NEC P2/P3 (high quality matrix printing).......... 519/725
Panasonic & Citizen printers......................(call)
Gemini 10X (120 cps, tractor/single sheet, graphics).. 269
       15X (wide-carriage, same features as Epson MX).. 375
       Powertype (18 cps daisywheel).................. 335
PCPI Laser Printer (8 pages/min, slicker than H-P).... 2825
C.Itoh F-10 Starwriter (40 cps, office quality)....... 925
        F-10 Printmaster (55 cps, same as above)...... 1075
Silver-Reed 550 (18 cps daisywheel, BEST at this speed) 439
            500 (14 cps daisywheel, same as above)..... 335
NEC 8830 (55 cps daisywheel, built like a tank)....... 1399
Diablo 620 API (25 cps daisywheel).................. 775
Qume LetterPro 20 (20 cps daisywheel)................. 419
```

MODEMS—
```
Hayes Micromodem JCe (tone dialing/speaker/Smartcom I). 145
      Smartmodem 2400 (2400/1200/300 baud, RS-232)..... 609
      Smartmodem 1200 (1200 baud, RS-232, auto-dial)... 389
      Smartmodem 300 (300 baud, as above).............. 145
Novation Apple-Cat II (w/ Comware; 1200 baud capable).. 199
         Smart-Cat 300 (RS-232, direct-connect)........ 159
         Smart-Cat 300/1200 (as above)................. 389
Prometheus Promodem 1200 (300/1200 baud, RS-232)...... 309
           Promodem 1200A (300/1200 card w/ software).. 299
Microcom ERA 2 (300/1200 baud card with software)..... 349
ZoomModem JCe (300 baud Micromodem compat w/software). 125
US Robotics Password (300/1200 baud, auto-dial/answer). 249
Anchor Automation Express (300/1200 loaded w/ features) 289
               Volksmodem 12 (300/1200 baud, RS-232) 199
```

DISK DRIVES—
```
MicroSci A2 drive (100% Apple-compatible Shugart 390).. 189
         A.5 (half-height, 100% Apple compatible)...... 195
         A.5c (half-height for Apple JCc)............. 199
Rana Systems Elite One drive (40 track, 163K)......... 195
             Elite Two (40 track, double side, 326K)... 309
             Elite Three (80 track, double side, 652K). 375
             10-MEG Winchester drive................... 1025
Davong, Corvus, and Corona Winchester drives........ (call)
```

CP/M & 6502C SYSTEMS—
```
Applicard (6 Mhz Z-80, 64K to 192K RAM, 70-col video).. 249
Microsoft Softcard JCe (Z-80, 80 col & 64K on one card) 265
          Softcard II (includes CP/M 2.2 and MBASIC)... 239
Titan Accelerator JCE (3.6 Mhz 6502C coprocessor)..... 209
Speed Demon (6502C high-speed coprocessor)............ 229
```

MONITORS—
```
Amdek 300G/300A (12" green/amber anti-glare, 18Mhz).125/139
NEC JB-1201/1205 (green/amber anti-glare screen, 20Mhz) 145
    JB-1260 (12" green, 15Mhz, best value for money)... 99
USI PI-2 (12" green anti-glare screen, 20 Mhz)........ 125
    PI-3 (12" amber anti-glare screen, 20 Mhz)........ 125
```

INTERFACES & BUFFERS & CLOCKS—
```
Pkaso/U printer interface (superior graphics & more !!) 125
ShuffleBuffer (32K—128K w/cut & paste/ser and par).... 259
Grappler+ printer interface (parallel w/ graphics)..... 85
Buffered Grappler+ (16K to 64K buffer plus graphics)... 149
CCS 7711 Super Serial (for printers & modems).......... 95
Practical Peripherals Graphicard (parallel w/ graphics). 79
                      ProClock (PRODOS compatible)..... 109
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VIDEO BOARDS—
```
Videx Ultraterm (160 column/48 row display !!!)........ 249
Videoterm (80-column w/ softswitch & inverse).... 215
MicroSci 80-col card (w/64K RAM, AppleWorks-compatible). 99
```

MEMORY EXPANSION—
```
Microtek 16K RAM card................................ 79
Titan Technologies 128K RAM card..................... 199
```

—— SOFTWARE ——

WORD PROCESSING—
```
Wordstar 3.3....................................... 199
ScreenWriter II (40/70/80 col display w/speller).... 85
Bank Street Writer or Speller....................... 45
pfs: Write JCe ..................................... 79
Pie Writer 2.2...................................... 99
HomeWord / HomeWord Speller......................... 49/35
Sensible Speller IV (DOS or PRODOS versions)....... 79
The Word Plus (super spelling checker for CP/M)..... 95
```

SPREADSHEETS—
```
Multiplan (state-of-the-art spreadsheet)............ 70
SuperCalc 3a (powerful spreadsheet for the JCe)... 135
```

INFORMATION MANAGEMENT—
```
dBASE II (w/ ZIP screen generator)................. 289
pfs: File, Report, or Graph........................ 79
The General Manager 2.0............................ 149
Thinktank (electronic thought organizer)........... 95
DB Master 4+ (latest version)...................... 185
```

BUSINESS & ACCOUNTING—
```
Dollars & Sense (accounting w/graphics)........ 69 & 79
Peachtree Peachpak (GL/AR/AP)........... all three: 229
                 Back to Basics Accounting (GL/AR/AP) each  59
BPI Accounting (GL/AR/AP/PAY/INVENTORY) ........... 245
```

COMMUNICATIONS—
```
Ascii Express Professional (for DOS 3.3)............ 80
Z-term Professional (for CP/M)...................... 90
CompuServe Starter Kit (password & 5 free hours).... 29
```

LANGUAGES—
```
Microsoft TASC Applesoft compiler.................. 119
          Fortran-80.............................. 125
Terrapin Logo...................................... 65
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ODDS & ENDS—
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Kensington System Saver Fan (w/surge protector)..... 66
Kraft Joystick / TG Joystick / Hayes Mach III. 35/35/39
KoalaPad Graphics Tablet (with graphics software)... 85
Flight Simulator II................................ 36
Print Shop......................................... 36
```

MACINTOSH
```
Filevision (graphics database system).............. 119
Odesta Helix (database for the serious user)....... 249
Dollars & Sense (accounting w/graphics)............ 95
Microsoft Word (what MacWrite should have been).... 125
          Chart (presentation business graphics).... 85
          File..................................... 125
          Basic (new version)...................... 99
          Multiplan................................ 125
          MacEnhancer (has the ports Apple forgot). 175
Lotus Jazz (word proc, database, graphics, more) (call)
Assimilation Process Memory Disk................... 24
Iomega Bernoulli Drive (5 MEG removable cartridge) 1349
MacLion (programmable database for Mac)............ 239
MacForth Level II.................................. 169
Hippo C............................................ 99
Kensington MacModem (300 baud)..................... 99
Surge Protector (replaces power cord).... 39
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