Washington Apple Pi

$2⁵⁰

Highlights

- Family Home Money Manager - Part 7
- Apple II to Mac Screen Converter
- MacNovice Gift Ideas
- FullPaint: A Review
- How To Cope With System Errors (pg 60)

In This Issue

OFFICERS & STAFF

EDITORIAL

What a great idea! The Mac Programming Group is to be commended for initiating a learn-by-doing project which will end up in the development of a public domain package for the preparation of computer aided instruction. Let's get others to think about ways to do the same, e.g. the AppleWorks group to develop a new tax template; perhaps the Excel'ers the same; the Telecommers to develop a turnkey uploading system from any computer to any other; the Music SIG to develop their own music construction set; the StockSIG, sureproof ways to make us all rich; and so on and so on... Seriously, what better way is there to learn than by doing and to participate in a joint learning exercise which produces something of genuine value to others.

I am reminded of the highly commendable efforts of the University of Vermont to engage the gifted students of the area in developing programs of use to the "special ed" students. This was reported several years back in *Softalk*, a magazine which I enjoyed and still miss. Does anyone know how that effort came out?

Further, how about re-instituting that old country practice of bartering. Say, one of you needs someone to keyboard the data associated with twenty of your clients into your favorite computer. Perhaps you can get someone to do that in exchange for your services in your area of expertise. Yes, I know you must be careful of such transactions and report them to the IRS, but isn't the return worth the effort. As I get older, I am more and more attracted to situations where everyone wins, perhaps some more than others, but everyone wins! Ⓖ

PRESIDENT'S CORNER
by Tom Warrick

Well, now, that was quite a show! I am referring, of course, to the Apple IIGS meeting in September. Our thanks to *Ellen Leanse, Rob Moore* and *John Worthington* of Apple Computer, Inc. for stopping by to let us have a look and a listen to the future of Apple II computing. If you were there, you don't need me to remind you of the glorious graphics. And although we got only a sampling of the sound at the meeting, I hope you have had a chance to listen to the IIGS at a dealer's.

The IIGS is an interesting machine, no doubt about that. Clearly, it was designed with the education and consumer markets in mind—epitomizing the new *"market driven"* Apple Computer, Inc. rather than the old *"technology driven"* Apple of *Steve Jobs's* final months. (Speaking. of which, didn't you love one of the accessories for the IIGS—the Steve Jobs Memorial Fan?)

The IIGS has answered many of the requests of Apple II users. Back in September of 1985, you may recall, Apple invited a number of user group representatives to Cupertino to discuss a wide range of issues. If you read my report to you about that meeting ("Apple Listens," October 1985, page 18), you remember that two of the most interesting events during the conference were two spirited discussions with Apple hardware engineers on what the "next" Apple II should have. *Steve Kramer,* president of Miami Apple Users Group, took a picture of the whiteboard on which the engineers had written our suggestions during one of the meetings. Those suggestions read like the spec sheet for the IIGS: 65816 microprocessor, a mouse as standard equipment, 256K standard RAM with the option to expend to several megabytes, Applesoft in ROM, built-in clock/calendar. Although most of our suggestions had no doubt occurred to many people within Apple, they were also nothing more or less than the cumulative experience of thousands of Apple users represented at that meeting. I think we can truly say that Apple did, indeed, listen.

The one respect, however, in which our recommendation was not followed was the IIGS *keyboard.* The consensus of the user group leaders, based on the collective experience of thousands of users of all types of Apple machines, was that the best keyboard Apple had produced until that time was the Apple /// keyboard. And Apple appears to have followed this advice (or, at least, was thinking in the same direction) when it designed the Mac Plus keyboard. There was a clear consensus at the meeting that the IIc keyboard, while perhaps suitable for a child's computer, would not be taken seriously. The IIGS keyboard is at most a slight improvement on the IIc keyboard, but it still shares the drawback that it just looks, well, cheap. I know you may be able to show me ergonomic tests that it is efficient and economic studies that explain how much less expensive it is, but I just don't like it. Others I have talked to share this view.

This brings up a rumor I've heard: Apple is considering standardizing on this keyboard for the *Open Mac,* which *John Sculley* has (indirectly) promised will be out early next year. If this is true, it could be a very serious problem for the machine's credibility in the offices of American business. If you agree, you should tell Apple so right away. We learned from September 1985 that Apple does listen, but sometimes you just have to speak a little louder! Write to:

> Mr. Jean-Louis Gassée
> Vice President, Product Development
> Apple Computer, Inc.
> 20525 Mariani Avenue
> Cupertino, California 95014

or send an EasyPlex on CompuServe to 76426,16.

The September meeting was also interesting in another respect. In addition to the not-unexpected questions on the machine's utility for business and on whether Apple will provide an upgrade path for II and II+ owners, the questions delved into microprocessors, clock rates, ports, and busses. Evidently the hardware hacker is alive and well, at least among Apple II owners. Long live the spirit of '79!

I don't know about you, but I find statistics fascinating. (I'll even admit to reading USA Today on occasion!) So I appreciated greatly the work done by *Tom DeMay, Dallas DeMay, Paula and Bernie Benson, Juliana Angle, Charlie Rider, Bob Wilbur, Nancy Little* and *Mac Nachlas* on the back-of-the-ballot questionnaire you returned along with your ballots last June. (See "1986 Survey Results," October 1986, page 14.) One interesting thing I learned from Tom's is that the 1,446 members who responded said they owned or used 3,853 computers, and that of those, 22.0% are IBM PC's or compatibles and 19.2% are mainframes, minicomputers or laptops. In fact, only 57.7% of the computers owned or used by our members are manufactured by Apple Computer, Inc. Is this good news or bad news?

Tom has given me a copy of the datafile, and I've played with it a little to see what other interesting facts they reveal in addition to those Tom covered in his informative article. I hope to have more to report to you next month. ⑤

CLASSIFIEDS

FOR SALE: Apple Dot Matrix Printer with Grappler+ parallel interface for the Apple II (//e, IIGS), $250. This has all the commands of the Imagewriter printers; it just requires a parallel interface card instead. Call Bruce, evenings, (301) 340-7038.

FOR SALE: Brother HR-15XL Daisy Wheel Printer. Parallel and serial connections. 17 cps. Extra print element, extra ribbon, instruction manual, and 6-foot RS-232 cable included. Excellent condition, hardly used. Retails for $495 —will sell for $350. Call Ben at (301) 270-3482.

FOR SALE: Macintosh carrying case (Apple) $40; 15-foot cable Mac 512 to MacPlus (for use with old printer and modem cables) $12. Call Susan Weber, 870-3000 (days, leave message), 301-934-1230 (nights).

FOR SALE: 400K Apple disk drive for Mac, $135. Excellent condition. Call John Willis, days 353-4095, evenings 301-694-9410.

FOR SALE: Apple Super Serial Card; Microsoft Basic Interpreter v2.1. Call George Motto, 948-1159.

FOR SALE: External disk drive, 400K. Call Doug (703) 352-2857.

FOR SALE: Transtar 120 daisywheel quality printer, $199; ProPrint software for Transtar and other daisywheel printers, $35; AB Switch box, $45; Microsoft Chart, $50; Apple numeric keypad for Mac, $50. Any reasonable offer will be considered. Call Lynn R. Trusal in Frederick, MD at (301) 845-2651 between 5 and 10 PM.

FOR SALE: Apple Modem 1200—never used. Call 986-9113.

FOR SALE: Complete CP/M system for an Apple][+ consisting of Microsoft Premium Softcard System (Z80, Videx Videoterm 80-column card, 16K Ramcard) and the following software: WordStar with MailMerge and SpellStar, Multiplan, dBase II with utilities, and ZTerm Pro. All with complete documentation for only $300. Call 301-530-6924 and ask for Don or leave message if answering machine responds.

FOR SALE: 512K Mac (original), Imagewriter I, external 400K drive, MacAttire dustcovers, Kensington printer stand & Tilt-Swivel, Mac carrying case, MacWrite, MacPaint, MS Multiplan, Copy II Mac, Sidekick, plus other miscellaneous original software. All manuals and original packing cases. Complete package—$1575 or best offer. Call Fred at (703) 644-1131, evenings.

FOR SALE: Dow Jones Market Manager, latest version, usd exactly once, lists at $249, only $100. Call Newt Steers, 9AM - 9PM, (301) 320-5820.

FOR SALE: 400K Apple drive for Mac. Excellent condition, $125. Call Steve at 364-2403 or 254-5338.

FOR SALE: Thunderscan, $110; Apple 400K drive, $125. Call 424-3942.   ⑤

JOB MART

HELP WANTED: Experienced person for keyboard entry on the Macintosh on a parttime basis. Use your Mac or ours. Hours flexible. Call MacTography at 424-3942. ⑤

COMMERCIAL CLASSIFIEDS

Tutorial Service Available: Apple Macintosh computer instruction given in the general Frederick MD area. General instruction or specific software. AppleTalk consultations and installations and help with pre-buy decisions. Personalized service and reasonable rates. Call Lynn R. Trusal, 301-845-2651, evenings with no calls after 10:00 PM.

FOR SALE: DSDD Floppies. Black, $.85; colors, $1. Lifetime warranty locking case for 100, $18. For 50, $12. A-B switch with cables, $55. Visa/MC/AE. UPS daily. 703-759-3393.

INTERNATIONAL USERS GROUPS: APPLE-80, 1st Laser, & The Franklin Users Group Int'l supports users of Apple CP/M, Apple, Franklin, Laser & all compatibles. Membership includes a monthly newsletter, public domain library & hotline. U.S. membership $20 a year, $30 with expanded disk newsletter, $42 with our Disk of the Month. Add $15 outside North America. Sample Newsletter $2, PDS catalog $5. A.S.C.I.I., 87 Eastwind, Tecumseh, MO 65760. 417-679-3526, 2-5 PM Central.

FOR SALE: Portfolio Manager for investments, $39.50. Many superiorities to DOW Jones Market Manager which sells for $299, no inferiorities. Call Newt Steers, 9 AM - 9 PM at (301) 320-5820 or write 6601 River Road, Bethesda, MD 20817-4929 to place orders or for more information.

THE WIZZ QUIZZER - an exciting entertainment/ learning program (II, +, c, e) packed with songs and sound. 18 quizzes with thousands of questions NEVER EXACTLY THE SAME when replayed. Great for contests, trivia, or just enjoyment. Makes inexpensive fun Christmas gift. Quizzes: Movies, Sports, Cartoons, Inventions, Zodiac, Planets, Names, Famous Initials, etc. Written by WAP member. Send $7.50 ($7.88 in MD) to Gary Hayman, 8255 Canning Terrace, Greenbelt, MD 20770, and enjoy.

FOR SALE: Apple IIc w/color monitor IIc + stand; manual, 6 programs, built-in dd-128K memory. Best offer. Call 584-0483.   ⑤

Washington Apple Pi meets on the 4th Saturday (usually) of each month, both Apple and Mac, at the Uniformed Services University of the Health Sciences (USUHS), on the campus of the Bethesda Naval Medical Center, 4301 Jones Bridge Road, Bethesda, MD. Disketeria transactions, Journal pickup, memberships, etc. are from 8:45-9:30 AM and during the Q& A sessions (times for these vary according to the main meeting topic). The business meeting is from 9:00-9:30.

Please note that both the November and December meetings are on the third Saturday of the month.

A sign interpreter and reserved seating can be provided for the hearing impaired, but we need 5 business days notice. Call the office.

Following are dates and topics for upcoming months:

Nov	15*	- Foundation (AW replacement) &
* 3rd Sat.		new tax laws for computers
Dec	20*	- Garagae Sale

The Executive Board of Washington Apple Pi meets on the second Wednesday of each month at 7:30 PM at the office. Sometimes an alternate date is selected. Call the office for any 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 $32.00 for the first year and $25.00 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.

Mailing Notice: Change of address must be postmarked at least 30 days prior to effective date of move. Journal issues missed due to non-receipt of change of address may be acquired via mail for $2.50 per issue.

Current office hours are:

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

Please note that the office is closed on all U.S. Government holidays.

Members are asked to place phone calls to the office during the day hours Monday - Friday wherever possible, since only one person staffs the office during evening hours and on Saturday.

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│  (Please Note!)                          │
│  ─────────────                           │
│  The meeting dates for November and      │
│  December are:                           │
│     November 15                          │
│     December 20                          │
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Would you like to gather some Apple users together to discuss a topic that you're interested in or one that you'd like to know more about? That's what an Apple Tea is all about. It's an opportunity for Apple users to get together in small groups (from 3 to 12) to discuss a specific area of Apple computing, expand each other's knowledge, ask questions and share tips.

How can you have an Apple Tea?

1. Pick a topic - one that interests you and one that you think might interest others.

2. If you like, obtain a resource person, someone who is knowledgeable in that area. The WAP Hotline volunteers have been very good about agreeing to come as resource persons.

3. Pick a date a month or two in advance to allow for Journal publication and distribution. Pick a suitable time.

4. Plan to host your Tea with refreshments at your home or another suitable location. (There have been successful Teas hosted in the Training Room of Clinton Computer, and the Computer Lab of the Elizabeth Seton High School.)

5. That's all there is to it. Call Amy Billingsley at 622-2203, or George Sall at 768-0212 with topic, resource person, date and time, place and directions. Start working on your Apple Tea today. It is a great way to share information and learn more about one of your own areas of interest. The following teas are scheduled for November:

Washington Apple Pi
Northwest Washington, DC Apple Tea
Saturday November 15th, 7:30 - 9:30 PM
Dvorak on All Kinds of Apples:
Typing Made Easy on an
Efficient (Ergonomic) Keyboard
at the home of Michael & Ginny Spevak
5320 Belt Road, NW
Washington, DC 20015
Experts, novices and the curious are welcome.

Please RSVP to 362-3887 or 362-9119 (leave message on machine). Directions: Take 495 to River Road to Western Ave. Left on Western. Cross Wisconsin. Bear right on Military Road. Turn Right on Belt Road, 4th right past 42nd St. 5320 is the unpainted modern wooden house on right in middle of block. Metro: Take Red line to Friendship Heights, Jennifer Street exit. Walk East on Jennifer 4 blocks past 42nd Street. Turn left onto Belt Road. House on Left.

Washington Apple Pi
Gaithersburg, MD Apple Tea
Wednesday, November 19th, 7:30 - 9:30 PM
AppleWorks for Novices
at the home of Bob & Connie Padgett
20009 Lumaryn Place (Montgomery Village)
Gaithersburg, MD

RSVP 963-7741. Directions: Take Rte. 270 North to Rte. 124, Montgomery Village Avenue turnoff (at Marriott Hotel). Go about 3 1/2 miles to traffic light, turn right at Arrowhead Road. Go approx. 3 blocks to Spur Hill (see "Partridge Place", subdivision marker). Turn left. Make another immediate left (almost a U-turn) onto Lumaryn Pl. The Padgetts are in the first group of townhouses, end unit on right. ㉓

* November 1986 *

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 Note: early dead-line for Dec issue is Oct. 30
2	3 PI-SIG 7:30 PM Office	4 Apple// Beginning Tutorial #1 7:30-9:00PM Office	5 Mac Pro-grmrs.-7:30 Office; P.S. Tutr. 7:30 Office	6 GameSIG 7:30 PM Office	7	8 Pascal Tutr. #1 9-12 Off.; MusicSIG 1:30 PM
9	10 Telecom SIG 7:30 PM Office	11 Apple// Begin. Tutr #2 7:30-9PM Office Off.Closed	12 Executive Board 7:30 PM Office	13STOCKSIG 8PM Office; FAC Slice 7:30 MRIID Ft.Detrick	14 dPubSIG 7:30 PM Pepco Bldg.	15 WAP Mtg Apple & Mac 9 AM-USUHS; MS Word Tut 1-3PM USUHS
16	17	18 Apple// Beginning Tutorial #3 7:30-9:00PM Office	19 P.S. Tutr. 7:30 Office; Apple/// 7:30ChofCom	20 Pascal SIG 8:00 PM Office; EdSIG 7:30 Office	21	22 Pascal Tutorial #2 9AM-12 Noon Office
23	24 Mac Begin. Tutorial #1 7-10 PM Office	25 TCS Comm. 7:30 PM Office	26	27 Thanks-giving Day Office Closed	28	29
30						

* December 1986 *

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Mac Begin. Tutorial #2 7-10 PM Office	2 Dead-line for Journal Articles	3 Mac Programmers 7:30 PM Office	4 GameSIG 7:30PM-Off. dPub SIG 7:30 Pepco Bldg.	5	6 Pascal Tutorial #3 9AM-12 Noon Office
7	8	9	10 Executive Board 7:30 PM Office	11StockSIG 8PM Office; FAC Slice 7:30 MRIID Ft. Detrick	12	13 Pascal Tutorial #4 9AM-12Noon Office
14	15	16	17 Apple /// 7:30 PM Ch.of Comm. DC	18 Pascal SIG 7:30 PM Office EdSIG 7:30 Office	19	20 WAP Meeting Garage Sale 9AM-USUHS
21	22	23	24 Christmas Eve Office Closed	25 Christmas Day Office Closed	26	27
28	29	30	31			

SIGNEWS

Apple /// SIG usually meets on the 4th Wednesday of the month at 7:30 PM in the Chamber of Commerce Bldg,, 1615 H Street NW, DC. However, due to the holidays the November and December meetings will be on the 3rd Wednesdays, November 19 and December 17.

AppleWorks SIG offers two meeting options: 8:00 AM before the regular meeting and 12 Noon after the Apple II Q&A session. Attend either or both.

DisabledSIG - For information call Jay Thal at 344-3649.

dPub SIG (Desktop Publishing) will meet on Friday, November 14 and on Thursday, December 4, at 7:30 PM in the PEPCO auditorium at 1900 Penn. Ave., NW. Note that the dates for Nov and Dec have changed.

EdSIG (the education special interest group) will meet on November 20 and December 18 at the office, 7:30 PM. See Edsig News elsewhere in this issue.

GameSIG meets on the first Thursday of each month at the office, 7:30 PM. The next meeting will be on November 6. See their news elsewhere in this issue.

MusicSIG meets on the 2nd Saturday of each month at 1:30 PM. Call Ray Hobbs at 490-7484 for place.

PIG, the Pascal Interest Group, meets on the third Thursday of each month at the office, 8:00 PM. New and prospective users are welcome. The next meeting will be on November 20.

PI-SIG meets on the first Monday night of each month at the office, 7:30 PM. Call Bob Golden at 593-6165 for details.

SigMac Programmers meet on the 1st Wednesday of each month at 7:30 PM at the office (change in location). The next meeting will be on November 5.

StockSIG meetings are on the second Thursday of each month at the office, 8:00 PM.

Telecom SIG meets on the second Monday night of each month at the office, 7:30 PM.

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. When requests are made to return calls, long distance will be collect.

General - Apple II	John Day	(301) 621-7543
	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
	Otis Greever	(301) 262-5607
Home Accountant	Leon Raesly	(301) 439-1799
Howardsoft (Tax)	Leon Raesly	(301) 439-1799
	Otis Greever	(301) 262-5607
APPLE SSC	Bernie Benson	(301) 951-5294
Apple TechNotes	Joe Chelena	(703) 978-1816
AppleWorks	Jay Jones (Balt.)	(301) 969-1990
	Ken Black	(703) 369-3366
	Ken DeVito	(703) 960-0787
Communications Packages and Modems-Telecom.		
Anchor Mark 12	Jeremy Parker	(301) 229-2578
Apple Modems	John Day	(301) 621-7543
ASCII Express	Dave Harvey	(703) 527-2704
BIZCOMP Modem	Jeremy Parker	(301) 229-2578
General	Tom Nebiker	(216) 867-7463
Hayes Smartmodem	Bernie Benson	(301) 951-5294
Robotics Modem	Joan B. Dunham *	(301) 585-0989
SeriAll Comm. Card	Joan B. Dunham *	(301) 585-0989
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) 621-7543
Franklin&Laser 128	Doug Trueman	(417) 679-3526
LISA/Mac XL	John Day	(301) 621-7543
Macintosh:		
General	Michael Yourshaw	(703) 534-2077
	Terry Monks	(703) 471-4610
	Steve Hunt	(301) 262-9080
	Donald Schmitt	(717) 334-3265
	Rob Clark	(804) 872-9070
Comm. & Modems	Steve Hunt	(301) 262-9080
Concertware	Skip Horvath	(703) 536-4091
Desktop Pub/Graphics	Jay Rohr	(301) 655-0875
Excel	David Morganstein	(301) 972-4263
	Mark Pankin	(703) 524-0937
File Vision	Steve Hunt	(301) 262-9080
Helix	Jim Berry *	(703) 662-0640
	Harvey Levine	(301) 299-9380
Inside Mac	Jon Hardis	(301) 330-1422
Lang.-C,Pascal,XLisp	Carolyn Komada	(703) 691-1986
MacDraw	Tom Berilla	(301) 434-3256
	Tom Parrish	(301) 654-8784
MacLion (DBMS)	Mark Miani	(202) 362-8123
MacProject	Jay Lucas	(703) 751-3332
MacTerminal	Jon Hardis	(301) 330-1422
MS-BASIC & MS-File	John Love	(703) 569-2294
Multiplan	John Boblitz	(301) 356-9384
	John Love	(703) 569-2294
	Steve Hunt	(301) 262-9080
	Walt Francis	(202) 966-5742
MusicWorks	Skip Horvath	(703) 536-4091
OverVue	J.T.(Tom) DeMay Jr.	(301) 779-4632
	Tom Parrish	(301) 654-8784
Programming	Michael Yourshaw	(703) 534-2077
Spreadsheets	David Morganstein	(301) 972-4263
Spreadsheets&Graphcs	Bob Pulgino	(202) 797-0879
Sidekick	Ray Hobbs(7:30-10)	(301) 490-7484
ThinkTank	Tom Parrish	(301) 654-8784
Word	Marty Milrod	(301) 464-2154
Data Bases		
dBase II	Paul Bublitz	(301) 261-4124
	John Staples	(703) 893-5985
dBase II & III	Ray Hobbs(7:30-10)	(301) 490-7484
	Jim Kellock (day)	(301) 986-9522
	Leon Raesly	(301) 460-0754
DB Master	Dave Einhorn	(301) 593-8420
Data Perfect	Leon Raesly	(301) 439-1799
Data Factory	Bob Schmidt	(301) 736-4698
General Manager	Normand Bernache	(301) 935-5617
PFS	Bill Etue	(703) 620-2103
	Ginny Spevak	(202) 362-3887
QuickFile II	J.J. Finkelstein	(301) 652-9375
Q-Pro-4	John Staples	(703) 893-5985
VisiPlot	Leon Raesly	(301) 439-1799

Games - Apple //	Charles Hall	(301) 330-4052
Games - Mac	Ron Wartow	(301) 654-4439
Hard Disks		
Corvus & Omninet	Tom Vier (BBS)	(301) 986-8085
Corvus	Leon Raesly	(301) 439-1799
Sider	Jaxon Brown	(301) 350-3283
	Otis Greever	(301) 262-5607
Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine)		
A	Louis Biggie	(301) 967-3977
A	Peter Combes	(301) 251-6369
A,I	Jeff Dillon	(301) 422-6458
A	Richard Langston	(301) 869-7466
A	Leon Raesly	(301) 439-1799
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
P	Michael Hartman	(301) 445-1583
Forth	Bruce Field	(301) 340-7038
MS Basic	Ray Hobbs(7:30-10)	(301) 490-7484
Math/OR Applns.	Mark Pankin	(703) 524-0937
Monitor, RGB	John Day	(301) 621-7543
Music Systems	Ray Hobbs(7:30-10)	(301) 490-7484
Operating Systems		
Apple DOS	Richard Langston	(301) 869-7466
	John Love	(703) 569-2294
	Adam Robie	(301) 460-6537
	Richard Untied	(609) 596-8816
CP/M	Ray Hobbs (7:30-10)	(301) 490-7484
	Leon Raesly	(301) 439-1799
MS-DOS	Ray Hobbs (7:30-10)	(301) 490-7484
ProDOS	Richard Langston	(301) 869-7466
	John Love	(703) 569-2294
Printers		
General	Walt Francis	(202) 966-5742
	Leon Raesly	(301) 439-1799
	Joan B. Dunham *	(301) 585-0989
Apple Color Plotter	John Day	(301) 621-7543
Apple Daisy Wheel	John Day	(301) 621-7543
Daisywriter 2000	Bill Etue	(703) 620-2103
	Henry Greene	(202) 363-1797
IDS 460	Jeff Stetekluh	(703) 979-8249
Imagewriter	John Day	(301) 621-7543
MX-80	Jeff Dillon	(301) 434-0405
NEC 8023	Bill Mark	(301) 779-8938
Okidata	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) 439-1799
	Walt Francis	(202) 966-5742
Lotus 1-2-3	Walt Francis	(202) 966-5742
	Ray Hobbs(7:30-10)	(301) 490-7484
Multiplan	Terry Prudden	(301) 933-3065
VisiCalc	Walt Francis	(202) 966-5742
Sprdsht. 2.0(MagicCalc)	Leon Raesly	(301) 439-1799
SuperCalc Ver. 2.0	Leon Raesly	(301) 430-1799
Stat. Packages	David Morganstein	(301) 972-4263
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) 439-1799
Gutenberg	Neil Muncy Can.	(416) 298-3964
& Jr.	Harris Silverstone	(301) 435-3582
Letter & Simply Perfect	Leon Raesly	(301) 439-1799
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 //c	Carl Eisen	(703) 354-4837
Word Perfect	James Edwards	(301) 585-3002
	Henry Donahoe	(202) 298-9107
Word Star	Leon Raesly	(301) 439-1799
	Dana Reil	(301) 350-3283

* Calls until midnight are ok.

SPECIAL IIGS Q & A
by Robert C. Platt

Q. What does "booting the Apple" mean?

A. The Apple // needs a special program called an "operating system" to help it understand how information is stored on disks, to transfer data and to run programs. The // can handle several different types of operating systems: Pro-DOS, DOS 3.3, CP/M and Apple Pascal (p-System). Copy-protected programs frequently have their own specially modified operating system included on their disks.

When the // is first turned on, it automatically reads in a copy of an operating system from a disk into its memory. This process is called "booting." The phrase refers to the Apple "pulling itself up by its own bootstraps." Once the // is on, you can reboot by holding down the open-apple and control keys and pressing reset or by typing "PR#6" from the] prompt. This will read a new copy of the operating system from the disk.

Q. Will ProDos 1.1.1 run on the new //GS?

A. Yes. However, a new version of ProDOS, called ProDOS 16, will take advantage of the //GS's 16 bit mode. A second version, called ProDOS 8, will replace ProDOS 1.1.1 on the //GS as well as other // machines. Both ProDOS 8 and ProDOS 16 use the same disk formats and file structures. Either one can read files written by the other, but each requires its own type of system files to boot.

Q. Will Apple Pascal run on the new //GS? Will device drivers be available to permit Apple Pascal to access the internal I/O ports on the //GS or the new SCSI card for the //c?

A. David Eyes, with Apple's //GS Project, responded to these questions on AppleLink as follows: Version 1.3 of Apple Pascal is //GS compatible. However, Apple does not intend to offer //GS-specific support for Apple Pascal 1.3. Still, internal devices such as the serial ports support Pascal entry points in their firmware, and devices such as the SCSI card look like ProDOS block devices which are recognized by Apple Pascal 1.3.

Q. Can I use a disk-editor (or "disk ZAP") program written for DOS 3.3 on a ProDOS or Apple Pascal disk?

A. Yes. However, remember that each operating system stores the disk's directory (the master list of files) in a different place (a different track) and in a different format. Also, each operating system uses a different sequence for writing the 16 sectors which make up each track. ⚙

APPLEWORKS SIG NEWS
by Peg Matzen

Better work with AppleWorks was the obvious goal of the many participants at both the 8 and 12 o'clock AWSIG sessions in September.

The ongoing task of reviewing disks from the TAWUG meetings in New Orleans/Colorado is still underway. Anyone caring to review a disk(s) will provide a real service to the WAP library and its users. A one-line review, combined with a detailed evaluation of each program on the disk will suffice.

Rumor has it that another macro program (similar to MacroWorks?) will be announced next month. Compatible with Pinpoint or Fingertips? (No one knows—look in the next issue of InCider).

AppleWorks 2.0 upgrade ($50—see your dealer for details) docs not enable the use of a mouse. Apple says they will not produce a mouse-oriented AppleWorks (yet!). (Comment: Third party competition will do a better job.) If anyone has obtained this upgrade—please bring it to a meeting for a training demonstration and a special prize!

In order to properly run AppleWorks you must get the version 1.2 upgrade of AppleWorks from a dealer. Earlier versions are full of 'bugs' and 'undocumented features'.

Memory expansion boards: Be sure to get boards that directly address the Apple standard memory—AppleWorks version 1.2, 1.3 and 2.0 do.

Beagle Bros. version 2.2 Macroworks is the latest version. You should not accept any earlier version (1.0 or 1.1—you want to get version 2.2 or higher—which didn't come out until after May 26, 1986). Macroworks lets you replace a set of repetitive strokes with a Solid-Apple command—you hit the solid Apple along with a selected key and those numerous key-strokes are entered. (An AWSIG participant at the meeting said that Beagle Bros. MacroWorks was on super special at B. Dalton Bookstores at Seven Corners in Virginia.)

There was a discussion of Sensible Speller and Grammar, reviewed recently in A+ or InCider. Several users present expressed favorable opinions, but warned that use of these programs will not improve one's writing. Discussion revealed that the two programs actually modify AppleWorks Files. You save the file to disk and get off AppleWorks; next, boot up these programs; then boot up material saved and notify the programs you want to check—the modified file is saved as an AppleWorks file for printing later on.

Sources of products were discussed: WAP does not endorse products; however, users at the meeting were not shy in sharing their experiences with products from certain providers. For example, several users have AE Products; know how to use them, and will share their knowledge.

Fontworks, Fontrix, Multiscribe, and Powerprint were discussed: how to set up printers for these most useful programs was discussed. Fontrix loading into RAM was again discussed as another use of the inexpensive RAM that is now available on the AE and Checkmate Technology Cards. Fontrix enables the use of numerous screens (NOT 23 as reported last month, but from 30 screens - a 5x6 screen matrix- up to a 480 screen—48 horizontal x 10 vertical, for instance) linked together as Graffiles and putting them all into RAM makes the program useable. Without the capability for loading it into RAM it is virtually useless because of time involved for incessant disk access. The installation of RAM cards and the various patches required shortly became a part of the discussion that followed.

Mailmerge with AppleWorks was ably demonstrated by Amy Billingsley and Gene Brown at the end of the meeting. Thank You, Gene, for bringing in and demonstrating your program and associated files!

It was refreshing to note that AppleWorks topped all of the lists in both the SpreadSheet and DataBase Manager, and also WordProcessor categories in the recent survey (pp14, WAP Journal, Oct '86) for Apple //'s. It would have led in all categories for ALL Apples had not MacWrite been free with the purchase of Mac hardware in the past. Keep those cards, letters and phone calls coming, Gang. We have a G-R-E-A-T integrated program here and want to make it even better in the future!   ⑤

Music Sig News
..... by Raymond Hobbs

October marks the first special event for Music SIG. We attended a musical play at Ford's Theatre and enjoyed a symposium with the musicians afterward. The synthesized instrumentation used in the musical was discussed and analyzed, and for our part we fielded questions on the technical side of computers and music—such as 'What happens in the MIDI interface?' and 'What's coming up that's new in computers?' (boy, were we able to give that one a blast, with the Apple IIGS recently introduced.

We also had our usual 2nd Saturday-of-month meeting, on October 11th in College Park, where we continued some analysis of digital sampling.

If you have called for information and it's taken a little while for somebody to get back to you, please try again. We have had some growing pains (we get about a 20 percent increase in membership per month), and sometimes we lose track of our notepads. We are trying to get back to everybody, though.

Our November meeting location has not yet been decided, but the meeting will be on the 2nd Saturday of November. Call me (301)490-7484 or Gary Larson (202)337-4267 for information.   ⑤

ON THE APPLE /// TRAIL
by David Ottalini, /// SIG Co-Chairman

As mentioned to you last month in this column, I spent three weeks of vacation time "Out West" in Utah, Nevada and California. During that time, I was able to visit with three Apple /// notables. The results of one of those meetings, an interview with Pair Software's Frank Moore is included in this month's Journal. I also spent time with Sun System's Bob Cook and had a chance to visit the "Father" of the Apple ///, Dr. Wendell Sander at his company, The Engineering Department, in the San Francisco Bay area.

Dr. Sander's company is now working on an IBM plug-in for the Apple // called The Little Blue Card. He hopes to have it ready for market in the first quarter of 1987. The good news is that there is definite interest in producing a version for the ///. And while many of you might wonder why anyone would be interested, look on it as another way to extend the life of our machines. The card would be an IBM XT emulation with 640K of available RAM, socket for a math coprocessor, etc. Estimated cost would be about $500. You would probably have to buy an IBM-compatible disk drive, though since IBM machines read their data differently off disk than does the // and ///.

Dr. Sander also indicated that when SOS, the ///'s operating system, is finally released to developers he and some of the other former /// folks now working at The Engineering Department (most notably Dick Houston, who wrote SOS and ProDOS) would be willing to help with any problems.

They still use ///'s at The Engineering Department, by the way, and Dr. Sander says they like the fact that /// EZ Pieces and AppleWorks files are compatible. Dr. Sander also says he likes the ///'s Business Basic better than any other Basic. It was also interesting to note that he did NOT blame Steve Jobs for the demise of the ///. Dr. Sander says it was, more than anything, market forces that really brought on the untimely demise of our beloved machine. If you would like to write The Engineering Department to urge them on the address is: 271 East Hacienda Ave., Campbell, CA. 95008.

Meanwhile, In Utah - I really didn't know what to expect when I traveled to Logan, Utah to visit Bob Cook. But I found that Sun Systems was really a sight to behold! The company is located in an old cheese factory and the only way you can really recognize the place is by the giant (fading) sign painted on the roof that says "Great Cheese." Sun Systems employs about 15 people, many of them technicians who were working on Apple ///s when I visited. You have to see this place to really believe it. There were pallets and pallets of ///s, monitors, disk drives, etc.—more software than I would care to count.

It was Sun who actually provided the Apple /// and monitor which we now have up and running in the WAP office. While I was there, Bob also provided us with a great deal of software, including Apple Writer 2.0, Cobol and a CP/M Softcard. I expressed to him our SIG's thanks. We will get a lot of excellent use out of that machine.

It is Sun Systems, by the way, that has been working with The Engineering Department on bringing out a version of the IBM emulation card mentioned earlier (it could come out as early as the second quarter of 1987). Sun is also now discounting the Titan ///+//e cards for $199.00. Titan is offering the same price direct as well, since they have gone into Chapter 11. Titan is trying to reorganize, and part of that effort is an attempt to get rid of inventory, like the ///+//e cards. There are rumors they might bring out a new version of the ///+//e if they successfully get out of Chapter 11. Also, look for Sun to reduce the price of their ///s for the Christmas season. Bob Cook, the 31 year old owner of Sun also says they will soon begin selling used Apple //e's and 512K Macs. Already being offered: Lisas, and //+'s along with the ///s. If it's any measure of success, Cook says Sun does about $10,000 dollars business each day they are open! The Apple /// ain't dead yet my friends, Sun Systems Recycling's address is: P.O. Box 4059, Logan, UT. 84321, (801)-752-7631 (Technical) and (800)-821-3221 (Order).

The IIGS and the /// - It was interesting to see the demonstration of the new Apple IIGS at last month's WAP General Meeting. Of greater interest was Apple User Group Evangelist Ellen Leanse who confirmed that Apple is considering a program whereby][,][+ and /// owners can turn in their machines for a rebate when purchasing a GS. The figure I have heard from two different sources now is $500 for the ///. I'm not sure when this might be announced, but would suppose the Christmas holidays would be a good time.

However, despite all the GS's glitz and glitter, I agree with the Journal's Editor, Bernie Urban that it will be worth more than a few moments thought before deciding to go ahead and make the new purchase. For me, the Apple /// can still do everything I need to do. No, it doesn't have the 15 voices and the fantastic color graphics. And it doesn't run as quickly (but it might be able to with the same GS chip and a revised version of SOS). The bottom line is I think it's great Apple is even thinking of doing this rebate program, but I do believe I'll hold on to this aging beauty a while longer.

You might be interested to note, however, that our Apple /// vendors are very involved with the new machine. On Three is porting over their Desktop Manager for the GS, with expected release November first. Frank Moore's Pair Software is also working to port over some programs to both the GS and IBM PC. And the Third Apple User's group leaders, Richard and Lavona Rann, beta tested a GS and say they will be writing reviews of software for the machine. There was also an indication that our proposed /// convention in Chicago during the Fall of 1987 might include the GS. Time marches on for our community.

During the General Meeting, Apple also announced it is bringing out a number of peripherals, including a SCSI interface card for the //c and GS. By the looks of the picture in last month's Journal, the card would appear to be short enough to fit into our machine. If that is true, a driver can be written for it and we'll have the use of all those upcoming SCSI devices. That would primarily be hard disks, but there are more hardware items on the way.

Another Rumor - Apple has been working on proposals for the release to developers of the source code to SOS, our machine's operating system. But the latest word is that a hitch has developed. It seems Apple is involved in a lawsuit with a // clone manufacturer and Apple's lawyers are afraid that if SOS if released, it could hurt their case (the defense could argue Apple gave that operating system out, so why not the //'s also?). Another fear: Apple is afraid if SOS is released someone might build an Apple /// clone. Interesting that they should be afraid of the competition from a dead machine!

Meanwhile, Over at On Three - There's a new editor in charge. Lynne Denicola has taken over for Val Golding, who moves on to Shreveport, Louisiana and Softdisk Magazine. He is hinting at a possible /// magazine on disk and has even ordered a /// to use. Softdisk, by the way is the homeport for Al Tommervik, the original Publisher of Softalk Magazine that carried many excellent articles on the Apple ///.

Fall Meetings - Our September meeting was a huge success, thanks to Ed Gooding. Ed runs the ///'s Company BBS system in Richmond, Virginia (804)-747-8752. After your /// SIG officers filled him full of Prime Rib, Ed returned the compliment by presenting an outstanding program, including a demonstration of his BBS. He also gave us a lot of software for our PD library.

The October meeting featured Pacific Technology System's Richard Rowell, who showed us many of his /// EZ Pieces/AppleWorks templates. There are a great many templates coming onto the market and Richard has a wide range of offerings that include everything from NFL schedules to entertainment information. Richard is a WAP member and his company is based in Rockville (Address: Dept. A, Box 8005, Rockville, MD 20856. Phone: 301-231-9086).

Now, for November, I am pleased to announce that Bob Consorti of On Three will be the guest speaker. Bob will be bringing his bride of about three months as well. He is an expert Apple /// programmer and his company offers some of the best /// software and hardware out at the present time. Bob promises to demonstrate his Desktop Manager and other programs for us (including perhaps the new speller for /// EZ Pieces), so this is a program you will not want to miss. We had 16 or so turn out for Ed Gooding and I would hope we could get even more for this meeting. As I mentioned above, On Three plans to port Desktop and other programs over to the IIGS so any WAP members interested in seeing these programs are more than welcome to come.

At this point I should also mention that we will be meeting one week EARLY in November and December due to the Holidays. That means the third Wednesday rather than the fourth in November and December. Please be sure to mark the changes on your calendars.

D.A.Datasystems Bows Out - In the mail the first week of October, was a letter from Daryl Anderson of D.A. Datasystems. Daryl is best known for his Powerkeys DM+ macro utility (like Sidekick and Pinpoint) and a set of excellent Business Basic programs called the Tools Times Three. The letter essentially says D.A. Datasystems, "due to the narrowing of the /// sales base" is going to stop distributing the company's software. This will give Daryl a chance to concentrate on programming.

As an alternative, D.A. Datasystems has worked out an agreement with Pair Software's Frank Moore to distribute Powerkeys DM+, the modules and the Tools Times Three software. He also indicates Pair will distribute any new offerings his company might come up with (such as a new set of .RAM drivers for Titan ///+// and //c owners). There was a rumor (another one!) that Daryl might move out to California from New York, but there was no indication of that move in the letter.

Despite these changes, Anderson indicates he will continue to support the ///: "Since I started in this business as an Apple /// programmer I look forward to the possibility that being unshackled from the demands of marketing will allow me to go back to just that—programming. I expect that at least 75% of my time in the next 12 months will be involved in /// work. Maybe I'll even get a chance to attend to some of the larger projects that concerns of 'saleability' have forced off the queue. In my opinion, the /// remains one of the most powerful and flexible micros available."

In connection with this announcement, D.A.Datasystems is making all of its software available at a one-time special price. For example, you can now get Powerkeys DM+ with eight modules for $100. You can get all 17(!) modules for $150. The switch-over to Pair becomes effective November 1, suggesting that this special offer will also end at that time.

The address for D.A. Datasystems is : 3792 Windover Dr., Hamburg, NY 14075, (716) 648-2462.

Our New Apple /// - As I mentioned earlier, our Apple /// is up and running. It has a CP/M card installed and we have plans to make available a wide range of software for people to use in-house. It does not have a clock chip, however, something we hope to remedy in the near future. Once the WAP library has been rearranged, we will make all the texts from the donated software available as well, hopefully in our own section. We have reordered another copy of the tutorial videotape and it should be in-house by the time you read this. I also hope to order a set of cassette tutorial tapes.

Officers, etc. - After many years of faithful service to the /// SIG, our Co-Chairman, Bill Rosenmund, has decided to retire. We will miss him as he delves deeper into the Macintosh universe and Desktop Publishing. I have agreed to stay on another year as your Chairman and Charlene Ryan has also agreed to stay on as Secretary. Anyone interested in helping as Co-Chairman of the SIG should contact me directly. Al Lambert will continue to do the PD library while Jim Salerno works on our text and software libraries. We look forward to serving all of you again in 1987! We still need a Sysop for the WAP Telecommunications System. I continue to take on those additional duties but would love to have someone else volunteer. We value your input on how the SIG can better serve you. Please let us know!

Finally! - That should just about do it for this month. We'll have more information, news and goodies next time, including a great little WPL program that will let you print out disk catalogs and a neat 3EZP/AW printing tip.   ⑤

AN INTERVIEW WITH THE /// MAGAZINE'S FRANK MOORE
by David Ottalini

On our recent trip to California (in early September), my wife Peggy and I had a chance to meet Frank Moore and his wife, Kathy. Frank publishes *The /// Magazine* for Apple /// users and also heads up Pair Software, a company that offers a wide range of public domain and a growing selection of Apple /// software (see details in this month's Apple /// column). In addition, he sells monitors, switchers and printers.

Moore began his publishing career with *The /// Newsletter* in December 1984. He started it out of frustration. The /// had been orphaned by Apple and at the time there were no other Apple ///-specific magazines being published (*On Three* was taking a one year hiatus). He promised the newsletter would be delivered each week and it was.

About a year later, Moore switched over to a monthly format and The /// Magazine was born. It currently enjoys a circulation of about 4000 subscribers (On Three has about 7000). Frank holds down a regular job at a collection agency in the Sacramento area and conducts all his /// business out of a home office during his "free" hours.

We enjoyed an excellent Chinese dinner and afterwards, I asked Frank a few questions for our WAP Journal readers. Our interview takes a look at what Pair Software is trying to do, the state of the Apple /// community and what Frank Moore thinks is needed for all Apple ///ers to keep getting the most out of their machine.

WAP: How is Pair Software Doing?

Very well...we're coming out with several new products in the future. One I mentioned earlier was the SOS Driver Optimizer which we're going to be beta testing fairly soon. That will be a new System Configuration Program. We have some other products in the works. Pair Software is taking some new directions too. Some of the software we currently offer on the Apple /// we plan to port over to the Apple // and IBM computers.

WAP: Why Are You Doing That?

To increase the market for Pair Software. Just something for the future. There are some very, very good programs available for the Apple /// that I think could work on other systems, especially with things that are happening with the // series.

WAP: How optimisitic are you that the /// market will be sustainable for the next decade or so?

As long as there's a market, we're going to continue to bring out products, especially in portable languages like Pascal or Cobol or whatever, that can be done on the // or the /// or on the IBM. We'll bring them out for the /// also.

WAP: How would you characterize the "state" of Apple /// community?

It's an aging community. There's no other way to really look at it. The Apple /// computer is still very much "state of

the art." The IBM is just now beginning to get some of the features that the /// has had for five or six years now. There is still a big sale item with Sun System Remarketing, and On Three is still doing a lot of business in it, so it's something that will certainly last quite a while yet. I haven't seen any computer out so far that is so superior, that has so much better software that makes it worth giving up your Apple ///, especially with people still writing good programs and developing software for it. Why bother? Why have to learn some inferior system when you can still get the things you need to use on your Apple ///?

WAP: What do we still need for the machine?

There are a couple of things. I would love to see some of the present software upgraded. /// EZ Pieces needs to be upgraded. There would be a big market for that if someone wanted to take the time to dissassemble the program and fix some of the relatively minor bugs and put it back together. A program like that could make someone more than a few thousand dollars. Another thing I'd like to see is a version of C for the Apple ///. C seems to be a fairly popular language among the younger programmers and they are often the ones who set the trends. Basic was it during my day. Pascal came in the generation after me and it seems the younger ones coming up are using C. I'd like to see a version of C for the Apple ///. Another thing I'd like to see is an upgrade of Business Basic.

WAP: How about SOS (the operating system)?

In general, the operating system is a pretty complete, pretty debugged system. There are a couple of things I would like to see added like multi-user abilities. Then you could add features that allow several systems to use the same peripherals at the same time and of course check themselves. That possibly could be done with SOS drivers, but I'm told SOS itself might have to be modified.

Certainly upgrading so it could be used with the 16 bit 65816 chip. That would be an excellent idea. There's not a lot of software out there but some people would start writing if it were available. I'd like to see possibly some additions, once SOS is (released) to revise the SOS system so it can use ProDOS. The Apple /// is fully capable of identifying a ProDOS disk and knowing if it is a ProDOS disk. It seems to me SOS could be revamped a tad so that it could actually use ProDOS system disks and run ProDOS disks and programs. Again, it would take somebody with the source code and desire to puzzle it all out.

WAP: What mistakes did Apple make with the Apple ///?

They made quite a few mistakes with the Apple ///. First of all, it was released prematurely. When it was released, there was a lot of time spent in trying to get the machine to overcome a largely unfair, unwarranted and bad reputation. Apple, or I should say the old management of Apple, made some really bad decisions on the Apple ///.

Right from the start there was a lack of committment, possibly because the 68000 chips were coming out. There was some view that these things are going to be some sort of wiz-bang technology, which five years later is really just starting to catch on. The Apple /// at the time could have been the machine Apple needed to push but they didn't do it.

There were some bad decisions made in the marketing of the Apple ///. Apple decided they were going to use direct marketing instead of going through their dealer network like they always did. They tried to do that with some of their other computers too and it's something that was extremely costly to Apple. Again, this is the old managment making some very poor decisions.

WAP: Should the /// have been a //e with SOS?

Yes..it should have been the natural progression from the Apple //. It was overpriced when it came out. I love it, but at $4000 per unit, it was too expensive. They should have realized it would take them a little longer to recoup their investment initially in the Apple ///. The Apple /// should have had absolutely full //+ capabilities. SOS, not ProDOS should have been the operating system like they are using in the //e with the ability to handle //+, DOS 3.3 and ProDOS software. The Apple /// should have been able to do that five or six years ago. If they had done that and put the price down to $2000 originally, Apple would have had an unstoppable computer.

WAP: Where do we go from here?

I see some development of software that some companies are putting out and bringing to fruition. There are quite a few different projects left. I mentioned Pair Software and I'm sure other vendors are planning to (as they move into other fields) continue to support the Apple ///, at least for the time being.

And so long as they are doing that, and so long as computers themselves don't become so markedly superior to the Apple ///, it still has quite a lifetime left. When they are able to start doing the work for you using verbal commands, its probably time to get rid of it.

A complete bibliography of both The /// Newsletter and The /// Magazine are available in hard copy form in the WAP office. You can get a subscription to The /// Magazine for $40 from Moore Enterprises, 3201 Murchison Way, Carmichael, CA 95608. ⑮

LATEST VERSIONS OF APPLE /// PROGRAMS
by David Ottalini

Below you will find the latest versions of many Apple /// programs. If you have any updates to offer, please feel free to give me a call. Be aware that a good number of these vendors either do not exist anymore or do not support their /// product line at this time. Additionally, Space Coast Systems just recently declared Bankruptcy.

Product	Version	Company
Access ///	3.2(x)	Apple Computer
Access /// Interp Version	1.0	(Various User Groups)
Access 3270		Apple Computer
Ag Disk Template		Harris Technical Systems
Ag Disk Template		Harris Technical Systems
Ag Disk Template		Harris Technical Systems
Aladdin	2.6	ADI America
Apple File ///		Apple Computer
Apple Speller	1.0	Apple Computer
Apple Writer	2.0	Apple Computer
Apple Writer-Super	4.1	Apple Computer
Art of Negotiating		Experience in Software
B P I Gen Accounting	2.0.0	Apple Computer
Backup ///	1.0	Apple Computer
Basic GTO	2.02	DA DataSystems
Basic Tools		Pair Software
Basic Utilities	1.25	DA DataSystems
Basic XRF	1.3	DA DataSystems
Basic XT	1.3	DA DataSystems
Budget & Financial Rep.		State of the Art
Business Basic	1.23	Apple Computer
Business Graphics	1.0	Apple Computer
Calendar Pak ///		Data Pak Software
Catalyst	2.1	Quark
Checkbook ///		Pair Software
Cobol ///	1.0	Apple Computer
Copy ///	5.0	Digital Microware
Crossword-Scrambler		On Three
Data Base ///	4.0.9	Pair Software
Data Manager ///	1.00	Micro Lab
Data Window	1.2	DA DataSystems
Datafax	2.1	Link Systems
Desktop Manager	1.0.0	On Three
DeskTop Plan ///	1.0	VisiCorp
Discourse (Catalyst 2.1)		Quark
Disk Maker Utility		Pair Software
Disk Window	1.3	DA DataSystems
Draw On ///	1.0	On Three
Easyterm ///		Sun Systems
Electronic Mailman		Pair Software
Font Generator ///		Apollo Software
Font Pak for Font Generator		Apollo Software
Fontwriter		Sun Systems
Fortran Compiler	2.0	Apple Computer
General Ledger SOA		State of the Art
Graph 'n Calc		Haba Systems
Graphics Manager		On Three
Great Plains Accounting	3.02	Great Plains
Habadex		Haba Systems
HabaMerge	1.0	Haba Systems
ICE Drivers	4.0	Space Coast Systems
Infonet	2.0	Sun Systems
Inkwell		Foxware
Inventory Control		State of the Art
Inventory Management	3.0	Great Plains
IRA Amortizations &Sav.		CFS
Keystone Accounting Sys.	1.0	Keystone Software
Keystroke Data Base		Brock
Keystroke Report Generator		Brock
Lazarus	2.0	On Three
Lexicheck (Spell Check)	2.0	Quark
Mail List Manager	1.1	Apple Computer
Mail List Mgr. Interface		Quark
Menu ///	2.0	
Micro Courier	1.0	Microcom
Micro-Sci Drivers	1.4	Micro-Sci
Modula 2		Pair Software
Multiplan		Microsoft
OMNIS 3		D.A. Datasystems
Pascal Compiler 2.0	1.2	Apple Computer
PFS File	B.02	Software Publishing
PFS Graph	B.01	Software Publishing
PFS Report	B.03	Software Publishing
Pmove	1.0	Apple Computer
Post Master		Pair Software
Power Cat	1.2	DA DataSystems
Power Keys DM+	1.0	DA Datasystems
Power Print	1.3	DA DataSystems
Printer Driver ///		Sun Systems
Pscreen		Sun Systems
QuickFile ///	1.1	Apple Computer
Random Number ///	1.0	
RPS ///		Apple Computer
Sandman		On Three
Screen Director		BPS
Selector ///	1.0	On Three
Senior Analyst ///	1.1	Apple Computer
Sort Directory	2.2	Apple Computer
SOStran	2.2	Sun Systems
Source Window	1.3	DA DataSystems
Stock Portfolio System	2.1.4	Smith Micro Softwar
System Utilites	1.2	Apple Computer
Telephone Access Program		Sun Systems
Terminus	1.0	Quark
The Apple /// Card Machine		On Three
The Apple /// Fruit Machine		On Three
The Retriever	1.2	DA DataSystems
ThinkTank	1.0	Living Videotext
Three EZ Pieces	1.0	Haba Systems
Unprotect Driver	1.0.0	On Three
Versaform	1.3 re2	Applied Software Tech.
VisiCalc Advanced	1.0	Visicorp
VisiCalc Format Aids ///	2.0	
VisiSchedule ///	1.00	VisiCorp
Word Juggler	2.6.4	Quark
WOSBasc	1.30	WOS Data Systems

EDSIG Calendar

Thursday, October 23, 7.30 p.m. "Using Appleworks in Teaching and Training Applications."

Trinity College offers an M.A. program in "Computers in Education and Training". Dr. William Lynch, Director of the program, will briefly describe what Trinity offers, in addition to the evening's topic. Parking is availble next to the Library (first building on your right through the main gate), and on Michigan Avenue. Trinity is near the Brookland Red Line Metro stop, and several buses pass by it.

Thursday, November 20, at 7.30 p.m. "Text Processing Fun" by Phil Shapiro. Examples of synchronized songs, speed reading exercises in Basic, and even a textual representation of Beethoven's Fifth Symphony.

Thursday, December 18, at 7.30 p.m. "Toys for Christmas." Software ideas for the child with a Macintosh by Jessica Weissmann.

EDSIG meetings are normally held at the Washington Apple Pi offices at 8227 Woodmont Avenue, Bethesda MD, but note the special location of the October meeting.

Meeting Report

Thursday, September 25. "InterVideo" by Peter Combes.

The meeting room at Woodmont Avenue became a tangle of wires as Peter Combes demonstrated two new authoring systems for running Computer Assisted Instruction with tape recorders and videodiscs.

Peter has previously demonstrated his "InterAudio", a system for operating Tandberg tape recorders from Apple //

computers, and has discussed the problems of developing large assembly language programs on the Apple. He showed his latest production version of InterAudio, with foreign character sets (generated by DOS Tool Kit, accessed from a main program running in auxiliary memory), suitable for 128K Apple //e's or //c's. Diana Jones, Language Laboratory Director of Montgomery College, talked about her experiences using the system with learners of different languages, including English as a foreign language. Diana currently has two Tandberg tape recorders connected to Apples, and six more machines are currently being supplied to make eight interactive stations. Installation time is fast—Diana usually takes 15-20 minutes, including the fitting of a Super Serial card. No configuration of the card is required, as the program automatically finds the card and sets the appropriate parameters. Reaction to InterAudio from both students and faculty has been very good, and two faculty memebrs are now requiring use of the system for their students. Diana demonstarted the ability of the system to make presentation screens, multiple choice exercises, "fill in the blank" routines, and dicattyion and translation work. Diana has developed word recognition and discrimination lessons, and oral comprehension exercises. Her lessons included some fascinating work based on "Pu -- der bär" (Winnie the Pooh in German). Tape stretch has been a problem in heavy duty applications, but Diana has resolved the problem by using high quality tape.

Peter then demonstrated his beta test version of the new authoring system being developed for the D.C. Heath publishing company. This system, often referred to as "InterVideo", will run the Tandberg tape recorders, and will also drive Sony videodisc players. Peter showed the high precision and fast access of which the videodisc system is capable. ⑤

Many parents and educators have the best of intentions in wanting to teach the rudiments of Applesoft Basic to children. Yet there is so much to teach, it's difficult to know where to begin. Jo Lynn Talbott Jones' book, The Applesoft Basic Primer, fills that need quite well.

The great strength of this book is that it assumes no prior programming experience. In fact, on page three the book actually says, " 1) Turn on you monitor. 2) Use the ON/OFF switch at the rear of the left side of the computer to get power. " Such instructions may seem overdone for the seasoned computerphile, (no, I didn't say computer-file!), yet, these instructions show laudable sensitivity to those persons who are just starting out. Remember, there was a day when even the great Woz had to turn on his first computer. (Or did he perhaps bypass that stage?!).

The book, therefore, assumes that both the adult-teacher and the child-student are total beginners to programming. Which, if you think about it, makes the adult assume the dual role of adult-teacher and adult-student. As a result, the exercises in the book become a learning experience for both

child and adult. Incidentally, any Apple][+, //c, or //c will do for the programs in this book.

The book is divided into twenty short exercises, each with a short program to be typed in, and a playful output to hear and watch. The programs typically have about eight to ten lines, which can easily be typed in by even the most fastidious of eight-year olds. The exercises cover the familiar sort of things which elementary programs cover: filling the monitor screen with the programmer's name; getting the computer to count by ones, two, threes, fives, and tens, with the output flying across the screen of monitor; plotting points, lines, and shapes using lo-res graphic routines; and other simple, but fun things to do.

A big plus are the lively illustrations throughout the book. The author chose to include a Mickey Mouse looking creature, with a mischievous grin, to adorn the pages of the otherwise plain looking prose. Any discerning kid knows that a book without illustrations is all stuffy and adult-like. So, the illustrations serve the important purpose of making the book accessible and appealing to children. (And the child within

THE BUTTON-DOWN GUIDE TO THE APPLE
Part III: Counting Without Fingers
by Raymond Hobbs

The functions and areas within the Apple are memory-mapped—that is, a given function or operation (or peripheral, for that matter) is associated with an *address* . The addresses are much like street numbers, except that they are numbers only, and every number from 0 to 65,535 is accounted for. People often wonder why a number like 65,535 is the magic top address—it seems like such an odd number—and that's what this month's article is all about.

The addressing scheme on the Apple appears to be quite arbitrary, as long as you are counting in decimal notation. However, when you use the *hexadecimal* numbering system, everything becomes much easier to understand and use. (Sound of readers turning pages). No, really. There is nothing inherently *difficult* about hexadecimal, it's just a matter of re-learning what you already know (more pages turning). For those of you who are still left, the rest of this article will present the hexadecimal numbering system in terms that most anyone can understand, and you will have it licked within twenty minutes. That's pretty good when you consider that it takes four to five years to conquer the decimal system in school.

A number system is based on counting. When we use the decimal (base 10) system, we count using the digits 0-1-2-3-4-5-6-7-8 and 9. Yes, that's ten digits. When we start counting, we go through 9 and then run out of digits, so we start all over again at 0, while making a notation in the column to the left of the number of times that we have run through all the digits. Therefore,

```
                0
                1
                2
                3
                4
                5
                6
                7
                8
                9
               10
               ΔΔ
              /  \
  make note of one    start over again
  run-through here.    in same column.
```

An easier way to look at it is with money. The rightmost column can be pennies, the next column to the left can be dimes, the next one dollars and the next tenners. And so forth. Each dime is a *representation* of ten pennies, each dollar a representation of ten dimes, etc., so that we have a decimal monetary system that looks like the representation below.

Hexadecimal numbering works in the same way. The only difference is that instead of ten digits (0 - 9), we have sixteen (0 - F). Before we worry about the extra digits, however, let's look at another base system with which we are
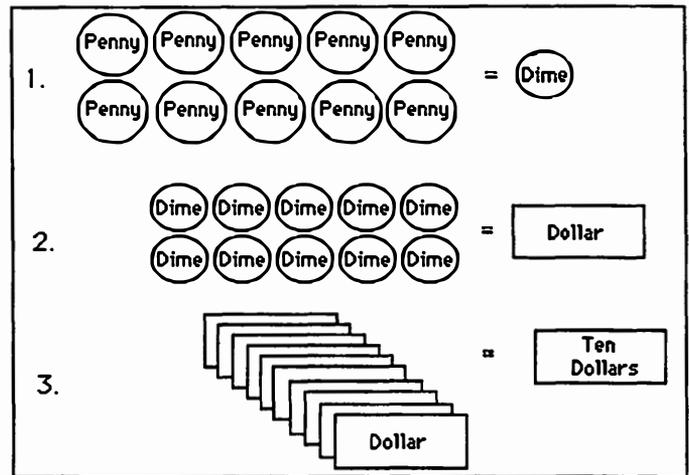
Figure 1.

familiar - base 5.

As you can see, the numbering works the same way (up to quarters, that is). A nickel is a *representation* of five pennies and a quarter is a representation of five nickels. We count them the same way in base 5, where the rightmost column is pennies, the next column to the left is nickels and the leftmost column is quarters. The number 124 in base 5 is the equivalent of one quarter, two nickels and four pennies—39¢ in decimal.
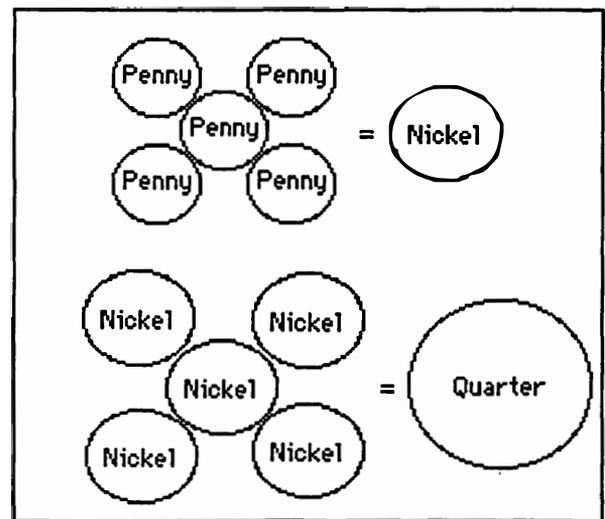
Figure 2.

In hexadecimal, there are 16 digits, as noted above. The same equivalents would exist in a hexadecimal monetary system, and I have taken the liberty to add to America's wealth with several new monetary units: the desix is a coin worth sixteen pennies; the hexadollar, worth sixteen desixes, and the sixteen hexadollar Federal Unreserved Note. The layout appears below.

The only thing that remains is to add a name to the missing digits. Computer types that came along before me

STOCK SIG NEWS
by Andrew D. Thompson

This is the first of monthly reports on the activities of the WAP Stock SIG. Given this is a maiden voyage, a review of recent meetings and decisions will bring members up to date and provide a flavor for the diversity of interests that typifies current meetings.

Robert Wood, who ably directed Stock SIG for the past several years, has decided to step down and allow others to carry the burden of leadership. Accordingly, Harley Wilbur initially chaired the August 14 meeting.' Stock SIG members formed a nominating committee which advanced the names of Ron Grognet and Ben Fogle to co-chair Stock SIG for the next six months. The August meeting participants unanimously elected the duo who agreed to serve through the Spring. At that time, members will consider a second election as needed. The group further elected Andrew Thompson to serve as secretary and keeper of the membership list.

Participants discussed the direction which future Stock SIG meetings can take. There was concensus that the meetings will reflect the broad interests of the participants, including:
- application of computers to stock market concerns;
- a report from the existing mutual fund stock sub-group;
- issues pertaining to stock market timing, including the members' insights and methods for cycle analysis; participants expressed hope that Bob Wood would continue to share his cycle research findings;
- outside speaker(s), options trading, market fundamentals as appropriate and available;
- reports from additional Stock SIG sub-groups when and if formed.

Suggestions for future programs should be directed to Grognet (296-5444) or Fogle (469-5822).

FOUR REPORTS WERE PRESENTED AT THE JULY MEETING
1. MUTUAL FUND SUB-GROUP

Several members asked for an update on the mutual fund sub-group which has been meeting in homes and a library since April. This sub-group resulted from a survey taken of the interests of participants at the January and February meetings. Thompson reported that the July 31 meeting discussed:

a. how the group could support Wood's request for other members providing leadership as described above;

b. Wilbur's tentative method for maximizing investments by switching among top performing Fidelity select funds based on their recent performance;

c. Thompson's method for switching among new Fidelity select funds based on the Magellan Fund's shifting investment priorities;·

d. issues related to general market timing.

The mutual fund sub-group will meet 8 p.m., in Room A of the Bethesda library at 7400 Arlington Rd. on October 30, November 26, December 23 and January 29. Participants have agreed to work toward setting up and monitoring 3 distinct model mutual fund portfolios described respectively as containing:

- high flyers or aggressive funds, including active switching;
- conservative-growth funds, low emphasis on switching;
- income oriented funds.

2. PROFIT STALKER TWO

Ron Grognet presented his findings on this software program used with the Mac. PST uses stock accumulation and distribution data to generate an oscillator in order to identify market turns such as in the Standard & Poor indices or other futures trading vehicles. Specifically, PST generates a graphic display that "is extremely sensitive in calling market turns, which, when used in conjunction with cycle analysis, is helpful for day trading."

This program takes a different approach in that it does not rely on following a trend such as a 39 week moving average. It's more existential and less theoretical than cycle analysis as such.

3. BAND PASS FILTER

Irv Lowen presented his current research on this statistical tool which purports to increase the degree of probability of identifying major market turns by reducing the "noise" inherent in the oscillators used in cycle analysis of moving averages. He found that the filter based on 24 trading days gave the maximum profit (74% accuracy) by signaling turns at market highs and lows. "A problem is that the program gives a theoretical forecast which has approximately a one day lag time after the market's turn has been made and confirmed." The refinement process continues.

4. MULTIVARIATE AND CYCLE ANALYSES

Harley Wilbur presented the results of statistical analyses using among other tools the "trin," the ratio of ratios between the daily number of stocks which advanced and declined on a given day and between the corresponding volume of stocks which went up and down. By identifying the market's direction, Wilbur's prognostication attempts to answer the question: when should I buy or sell mutual funds? It provides forecasts based on trin moving averages for various time periods ranging from 10-day to 50-days. "Although the 20- and 30-day averages are bearish right now, the 50-day average does not confirm this."

Participants formally thanked Bob Wood in absentia for his expertise, dedication and years of service in promoting Apple members' knowledge of cycle analysis and consistently providing the glue which has kept the Stock SIG together.

THE SEPTEMBER STOCK SIG MEETING
CONVENED on the 11th and began with a report on the August mutual fund subgroup.

1. MUTUAL FUND SUBGROUP

Harley Wilbur and Andrew Thompson presented updates on their exploratory methods of investing in Fidelity Select Funds. Wilbur and John VanHorn explained their research findings into market timing trends. Wilbur presented his market timing projections based on several trin measurements and the mutual fund subgroup meeting concluded with a discussion of the recent market projections made by nationally known gurus.

2. THE WAR MACHINE

Ron Grognet demonstrated the advantages and technical capabilities provided by "The War Machine," a software program designed by Richard Bachelor for use with the Mac and other systems. Grognet and other members said the program allows short term traders in futures and options to accurately identify market turns. The program requires the input of 105 data entries which the program then uses to determine a host of indicators such as relative strength, moving averages, oscillators, stochastics, trendlines, volatility and rates of change. One of the fine advantages it proportedly provides is that it allows traders to graphically chart both long and short term trends on a split screen and thereby better maintain a balanced perspective.

3. SINGLE AND DOUBLE BAND PASS FILTERS

Irv Lowen presented the results of research into creating single and double filters to reduce error in calling market turns. Lowen reported 74% accuracy when using a single filter to identify highs, lows and market turns. When he used two filters based on 20 and 74 days' data, Lowen found improved accuracy in when to buy and sell options.

THE OCTOBER MEETING convened on the traditional 2nd Thursday of the month.

1. MUTUAL FUND SUBGROUP

Thompson reported on the method the O'Malley's Fidelity Watch newsletter uses for constructing two model portfolios of Fidelity funds. Fred Hassler commented on recommendations made by the United Mutual Fund Selector. Jerry Dotter and Ben Fogle explored applications of the War Machine software for possible use with charting projections for mutual fund prices, especially with sector funds.

2. IMPLICATIONS OF NEW TAX LAW FOR INVESTORS

Marilyn W. Lowen of E.F.Hutton presented projections for how the new tax law will impact stocks, bonds, real estate and capital gains, all of which provide background data for members' computer-based research and discussions.

A. STOCKS - Given the decreased percentage in tax which corporations will pay in 1987, from 46% to 34%, there is an expectation that cash flow, earnings and prices will increase. The consumer and service sectors will benefit but suffer increased competition. Capital intensive heavy industries would stand to lose, but contrarian thinking can not be ruled out.

B. MUNICIPAL AND CONVERTIBLE BONDS will be winners and interest rates will come down further, Lowen said. Business borrowing and construction will slow and investors should skeptically examine so-called tax-free and gov't backed bonds. Real estate may do well because future building will slow.

C. STOCK SALES, based on gains and losses for 1986 vs. for 1987, provided considerable grist for members' mills. John VanHorn provided a chart and Lowen suggested guidelines for when it's beneficial to sell or hold short and long term gains and losses.

3. Bob Wood then presented his earlier market cycle forecasts as having been validated by recent market action. Using proprietary software Wood described the current market as being in a short-term, mini-bear downward pattern. Cycle analysis, Wood said, is better at projecting the timing of

market turns than at projecting at which price on the S & P 500 those turns will occur. John Van Horn's cycle analysis, using Fourier analysis, curve fittings and filters agrees with Wood's very short-term projection, but sees a market rise toward the end of the year. Members commented that the last time Wood's and VanHorn's projections sharply diverged, one saying "up" and one "down," the market went nowhere.

4. Irv Lowen gave members an update on his current use of 22 and 70 day band pass filters. He reported he has found that the system's accuracy is further enhanced by daily adjustment of the filters due to changes in the spectural response.

Monthly meetings will continue to convene on the second Thursday at 8 p.m. in the Apple Pi office. Apple Pi members interested in further information or getting their name and address or phone number on the Stock SIG's list should call Thompson at (301) 270-6790.

Button-Down Apple contd. from pg 18
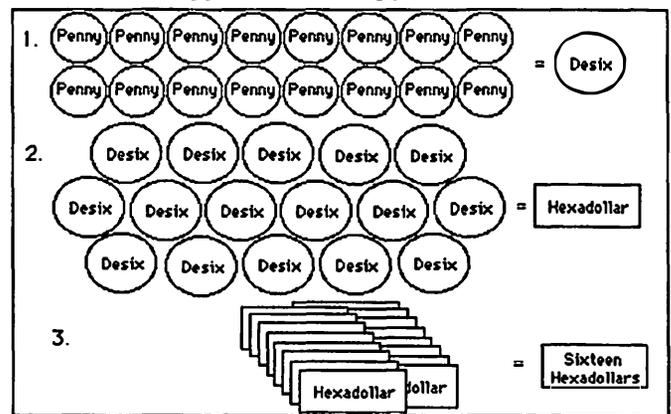
Figure 3.

have taken care of that, adding the highly imaginative numbers A through F. Therefore, our hexadecimal numbering system consists of the digits 0-1-2-3-4-5-6-7-8-9-A-B-C-D-E and F. How do we count using this system? The same way as before. The number 124 which we used previously represents 1 hexadollar, 2 desixes and 4 pennies. To translate that into decimal, 2 desixes = 16 x 2 = 32 pennies, and 1 hexadollar = 16 desixes = 16 x 16 pennies = 256 pennies, so that 256 + 32 + 4 = 292 pennies. A little bit harder problem is a number like B93, which translates into decimal like this:

Number	hexadollars	desixes	pennies
B93	B	9	3

$$B = 11 \times 16 = \underline{176}$$
$$185 \times 16 = \underline{2960}$$
$$2963$$

In order to do hexadecimal to decimal translations quickly, it is merely necessary to remember (or write down) that the columns are powers of 16. This is the way it's done in decimal, where the columns are powers of 10. It works like this:

	column 4	column 3	column 2	column 1
Base 10:	10x10x10	10x10	10x1	1
Base 16:	16x16x16	16x16	16x1	1

If you work with hex for a little while, it will become pretty easy, and then you'll see why 65,535 is not such a strange memory address boundary after all. In hex, it's FFFF.

When we get together again, we will begin to take a look at where everything is in the Apple—in hex.

——— Operant Systems ———

—— HARDWARE ——

DOT-MATRIX PRINTERS—
```
Epson FX-85 (160 cps, 32 cps NLQ mode)................ 435
      FX-286 (200 cps wide carriage upgrade of FX-185). 629
      LX-80 (100 cps, 16 cps NLQ mode)................. 279
      LQ-800/LQ-1000 (180 cps, 24-pin NLQ mode).... 629/859
Okidata 192-Plus (200 cps, NLQ mode).................. 369
        193-Plus (132 column version of above)........ 549
        292/293 (200 cps draft, 100 cps NLQ, 18-pin) (call)
Toshiba 321 (216 cps draft, BEST print for the buck).. 519
        351 (288 cps, wide carriage version of above). 1099
NEC P5/P6/P7 Pinwriter (24 wire high-quality matrix) (call)
Citizen MSP 20 (200 cps matrix, Epson-compatible)...... 349
Panasonic 1091 (120 cps, Epson-compatible "Best Buy").. 259
          1080 (100 cps, as above)..................... 219
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DAISYWHEEL & LASER PRINTERS—
```
Epson DX-20 (20 cps daisywheel, Diablo compatible)..... 369
Citizen Premier 35 (35 cps, fastest for the money)..... 499
Canon Laser Printer (8 pages/min, Diablo compatible).. 1995
Silver-Reed 800 (40 cps, Diablo-compatible)........... 759
           600 (25 cps daisywheel, wide carriage)..... 569
NEC Elf (16 cps, par & ser interface, NEC/Diablo emul). 419
    8830 (55 cps daisywheel, built like a tank)....... 1175
Diablo 635 (55 cps daisywheel, replaces 630 model)..... 825
Qume LetterPro 20 (20 cps daisywheel)................. 449
```

MODEMS—
```
Hayes Smartmodem 1200A (1200/300 card for ][+/][e)...(call)
      Micromodem ][e (300 baud card for ][+/][e w/sft). 145
      Smartmodem 2400 (2400/1200/300 baud, RS-232)..... 599
      Smartmodem 1200 (1200 baud, RS-232, auto-dial)... 389
      Smartmodem 300 (300 baud, as above).............. 145
Novation Apple-Cat II (300 baud, 1200 upgrade avail)... 209
Prometheus Promodem 1200 (1200/300 baud, RS-232)....... 289
           Promodem 1200A (1200/300 card w/ software).. 209
US Robotics Password (1200/300 baud, auto-dial/answer). 229
            Courier 2400 (2400/1200/300, autodial/ans). 429
Anchor Automation Express (1200/300 loaded w/ features) 219
                Volksmodem 12 (1200/300 baud, RS-232) 139
                Lightning 24 (2400/1200/300, RS-232). 325
ZoomModem ][e Plus (300 baud card w/adv software)...... 119
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DISK DRIVES—
```
Applied Engineering half-hi floppy (for ][ series)..... 119
                     Controller for 2 drives............. 55
Corvus hard disks.................................. (call)
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CP/M & 6502C SYSTEMS—
```
Applicard (6 Mhz Z-80, 64K to 192K RAM, 70-col video).. 129
Microsoft Softcard ][e (Z-80, 80 col & 64K on one card) 265
          Softcard II (includes CP/M 2.2 and MBASIC)... 299
Titan Accelerator ][E (3.6 Mhz 6502C coprocessor)...... 229
Speed Demon (6502C high-speed coprocessor)............. 169
Applied Engineering Z-Ram II (256K and CP/M for ][c)... 259
                    TransWarp (3.6 Mhz 6502C, 256K RAM) 225
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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
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INTERFACES & BUFFERS & CLOCKS—
```
Pkaso/U printer interface (superior graphics)....... (call)
Quadram Microfazer (8K to 128K parallel buffer)........ 139
Grappler+ printer interface (parallel w/ graphics)...... 85
Buffered Grappler+ (16K to 64K buffer plus graphics)... 149
Practical Peripherals SeriALL (for modems or printers). 109
                      Graphicard (parallel w/ graphics). 79
                      Printerface (std par w/o graphics) 59
                      ProClock (PRODOS compatible)...... 109
```

VIDEO BOARDS—
```
Videx Ultraterm (up to 160 column/48 line display !!).. 209
Microtek 80-col card (w/64K RAM, AppleWorks-compatible). 99
Applied Engineering RamWorks III (64K—3 meg + 80 col). 139
                    Viewmaster (80 col for II+)........ 119
```

MEMORY EXPANSION—
```
Microtek 16K RAM card................................... 79
Legend "S" card (256K to 1 meg, runs Appleworks on ][+) 209
Applied Engineering RamFactor (256k—3 meg for ][+/][e) 189
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—— SOFTWARE ——

WORD PROCESSING—
```
Wordstar 3.3 (includes 6 mhz Z-80 Applicard)....... 159
Word Perfect (new version w/speller & more)........ 95
Bank Street Writer or Speller...................... 49
pfs: Write ][e .................................... 79
MouseWrite........................................ 79
ScreenWriter Professional (w/speller).............. 85
HomeWord w/ HomeWord Speller....................... 49
Sensible Speller IV (DOS or PRODOS versions avail).. 79
```

SPREADSHEETS—
```
Multiplan (state-of-the-art spreadsheet)........... 70
SuperCalc 3a (spreadsheet & graphics for the ][e/c) 135
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INFORMATION MANAGEMENT—
```
dBASE II (the best Apple database, requires CP/M).. 299
pfs: File, Report, or Graph........................ 79
The General Manager 2.0............................ 149
Thinktank (electronic outliner).................... 89
DB Master 4+ (latest version)...................... 185
```

BUSINESS & ACCOUNTING—
```
Dollars & Sense (accounting w/graphics)............ 79
Managing Your Money (accounting + investment mgmt). 115
Peachtree Back to Basics Accounting (GL/AR/AP)..... 115
BPI Accounting (GL/AR/AP/PAY/INVENTORY)........each 225
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COMMUNICATIONS—
```
Ascii Express Professional (best DOS/PRODOS program) 80
Crosstalk (best program for CP/M).................. 125
CompuServe Starter Kit (password & 5 free hours).... 25
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ODOS & ENDS—
```
Print Shop/Print Shop Companion/Libraries......36/29/18
Newsroom/Clip Art Collection.....................35/19
Pinpoint.......................................... 45
Typing Tutor III.................................. 36
Kensington System Saver Fan (w/surge protector)..... 66
Kraft Joystick / Hayes Mach III................... 35/39
KoalaPad Graphics Tablet (with graphics software)... 85
Curtis Emerald Surge Protector (6 outlets & cord).. 45
Flight Simulator II............................... 36
```

```
                Microsoft Works (finally...).....................(call)
                       Word (what MacWrite should have been).... 119
                       Excel (best Mac spreadsheet available)... 245
                       Basic interpreter ....................... 99
M                      Chart (presentation business graphics).... 85
A                      File..................................... 119
C                      Multiplan................................ 119
I                      MacEnhancer (has the ports Apple forgot). 175
N      Filevision (graphics database system).............. 109
T      Odesta Helix 2.0 (database for the serious user)... 239
O      Dollars & Sense (accounting w/graphics)............ 95
S      Sidekick w/PhoneLink............................... 65
H      Iomega Bernoulli Drive (5/10/20 meg removable).. (call)
       ReadySetGo (page processor)....................... 125
       Hippo C........................................... 99
       Kensington Mac System Saver (fan & surge protector). 75
                Surge Protector (replaces power cord).... 39
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GAMESIG NEWS
by Steven Payne

Attendance was lighter than usual at the October 2nd GameSIG meeting (perhaps because some of our regulars were engaged in their own versions of "AutoDuel" and "Roadwar" on the Beltway). No new software was available for demonstration, but Ron Wartow shared some recent correspondence (see the letter from Accolade elsewhere in this issue), and talked about his retirement as chairman; then the ceremonial eraser and magic marker were passed to his successor, Tom Johnston. Tom distributed packets of information on recent games, and members talked about a few of the newer (and racier) programs, such as Infocom's "Leather Goddesses of Phobos." The conversation also turned to Apple's new IIGS (named, we presume, for GameSig), and what it is likely to run. According to Ron, there do not seem to be many exciting new games for the Apple II series on the immediate horizon; however, some fantastic new role-playing adventures for the Macintosh, with full animation, should appear around Christmas or the beginning of next year. Reid Hutchinson volunteered to field future hotline questions from perplexed war-gamers. The meeting closed with Tom's suggestion that the members collaborate in writing our own "GameSIG Adventure"; watch this column for further developments.Ed
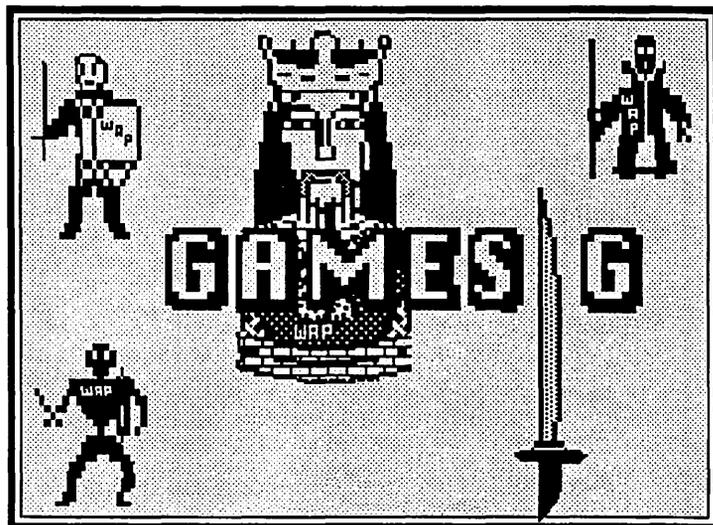
Note: Go to it gang! The next regular meeting will be on Thursday, November 6th, at 7:30 PM in the WAP Office. Meanwhile, we received the following for review:

AMNESIA (Electronic Arts for the Apple II series, 64K, $44.95): Interactive text-adventure by acclaimed science-fiction and mystery author Thomas M. Disch. You awaken without clothes, money or memory in a Manhattan hotel, and must discover your identity and eliminate your problems before they eliminate you. Fills four disk sides.

ROADWAR 2000: A Review
by Charles Don Hall

ROADWAR 2000 is a science-fiction role-playing war-game from SSI ($40 list). The premise: it is the year 2000, and the United States is in bad shape. The population has been decimated by biological weapons, and nuclear warheads have wiped out a few cities. Invading troops have entered the country all along the Atlantic and Pacific coastlines and through Mexico. The invaders haven't made much progress, though, since fallout from the A-bombs has mutated the biological weapons, forming a bacterium which attacks the aggression center of the human brain and turns its victims into psychopathic killers. The roads are controlled by vicious gangs with names like the "Hot Rod Lincolns," the "Redneck Yahoos" (who drive pickup trucks and seem to be based in Texas), and the deadly "Muthuh Truckers" who ride nothing but 18-wheelers that can squash your cars flat without even slowing down. All in all, not a very cheerful setting. This isn't the glittering high-tech anarchy of "AutoDuel", but something more like the barren wastelands of the movie "The Road Warrior."

Play takes place on a beautifully drawn map of the United States, and includes parts of Canada and Mexico. There are 120 towns and cities, and 15 types of terrain, including mountains, farmlands, and oilfields. You play the leader of a small motorcycle gang (I call mine "Hall's Angels"), and start with 8 men, 1 car, and a few days worth of food and gas. Your first goal is to build your gang up into something that can survive, by looting the nearby cities for abandoned vehicles, more food and gas, spare tires, guns, ammo, and medical supplies. While doing this, you will run into crowds of people. If you are fairly strong, some will offer to join you; otherwise, they will attack you for your supplies. You can have up to 15 vehicles and 1500+ gang members, provided you like combat that takes the rest of your life to resolve. I spent most of the game with two vehicles (a bus and a trailer truck) and 80-100 gang members. There's no penalty for staying small; the rival gangs you run into are almost always your size or smaller. After you have started to conquer towns and cities, you'll be contacted by a US government agent, who will ask you to report to the Government Underground Biolab. When you get there, you are asked to track down and bring back eight scientists, the overall goal of the game.

There are two types of combat, foot gang encounters and road gang encounters. Foot gang combat occurs only within cities, and is handled automatically; you fire a round, they fire a round, etc. until everybody on one side is dead. Foot gang encounters include invaders, the National Guard (who only attack when you loot a town they control), cannibals, the Mob, and so on. After several encounters in a given town, you will have crushed the leadership, and will be given the opportunity to take over. Once you've taken over, you can loot to your heart's content without being attacked.

Road gang encounters can occur anywhere, and can be resolved in three different ways. "Abstract" resolution basic-
contd.

ally involves everybody accelerating to top speed and ramming each other. Not recommended! Even when you win, you get a lot of damage to your vehicles. "Quick" resolution is also run completely by the computer. It takes a little longer, but causes much less wear. Vehicles will only ram when they can do it without taking much damage, so combat consists of vehicles driving past each other with the crew shooting through the windows. A vehicle crashes and burns when the interior crew (the people not standing on the roof) are all killed, or when all the tires are shot out. "Tactical" combat puts all the vehicles on a map, and lets you control everything yours do. Unfortunately, there isn't a whole lot of room for tactics. After a few encounters, I learned the trick of pulling up behind an obstacle and shooting broadside; 26 people can shoot broadside out of a bus in one round. Enemy vehicles, driving directly towards you, have to shoot through the front windows and are limited to 5 shots at the most. This strategy works so well that I wound up never doing anything else.

Scattered around the map are various "specials" you can find, such as brake shops, underbody shops, and the like, which will make all your vehicles more efficient, and repair shops, which will fix structural damage done during combat.

A few of the towns and cities have special features. When I first entered Orlando, Florida I was told that I was passing the ruins of a large amusement park and my men wanted permission to try out the rides. The program wanted a yes or no answer, and after quite a bit of thought as to what was safest, I wound up guessing wrong. (Growl, mutter . . .)

I think the game suffers somewhat from a lack of balance. By the time I had the first few scientists, I had my gang built up as strong as I wanted. The rest of the game (2 weeks) was devoted to driving around and around, waiting for the remaining scientists to introduce themselves. As I said, there are a number of specials, but not a really large number. Because of this, the game tends to drag after the beginning, and I know a few people who got bored and gave up on it without finishing (which is a shame, because the "Congratulations-You-Won" section of the program is very enjoyable).

BOTTOM LINE: Actually, this is more of a war game with role-playing elements than a role-playing game. I sort of enjoyed it (say, 6 out of 10, just a little above average), and I think war game fans might like it even more. But if it's straight role-playing you're looking for, you won't find a lot of it here.   ⑤

THE DAM BUSTERS: A Review
by David McCracken

THE DAM BUSTERS (Accolade, Apple II series with 64K) simulates a World War II bombing mission to knock out German dams. The whole mission is composed of three parts: takeoff, "channel crossing," and bombing run. Simplified versions of the last two can be done as preliminary practice. You function as the whole crew, choosing the various positions as necessary. Although the concept is good and the play is interesting, weaknesses in the documentation and operation require a great deal of time and patience. I found it too difficult to complete the mission—so much needs attention during the final run and, in any case, it doesn't seem to be possible to get the navigational feedback to fly the circular approach for the bombing run as directed.

The documentation omits other essential information. For example, it neglects to say that the practice segments have been condensed to exclude a need for most of the crew's functions, and that trying to perform them only screws you up. It also neglects to say that, when you're first taking off for the mission, you must set the flaps first, then the boosters, and then the throttles in order to get off the ground. Pictures of some controls are quite inaccurate. Fortunately, there is a nearly complete demonstration of the mission (completely undocumented) which starts if you wait too long to make your mission choice.

There's some downright wrong information given. The escape key (not the space bar) pauses the action. You cannot make repeat tries after missing the dam with a bomb. The number of flak hits is not shown on the damage screen.

There are a number of bugs in the game. With an engine on fire, I couldn't get at the fire extinguisher. After the crash, the status screen showed all engines intact. At one point, I couldn't get the navigator's map properly until I tried pushing the button that sets the map cursor. When barrage balloons get to the lower half of the screen, you can't destroy them, though they're right in your sights. You're dead.

A number of "local color" items are provided, which seem to have no operational significance—and anyway, I'm not sure what to make of "Allied bombing raids near LONDON," among other cities. The graphics are good, but uneven in quality. The image of the plane on the navigator's screen appears to move only horizontally and vertically. It does actually shift diagonally, and sometimes makes instantaneous right angle turns, perhaps trying to correct errors such as showing the plane heading south when the dam can be seen straight ahead, west, by the pilot. There is a single graphic to show the dropping of the bomb, headed right toward the dam, whether it's actually falling long, short, or off to the side. The color features for maps and controls are touted, but I was glad to see that color was not actually needed. The message about being demoted to kitchen duty and the accompanying tune you get every time you crash (regardless of how well you did) are quite irritating.

The game badly needs better provision of levels of difficulty than is provided by the two simplified practice segments. An improved version would be very enjoyable. As is . . . well, if you get it cheap enough . . . after all, you may get an overwhelming urge to BUST the DAM disk!   ⑤

DAM BUSTERS: A Reply

The following letter, dated September 2, 1986, was sent to Ron Wartow of Washington Apple Pi by Mike Craven, Editorial Designer with Accolade:

"We wish to thank you and Mr. Payne for your courteous letter allowing us to respond to David McCracken's negative review of our Apple version of the Dam Busters game.

"In some respects, it is difficult for any game publisher to defend themselves against such a negative review since the 'review' itself is a subjective presentation of a single individual's point-of-view and emotional reaction to a product. This places a greater responsibility on the publisher of the review to develop and maintain credibility with its reading audience. In order to do this, a 'single' reviewer should have outstanding acknowledged credentials in the areas of game design and/or evaluation. A safer and more equitable approach (used by a number of publications) is to have at least three very competent reviewers each independently evaluate the same product. In this manner, the reading audience can obtain a much more balanced perspective. I should note that this philosophy applies equally to all games . . . in that it is just as dangerous to publish a glowing, positive report on a mediocre game (although the publishers and designers of the product would not tend to complain). I would also stress that these comments are a matter of objective philosophy and are not intended to be directed in any negative manner toward Mr. McCracken since I am unfamiliar with his qualifications and in no way wish to judge him.

"Whether I agree with the review or not, Mr. McCracken probably stated what he honestly felt. Some of his frustrations with minor bugs or discrepancies in documentation are probably valid. We at Accolade try to detect and avoid such problems in an effort to continually improve the quality of the products we publish. I should note that it is easy for an individual to take a positive or negative stance on a myriad of subjects in life . . . then find and emphasize the corresponding elements which support his or her cause. They avoid presenting opposing elements since it weakens their 'argument.' My major criticism of Mr. McCracken's review was its clear lack of objectivity in not also seeking out and presenting the positive elements of the game instead of presenting only negative elements to support his 'argument' against it. It is these positive attributes, which he failed to present, that have made 'Dam Busters' a popular game with the general public in having been well accepted with good sales across the combined C-64, IBM and Apple versions.

"I again wish to express our appreciation for the opportunity to voice a response. I hope that I have been 'objective' and fair in my review of the review."

THE HITCHHIKER'S GUIDE TO THE GALAXY: A Review
by Bob Oringel

Prologue - Recently I gave my 8-year-old granddaughter a program called "Story Tree", to go with the Apple][+ which I had given her earlier when I got my //e. Story Tree reminded me in a very simple way, as I played the game with her, of an interactive fictional program that I had purchased years ago called "Softporn Adventure". It too was interactive, but certainly not to be shared with one's grandchildren. I have collected very few "game" software programs over time. Dungeons and dragons do very little for me, but I do read good, non-BEM, science fiction, so when I hacard about "The Hitchhiker's Guide to the Galaxy" by Infocom, I thought it might be fun. It is.

Review - The program is packaged neatly in a box which includes the program disk in DOS 3.3, and also some fanciful trinkets which are alluded to in the game. Also included is a well-written Instruction Manual which contains an overview of the game, tips for novices, the methods of interaction with the story, and the commands that the story understands.

There is a wide variety of ways to get from the beginning of Hitchhiker to the end of the story. The interactive participant helps shape the way his variation is written. I must admit that I haven't reached the end yet, but I'm getting there. What makes it very helpful for me is the ability to turn my printer on, and give the program the SCRIPT command. The printer then follows right along with the screen, and I have all my successes, as well as all of my trips along blind alleys right there on paper to refer to when the programs informs me that I have been "killed", and I want to start again. Also, anywhere along the line, before having been "expired", one can save a story position to a text file disk and come back to it later. This also makes the blind alleys of gaming more endurable, for me at least. Incidentally, the software house, Infocom, informs the player/user in its instruction manual, that there is a hint booklet that can be ordered separately for those who really need to peek a little.

Hitchhiker is quite a smart program. It recognizes over 800 words, according to its publisher, and it insists that the player communicate with it in decent English. It tells the player in no uncertain terms if it doesn't recognize a work, or if there is a noun or verb missing in the player's input. Despite this, the story line proceeds through "tongue in cheek", with a great deal of fun, from puzzle to puzzle, as the player moves along. I congratulate Infocom on Hitchhiker, and I must admit to having a great deal of enjoyment in playing it.   ⑤

MAKING LIFE A LITTLE EASIER FOR THE WAP JOURNAL EDITORS
or Formatting Articles for the WAP Journal
by Tom Warrick

Few of us who saw the January 1986 WAP meeting on desktop publishing will forget the cartoons showing Gena and Bernie Urban working frantically each month to put out the WAP Journal. (Bernie had ten arms to get all the work done and Gena spent a lot of time wearing her editor's green eyeshade.) Gena and Bernie love getting articles for the Journal from everyone, and virtually everything submitted gets printed, although not always right away. There are several ways to make the hectic process of Journal preparation a bit easier for them.

Submit Both a Disk and a Printout: Gena and Bernie are happy to receive your articles in any format, whether Apple II or Macintosh. They prefer that we authors submit our articles in both machine-readable and hardcopy format, the former because re-keying articles, even short ones, takes time and the latter because (a) it ensures that the editors can see any special formatting or layout you have in mind, and (b) it makes proofreading much easier. I have seen studies, incident- ally, that confirm the Urban's experience: most people do find it easier to proofread articles on paper than on a screen, even a screen with black letters on a white background. (Ed. Note: Besides, you can proofread hardcopy while comfortably rocking in the rocking chair.)

Please label your disk with your name and article. Once detached from the hardcopy, unlabeled disks are easily mistaken for blank ones—to be initialized. Mac owners are asked to use 400K disks, since they can be read on either a 512 or + (Gena uses a 512 and Bernie a +).

If you Have an Apple II: Please submit your article as a text file, either DOS 3.3 or ProDOS. Before it is transferred to the Macintosh for editing it will have to be in DOS 3.3 format, so if convenient, please convert your ProDOS text file to a DOS 3.3 file. However, this can be done by the editors if you do not have the utility to to this. AppleWorks files should be saved as an ASCII text file, not the "normal" binary AppleWorks file. This is an option with the AppleWorks print function.

If You Have a Macintosh: Those who have Macintoshes can take a few extra steps to make life easier by putting portions of the articles into the format that they will ultimately appear in the Journal. These steps are actually rather simple—they involve for the most part just knowing the Journal's typeface and size conventions. These conventions are discussed here in terms of MacWrite format; Microsoft Word works just as well.

The Title: The title of an article is in all-caps (except for subtitles, if any) 24-point Helvetica (not bold). Helvetica is the LaserWriter equivalent of the Geneva font, but Helvetica prints much faster and more attractively on the LaserWriter than Geneva does. Set the left margin and indent markers on the ruler above the title all the way to the left, i.e., move them to the 1-inch marker.

The Author: The "by" is in boldface 14-point Helvetica. Your name is in 18-point Helvetica, but is not boldface. This is not intended to give your name less prominence—far from it! The reason is that boldface 14-point Helvetica more closely matches the width of the letters of plain 18-point Helevetica.

The Text: Immediately after the Return that follows your name, insert another ruler with the left margin at the 1-inch mark (i.e., where it was in the previous ruler), and the indent at the 1 3/16-inch point. If you count the 1-inch marker as the first tick mark on the ruler, 1 3/16 inches is between the second and third tick mark. Paragraphs will then be automatically indented 3/16 of an inch. There are no line spaces between paragraphs.

After the ruler and before the text of the article, insert a single Return. Though the text of the articles will finally appear in 10-point Times, this font is not recommended for typing your article or for the submitted hardcopy, as it is very difficult to read on the screen or as printed by the Imagewriter. Times is the LaserWriter version of the New York font. Leave your article text in Geneva 12 with the right margin at the 7" mark. The editors will convert the text and set the right margin as the last process, after any changes they may find necessary have been posted.

Special Characters: Typesetters use special characters that normal typists do not. The designers of the Macintosh character set had the foresight to build these characters into the Macintosh even though desktop publishing did not exist when the Mac was designed. You can use these special characters to add that "professional" touch to your Journal articles. If you don't, of course, few people will be the wiser, so don't worry. The most common of these are the open and close quotation marks—" and "—instead of the dual-purpose ". The " key is Option-[, which is located right above the " key; the " key is Shift-Option-[. Similarly, you can use ' and ' instead of '. The ' key is Option-] and ' is Shift-Option-].

Another difference between typset characters and typewritten characters has to do with the hyphen. The Macintosh has three types of hyphens. The standard one we are accustomed to is the "-" key, located to the right of the 0 (zero) key. If you were typesetting an article and wanted to set off phrases—like this—you would use an em dash, which on the Mac is Shift-Option-hyphen. The Mac also has an en dash, Shift-hyphen. And although one would expect an en dash to be shorter than a standard hyphen, an en dash in the on-screen version of the Times font is longer than a standard hyphen. Just to confuse matters further, many word processing programs, including MacWrite and Microsoft Word, will not split across a line words separated either by an em dash or an en dash, which a typographer would do (usually after the

THE FAMILY HOME MONEY MANAGER: Part 7
Working One's Way Through an Applesoft Program
by Brian G. Mason

The first thing we will do this month is see how we are going to have this program help us reconcile our checkbook to the bank statement. So let us get started. Type "LOAD CHECKS 1/85".

```
3400  HOME : INVERSE : HTAB (6): PRINT
      "RECONCILE TO BANK STATEMENT":
      NORMAL : VTAB 23:CH = 1:BU = 0:
      POKE 34,1
3402  IF NS = - 1 THEN 152
3405  INPUT "ENTER STARTING BALANCE
      FROM BANK STATE- MENT - ";BAL
3407  S1 = 9999:OUT = 0:L% = 4
```

The first thing we do is clear the screen and print a title at the top, set our checks and budget flags, and set the scrolling window under our title. As usual, we check to make sure we have any data to reconcile before we go any further (you never know what some user somewhere will try to do to crash the program). Finally, we ask the user to INPUT the starting balance from the bank statement. This figure is stored in the variable BAL.

Remember that the largest check number we allow is 9999, so we set S1 to that number. We also initialize the new variable OUT to 0; it will be used to keep track of the outstanding checks and deposits, items that have not cleared the bank yet.

```
3410  HOME : GOSUB 170:B = - 1
3415  PRINT "STARTING BALANCE----------";:
      T% = 37:C = BAL: GOSUB 70
3416  GOSUB 45
3417  FOR R = 0 TO NS: IF CN%(R) < > 0 AND
      CN%(R) < S1 THEN S1 = CN%(R):
      NEXT R: GOTO 3422
3418  NEXT R
3422  D1% = 1: FOR R = 0 TO NS: IF CN%(R) >
      D1% THEN D1% = CN%(R)
3423  NEXT R
3424  IF S1 > D1% THEN 3500
```

We are now ready to go, so we print the column headings and the starting balance. Then we tell the user to wait while the Apple searches the data base for the first check we need to deal with.

The first thing we do is determine what the lowest check number in the data base is. (Do you see now why we set S1 to be 9999 to begin with?) Next, we determine what the highest check number in the data base is and put that value in D1%. (We should have been using S1% all along as our variable, since we are only dealing with integers when we are dealing with check numbers. If you want to go back and find all the S1's and change them, you can.) If there are no checks in the data base, we will end up with S1 equal to 9999 and D1% equal to 1, so we take care of that possibility in line 3424. (We used line 3500 last month when we were balancing the checkbook.)

```
3428  FOR R = 0 TO NS
```

```
3430  IF CN%(R) = S1 THEN  GOSUB 180:
      GOSUB 16:C = AMT(R):T% = 29: GOSUB 70:
      GOTO 3441
3435  NEXT R
3436  S1 = S1 + 1: IF S1 < = D1% THEN 3428
3440  GOTO 3500
```

Now we work through the data base looking for the lowest check number. If we don't get a match, we ask for the next record. Once we have gone through the entire data base, we increment S1 and search for the next match as long as S1 is not greater than the highest check number. Once it is, we go to line 3500 again. When we do find a match, we print it out on the screen and then GOTO line 3441.

```
3441  IF R(R) = 1 THEN  PRINT " PAST MO"
3445  VTAB 22: HTAB 3: PRINT "HIT <->>
      IF ALREADY RECONCILED; HIT
      <RETURN> IF CHECK/DEPOSIT LISTED
      ON STATEMENT; <ESC> IF NOT; <E> TO
      EXIT.";: VTAB L%: HTAB 33: GET C$
3446  IF C$ = "E" THEN  CALL - 958:
      GOTO 1500
3447  IF C$ =  CHR$ (27) OR C$ =  CHR$ (155)
      THEN 3455
3448  IF C$ =  CHR$ (13) THEN 3451
3449  IF C$ =  CHR$ (21) THEN R(R) = 1:
      PRINT "PAST MO": GOTO 3459
3450  GOTO 3445
```

We use the array (to keep track of whether or not a check has been reconciled to a bank statement before. If it has, we set it equal to 1, if not, to 0. Of course, every variable equals 0 unless another value is assigned to it, so if we have never dealt with the record before, R(has the value of 0.

If the record has already been reconciled, we indicate that by printing out "PAST MO". Next, we print out the instructions. Pressing "E" exits this routine and returns us to the Main Menu. Pressing the right arrow (CHR$(21)) takes us past the next few lines, leaving nothing changed, either to the reconciliation flag or the balance.

```
3451  CALL - 868:SS = 0:R(R) = 1:BAL =
      BAL - AMT(R):C = BAL:T% = 37:
      GOSUB 70: GOTO 3457
```

Hitting <RETURN> sends us to line 3451. To indicate that the check is listed on the bank statement, we make sure there is nothing to the right of the cursor, set the SS flag to note that we have made (or are going to make) changes to the data base, and set the reconciliation flag (R() to 1. We subtract the amount of the check from the balance, and print that number.

```
3455  PRINT " -------":R(R) = 0:OUT =
      OUT - AMT(R)
```

Hitting <ESC> sends us to line 3455. To indicate that the check has not cleared the bank, we simply print some dashes, we make sure our array variable is set to 0, and the amount of the check is subtracted from the balance of

contd.

outstanding checks.

```
3457 VTAB 19: PRINT "SUM OF DEPOSITS
     NOT CREDITED ON STATE- MENT
     (+) & CHECKS STILL OUT (-)";: CALL
     - 868:T% = 37:C = OUT: GOSUB 70
3458 PRINT "CHECKBOOK BAL. AT
     CHK #";CN%(R);" IS--";: CALL -
     868:T% = 37:C = BAL + OUT: GOSUB 70
```

We next print out the sum of (a) the deposits which are not credited on the bank statement and (b) the checks still outstanding. If the sum of the deposits is greater than the sum of the checks, the sum will be positive. Otherwise it will be negative.

Then we print what the checkbook balance should be at the particular check we are dealing with. Of course, this balance will not be accurate until all outstanding checks and deposits are accounted for. But once you get to the bottom of the bank statement, the number in the "BALANCE" column should agree with the bank statement, and the checkbook balance at that point should agree with the balance in your own checkbook.

```
3459 L% = L% + 1
3460 GOSUB 45
3461 IF L% < 18 THEN 3435
3465 POKE 35,18: CALL - 922: POKE 35,24:
     L% = 17
3466 VTAB L%
3467 GOTO 3435
```

Finally, we increment the line number (L%), print our "wait" statement, check to see if we are at the bottom of the data "window" yet. If not we go back for the NEXT R. Otherwise, we perform our little trick of scrolling everything up one line, and then ask for the NEXT R.

DELETING RECORDS

Once we have reconciled our records to the bank statement, we can delete them from our data base. We do not want to delete any records that have not yet been reconciled, otherwise, we won't have a complete data base with which to reconcile our records. On the other hand, we need to delete the records which are not current, since we only permit a total of 300 records in our data base.

```
3600 HOME : INVERSE : HTAB (7): PRINT
     "DELETE RECONCILED RECORDS":
     NORMAL :VTAB 5:CH = 1:BU = 0:
     POKE 34,1
3602 IF NS = - 1 THEN 152
3605 PRINT "THIS ROUTINE DELETES ALL
     DATA WHICH YOU HAVE INDICATED
     AS HAVING BEEN RECONCILEDTO
     YOUR BANK STATEMENT IN ROUTINE
     #12 AND WHICH ARE NO LONGER
     NEEDED INASMUCH AS THEY PERTAIN
     TO PREVIOUS MONTH'S     BUDGETS."
3610 PRINT : PRINT "HIT <RETURN> IF YOU
     WISH THIS ROUTINE TOPROCEED;
     HIT <M> IF YOU WISH TO RETURN  TO
     THE MENU."
```

As usual, we first print a title at the top of the screen and then protect it. We also make sure there is data in memory; otherwise, we just go back to the Main Menu. Finally, we print a word of explanation on the screen and ask the user if they wish to proceed.

```
3615 GET C$: IF C$ = "M" THEN 1500
3616 IF C$ = CHR$ (13) THEN 3620
3617 GOTO 3615
```

If they do not want to, they press <M>, which takes them back to the Main Menu. Pressing <RETURN> allows them to continue.

```
3620 L% = 16: GOSUB 45:C = NS + 1
3621 C = C - 1
3622 IF C = - 1 THEN  PRINT "": GOTO 3500
3623 IF MO% = 1 AND MO%(C) > 6 AND
     CN%(C) = 0 THEN 3630
3624 IF MO% = 1 AND MO%(C) > 6 AND
     R(C) = 1 THEN 3630
3626 IF MO%(C) < MO% AND CN%(C) = 0
     THEN 3630
3627 IF MO%(C) < MO% AND R(C) = 1
     THEN 3630
3628 GOTO 3621
```

Again we print the "wait" message on the screen since deleting takes quite a bit of time. We are going to do things a little differently this time. Unlike before, when we started with the item we wished to delete and moved everything down to overwrite the preceding record, this time we are going to start at the top of the data base and work our way down. I decided to do things this way because most of the items we will be deleting will be at the bottom of the data base, that is, the oldest records. When you delete record #1, if we started there, we would have to move the entire data base down one record. On the other hand, if we have already deleted half of the data base by the time we get to record #1, it should not take quite as long to move everything down one record.

So we start at the top by setting C equal to NS + 1 and then subtracting one. If, when we subtract one from C, we end up with -1, then we issue a CR (print a null string) to void the semi-colon in line 3635 and then GOTO line 3500 to print out the message that we have reached the last of our records.

Otherwise, we run some checks on the record to see if we should delete it or not. If we are not dealing with a check record and it is a record pertaining to a past month, then it can be deleted. Also, if it is a check record, but it has been reconciled to a bank statement and it pertains to a past month, then it can be deleted. If the current month is January, then the number of the past months is higher than the current month. Thus line numbers 3623 and 3624. If the record passes the checks, then the program GOES TO line 3630 where the overwriting of the record to be deleted takes place. Otherwise, it GOES TO line 3621 where C is decremented and the checks on the next record down the list are run.

```
3630 FOR R1 = C TO NS
3632 CN%(R1) = CN%(R1 + 1):DT%(R1) =
     DT%(R1 + 1):MO%(R1) = MO%(R1 + 1):
     VEN$(R1) = VEN$(R1 + 1):AMT(R1) =
     AMT(R1 + 1):CT%(R1) = CT%(R1 + 1):
     R(R1) = R(R1 + 1)
3633 NEXT :NS = NS - 1:SS = 0
3635 VTAB 18: HTAB 1: CALL - 868: PRINT
     "YOU NOW HAVE ";NS;" RECORDS
```

ON FILE.";
3640 GOTO 3621

After we delete a record, the total number of records (NS) is decremented, the change flag (SS) is set to zero, and so the user knows progress is being made, we print a message showing how many records now exist in the data base. Then we go back to line 3621 where C is decremented, and we do it all again.

WHAT TO DO WHEN THE MONTH IS ENDED

You should save the work you have done so far under the program name, CHECKS 1/85. We are going to leave this program for now and discuss the last program module, which we will call EOM PROCED. I am going to show you this module now and then come back to CHECKS1/85 later since the last two options from the Main Menu, #17, Year-to-Date Detail, and #18, Year-to-Date Summary, use files created by the EOM PROCED. module.

The user can use the option #6, Close Out End of Month, at any time to see how well they are doing to keep track of their income and expenditures. However, its serious purpose is to record their transactions for the entire month and save them to disk, so they can later print out yearly reports. Also the user can compare their income and expenditures with their budget to see how well they did, and to make any adjustments needed to carry them forward to succeeding months. So let us see what happens when they choose this option.

```
  0  FOR J = 0 TO NC:TL(K,J) = 0: NEXT
  1  IF Q% = 15 THEN PP = 1: GOTO 7000
  2  IF Q% = 16 THEN PP = 1: GOTO 7100
  5  GOTO 5000
```

Line 0 has meaning if we have gone into this module once before during the current session, left it and then have come back, for we may have placed values into the array variable TL(K,J) which would no longer be valid, so we want to set everything back to zero. We will deal with this variable in a bit.

Lines 1 and 2 direct us to printing routines selected from the Main Menu. The variable PP will be used to keep track of things as we go through the program to direct us just to those lines which are required for these printing routines. Otherwise, we are dealing with the end-of-the-month option, #6, which we are going to discuss next.

```
5000  HOME : INVERSE : HTAB (8): PRINT
      "CLOSE OUT - END OF MONTH":
      NORMAL : VTAB 3:CH = 0:BU = 1:
      POKE 34,1
5005  IF NS = -1 THEN 152
 152  VTAB 24: FLASH : PRINT "NO DATA IN
      MEMORY": POKE 216,0: FOR C = 1
      TO 200: NEXT C: NORMAL: GOTO 1500
5007  ONERR  GOTO 19999
19999 Y =  PEEK (222): IF Y < > 5 THEN
      POKE 34,0: POKE 216,0
20000 IF Y = 5 AND AC < > 0 GOTO 152
20001 IF Y = 5 AND AC = 0 GOTO 6000
20002 IF Y = 254 THEN  RESUME
20003 IF Y = 9 THEN  HOME : VTAB 10:
      FLASH : PRINT "DISK IS FULL":
      PRINT : NORMAL : PRINT "REMOVE
```

CURRENT DISK, INSERT ANOTHER INITIALIZED DISK, THEN TRY AGAIN.": GOSUB 28: RESUME
```
  28  HTAB 1: VTAB 24: PRINT "HIT ANY KEY
      TO CONTINUE";: GET C$: HOME :
      RETURN
21000 X =  PEEK (218) +  PEEK (219) * 256:
      PRINT "ERROR AT LINE ";X:
      PRINT "ONERR CODE = ";Y: END
```

The first thing we do is print a title at the top of the screen, as usual, and protect it from the scrolling window. Also, we set our budget and checking flags. Then we make sure we have data in memory to work with. (You have seen all of this before.)

Finally, we set up our error handlers. AC is the variable that holds the actual cash on hand at the beginning of the month. This variable is saved in our Budget Reconciliation File. If we open this file for the first time, there won't be any data in it, so we are taken to line 6000. We will cover this next month.

```
5010  PRINT "THIS ROUTINE AUTOMATICALLY
      CALCULATES  THE TOTAL ACTIVITY
      FOR CURRENT MONTH -- (";M$;")."
5015  PRINT : PRINT "TOTALS ARE GIVEN
      FOR EACH BUDGET CATE- GORY,
      AND DIFFERENCES ARE PASSED
      ALONG TO THE NEXT MONTH."
5020  PRINT : PRINT "TOTALS ARE ALSO
      TRANSFERRED TO A YEARLY
      ACCUMULATED REPORT."
5022  PRINT : PRINT "HAVE YOU ENTERED
      ALL THE CHECKS YOU HAVE
      WRITTEN?": PRINT : PRINT "DO YOU
      KNOW YOUR CHECKBOOK BALANCE
      AT  THE END OF THE MONTH?"
5025  PRINT : PRINT "HIT <RETURN> IF
      YOU WISH THIS ROUTINE TOPROCEED;
      HIT <M> IF YOU WISH TO RETURN
      TO THE MENU.":L% = 24
5028  T% = 10
5030  INPUT C$: IF C$ = "M" THEN 1500
1500  PP = 0: POKE 34,0: HOME : PRINT
      TAB( 11)"HOME MONEY MANAGER":
      VTAB 18: INVERSE : PRINT "PLEASE
      WAIT": NORMAL : GOSUB 10060
10060 POKE 60,LN + 8: POKE 61,HN
10070 POKE 62,LO: POKE 63,HO
10080 POKE 66,8: POKE 67,2
10090 RETURN
1502  POKE 976,76: POKE 977,191: POKE 978,157
1503  CALL 43089
1505  CALL H2"ENTER DATA"
5031  IF C$ = "" THEN 5033
5032  GOTO 5030
```

Next we print a message to the screen concerning this option. We also warn the user that some information is needed before they will be able to proceed. If they do not wish to continue, they can press <M> to return to the Main Menu. If they press <RETURN>, the program continues with line 5033.

contd.

Lines 1502 and 1503 are optional. You should not type them in if you do not have a 48K Apple. They are in the program here because I was having problems at one point getting the program to continue after requesting that data be printed on the printer. What we are doing is POKEing the normal values for a 48K system into location $3D0, which contains the location from which DOS is restarted.

Then we CALL 43089 to restore our DOS hooks. It solved the problem I was having. However, I think the problem was caused in the first place by improper programming. I learned that for DOS to work properly after directing PRINTing to a printer rather than to the screen, you can not just issue the command from within the program: 10 PR#1. You must pass the command through DOS, like this: 10 PRINT CHR$(4);"PR#1". Otherwise, DOS may be disconnected. This is explained in full on pages 100-102 of TheDOS Manual, copyright 1980, 1981. Hopefully, I have corrected all of the lines by now that would cause me this problem.

```
5033 K = MO%:AE(K) = 0:INC(K) = 0
5034 FK$ = M$ + " BUDGET DATA":FR$ =
     "BUDGET RECONCIL. FILE"
5035 IF PP THEN  PRINT : INVERSE :
     PRINT "PLEASE WAIT -- DOING  SOME
     CALCULATING": NORMAL : GOSUB 5040:
     GOTO 5250
```

The first thing we do upon proceeding is to initialize some variables, setting K equal to the number of the current month, setting the array variable AE(, which will hold the total actual expenditures for the month, equal to zero, and setting the array variable INC(, which will hold the total income for the month, equal to zero. We also define two new string variables, FK$, which is the concatenation of the name of the current month with " BUDGET DATA" and FR$. We will also be using some of these lines of the program when we are printing out a summary of the month's activity by category and when we are printing the end-of-month summary. We will use the flag PR to indicate whether or not we are in a printing routine (PR=1) or in a routine which prints to the screen (PR=0).

Well, I'm afraid it is best that we stop here. Hopefully, we will be able to cover the rest of this program module next month. We have a good introduction to it so far, but we should get into the meat of it next month. Save what you have done so far by typing "SAVE EOM PROCED".   ᘛ

Applesoft Basic Primer contd. from pg 17

each of us.)

If you know anything about Applesoft Basic, this book isn't going to teach you anything new. But if you're just starting out, the book is a pleasant and painless introduction to Applesoft basic. The book literally takes you by the hand, so all you have to do is nod your head and follow along. It's education at its finest!

By the way, there is an accompanying diskette you can buy for $17.00, but the diskette would seem to be quite unnecessary in light of the simplicity and brevity of each of the programs listed in the book.   ᘛ

BASIC IN COLOR: A Review
by Bruce Hicks

(Ed. Note: Bruce Hicks, one of the authors of this package, is a long-time WAP member. The review originally to be performed by WAP somehow went astray, and rather than delay the process any longer, we requested that he provide us with his own review.)

The Book: IIc BASIC Paint - Graphics for the Apple II Family, by Bruce Hicks and Sylvia Baron, John Wiley & Sons, Inc. 1985. $16.95 (with MC Painting software, $39.95. The Program Diskette and User's Guide: MC Painting - Your Color Workshop for the Apple II, II+, IIe and IIc. by Bruce Hicks, John Wiley & Sons, Inc. (1985). These are available from John Wiley & Sons, Inc. Eastern Distribution Center, 1 Wiley Drive, Somerset NJ 08873 (201) 469-4400 or from your bookstore or computer store.

The purpose of the book is to introduce Applesoft BASIC. The reader and user develop their knowlege of it through computer graphics, thus making it a provocative, enjoyable thing to do rather than just a course on BASIC. A series of simple, interactive graphics programs show you how to have fun with art while painting your way to more advanced graphics programming skills with the MC Painting system on the diskette. This new system is an Applesoft BASIC program which fully exploits LORES Apple graphics and its 16 colors. It includes multi-color block-printing and a large variety of comptuer-assisted color changes within designs.

The 40 different tools in the MC Painting sytems enable you to create the rich color graphics by "painting" on a color TV or monitor screen while using a mouse, joystick or paddles. These programs together with the companion book and Guide offer a carefully coordinated approach to learning color graphics programming through BASIC.

The authors' experience in teaching led them to emphasize the combination of many-color graphics and Applesoft BASIC. They therefore chose Apple 16-color LORES graphics as the primary graphics mode, and gave Apple HIRES graphics, with its six colors, a smaller role. (Double LORES and double HIRES graphics, with their 16 colors are not supported by Applesoft BASIC.)

Special feature of the MC Painting system include the ability to:
• Pick up a color on your brush from any part of your screen, not only from the palette.
• Select a sub-region of the screen and use all of the MC Painting tools within it, and with easier control of the joystick or mouse.
• Continuously display the x,y coordinates of the brush.
• Obtain information (while "painting") about the action of your keys, and the state of seven important painting tools.
• Map colors easily, transforming them selectively in 72 different ways. Each mapping can be in all or part of your screen, along a diagonal or along a brush stroke, for specified initial and final colors and executed randomly or non-randomly. (Color mapping can be programmed in Applesoft LORES but not in Applesoft HIRES.)

• See the disk catalog and save or load painting while in your program.

System Requirements: Apple II (with Language Card), or II+, IIe or IIc. One disk drive, 48K RAM. Joystick, two paddles or Apple mouse. Color monitor or color TV plus RF modulator. (Color controls on a TV or monitor greatly enhance the artistic range of the MC Paintings.)

The materials are designed for use in the home and in schools (junior high to college) and for self-study or class use.

Wiley & Sons are to be congratulated for their collaboration with the authors in defining the scope and purpose of the book and in producing a book with excellent typography, color plates and layout. The Index is unusually complete. The Glossary and References nicely supplement the text material.

The book emphasizes color and design; develops and describes, step by step, an MC (MicroComputer) Painting program in BASIC; supplies a base for discussion of a few artistic principles and a number of mathematics concepts (random numbers, rounding, selective mapping and its logic); provides several means for readers to add their own painting tools to the program; stresses several modes of internal and external documentation; and makes connections with animation, with computer-assisted instruction and with large color graphics systems.

The 26K MC Painting program on the diskette and the accompanying User's Guide extend the MC Painting program discussed in the book. On the diskette, in addition to the MC Painting program in BASIC, are 24 paintings that illustrate artistic capabilities and design elements, especially for LORES, and space for more than 30 of the user's LORES paintings.

The diskette is user-friendly for any of the Apple II family. It gives the user full information and control while keeping the MC painting on the screen. It also includes many additional features which define colored motifs and larger colored zones, and block printing with them; use the diskette for making, saving and loading these motifs and zones, without losing the painting on the screen; supply ground colors automatically; paint full or broken lines and diagonals, with specification of non-integer steps to give variety; and simulate accurately, with the joystick, mouse or keyboard, the horizontal and vertical game controls (paddles).

Something funny happened on the way to the store! Some stores list the book alphabetically (sic) under the letters "II". The standard reference work, "Books in Print", lists not only "IIc BASIC Paint" but also a second book "BASIC in Color" by Hicks and Baron. "BASIC in Color" does not exist as as a book, but at one time was an alternative title of "IIc BASIC Paint"   ⑤

For this installment, let's look at books which cover assembly language programming on the 65816 chip that is the heart of the new //GS. Three other books are also worth a quick mention.

The 65816 books

The best book of the bunch is *"65816/65802 Assembly Language Programming"* by Michael Fischer (Osborne McGraw-Hill 1986 $19.95), 694 pages. It includes far more useful examples than the other books. Its examples include a bubble sort, BCD multiplication, and hex to ASCII and ASCII to EBCDIC conversion routines. Special commands for the Merlin, Orca/M and S-C Assemblers are covered. The book is clearly written and offers programming insights rather than a rehash of the chip spec sheets. Honorable mention goes to *"Programming the 65816"* by David Eyes & Ron Lichty (Brady 1986 $22.95) 607 pages. Although it could use more examples in the discussion of the various groups of instructions, it contains an excellent stand-alone application, DEBUG16, which is a complete debugger package.

In my view, *"The 6502, 65C02 and 65816"* by Hendrix (Weber Systems Inc 1986 $17.95) 242 pages, is an inadequate introduction to the 65816. It offers only 12 cursory pages to cover both the new 65816 op codes and addressing modes.

I also would stay away from *"Programming the 65816"* by William Labiak (Sybex 1986 $22.95) 370 pages. Like other Sybex books, it offers plenty of white space by covering each opcode on a separate page. It could use more examples. **Jim Little** also has comments on this book...

First and formost there is at least one error in the examples of code, the first one that I found was on page 60. A program fragment contains the following:

```
LDA ADR1      LOAD OP1 IN A
ADC ADR2      ADD OP2 TO OP1
STA ADR2      SAVE RES AT ADR3!
```

One or the other is wrong.

Next is the large center section which lists the op code names of the instruction set. Page 114 lists the notation used, but does not define all the symbols. Neither + nor - are defined, and since - may be a dash, a negative operator or a subtraction symbol, this is a significant omission. Similarly + may be an operator or an addition symbol. Notation of the register set with letters is necessary, but a bit more than the list might aid the first time user. Symbols for or and and are usually shown as ∪ and ∩, not ∨ and ∧. To my surprise on page 114 the or and the and symbol definition are reversed. All remaining examples of the use of and and or symbols are reverse of the definition. This is inexcusable. About 90 pages are used for this section. Appendix D also contains the code list with a lot more information than this section. Unfortunatly small type and a very tight column setting make appendix D a red eye special. Some of this stuff could have been profitably added to the wide open spaces of the middle of the book.

One new operation code is intriguing, COP, which is listed as co-processor. Because the motherboard of the IIGS is without spare socket spaces, this might be added later on as an expansion card. Somewhere over the rainbow is still hope of multiply and divide instructions!

The next problem is with the exercises included. Most of the readers of this type of book are studying independently. With no answers given to any of the excercises, it is difficult to gauge progress, or correct errors of understanding.

Example program segments are used to show some possible ways of solving the problem of how to multiply two numbers. Nothing in the examples given would even add two floating point numbers. Further, the example of a floating point number would be useless if connected to an Applesoft program. Applesoft uses five not four bites for floating point numbers. In fact I saw only one op code that was not an ordinary 6502 code. It would be difficult to write a program segment with this book and hand assemble the code. No references to more advanced works are given.

A Teletype machine receives 4 pages of references in the index. This particular device has not been manufactured for many years, and suggests that some old code was dusted off to fill some space.

No source for a workable assembler is given. One section mentions that such aids exist (a brand name), but not where one finds this particular beast.

In brief not much bang for the 22.95 buck cost.

Volume 4 of Inside Macintosh

Yes, it is finally here! Addison Wesley has published a new paperback supplement to Inside Mac to cover the 128K ROMs and other MacPlus features. This is not substantially different from the preliminary versions which came with a recent software supplement. The $24.95 list price is a bit steep for a 326 page paperback. But if you want your programs to use the List Manager, the SCSI interface or the Hierarchical File System, this book is a must read! One cannot help but wonder why publication of the Hardbound Inside Mac was not delayed to incorporate this material. Also, the obvious syntax errors in the book's Pascal examples are inexcusable and leave the reader wondering about possible substantive errors.

On the esoteric front...

Another Modula-2 book has entered the market from a renowned author. Niklas Wirth, who invented both Pascal and Modula-2 has rewritten his famous *Algorithms & Data Structures* to incorporate Modula-2 programming examples. He covers: linked lists, recursive programming (the 8 queens problem), and other data structures. Prentice Hall publishes this 288 page book for the heady price of $34.95. There are less expensive texts available that are better-suited for the casual student.

Ellis Horowitz's *"Programming Languages - A Grand Tour"* is also worth browsing. (3rd ed. 1987). It is a collection of papers that covers the spectrum of computer languages.

APPLE II TO MAC SCREEN CONVERTER:
A Review and Commentary
by George Kinal

AtM, Boojum Systems, Inc., 1327 High Road, #J3, Tallahassee, FL 32304. Price, $50.

Description:

This Apple II to Mac package consists of disks for the Apple II and for the Mac. Using these in combination allows you to convert any Apple II screen display (text or hi-res graphics) to MacPaint documents on the Mac. Transfer of the image is accomplished using a communication link between the two machines (by connecting the serial interfaces).

This package is NOT: 1) A complete set of conversion utilities, per se. 2) Communications software. 3) A utility for transferring files or programs between the machines. 4) A package to transfer MacPaint documents from the Mac to the Apple II.

Operation/Use:

The Apple II is run with any program that places a hi-resolution (or double hi-res) picture, a 40 column text display, or (on the //e and //c ONLY) an 80 column text display, on the Apple II screen. The two machines should be interconnected by a serial cable (in the "usual" manner for transferring data between the II and the Mac). On the Mac, you next bring up a text capture telecommunications program such as Red Ryder or Mac-Terminal. Next, on the Apple II, one of the Apple II to Mac programs is used to send to the Mac a memory dump of the appropriate part of Apple II memory. The text received by the Mac is then saved to the Mac disk as a text file. Now the conversion program is used on the Mac to convert this into a MacPaint document. Which is the "appropriate" program to use on the Apple II? That depends on whether you are using DOS 3.3 or ProDOS, and what hardware you have. Some of the utilities work only with a Thunderclock, or with a mouse (on the Apple II, that is). Other utilities are intended for use only with a Super Serial Card (or the //c). There are also some "standard" utilities that will work with ANY serial interface that can be activated for output with a PR#n command.

A Test Run:

The following describes a very general test that Bernie Urban and I performed to confirm the operation of this package for hi-res graphics. On an Apple II+, we displayed the "Donald Duck" picture which is part of the graphics collection on WAP disk #117. Next, the serial interface was activated using a "PR#2" command, and the HR.PRINT utility program supplied on the Apple II to Mac 5" disk (slightly modified, as explained later) was run. Connected to the Apple II serial port was a laptop computer set for text capture mode ("DOWNLOAD"). When the transfer was complete, a CP/M communications program on the Apple (Modem 740) was booted, and the text was uploaded back from the laptop onto the Apple II disk. Why did we go through this complicated sequence? Because the next step was to send this file to the WAP TCS and employ the XMODEM protocol to assure error free transfer. The next day, at the WAP office, we used a Mac and modem to call into the TCS, and downloaded this file, with Red Ryder and, again, XMODEM protocol. This received file was then converted to a Mac image using the Apple II to Mac 3.5" disk utility.

This may seem like a complicated way to test a very simple concept. But it illustrates the several distinct elements of this set of programs. The first thing that happens is that the Apple II image map in memory is converted by one of the utilities into an ordinary ASCII text stream. Although the normal application is to transmit this text stream out through the serial port, it actually could be sent to a printer or be written onto a disk file. Also, with the right modifications, the Mac would not have to be close by; modem transmission could be used. (More on this later).

Discussion:

The really "hard" part of this process occurs in the Mac, where the text file which represents the Apple II screen image is converted to Mac format. All that happens in the Apple II is that the appropriate part of memory is sent out in ASCII-ized (hex dump) form. Of course, different parts of memory are used for hi-res, double hi-res, 40 column text, and 80 column text, so the correct utility must be used. As mentioned before, the 5" disk comes with a set of programs; which one you need to apply depends both on what kind of image you wish to transfer and what your equipment complement is.

One criticism is that not every user will immediately understand which program should be used (however, the program which is used with the Apple II mouse is fairly automatic). The program's author also used a feature in the HR.PRINT utility which unnecessarily makes it incompatible with the II+: he looks at location $C01C to determine whether hi-Res page 1 or 2 is active. This technique is used only by the //e and //c. So the routine had to be modified slightly for the II+, to force it to transmit hi-res page 1. To Boojum's credit, though, the source code for Apple II utilities is supplied on the disk, making modifications easy for anyone with a passing familiarity with 6502 assembly language.

The author also mentions that these routines could be modified to write the text to a disk file. In our opinion, such "write to disk" utilities should be supplied in the package. Why? Because that would permit the use of a communications package such as AE-PRO, either in conjunction with the direct cable connection or with modems. In fact, since the sophistication in the programs lies in the Mac end anyway, the conversion utilities in the Apple II should be (and perhaps are) in the public domain. In fact, they consist of nothing more than a fairly conventional "hex" dump of memory, except that in the case of graphics, the proper interleaving of the image lines must be performed. It's a little surprising that the author chose to convert to text at all; he could have transferred the memory image in binary form, and modified the conversion routine in the Mac accordingly. The biggest problem with converting to text is that it doubles the length of the transmission (every byte in memory is represented by

contd.

two ASCII characters).

What's it good for?

This set of programs is particularly useful in the Desktop Publishing environment. It permits a Mac DPub user to accept graphics prepared on an Apple II. Users with both machines will also be able to convert their old Apple II graphics to the Mac.

Apple II to Mac also has provision for sending over text screen images. At first glance, thi makes very little sense. If text material is prepared on the Apple II, it can be transmitted as text using well known communications techniques... Ah, but what this program does is different. It does not simply transfer the text. It transfers the screen image. Included are fonts for the Mac which simulate as closely as possible the Apple II 40- and 80-column screen fonts. Not terribly useful for transfer of text material, per se. But it could be useful to illustrate an actual screen image from an Apple II program within a Mac document. This could be great for program review articles in this Journal, for example. There is one catch: many commercial programs are copy protected and/or "RESET key protected". In other words, it may not be possible to run the Apple to Mac utility program while the program under review is operating on the Apple II. There are well known ways around this (remember the absolute RESET ROMs and the memory cards with attached pushbuttons...?), but it adds another stumbling block in the way of what could otherwise be a very useful feature.

Recommendation:

The author should revise the procedures for Apple II/II+ compatibility. A "write to disk" option should be added to all the utilities.

If there is a problem with putting even the "standard" utilities (particularly HR.PRINT and DHR.PRINT) into the public domain, then someone in WAP should undertake the relatively trivial job of writing equivalent conversion utilities (on the Apple II only, that is!) for WAP member use. Such utilities would permit authors of Journal articles who use the Apple II series to submit graphics as well as text. Furthermore, these graphics could be submitted for publication either on disk or via uploading, when the Journal uploading system is in place.

(Ed. Note: The developer of this package is Rick Chapman, a WAP member, who tells us that he is planning to extend it to the IIGS.

```
┌──────────────────────────────────────┐
│  ⟨Please Note!⟩                      │
│                                      │
│   The meeting dates for November and December are:│
│      November 15                     │
│      December 20                     │
└──────────────────────────────────────┘
```

Smart Computer:

The Generic PC, Built with Care and Intelligence

by Bud Stolker

In the IBM PC-compatible world there are good computers and there are great computers. The generic PC's we are custom-building for clients fall into the latter category for several reasons:

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So I order Mouse Desk 'cause it gives me a Mac-type desktop on my //e, and I can get it cheap. The ad says it has "i-cons", and you copy files by dragging their i-con somewhere, and other neat Mac-type stuff. And, see, I can use it with my RamWorks 512K expansion card, shifting files around in real time, and all that.

When I get it I keep booting it, and the dang thing can't find my ram card. I try everything for about four nights, and I am stuck. See, I got the RamWorks disk, and the Mouse Desk disk, trying to work them together. There's clues in both, but I can't figger it. Then I remember Dave Weikert's seventeenth law of computer jiggering—when all else fails, try to find the manual. Three hours later I find the Mouse Desk manual, right by my //e lid, which I ain't seen for about six months. Suddenly, I am real happy.

Hey, this "manual" is a 12 page booklet, a four page pamphlet, and a one page addendum. The manual is real USA documentation—it's like written in Sanskrit by an imbecile on a broken typewriter with a faded ribbon. Honest, the last three words on the last page (page 12) are "... see page 19." It keeps talking 'bout a 'ram disk' so I figger they know how to fix it, but I can't dope it out.

I mean, the disks say things like "copy these four programs to a blank disk, in this order," not what to call this disk, or where or when to put it. By now I have a couple of ideas on where or when they can put it. I mean, I'm fooling with the RamDisk disk (which comes with no, count 'em—NO—written documentation) and the Mouse Desk disk with its Three Stooges documentation, and swapping disks, flipping disks, and copying programs in and out of blank disks, back-up disks, the ramdisk, and my cat's water dish.

See, I gotta know what title the programs are lookin' for, or when to boot (load / run / - / insert / catalog / flip / copy / trash) the disks, and the "documentation" don't help. No matter what scheme I try, all I get is dumped out into the monitor (a blank screen with the mean message "3912 - A=40 X=EE Y=FF P=35 S=EA") and no cursor. No matter what I do, I keep getting stuck in the monitor. This I don't know how to cope with! After three more nights of screaming I give up, and call the Mouse Desk people. So, get this...the phone company says, "That number has been disconnected." THEY WENT OUT OF BUSINESS!

Well sir, I got no shame, so I calls RamWorks. I mean, hey, their card won't run with my software. Right away they want to know why I am calling them about someone else's product. I lie, "Because you've always been sooooo helpful in the past." It's like my lucky day, 'cause some squeaky kid gives me a "patch" over the phone. It's a nifty patch, short and lean. I try it, and natch it dumps me back into the monitor. The next day I calls RamWorks again, lie about their being helpful, etc, etc, and some twenty-year old says, "Oh yeah, that patch dumps you into the monitor." Then he tells me a patch for the patch, and says, "If this dumps you into the monitor (oh boy) type in 'blah blah,' then say '-MD.System.'"

He knew his stuff, 'cause when I tried his patch it dumped me into the monitor, just like he figgered. I was happy tho, 'cause I finally talked to someone who knew what was gonna happen next. OK, so I'm ready to type in 'blah blah' and say '-MD.System' except I'm all locked-up in monitor, and haven't

the foggiest idea where or how to type 'blah, blah' and say '-MD.System.' Then I remember Dave Weikert's eighteenth law of computer jiggering—when the manual doesn't help (and it won't), call a smarter friend. OK, this is easy, 'cause all my friends are smarter than me. My friend Paul says come over, and he's real good 'cause in 20 minutes it's all fixed. I mean, he even thinks in New Wave ProDOS or something. The first thing he did was get me out of monitor (type 3D0G [return]—that's a zero, not an oh—and you are in basic).

Now, I'll bet you wanna know how to get your Mouse Desk to talk to your Applied Engineering RamWorks card. Well, since you've been so patient I'm gonna tell you:

1. Back-up both your Mouse Desk disk (last version was 1.6) and your Applied Engineering Desktop Expander disk, whatever your version is titled. (The latest is May '86, version 5.2.1.) Work only with the back-ups!

2. Boot the Desktop Expander (back-up) disk, exit to Basic, and type:

```
CREATE PRODRIVE.SYSTEM,TSYS [return]
BLOAD PRODRIVE [return]
BSAVE PRODRIVE.SYSTEM,TSYS,
            A$2000, L3071 [return]
```

3. Use your favorite technique (Filer, Copy][Plus, an ink eraser or a cold chisel) to delete from the Mouse Desk (back-up) disk the program called ProDOS.

4. If you have version 1.6 of Mouse Desk, open the DESK ACCESSORIES program (on the back-up disk) and delete CALCULATOR and APPLE PUZZLE. If you don't you will run out of space on the final disk, and these are stupid programs anyway.

5. Copy, in this order, onto the Mouse Desk (back-up) disk from the Desktop Expander (back-up) disk:

```
BASIC.SYSTEM
PRODOS
PRODRIVE.SYSTEM
```

6. Boot this disk (the Mouse Desk (back-up) disk), exit to Basic, and carefully type the following program:

```
10 PRINT CHR$(4) "-PRODRIVE.SYSTEM"
20 PRINT CHR$(4) "PREFIX/MOUSE.DESK.1.6"
30 PRINT CHR$(4) "-MD.SYSTEM"
```

Then type SAVE STARTUP [return]

7. (If you have some other version of Mouse Desk (like 1.5) use that version number in this program.)

This new disk is named "Mouse.Desk.1.6" (or "1.5") and should work fine. Now, two things: First, the Applied Engineering catalog has a disk called "Ram Drive //e" which they wanna sell you for $29. This is not a special disk—it's just the latest version of the Desktop Expander disk, which anybody who bought an AE card recently has. It's really deceitful of them to sell it by saying what they do in their ad. Second, if you can find a copy of Mouse Desk, buy it! I mean, it's a great toy, and really speeds up many of your utilities-type things. If you run several disk drives on ProDOS, and/or a ram disk or hard disk, it can be your "controller." I love to see all those i-cons on the screen at once.

Well, that's my story. Bambi barely beat Godzilla, and only 'cause Paul and two young wizards at Applied Engineering bailed Bambi out when the going got tough.

How did you spend your summer?   ⑤

IIGS

CHARLES DON HALL ON 09/16 TO ALL
I take it that the //c can't be upgraded to the GS? (Snarl, spit). I made the last payment on my //c two months ago. Looks like I'm going to have to try to sell it. I see that //c's are now on sale for $19.98 apiece, so you can get them at Crown Books for $14.98. I'll ask $9.98 for mine. Anyone interested? By the way, does anyone have a price breakdown on the pieces of the GS system...i.e. does the $999 model come with disk drives?

ERIC RALL ON 09/16 TO BRUCE FIELD/ALL
My impression of the new IIGS is, in a word, UNBELIEV-ABLE! It make an IBM look like a slide rule. Why anybody would want a Mac or an IBM after seeing this machine is beyond comprehension. The ENSONIQ chip produces music and voice with incredible clarity. It makes a mockingboard sound like a feeble attempt at noise. The graphics are everything the Mac should have been. If I could scrape the money up I would buy it in a flash! When the machine started playing jazz, while simultaneously rotating that multifaceted, multicolored object, I knew this was THE MACHINE! What did you think?

TOM VIER ON 09/18 TO PAUL SCHLOSSER/ALL
How about GS for Good Smokescreen? They added sound and more color, but not enough Super-Res to compete with the Mac in dPub and CAD and other graphics intensive uses. The added capabilites will look great in TV ads, but I don't think it will change the fact that serious applications mostly are released for the PC, with the Mac a distant second. The game-sters will have fun though. It's still a great improvement over the //e and should generate a lot of interesting new hardware (like AST's video sampler).

CHIP LENKWICZ ON 09/18 TO MICHAEL MCCLANE
As Tom stated Apple plans only to allow an upgrade for up to 1 meg of memory for the //c. Have seen some info about the IIGS here and on the Apple Pack. It sounds nice, but I really doubt that many of us will really be able to take advantage of all that it offers. With the increase of memory for the //c, the only thing that I would want for it is a faster CPU (is AE reading this, an I don't mean putting in the 16 bit chip either). I would hope for something along the line of Transwarp or the Accelerator boards for the //c. It has been said before, those that do big number crunching will enjoy the IIGS; those that want graphics similar to the Amiga and the Mac will like it; but the majority of us, for whom Appleworks V1.x is 'near' perfect, will hang on to our $1000 or more dollars...

KIM BRENNAN ON 09/24 TO ALL
Personally, I feel that one of the best features of the new machine are the ROMS. With the new QuickDraw stuff in ROM, programs will be more sophisticated while taking less room than possible on the rest of the // line. Yes, you too can be talking about DAs (Desktop Accessories) like all those Mac people. Cruising the various Apple dealers in the metro area, not one yet has a GS to show. Aaaargh! The excite-ment has captured my mind. Talking with some of the people at the dealers does show that there is considerable interest in the GS. Saturday seems too far away.

BRETT PARKS ON 09/25 TO JIM WARFIELD/ALL
Save vote here on the IBM compatability. The leases on 1/2 of our Apple fleet here are about to expire, and with all the business oriented software being written for the IBM world, and Apple telling the business world to take the Mac or leave it, I'm going to end up switching. I'd love to stick with the Apples, and the change over is going to be a little traumatic I'm sure, but I really can't see any choice. Unfortunate to say the least. Another all Apple shop down the chute.

LEE RAESLY ON 09/26 TO BRETT PARKS/ALL
Hey, Brett, HANG ON! I'll bet you dollars to donuts that before January there will be a Board for the IIGS that will run IBM software on that machine. There is a prototype one for the //e, but it was far too cumbersome, and it died this summer (when they switched to working with the IIGS!) I also have an all Apple shop (1][+, 4 //e's and 2 //c's—all expanded to 1 MEG RAM or more, all with CP/M, etc.).

BRETT PARKS ON 09/17 TO EDMON J. DONNELLAN
I sure would like to see "impressive new applications" pro-grams, especially business oriented applications. However, since Apple has as much as come out and said they have no interest in selling anything but the Mac to business, I'm not going to hold my breath.

EDMON J. DONNELLAN ON 09/18 TO BRETT PARKS
Yet Apple seems to have very little influence on what its machines get used for. Look how little success they had in selling the Mac to Big Business until they made it a better machine. Certainly no // will ever be in contention as a Fortune 500, 1000, or 1776 business system; it isn't boring enough and couldn't generate sufficient outrageous software overcharges. The idea of accounting programs makes my eyelids droop. My point is that the new // is powerful enough to make it ideal for small to medium sized businesses, and if enough entrepreneurs write software to take advantage of this, it will help make the // line revive and grow.

LEE RAESLY ON 09/26 TO TOM O'HAGAN/ALL
The answer to me seems clear. Buy a stripped IIGS, cost $999. The upgrade is $499. For that you will get a motherboard only. It uses your present //e keyboard, and the current power supply. Thus, you end up with ONE computer. The upgrade is done by a dealer, since Apple requires the //e motherboard returned. But, if you buy the IIGS, you now have TWO computers. With the //e box going for $740, you
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should be able to sell it for $300 - $400. Thus making you upgrade cost $599 - $699. A considerable savings!

BRUCE FIELD ON 09/28 TO LEE RAESLY/ALL
Lee and I have been having fun with a difference of opinion on this one, so I'll throw in my two cents worth. My feeling is that the market for a base //e (used with no drives) is going to be somewhere in the basement. Frederick Computer is advertising a 128K //e CPU for $600. Thus if you move all your peripherals, except the extended 80-col card, to the GS you've got a nice doorstop that isn't worth much. If you upgrade your //e you get to keep a keyboard you're familiar with and you get ALL the functionality of the GS. You can even plug in a detached keyboard later if you wish. Apple doesn't currently sell the keyboard but there are supposedly third party vendors. Of course if you have a bunch of disk drives, or go out and buy new drives (see the remarks earlier on this board for some cheap drives) then you'll have two computers for doing the massive data reduction and letter writing functions that running a home requires. (I shouldn't talk, I have 3 computers, but I mostly use only one. Should the GS be a fourth?)

LEE RAESLY ON 09/29 TO BRUCE FIELD/ALL
Sure, Bruce, the GS should be the fourth, and maybe fifth too! As for our "running disagreement", you are making an assumption that I am not! You are assuming that any buyer is AT LEAST as knowledgeable as you, or at the worst, as knowledgeable as me. Not so! When a basic, stripped][+ can sell in the Washington Post for $1600 (and actually SELLS!) then my price of $500 for an e box (perhaps with 512K Aux card!) is most realistic. It all depends on where you advertise it, and who your market is.

THOMAS VALLEE ON 09/28 TO ROCKY RAGANO/ALL
If I understood the Apple persons correctly you have a choice of using either the phantom slot function or the card you plug into a slot but not both of them. Course it's early yet. My impression is that the accelerator would not work. The question came up but I forget the exact answer. The IIGS at the PI demo had a 4 Meg memory board in it. This is one reason why some of the demos were so neat. The Apple engineer said that 1 Meg chips were costing Apple 25 bucks each. Your cost, about 70 bucks a chip if available. For some time it will be cheaper to upgrade to one meg using 256K chips. That does'nt answer all your questions but it does cover a couple points of interest.

KIM BRENNAN ON 09/29 TO THOMAS VALLEE/ALL
Yes, it is an either/or scenario with regards to slots. However, with careful management you can still probably make use of all slots. For example you might have your printer connected to the slot 1 port and have a MIDI interface in the actual slot. You would not be able to use both at the same time but I seriously doubt there would be an occasion that you would want to. Because you can call up the slot manager at nearly anytime (I think) you could switch between slot and port as you need it.

EDMON J. DONNELLAN ON 09/30 TO KIM BRENNAN
Kim, do you know yet anything of how they are implement-

ing this? On the //c, for example, the "slot" 1 and 2 serial ports use $C0x8, $C0x9, $C0xA, and $C0xB (if I recall correctly) for the 6551 registers—theoretically, this would leave 12 addresses per "slot" available for other I/O use. Is this how the GS is set up? Would it be possible to address a port and a peripheral card in the same "slot" directly? Is there provision for switching ROM's (i.e., the Apple's built-in port ROM's with ROM's from added peripheral cards) into the same $Cx00-$CxFF space? If there is any way at all to use all the ports and all the slots at the same time, it would be truly mind-blowing!

TOM VIER ON 09/30 TO KIM BRENNAN/ALL
You should also be able to put cards in physical slots that have disk drives phantomed in them. Disk I/O and character I/O are not mutually exclusive.

KIM BRENNAN ON 09/30 TO EDMON J. DONNELLAN
From what I have read the actual location of the Rom ports is $E0Cx00 and the GS uses 'shadowing' so that the cards in the slots or programs think the Rom ports are at $00Cx00. NOTE that is a 24 bit address, not noise. So, I really doubt that it would be possible to use a port and slot simultaneously. Of course, some clever programmer might set out just to prove me wrong. But if that happens I sure won't cry.

KIM BRENNAN ON 09/21 TO ALL
While reading the reviews of the Apple IIGS in the Library I noticed something. The Programmers Workshop for the GS is based on the Orca/M assembler. The final version of the workshop (according to the review) will have both C and Pascal in addition to the assembler. Having used the Orca system for almost a year I am glad that Apple has decided to base its workshop on it. I only hope that the documentation that Apple provides will be clearer than The Byte Works. I think I want the new machine...change that I KNOW I want the new machine.

AE Strikes Again!
DALE SMITH ON 09/23 TO ALL
Applied Engineering has released their newest versions of Z-RAM, now called Z-RAM Ultra 1, 2, or 3 and introduced their first memory expansion for the IIGS, called GS-RAM and GS-RAM Plus. Z-RAM Ultra: Ultra 1 is a //c memory expansion (up to 512K) only. Ultra 2 has up to 1 Meg memory expansion plus a ProDOS compatible, battery backed up clock—displays time/date in AppleWorks and time/date stamps ProDOS files; does not use the Thunderclock command set!! Ultra 3 is like Ultra 2 but with a Z80B processor for CP/M. They've also added a 16-bit 65816 upgrade that just replaces the 65C02 with the new processor!! How'd they do that??!! GS-RAM: GS-RAM and GS-RAM Plus go into the GS's RAM/ROM memory expansion slot. The GS-RAM uses 256K chips to give up to 1.5Meg on the main board and can be upgraded to a GS-RAM Plus for a "small charge" or expanded with a piggyback board to 8Meg. The GS-RAM Plus is the first board to use 1Meg chips and give 1 to 6 Meg on the main board and up to 8 Meg with a piggyback board. No prices were given for the GS-RAM. The Z-RAM prices seem to be in about the same ballpark. If my memory hasn't
contd.

failed me, list $459 for Z-RAM Ultra 3 with 1Meg.

ProSel
PAUL KELBUAGH ON 09/30 TO ALL
Just wanted to add a plug here for the ProSel (Program Selector) disk which Tom Vier and others mentioned a few weeks back. I called Glen Bredon on CompuServe with a few questions and he came right back within hours. The ProSel is $40 now and has solved all kinds of problems for my system which has one 3.5 and one 5.25 disk drive. It is the best $40 I've EVER spent for a program (with the possible exception of Strip Poker, release 1.0). Mine came on a 3.5 disk (version 2.6) with loads of documentation ready to dump to printer. I've given it HEAVY use for a week and still find all sorts of applications. This guy gets my Don Lancaster "Guru" award. If you think you are going to be running 3.5s (with or without a companion 5.25) this is a must. His address is 521 State Rd. Princeton, N.J. 08540.

DOS 3.3 for Uni 3.5
BRUCE FIELD ON 09/06 TO CHIP LENKWICZ/ALL
Chip, I don't have any experience with it but Nibble offers UniDOS a DOS 3.3 alternative that is designed to work with the Uni 3.5.

CHIP LENKWICZ ON 09/07 TO BRUCE FIELD/ALL
Have seen the ad, but it does use 1K of memory. That may cause problems with some ML programs or utilities. Was trying to find out if any Uni 3.5 DOS 3.3 utilties were better overall for compatibility.

Apple <--> IBM
JIM KELLOCK ON 09/04 TO ROBERT LANGSTON/ALL
You can use a null-modem cable between the IBM & APPLE serial ports and the comm programs on the two machines to transfer any text/data files. Note: I have Dbase II v 2.43* and Multiplan on both machines. Database & index files created under DBII on the Apple run as is on the PC, as do Multiplan sheets. If you have a problem with the MP files, you can save them on the Apple side as SYLK files (using the Options selection under Transfer), transfer them to the PC, and then load them as SYLK files in MP on the PC and save them as Normal MP format files.

CLIFFORD SAYRE ON 09/07 TO ALL
The problem between APPLE and IBM is not language as most of the discussions on this board have referred to text or ASCII file transfer. Program files can be converted to ASCII and transferred. However, they will not run without editing the statements that are incompatible between APPLESOFT and IBM (Microsoft) BASIC. The file transfers of ASCII programs are useful because only 10-20% of the code has to be edited—typically graphics and file-handling commands. Editing 20% of the code in a program is much easier than typing 100% in from scratch. The file transfers of ASCII programs from a word processor are useful because it means that your could write stuff on SCREENWRITER, transfer it, and then pick it up with an IBM WP program. Again, it saves a lot of retyping.

Open Apple
THERON FULLER ON 09/12 TO STANLEIGH PALEN
"Open Apple" is a small monthly magazine published by Tom Weishar, who used to write the column "DOS Talk" for Softalk magazine. It contains a wealth of technical application information for Apple // users. It's available by subscription only. Well worth the money.

TOM VIER ON 09/12 TO STANLEIGH PALEN/ALL
Open-Apple has more info in one issue than all the Apple mags have all year, altogether. It's $24/yr. and their address is: Open-Apple, P.O. Box 6331, Syracuse, N.Y. 13217

Avatex 1200 Baud Modem
LEE RAESLY ON 08/31 TO BRETT PARKS/ALL
Brett, The Pi itself has a group purchase on the 300/1200 Avatex (which is essentially fully Hayes compatible) for $87. I have one, and have had no problem with it (Right, Bruce Field?) Call the Pi office 10 AM - 2:30 PM Monday through Friday. Take Care, Now! (Ed Note: The price has just been revised upward by the manufacturer.)

KIM BRENNAN ON 08/31 TO LEE RAESLY/ALL
Lee, having upgraded from a Hayes Smartmodem 300 to an Avatex, I can speak with some experience. The Avatex is not quite totally Hayes compatible. Certainly Pinpoint does not quite think that it is a Hayes modem. However, the differences are not enough to make me go back to 300. For me it's 1200 from now on.

Before I get questions, perhaps a word is in order about the title of this column. I was originally a member of the Suncoast Tampa Apple Group (STAG) in Florida, before moving to the DC area in January of 1983. While VP of STAG, I knocked out my first "Cumber's Corner" column in the SunCoast Apple News (SCAN) published by STAG. This column continues the tradition. The subtitle stems from a conversation I had with "The Woz" in 1984—on informing The Original Designer that I had purchased my Apple II (NOT a "+", but an original II) in December of 1978, and that it bore serial number 10671, The Man himself said, "Oh, that makes you one of the pioneers!" So on to other things...

Notes on the Apple //GS

The Apple //GS! So much needs to be said that I hardly know where to begin! The introduction of this machine is potentially as auspicious as the introduction of the Macintosh in January of 1984! Since I am predominently a programmer, I will concentrate on the software end of things. I had the lucky opportunity to accompany Arthur C. Lundquist (President of ClintonComputer), Robert Moore (Hardware Development Manager, //GS), and John Worthington (Software Development Manager, //GS) down to Clinton's show at Wild World, so this article is an amalgamation of things learned from the Pi meeting, the Clinton roll-out, and conversations with the Big Chiefs of the GS! Many thanks to all concerned...and Clinton DOES put on an interesting "roll-out" show!

We've all heard rumors of an Apple //X for some years. Actually, the //X project was several years ago, and was cancelled because the 65816 CPU chip was not available (at that time) either reliably, nor at financially viable prices. The //GS is a COMPLETELY different machine that has been under development for some two years. During its development, it was known as "CORTLAND", "COBRA", "GUMBY", "RAMBO", "VEGAS", "COLUMBIA", and (appropriately) "PHOENIX". It seems that almost every department at Apple knew it under a different code name... which kept the press guessing as to what sort of machine their "leaks" were describing! Development consumed over 314 MAN-YEARS of development time, and, at 500,000 hours, it is the most well-tested machine Apple has ever marketed! Now that is saying something: my Apple II didn't have to go to the shop for some 5.5 years after I first took it home...and I do NOT do my own hardware work! The GS may be even better!

First, the "bad" news: there will only be 50,000 GS's produced before January 1, 1987...if that many, and most of these will be shipped in December! The good news is the features on this little wonder. Besides the Mega II chip (that reduces all the circuitry of an Apple //e to a single chip) there is a ROM chip that contains the Standard Apple Numeric Environment (SANE) and offers up to 20 digits of accuracy; unfortunately, Applesoft doesn't access it directly...but an ampersand (&) function will be available to do so. Also aboard is the Ensoniq synthesizer chip (Apple has sole rights to the microcomputer use of this exquisite chip!) with 64k of separate, dedicated memory: this means that graphics and sound can operate simultaneously without slowing either one, and sound quality is EXCELLENT...a 15-piece jazz combo or a voice that CANNOT be distinguished from a human being without instrumentation, and I wonder if it can be discovered then!

Graphic quality is not quite as good as that in the movie "The Last Starfighter"...but then "Starfighter" was done on a multi-million dollar Cray XMP Supercomputer...but it is CERTAINLY good enough for color slide and video work: heck, I've seen worse graphics in multi-million dollar rock videos that made a mint for their creators! This brings up another point: the sound and graphics can be sent DIRECTLY to a VHS, Beta, or other video recorder. Where the Macintosh/LaserWriter founded the new industry of "Desktop Publishing", the //GS (which can also connect to the LaserWriter and do dPub!) opens the new industry of "Desktop Video" (dVid) when linked to a home video recorder! THIS is why the GS may rank with the Mac in importance! Remember, you heard it here first! Developers wishing to get in on the ground floor with the GS should contact Neal Ansden (the "Software Evangelist") at 20525 Mariani Avenue, Cupertino, CA 95014 for details on the developers' programs. The graphics are so good that Apple refuses to sell an NTSC monitor for the GS, but insists on their new RGB monitor to allow true graphic representation...however, the video can be channeled out the NTSC port to allow video recording. Really, nothing I could say about the graphics would really describe them: they must be seen on an RGB monitor...and this is why we were discouraged from videotaping the meeting—a simple NTSC video does NOT do them justice! If you haven't seen and heard the GS, a trip down to your local Apple dealer for a demo (even if you are a Macintosh person) is DEFINITELY worth a clean shirt and a shave!

Applications programs are a combination of the 20,000+ programs already available for the // series (including the oldest, 1976 software, some of which were originally uploaded to disk from cassette tape), and the few new items (and over 150 future items) created exclusively for the //GS. Immediately available is a new, improved version of Apple-Works (Version 2.0 with a "list" price of $250) and probably Paintworks Plus (dealers have demo versions of it and are waiting delivery of the production software "any day now"), which does "MacPaint" type drawing (including Mac "Quick-

contd.

draw" routines) in 4,096 COLORS! Soon to be released are the "A-Squared" digitizer, and (reportedly in November) Music Construction Kit (dealers have demo copies), which allows you to play those 15-piece combos... and an unconfirmed report says you can input a sound track into MCK and it will create the score therefrom (?)! As for better reproduction than the built-in speaker can produce, Bose is marketing a small-but-powerful shelf speaker specifically to go with the GS. There are over 150 vendors presently working on additional GS software!

Then there are the programming languages. Pascal and C will not be available until sometime next year. Before you gripe, have a heart for these folks: for two years they have worked 12+ hour days, no vacations (Christmas Day ONLY!), and few weekends off...they are about burned out and have earned some rest! Assembler for the 65816 should be out within about 30 days. Applesoft is still the language of choice for the // series. They didn't re-write Applesoft for the GS (it's essentially the same as the Applesoft on the original Apple II and II+), but a "kit" of ampersand (&) routines will be available to tap advanced features of the 65816. The suggestion has been made (several times and from several sources) that since they made a "Prodos 16" they should also make an "Applesoft 16" that would integrate the advanced features NATURALLY (WITHOUT having to use "ampersand" functions), would allow more sophisticated number formatting (aligned decimals and commas in large numbers), and have an interpreter for program development, with a "full" compiler (to native 65816 binary code) for the completed program, if desired. Whether or not Apple takes the hint may be up to us users.

The basic product is A2S6000 Apple IIGS CPU (which comes with keyboard, mouse, four manuals, 3.5" System Disk, and 3.5" Training Disk) for $999 "List" price. Choice of monitor(s), disk drive(s), memory size, modem, and printer (not to mention software) will increase this.

There are four standard "packages" available. The "Starter" package (PKS2GS01) consists of the CPU (A2S6000), an 800k (3.5") disk drive (A2M0106), and a monochrome monitor (A2M6016) for $1,527 "list". The "Color Starter" (PKS2GS02) swaps the monochrome monitor for the RGB monitor (A2M6014), boosting the "list" price of $1,897. The "Professional" (A2P6004) returns to the monochrome monitor, adds a 140k (5.25") disk drive (A9M0107), and a 256k Memory Expansion board (A2B6002) for a "list" price of $1,995. The "RGB Color Pro" swaps the monochrome monitor for the RGB Color monitor, at a "list" price of $2,325.

Part number A2M2058 is a 256k chip set for the Memory Expansion board. The board comes with 256k and will take three more chip sets ("list" is $89.95 per set), for a total of 1 Meg on the expansion board and 256k on the motherboard... grand total of 1.25 Meg...and a fully populated memory expansion board for $398.85 "list"!

The Hard Disk Upgrade Kit (PKS2GSHD) consists of Apple Hard Disk - Platinum (M2620), SCSI Card (A2B2087), SCSI Cable (M2556), and SCSI Terminator (M2559) for a $1,508 "list" price.

Additional "floppy" disk drives are also available. another 800k (3.5") drive lists for $399, while another 140k (5.25")

drive lists for $299...though you can insert a controller card for another // series machine (even the original "Disk II" controller card for II or II+) in slot 6 of the GS and it will run. The 800k (3.5") drive is the favored GS drive, and this seems as if it's making life difficult for the DOS 3.3 crowd, because there is no easy way of converting DOS 3.3 to the newer ProDOS standard required by the 3.5" drives. However, according to Mr. Worthington, "Nibble" magazine has available a program for transfering DOS 3.3 to a 3.5" disk! I wonder if it also works to shift DOS 3.3 to a Hard Disk.

Imagewriter II and Apple Personal 300/1200 Baud Modem prices are standard. Obviously, the buyer should shop around, because some stores (including Clinton Computer) can give you a better price on some of these items.

What's my PERSONAL reaction to the "new //"? I've recognized for some time that my venerable old II (on which I am writing this column) is getting VERY "long in the tooth", and upgrade paths are SEVERELY limited. I've been waiting to see what the next in the series would be, because I am hard against the "edge of the envelope" on my present "mind appliance". So I am saving my coins to get one of these "Oh, WOW!" GS machines...so I can put "Grandpa Chip" in honored retirement and get about dPub and dVid!

Apple has another mega-winner! ⑤

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dash) without hesitation. Some word processors, such as MacWrite, will not even split words after a standard hyphen, although Microsoft Word will. In preparing text for the Journal, it is perhaps best to use only standard hyphens and the em dash ("—") and let the editors insert spaces after hyphens to split words across lines.

Don't hyphenate any words at the end of lines, as this will change in the final copy, and the editors would have to go through the article (or at least the rest of that paragraph) and take out all the hyphens that now appear in the middle of lines. Correcting this problem by means of a Global-Search-and-Replace would not be easy since some people would use the standard hyphen between syllables, others would use an en dash, and a few might not get the word and use an em dash. So the easiest thing to do is just to let the editors take care of this in the final format.

You, the Authors: Washington Apple Pi is fortunate to have such a wealth of information submitted each month. It has been a long time since the editors have had to worry about having enough material, and that's a good feeling. It is you, who write for the Journal, that make it so successful. ⑤

FEEDING AT THE TROUGH: TML Pascal 2.0
by Robert C. Platt

Fall USUS Meeting

Don't miss the fall national meeting of the UCSD p-System Users Society to be held November 1-3 in Greenwich Connecticut. **Modula-2** is the theme for the meeting. Call 718-851-3100 for further information. The meeting will be at the Showboat Inn, 500 Steamboat Rd. (800) 243-8511.

CAI Group Programming Project

I am pleased to report that the SigMac Programming Group (which now meets on the first Wednesday of the month in the WAP office) is starting a group programming project. Everyone will pitch in to write a public domain system to author computer assisted instruction. I have contacted several members of EdSIG who have agreed to consult on the design of the system. The program will be written in TML Pascal and can provide valuable experience is using most Mac ROM calls. The project should prove to be a fun vehicle for "hands-on" learning.

Pascal Tutorials for // and Mac

Don't forget that WAP's four Saturday introductory Pascal tutorial begins November 8. It's not too late to sign up. (I appologize that the syllabus for the third session was accidentally dropped from last month's article. Take my word for it, Session #3 is worth attending! We will cover: Scalar Types, Loops (*while ... do, repeat ... until, for ... do)* Branching and Arrays.)

See the back of the **Journal** for registration form.

TML Pascal Version 2.0

Version 2.0 of TML Pascal has just begun to ship. It is a marked improvement over version 1.0 and is well worth the $35 update fee. The main improvements are: (1) separately compiled *units*, (2) HFS and SCSI support, and (3) *objects*. TML has cured the deficiencies which I noted in my last review of 1.0.

• **Speed.** The compile to execute cycle is improved greatly by the use of units. In version 1.0, the interfaces for most Mac Toolbox calls had to be included and compiled with your program each time you used the compiler. Now, all of the include statements are replaced with *uses MacIntf;* . In addition, TML can *preload* the symbol table for the Mac interface unit when initializing the compiler. For example, one moderate sized program takes 1:20 to compile under version 1.1, but only 24 seconds to compile under 2.0. The reason for this is that1.1 spent 0:49 compiling the interface code, while 2.0 spent only 0:08 loading MacIntf. However, the program took 34 seconds to link under 1.1, and takes 38 seconds under 2.0.

• **Sets.** Sets may now contain 256 possible values. This allows for *set of char*.

• **Linker.** TML supplies its own linker. This linker drops unused routines from your final program. Apple's linker which came in version 1.0 had some strange bugs.

Language extensions

The biggest change is the addition of *objects* to the language. This allows a programmer to invent a new data type (or family of data types) and specify a group of procedures (called *methods*) to act upon instances of the new types. If two or more method procedures are given the same name, the correct procedure will be executed depending upon which subset a given object has been created from. In a sense, objects are pointers to complex data types which the user cannot access directly. A common example in normal Pascal is a *file* variable. Users don't know how a file is stored in memory, but can still use it by calling *read, write, rewrite* and *reset*. This addition gives TML some of the power and flexibility of Modula-2.

TML also improves looping control structures. Built-in procedure *Cycle* skips to the end of the loop to begin the next iteration in the loop. *Leave* transfers control to the statement immediately following the loop, without any further repetitions of the loop.

Object Pascal Example

The following program is my first attempt at using Object Pascal. I believe that it is easier to follow than the graphic example included on the TML disk. Although Object Pascal features are thoroughly embedded in the syntax of the language, a new unit *ObjIntf* must be used to implement these features. (Note that your program will compile and link successfully without the *uses MacInft, ObjIntf* statement, but will not execute.) In order to make these units accessible, you must first (1) use the new Set Paths desk accessory to point to your Pascal Folder, (2) compile MacIntf.Pas and then (3) compile ObjIntf.Pas. The following program illustrates overriding methods (eg *Print, AbsVal)* and the syntax for invoking methods to act on objects.

```
Program MathObj (Input, Output);
uses MacIntf, ObjIntf; {needed for Object Pascal}
type number = OBJECT
        val : real;
        nan : boolean; {not a number flag}
        Procedure Mult(a:number);
        Function AbsVal: real;
        Procedure Assign(a,b:real);
        Procedure Print;
    END;
    complex = OBJECT (number)
        i : real;
        Procedure Mult(a:number); OVERRIDE; {scalar
                                    multiplication}
        Function AbsVal: real; OVERRIDE;
        Procedure Assign(a,b:real); OVERRIDE;
        Procedure Print; OVERRIDE;
    END;
{Methods for number objects*************************}
Procedure Number.Mult(a:number);
    begin
    SELF.nan:=a.nan or SELF.nan;
        SELF.val:=a.val*SELF.val
    end; {Number.Mult}
Procedure Number.Print;
    begin
```

```
        if nan then
            Writeln('Not a number')
        else
            Writeln('=',val) {Note: implied WITH SELF around
                                method}
        end; {Number.Print}
Function Number.AbsVal: real;
    begin
        AbsVal:=abs(val)
        {note that the object name must be omitted}
    end; {Number.AbsVal}
Procedure Pau;
    var s: string;
    begin
        Writeln('Press RETURN to continue');
        Readln(s)
    end; {Pau}
Procedure Number.Assign(a,b:real);
    begin
        if b<>0 then {is it complex?}
            nan:=true
        else
            begin
                val:=a;
                nan:=false;
            end
    end; {Number.Assign}
{Now redefine procedures to work on complex numbers******}
Procedure Complex.Mult(a:number);
    var prod: number;
    begin
        SELF.nan:=a.nan or SELF.nan;
        SELF.val:=a.val*SELF.val;
        SELF.i:=a.val*SELF.i
    end; {Number.Mult}
Procedure Complex.Print;
    begin
        if nan then
            Writeln('Not a number')
        else
            Writeln('=',val,'+',i,'I')
    end; {Complex.Print}

Function Complex.AbsVal: real;
    begin
            AbsVal:=sqrt(sqr(val)+sqr(i))
    end; {Complex.AbsVal}
Procedure Complex.Assign(a,b:real);
    begin
        val:=a;
        i:=b;
        nan:=false;
    end; {Complex.Assign}
{You can also define non-method procedures to
 work on objects}
Function CompMult(a,b:complex):complex;
    var prod: complex;
    begin
        New(prod); {declare variable and then make the object}
        prod.nan:=a.nan or b.nan;
        prod.val:=a.val*b.val-a.i*b.i;
        prod.i:=a.val*b.i+a.i*b.val;
        CompMult:=prod
    end; {CompMult}
```

```
{********** the main program ***********}
var c1, c2, c3 : complex;
        r1, r2 : number;
begin
  Writeln('this is a test of simple objects');
        Pau;
    New(c1); c1.Assign(2.0,3.0); {c1:=2+3i}
        WITH c1 DO Print;
    New(c2); c2.Assign(0,2.0); {c2:=2i}
        WITH c2 DO Print;
    New(r1); r1.Assign(5.0,0);
        WITH r1 DO Print;
    New(r2);
        WITH r2 DO
            begin
                Assign(-10.0,0);
                Print
            end; {WITH}
        Pau;
    Writeln('The absolute value of c1 is',c1.AbsVal);
    Writeln('The absolute value of r2 is',r2.AbsVal);
    {test scalar multiplication}
    r2.mult(r1); Write('5*-10 '); r2.Print;
    c1.mult(r1); Write('5*(2+3i) '); c1.Print;
{test complex multiplication}
{c3 is just a handle, don't need to call new to allocate
 an object -- CompMult allocates the object for the user}
    c3:=CompMult(c1,c2);
    Write('(10+15i)*2i'); c3.Print;
    Pau
end.                                            (5)
```

1 R	2 X	3 E	4 X		5 L	6 W	7 T	8 U		9 R	10 T	11 H	12 b	13 B	14 I	15 W	16 E
17 V	18 c	19 H	20 O		21 a	22 H	23 Z	24 A		25 Q	26 B		27 U	28 S	29 J		30 T	31 M	32 O	33 A
34 a	35 C	36 T	37 H		38 N	39 M	40 L	41 D	42 H	43 Y	44 Y		45 C	46 K	47 F		48 Z	49' D	50 W	51 a
52 S	53 Q		54 S	55 P	56 V		57 A	58 Z	59 P	60 Z	61 V	62 R	63 Y	64 b	65 c		66 T	67 R	68 K	69 G	70 N
71 V	72 c	73 Q		74 B	75 A		76 F	77 b	78 Q		79 P	80 V	81 D		82 X	83 I	84 E	85 c		86 C
87 a		88 C	89 C	90 F	91 H	92 b	93 P	94 X	95 Y		96 B	97 J	98 A	99 c	100 D		101 a	102 K	103 W		104 L
105 b	106 Z	107 Q	108 F	109 W	110 B		111 G	112 Y	113 L	114 I	115 O		116 P	117 N	118 Q	119 F	120 X		121 P	122 F	123 D
124 H	125 K	126 G	127 O	128 U		129 I	130 U	131 O	132 W		133 F	134 Y		135 Y	136 P	137 G	138 K	139 N	140 Q
141 a	142 Z	143 N	144 O	145 G		146 b	147 I	148 L	149 E	150 Y	151 Q		152 c	153 I	154 B	155 E	156 C	157 b	158 C		159 C
160 Q	161 A	162 J	163 L	164 U	165 V	166 A	167 D	168 K	169 M		170 F	171 M	172 T		173 M	174 G	175 N	176 J	177 E

Definitions	Words
A. Rich	57 161 75 98 24 33 166
B. At Sea	154 26 110 74 13 96
C. Confirmed	158 88 156 86 45 159 35 89
D. Followed	41 167 49 81 100 123
E. Produced	3 155 16 84 177 149
F. Recited	122 170 108 47 133 76 119 90
G. Fire God	126 174 137 111 69 145
H. Tippecanoe locale	42 11 124 91 19 37 22
I. Easter Plants	153 14 83 147 114 129
J. Water Plant	176 29 162 97
K. Sport Bird	168 102 68 46 138 125
L. Pastry	5 163 148 40 104 113
M. Spiritual Food	173 31 169 171 39
N. For Some Time	117 38 70 175 143 139
O. Leap About	131 144 32 127 115 20

Definitions	Words
P. Forming Pictures	136 79 121 116 93 55 59
Q. Recent Arrivals	73 78 151 160 25 118 102 140 53
R. Dowry (Scot. Var.)	1 62 9 67
S. Hardwood	28 54 52
T. Displayed	7 30 10 66 36 172
U. Big and Strong	164 130 128 8 27
V. Sliding Box	56 61 80 17 165 71
W. Breathe	6 15 132 109 50 103
X. Stores	120 2 94 82 4
Y. Upstate NY Town	135 63 43 44 134 112 150 95
Z. Sagebrush State	23 58 106 142 48 60
a. Defend By Mounds	51 21 34 101 87 141
b. Stimulated	146 77 157 92 12 105 64
c. Bushes	85 18 99 72 152 65

ANSWERS TO SEPTEMBER'S WAP ACROSTIC

His response was "eat the swordfish then hold the bones over your head and say the word 'crackerjack'." I haven't tried this but when it comes to swordfish, Ron knows his onions.

Author: Bruce Field
Work: On Row Wartow
Source: Q & A - November 1985 Wap Journal, p 14

Words

A. Brokers	H. Ethnic	O. Nonwhite
B. Rushed	I. Lowdown	P. Watches
C. Unkind	J. Dashed	Q. Asthma
D. Cheered	K. Overjoy	R. Roasted
E. Envoys	L. Northeast	S. Thwart
F. Finishes	M. Robots	T. Orifices
G. Inapt	N. Oshkosh	U. Wish

CERTIFICATE MAKER: A Review
by Lou Pastura

Certificate Maker, from Springboard Software, is the latest addition to the world of Apple][desktop publishing. It provides exactly what the title promises, a fast, easy way to develop and print certificates for almost any occasion.

The program runs on the][+ (requires 64K), the //e, and the //c. Two double-sided 5 1/4" disks are included in the package. The program itself is contained on the front of the first disk. The other three sides contain templates that are used to create certificates.

The documentation that comes with the program is clear and comprehensive. You can be up and running only a few minutes after destroying the shrink wrap. Anyone who has suffered through a few sessions with Newsroom will appreciate the advances Springboard has made in the "user friendliness" area. Setup for your printer/interface combination is easily accomplished by a one-time selection from a list of 51 printers and 53 interface options.

The operation of the program is simple and straightforward. When you boot the program disk you are presented with three options: Name File, Make Certificate, and Exit. Since "Exit" is probably pretty clear, this discussion will cover the other two options.

Making a certificate is as easy as 1, 2, 3...4. You select a template, select a border, select a font style, and fill in the blanks. There are 24 borders, 5 font styles and over 200 templates available as of this writing. The program offers the option of choosing borders and fonts from other disks (indicating possible future additions?).

The key to the value of this program is the templates. They range from the serious to the laughable, from the sublime to the ridiculous. There are certificates to commemorate sporting successes (and failures), children's good (and bad) behavior, workplace performance (or lack of same), and many, many more occasions. In short, there seems to be a certificate for just about anything. There are also "generic" templates that let you design your own with only minimum format restrictions. Many of the templates also include a graphic appropriate to the message being delivered. My personal favorite is the award for being "Outstanding in Your Field". Naturally, the graphic depicts an individual out standing in a field.

The Name List option permits the user to develop, edit and use a list of names in situations where a group of people will be presented with the same certificate.

With regard to print quality, the user manual states: "The graphics resolution of your printer will have an effect on the appearance of your certificates. A graphics resolution of 120 by 72 dots per inch provides the best quality." Thus, while no Mac/Laserwriter entrepreneur needs to lose any sleep over new competition, the print quality will be more than sufficient for the informal need the program was intended to fill.

All in all, Certificate Maker provides to Apple][users a good compromise between the simplicity of Print Shop and the flexibility of Fontrix. If you need to print certificates and you want to fill the void between these two programs, Certificate Maker is a reasonably priced alternative that bears looking into.

Springboard Software, Inc., 78808 Creekridge Circle, Minneapolis MN 55435, (612) 944-3912. List price, $49.95.

dPub SIG News
by Steven Payne

The Desktop Publishing Special Interest Group held its regular monthly meeting on October 1st at 7:30 PM in the PEPCO Building at 1900 Pennsylvania Avenue, NW. More than 20 attended, ranging from professional publishers, graphic artists, and consultants to interested amateurs (like this columnist). Since we were not able to demonstrate new software, the meeting was devoted to questions and answers, announcements, and discussion. Members shared problems and advice on the use of Microsoft Word, Pagemaker, and the LaserWriter (as well as where one can obtain the red and blue "cookbook" and "tutorial" books). Ron Moore again mentioned the upcoming classes on Postscript language, and Chairman Tom Piwowar distributed information on the Washington Desktop Publishing Conference, scheduled for October 20th, and co-sponsored by Washington Apple Pi. Judy Treible provided examples of the information graphics soon to be more generally available from the Knight-Ridder Graphics Network, while others talked about printing courses being offered in the area. Stuart Silverstone reported on the Seybold Desktop Publishing Seminar, where lots of IBM layout programs were shown.

Among the products for the Macintosh were three of the new large screen monitors (Radius, Megascreen, and Levco's Prodigy), a new Mac keyboard, upgraded versions of Ready-SetGo and MacPublisher (to be called "Letrapage" in its latest incarnation), as well as newer programs such as Ragtime, SuperPaint, GraphicWorks, and CricketDraw. Members were shown brochures from Dumbarton Oaks produced with the Macintosh and LaserWriter, using the new font editing technologies. Finally, Mary Stanley described the initial desktop publishing programs (such as Personal Publisher) now available for the IBM, but the general consensus was that they do not yet approach the quality of what is already available for the Mac.

The next meeting of the dPub SIG will be at the same place, but at different time: Friday, November 14th at 7:30 PM. We hope to see you then, when Tom expects to demonstrate some important new programs.

TREASURER'S REPORT
by Ed and Priscilla Myerson

To the Members:

Appearing below are a Balance Sheet as of May 31, 1986 and a Statement of Revenues and Expenses (operating statement) for the year that ended on May 31. The operating statement includes the budget for the year and shows the difference between planned and achieved amounts. It is arranged to show the contribution to margin, or gross profit, of each of the Pi's major activities. Thus, although there was a major negative variance in expected group sales, the short fall in gross profit was only $1,500. The overall deficiency of $27,071 is more than accounted for by shortfalls in membership and disketeria revenues, and by higher than anticipated costs in these two areas. The Pi board addressed the contribution problem in membership by raising dues. The increase, however, was too late in the year (April 86) to have a significant impact. Expenses, with SIG and meeting expense as minor exceptions, were well under budget.

Edward J. and Priscilla N. Myerson
Co-treasurers

WASHINGTON APPLE Pi, Ltd.
BALANCE SHEET at May 31, 1986

ASSETS

CURRENT ASSETS		
Cash	$61,786.92	
Inventories	20,337.94	
TOTAL CURRENT ASSETS		$82,124.86
FIXED ASSETS		
Furniture, Fixtures, and Equipment	$26,331.37	
Accumulated Depreciation	(10,973.93)	
TOTAL FIXED ASSETS		15,357.44
OTHER ASSETS		1,497.55
TOTAL ASSETS		$98,979.85

LIABILITIES AND FUND BALANCE

CURRENT LIABILITIES		
Accounts Payable	$1,592.73	
Other Current Liabilities	570.06	
TOTAL CURRENT LIABILITIES		$2,162.79
FUND BALANCE		
Fund Balance June 1, 1985	$123,888.43	
Excess of Expenses over Revenue for Year Ended May 31, 1986	(27,071.37)	
TOTAL FUND BALANCE		96,817.06
TOTAL LIABILITIES AND FUND BALANCE		$98,979.85

contd.

WASHINGTON APPLE Pi, Ltd.
STATEMENT OF ACTUAL and BUDGETED
REVENUES and EXPENSES
For 12 Months ended May 31, 1986

	Actual	Budgeted	Variance	Percent
GROSS MARGIN				
Membership Revenues	$114,627.40	$123,900.00	($9,272.60)	(7)
Cost	95,421.23	88,644.00	(6,777.23)	(8)
Contribution	$19,206.17	$35,256.00	($16,049.83)	(46)
Publication Sales	25,044.72	19,416.00	5,628.72	29
Cost	11,559.40	5,976.00	(5,583.40)	(93)
Contribution	$13,485.32	$13,440.00	$45.32	0
Group Sales	44,398.31	113,027.00	(68,628.69)	(61)
Cost	34,700.43	101,784.00	67,083.67	66
Contribution	$9,697.88	$11,243.00	($1,545.02)	(14)
Disketeria Sales	58,014.62	72,000.00	(13,985.38)	(19)
Cost	28,719.51	26,076.00	(2,643.51)	(10)
Contribution	$29,295.11	$45,924.00	($16,628.89)	(36)
Other Revenues	14,860.43	19,057.00	(4,196.57)	(22)
Cost	2,968.43	2,760.00	(208.43)	(8)
Contribution	$11,892.00	$16,297.00	($4,405.00)	(27)
TOTAL MARGIN	83,576.58	122,160.00	(38,583.42)	(32)
EXPENSES				
OFFICE EXPENSES				
Salaries Managerial	33,066.00	36,180.00	3,114.00	8
Salaries Other	14,865.50	17,604.00	2,738.50	15
Payroll Taxes & Ben	3,915.31	4,752.00	836.69	17
Rent	14,200.00	14,400.00	200.00	1
Postage Office	6,354.53	9,840.00	3,485.47	35
Other Office Expense	9,513.77	9,528.00	14.23	0
TOTAL OFFICE EX	$81,915.11	$92,304.00	$10,388.89	11
MEETING EXPENSE	5,714.24	5,040.00	(674.24)	(13)
SIG EXPENSE	5,489.80	4,860.00	(629.80)	(13)
PRINT LIBRARY	1,470.99	2,916.00	1,445.01	49
DEPRECIATION	4,899.64	—	(4,899.64)	—
ACCOUNTING & LEGAL	5,919.35	8,808.00	2,894.65	32
SHOW EXPENSE	1,145.47	744.00	401.47	53
OTHER EXPENSE	4,093.35	6,252.00	—	—
TOTAL EXPENSE	$110,647.95	$120,924.00	$10,276.05	9
EXCESS (DEFICIENCY)	(27,071.37)	1,236.00	(28,307.37)	

MAC Q & A
by Jonathan E. Hardis

In the September Mac Q&A, I said that "Gato didn't work on a Mac+ because of their copy 'protection' scheme." In reply, Patricia Herringer of Spectrum HoloByte wrote to say that Gato 1.3 didn't work on the Mac+ even without copy 'protection'. She insisted the fault was due to Apple, and "to correct these bugs, Apple has come out with a new System version (3.2).

"What we have had to do is request that the user send in the original disk so that we could erase it (removing the copy protection) and copy the new System (scaled down to fit on the disk) along with the original GATO program. If there had been no bugs in the ROM, installing the new System would not have been necessary and version 1.3 of GATO would have worked fine on the Mac Plus (with or without copy protection). Starting with ORBITER, we had decided not to copy protect new products, and to remove protection from updates of existing products.

"I most definitely was mistaken in saying that Apple was holding up production of the Mac Plus until the ROM bugs were fixed. I have since sent a retraction of that statement to all customers requesting the GATO update."

To clarify, the Gato update not only changes versions of the System file, which in normal practice you would have been able to do yourself, freely, but also updates the version of GATO itself to 1.4. I do not use this product, and so I'm not familiar with all the details. But I'm against software vendors customizing (i.e., "scaling down") the System File. It leads to big trouble when you innocently try to use that System with other programs. In the division of responsibility, it's up to Apple to keep System (as well as Finder and the rest of the things in the System Folder) current and correct, while it's up to software vendors to maintain their own programs. It is often possible to correct an operational problem through *either* system software changes or application software changes. Finger pointing by application developers is, in general, not helpful.

Also in September, in the comparitive review of three communication programs, I gave incorrect status to Software Ventures Corporation. It is not connected to The Hearst Corporation. Will Hearst founded it apart from the family business.

Finally, in September, I promised you a short PostScript program which would print the version number of your LaserWriter ROM. It follows:

```
/Times-Roman findfont 12 scalefont
setfont
/revision$ 64 string def
72 750 moveto
(PostScript) show
statusdict begin
(, version ) show
version show
(, revision #) show
revision 10 revision$ cvrs show
(, is running on a ) show
product show
```

```
showpage
%%
```

To run this program, follow the instructions in the LaserWriter manual on how to run a communication program on the Macintosh (such as MacTerminal or FreeTerm) to use the LaserWriter interactively. You can type the program in using MacWrite, save it Text Only, and Send that file to the LaserWriter. The LaserWriter should be version 23.0 Rev. #0, while the LaserWriter Plus should be version 38.0 Rev. #2. Thanks goes to Phil Williams at Apple for this program.

Q: A long time ago, you mentioned a company that would refill LaserWriter toner cartridges. What's the current story?

A: The latest, and apparently authoritative word from Mark Sato of Canon, USA (maker of the Laser printing mechanism) is that refilling the cartridges is a bad idea. More wears out than just the use of toner.

Q: Help! When using my LaserWriter, areas that should be solid black look faded in the middle.

A: The LaserWriter uses a single component toner system, not the dual component toner that some Xerox machines use. So, it's harder to get good solid areas. But one reported solution is to use paper with the right moisture content (which can change with age). Try new copier paper, perhaps some that comes sealed in foil. It should be 16 to 21 lb. xerographic bond stock. Also, verify that the toner cartridge isn't past the expiration date.

Q: Help! I have a simple configuration, just an old 128K Mac and an Imagewriter. After coming back from vacation, I find the Mac no longer prints.

A: The problem was resolved by finding that the Mac would print when the printer cable was moved to the modem port. The battery had worn out, and the Mac no longer had remembered which port to use as set by the Choose Printer (Chooser) Desk Accessory. Note that the battery is a 4.5 Volt battery, and not an AA cell.

Q: How can I speed up my HFS hard disk?

A: Backup your files, twice. Reformat and then reload the hard disk from the backup copies. This will reduce the scatter within individual files and compact the files together. Also, keep the number of files in folders low (use more folders within folders), and be sure to run "Shut Down" from the Finder before turning the Mac off. (Push and hold the mouse to prevent the Mac from rebooting if you want more time to find the power switch.)

Q: What is "Jumpstart" and how do I use it?

A: Jumpstart is a developer's tool that Apple distributed on the latest Software Supplement. It organizes an application to allow it to start up (when launched from the

or write in binary and transmit in ASCII. PostScript stores fonts in outline form, which must be converted by a PostScript interpreter into a bit-map of electronic signals that eventually prints the character. These outlines can be scaled to form any font size without having to store separate font images for each point size. PostScript can store each character to avoid repeating the conversion process. Another difference is in the automatic caching ability of both languages. DDL can use caching for both fonts and objects whereas PostScript only caches fonts. An object that is cached by DDL is stored and can be used over and over without having to repeat the processing steps. If the available memory is full, DDL automatically overwrites the object it defines as the least used. In PostScript, objects are not cached and the user must store each object for each page. Otherwise the object is lost and has to be created again. DDL is considered a "document" descriptive language like Interpress, while PostScript is more "page" oriented. This means that PostScript formats one page at a time, while DDL formats an entire document at the same time.

As mentioned earlier, Hewlett Packard has chosen DDL as the language of choice for its laser printers. Existing LaserJet and LaserJet Plus printers will be upgraded to access the language. Both printers will be able to print single- or multi-page documents with a combination of fonts and graphics. For the first time, Hewlett Packard laser printers will be able to print full page graphics at 300 dots per inch.

Another article by Linda Bridges in PC Week (September 1, 1986) details a new PostScript controller that is claimed to double PostScript's page-description language transmission speed. The controller is based on the Motorola 68020 microprocessor and increases the speed at which characters are formed. The new controller design is called "Atlas," and it will be offered to non-impact printer and typesetter manufacturers for inclusion in their product design. A recent press release by Adobe touts the Agfa P4000PS printer as the first PostScript intelligent printer developed by Agfa-Gevaert to use the new 68020 processor. It is not a laser printer in the typical sense in that it uses a new light-emitting diode (LED) technique to image the page. It is able to print 18 pages a minute, and while one page is being printed the next page is being prepared. This printer has a user-accessible 20-megabyte Winchester disk, 1-megabyte font cache, two-2-megabyte bit map memories, and 4-6 megabytes of RAM. The P400PS supports RS232C, RS422, Centronics parallel and AppleTalk communication protocols. It comes with an extensive set of built-in typefaces, including the standard 13 typefaces from Helvetica, Times, Courier, and Symbol type families.

Page descriptive languages are licensed by the printer maker and reside in the ROM of the printer, which allows any raster printer to integrate text and graphics. They can also add considerable cost to the total price of a laser printer. As much as $1,000 (my estimate) of the LaserWriter price may be the cost of the PostScript license. Lower cost LaserWriter printers have been rumored just around the corner, and it should be possible to produce a non-PostScript Laserwiter for considerably less. Not only would Apple save the cost of the PostScript license fee, but the total amount of memory could probably be reduced, further reducing the bottom line. Such a printer would probably be unable to combine text and graphics on the same page, but this is just so much conjecture on my part. We should know in the next six months.   ⑤

FULL PAINT: A Review
by Lynn R. Trusal (Frederick Apple Core)

The decision by Apple to no longer bundle MacWrite and MacPaint with each Macintosh opened the way for the introduction of other word processing and painting programs. In the case of painting programs, I'm not sure that if they still bundled MacPaint it would have made any difference. Full Paint by Ann Arbor Software is clearly superior to MacPaint because it is cheaper, offers all the features of MacPaint, is compatible with MacPaint files, and offers additional features not found in MacPaint. If you have not already bought a painting program for the Macintosh, this is the one to buy.

You might say that I started the review off backwards since I made a buy recommendation before discussing the product. I guess I had better tell you why you ought to buy it!

When Full Paint is opened from the desktop, the first thing you notice is its similarity to MacPaint. The pattern pallet at the bottom of the screen is the same and the tool pallet on the left side has all the same tools. The only noticeable difference is the addition of three small icons at the bottom of the tool pallet. The first icon selects only the active window with accompanying pallets while the second icon causes the active window to fill the entire screen. The third icon gets rid of the menu bar, but the pallets are still visible.

If you wish to have a painting fill the entire Macintosh screen, simply tapping the space bar causes the pallets to disappear. Your art work will now fill the entire Macintosh screen and can be manupliated by the "option key" and the "hand" tool. If you decide to use a tool other than the pencil, hit the space bar, and the pallets reappear. It is even possible to move the pallets anywhere on the screen to facilitate full screen editing.

Another standout feature is the ability to have up to four paintings on the screen at the same time. One to four paintings may be opened in much the same way that MacDraw allows multiple windows. A "clean up windows" command under the "windows" menu causes each of the four drawings to occupy one-fourth of the screen. If you want each painting to occupy the entire active window, use the "stack up windows" command under the same menu. The four pictures will then be stacked behind each other like Excel stacks worksheets, and the picture of choice may be brought to the front by use of the "command key" followed by the numbers one through four. With four pictures on the screen at the same time, only one may be the active window, but each may be scrolled horizontally and vertically by the use of scroll bars

contd.

I would encourage other active Apple II, III, Lisa or Macintosh users to ask themselves if they don't know useful information that other readers would like to read and learn. (Ed. Note: Never mind asking, write!)

At work, most of my writing is confined to writing articles for scientific journals, and I find that much more a chore. The style tends to be "cut and dried", very straightforward, and totally without a sense of humor. Therefore, I enjoy being able to express myself in a more free and open style with my sense of humor occassionally showing through. I hope the material I have written has been useful for other readers because it has been therapy for me!

The Buyer Beware

A recent issue of PC Week (yes, I do read IBM publications too!) reinforced my recent opinion about "Northeastern Software" located in Connecticut. The article says, and I quote, "Customer complaints have prompted a Connecticut office of the Better Business Bureau to give mail-order firm Northeastern Software an unsatisfactory business performance rating." Most complaints centered around their inability to deliver products quickly and credit customers for canceled orders. The owners, Rich and Ronald Grabowski, blamed "growing pains" for much of their problems. They recently moved into a 22, 000 sq. ft. facility, replacing their old 3,000 sq. ft. one, and are currently negotiating for financing that will allow the firm to stop requiring customers to pre-pay for merchandise. Time will tell, but the buyer beware!

The New Macintoshes and Related Products

After multiple tries, I finally succeeded in obtaining a free subscription to PC Week. Since IBM has co-opted the general term "PC" to mean only IBM PC's, you can guess the magazine is almost exclusively devoted to IBM products and peripherals. In spite of that, it often contains some Apple news that I have not seen elsewhere. An article by Jim Forbes in the September 2, 1986 issue ("Products to Narrow Apple-IBM Gap") describes in some detail the often rumored new Macintoshes and peripheral products. He states that the two new Macintoshes are code named, Paris and Aladdin (what happened to Johnathan and Milwaukee?). Paris is stated to use expansion-bus technology developed by Texas Instruments and will accept as many as six expansion cards. It will consist of a workstation with a display adapter, hard disk, math coprocessor, 68020 CPU (32/32 bit), 8 M bytes of RAM and list at $8,000. It sounds like the monitor will be extra. On the other hand, the Aladdin will contain a single expansion slot, 2 M bytes of RAM, a 68020 CPU (32/32 bit) and semiconductor components that will speed up arithmetic computations (not a real math coprocessor?)

Both Macintoshes would be able to be integrated into IBM's Token-ring LAN by attaching to Apple or Ethernet networks and tie into the Token-ring through a Macintosh file server. The file servers will be designed to tie the two Macintoshes into the Token-ring and will offer a number of hard-disk storage options, some of which will exceed 300 M bytes. One of the file servers is rumored to be based on the Paris Macintosh and the other server may be an Apple-labeled version of 3 Com Corp.'s EtherMac server which connects Macintoshes to an Ethernet network.

The expansion cards will include Token-ring and Ethernet network adapters, and coprocessor cards for MS-DOS and Unix

4.2 operating systems. An IRMA board and software for mainframe communications to IBM System/34s,/36s and /38s is also under development. MS-DOS compatibility will be provided by a co-processor known as the "Blue card" which is being designed by Phoenix Technologies Ltd., of Norwood, MA but which will be manufactured by Apple.

This article contained the most information I have seen on these products but they are still just rumors. We should all know by the beginning of the new year. A recent article in "Info World" hinted that the new Macintoshes may be delayed until March instead of the rumored January introduction.

PostScript and Other Page-Descriptive Languages

If you are interested in the hot field of desktop publishing, you have undoubtedly read about four languages competing in the field. The leader at this time appears to be PostScript by Adobe Systems. It is in competition with Xerox's InterPress, and Imagen's DDL language. Many companies have endorsed PostScript, including Digital Equipment Company (DEC), QMS, Dataproducts Corp., Apollo Computer, Linotype Company, NBI, Texas Instruments and Wang Laboratories. Hewlet Packard recently adopted DDL, but many original equipment manufactures (OEM's) have decided to make their hardware compatible with more than one of these languages. Recent articles in the August 4 (by Mary Leddy) and September 1, 1986 (by Michael Vizard) issues of Digital Review, have discussed the competition among these three languages.

PostScript is supported by 10 printers and 70 different software packages. Although PostScript is the current leader, Interpress is supported by 30 Xerox printer and workstation models, and other companies, including DEC, have announced plans to support the language. DEC originally planned to develop its own page-descriptive language but decided that PostScript fits the bill.

PostScript is a device-independent language which means that users can print documents on any type of laser printer that supports the PostScript language, without having to change the file to be printed. It is also considered more structured than Interpress and better suited to low volume printing, whereas Interpress is suited to high-speed, high volume applications found in network environments. PostScript has been described as a "desktop page-descriptive language" while Interpress is a "document-description language."

In spite of the popularity of PostScript, is is generally considered slow and verbose, requiring a lot of memory for processing documents. The LaserWriter can take 20 minutes to print one page of text with fonts and extensive graphics mixed on the same page. I know this from personal experience. (Ed. Note: Would you believe four times that much?)

An article by Linda Bridges in the September 9, 1986 issue of PC Week describes in more detail the differences between PostScript and DDL. Both languages are fully programmable and device-independent, but while PostScript uses ASCII transmission of data, DDL offers both ASCII and binary. ASCII transmission has the advantage of being able to use any transmission protocol to pass files to typesetters via modems. Binary transmission offered by DDL is faster and offers the ability to write in ASCII and transmit in binary

contd.
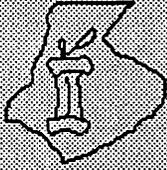
FREDERICK APPLE CORE
A SLICE OF THE WASHINGTON APPLE PI
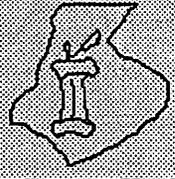
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The Frederick Apple Core meets the second Thursday of each month in the large conference room of the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, MD 21701-5011 at 7:30 PM.

Upcoming Programs
November 13 -
December 11 -

HOTLINE MEMBERS

Lynn R. Trusal   - (301) 845-2651
Scott Galbraith   - (301) 865-3035
Kurt Holter   - (301) 663-4199
Bruce Taylor   - (301) 371-6181

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 PM.

The SIG MAC of the Frederick Apple Core meets on the fourth Tuesday of each month in the same location and at the same time. Mac owners in the local area are welcome. Call Lynn R. Trusal at (301) 845-2651 for details.

SIG MAC Upcoming Programs
November 25 - Full Paint Demo (subject to change)
December   - No meeting due to Holidays

MACINTOSH BITS AND BYTES
by Lynn R. Trusal (Frederick Apple Core)

Use of ResEdit with MacWrite

I prefer to use keyboard commands to the mouse when possible. Don't get me wrong. I like the mouse and prefer it to cursor keys, but it is much faster to use the keyboard for application access. I have longed for added keyboard commands to some of MacWrite's menu items but hesitated since I knew little about it. When I received the September issue of MacUser magazine, I stumbled across an article entitled, "Inside Improvements" (p. 120). It detailed how to use ResEdit to modify MacWrite to add keyboard equivalents to menu commands. That was enough to get me over my "fear of trying" and off I went.

First, make a copy of MacWrite or any other program you wish to modify since ResEdit has been known to alter permanently as in "kill" programs. I then double-clicked on ResEdit (version 1.0D7) and chose "Mac- Write" from the list in the first dialog box. I was presented with an second offset (shifted to the right) dialog box and I chose "Menu" and double-clicked on it. This, in turn, opened another dialog box (get the idea ?) and saw "Menu ID=1 through 7." It wasn't hard to figure that menu 1 was the "apple DA menu", 2 was the "file" menu and so on. Because I wanted to add keyboard commands to "file" menu items, I clicked on "menu ID= 2" and, you guessed it, another dialog box appeared. By scrolling down through the information in this box, I found each menu

item listed separately in the order they appeared in the actual menu. When I came to "Save", I saw the statement, "key equiv" and a blank box beside it. Therefore, I decided to use "Command S" for "save" like many Macintosh applications. At the same time, I decided that I did not use the "shadow" or "outline" commands enough to warrant keeping them. Therefore, I chose to add "S" to the "key equiv" for the "save" menu item in the "file" menu. I later deleted the keyboard equivalents mentioned above so that they would not conflict with my choices of "S" for "save" and "O" for "open". I then quit ResEdit and it asked me if I wanted to save my choices to MacWrite. I answered "yes" and all the dialog boxes closed followed by "quitting" the program. Lo and behold, my modifed MacWrite would now "save", "save as", "open", "close", "print" and "choose point sizes" from the keyboard. I generally used the key choices recommended in the MacUser article but you can do as you like as long as you don't use an already existing command. Good luck !

Writing Articles for the WAP Journal

The first article that I wrote for the WAP Journal was back in November 1984, and I had no intention of writing any more. I guess I suffered from the belief that I didn't think I knew anything about Apple computers that anyone else would want to know. As any active reader can attest, I quickly got over my apprehension and now contribute on a regular basis.
contd.

FRONTIER'S EDGE REVISITED
by Kenneth Knight

Eleven months ago, when I wrote about the impact of the Macintosh on the College of Wooster campus, plans to network the dorms were in serious trouble. But problems have since been resolved to a large degree, and this article will chronicle the events of the past year that have led up to the wiring of a second dorm, the wiring of our computer center, and the explosion in Mac use on the campus.

The network that was set up last year in the Douglass Hall dormitory was an experiment to determine whether it was worth wiring other dorms and buildings with AppleTalk or similar networks. For quite a long time the result of the Douglass Experimental Network [DEN] seemed to be in serious doubt. This was primarily due to the file server that we were using. The Keeper is a 20 meg hard drive designed to work with the AppleTalk network. It can handle simultaneous accesses to files from many different users and allows for password protection of volumes. However, it was only a few weeks ago that we finally got it working. Micro Design, which originally produced the Keeper, did a poor job manufacturing it and the result was a product that did not come close to what was claimed. We sent it back for updates many times but it never worked right. Last spring, after Micro Design filed for bankruptcy Reach Technologies acquired the Keeper and was able to get it to work properly. Reach Technologies makes disk drives for mainframes and is a well known company in that field.

However, the Keeper was not the only problem we had to deal with over the past months. AppleTalk is a local network. It works as long as the amount of cable strung is less than 1,000 feet. This is fine for office use where the distances are not great. However, we needed considerably more than 1,000 feet to wire the dorm. Even with only a few users on the network we had many problems with getting the network to recognize all the rooms on it. We discovered that part of the problem was that some of the cable was bad. But, even after it was fixed we were left with the fact that the network was going to be much more than 1,000 feet in length. Our problem was solved with the introduction of the Hayes Inter-Bridge.

The Hayes InterBridge allows you to connect together many individual AppleTalk networks. In effect, the Inter-Bridge divides the one large network into two smaller sub-networks. This lets you string more cable than you otherwise could so that you can support more than 32 simultaneous users. With the InterBridge and Keeper now in place the network is working very well. A person can gain access to the network from any Mac in the dorm that is connected to it. Once on, the student can make use of the LaserWriter for printouts and can access the Keeper to use some of the software that is located there. My experiences with the network have all been quite positive. The only real trouble that we have is that the Keeper takes a fair amount of time to mount a volume and to write data back to the disk. However, the advantages of having a true file server on the network more than make up for this lack.

As I mentioned above, we have wired a second dorm and our computer center with AppleTalk type networks. Stevenson Residence Hall is wired with PhoneNet and the Taylor dormitory is wired with standard AppleTalk. The only important differences between Stevenson and Douglass are that Stevenson uses PhoneNet and thus does not require Inter-Bridges to link-up the whole dorm, and Stevenson also makes use of MacServe instead of a dedicated file server. PhoneNet was developed by Farralon Computing at the University of California at Berkeley. It makes use of the two unused conductors in standard four conductor phone cable and therefore is very cheap. Another advantage to PhoneNet is that you can string about four times as much cable before you start running into problems of signal strength and data loss. For our purposes at Wooster, PhoneNet is the superior choice, since wiring of entire buildings will generally require more than 1,000 feet of cable.

The other major difference between the two dorm networks is that Douglass is making use of a dedicated file server and Stevenson is not. Stevenson is using a Hard Disk 20 from Apple and MacServe from InfoSphere. MacServe is a program that runs in the background of a Mac and allows you to make your hard drive into a disk server. The main difference between a disk server and dedicated file server is that the latter can do both read/write operations to the same files while a disk server can only do simultaneous reads. With a disk server, the person who wants to write some data to a particular volume cannot use the system until other users on the system are finished. This slows down the system, which is also not nearly as reliable as the dedicated box. The unreliability is that if the Mac that is running MacServe is turned off, the network loses its ability to make use of the hard drive. In all other respects, students in Stevenson have the same capabilities as students in Douglass.

The third working network is in Taylor dormitory. This is a small network that connects all the Macs in the building to a LaserWriter. Since it is small, standard AppleTalk is more than up to the task of keeping the system running. There is no file server on this network. In the near future these seperate networks will be InterBridged together. A student in Taylor will then be able to access files on the Douglass Keeper at the same time that a student in Stevenson prints on the LaserWriter in Taylor, while a Douglass student makes use of the LaserWriter in his or her own dorm.

The result of the expansion of the Macintosh on campus has been an explosion of its use both by faculty and students. Students are finding that the Mac is easy to use and that it is quite powerful, while faculty are discovering that they can develop courseware easily for the Mac. One result of the expanded use of Mac is that many classes require students to use a computer and many faculty specify Mac as the computer of choice. People who are able to use one of the dorm networks are finding it easy to print their papers and work with programs that they would normally have to check-out of Taylor. The Macintosh allows people who are normally leary

Softviews
David
Morganstein

MacLightning. A few months back I reviewed version one of the MacLightning spell checker. At the time, I pointed out that it was among the fastest we had seen. It checked 738 words in 20 seconds. Although version one only worked with MS Word, the recently released version two can now be used with MacWrite. In addition to word processing programs, Lightning works with PageMaker, ReadySetGo, Jazz, MacPain, Helix, and other Mac programs. Lightning allows you to select a dictionary, a handy feature. If you leave a dictionary on the desktop, Lightning won't bother to ask for your selection, thus speeding up access to it. The Merriam Webster's Ninth New Collegiate 80,000 word dictionary is included. According to the manual, additional dictionaries with specialized terms will soon be available. Target is taking orders on a companion Thesaurus.

I have a personal preference for Spell Checkers which run from within a program as a desk accessory. I have used both Font/DA Mover and the Quick and Dirty DA Installer+ to add Lightning to already crowded System files with no apparent ill effects.

When you select the Lightning DA, a new menu item appears at the top right of your screen. From this menu, you can select various options. Among these are: toggle an interactive "check while you type" feature, check a selected portion of the document and check a text document stored on disk.

The method by which words are replaced is linked, as you will read later, to the application's method for changing text. You can open any of Lightnings three windows: one summarizing the analysis results, a second listing the misspelled words or the third, the dictionary.

About MacLightning™

Interactive
Check Selection

Analysis
Misspelled
Library

Quit
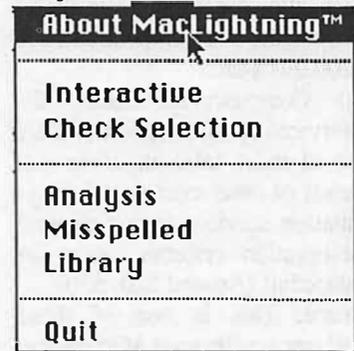
Lightning offers an automatic option which got in my way but which good typists might prefer. After typing a word which is not in the dictionary, you can choose to be greeted by a "beep". At this point you can issue a command to check the spelling and re-enter or correct the word. I make enough typing mistakes that this approach would slow my already snail-like pace immeasurably. I prefer to check the document after I have completed a rough draft rather than respond to a plethora of "beeps".

Unfortunately, Lightning can not correct the entire document in a single step. Rather, it has a check "selected text" feature. To check the entire document, you must first select all the text, then ask Lightning to check its spelling. While Word contains a simple key click command for selecting the entire document, MacWrite users will have to click at the beginning, then scroll to the end for a shift-click. Lightning can check an entire text-only file on disk; it can not check a Word or Write formatted file on disk.

As the analysis proceeds, Lightning lists the number of words checked, gives the average word length and, rubbing your nose in it, tells you how many misspellings it found. After checking the selected text, a list of misspelled words is prepared, as you can see in the "Misspelled" window, below. Initially, the words are listed as they were found. Thus, a misspelled word which appears twice in the document will appear twice in the list. By clicking on A-1-Z, you quickly alphabetize the list, after which duplicates are removed.

At this point you can take one of several paths. You can add words in the list to the dictionary by simply clicking on the appropriate icon. Alternatively you can look up a word in the dictionary by double clicking on it. After finding a suitable substitute (see the dictionary window below), Light-ning offers you the word processor's "Change" menu. You make the corrections, one word at a time. Competing products check the document and correct the words on the fly. With these other products you get a glimpse at the sentence containing the misspelling, a feature not offered by Lightning which can help resolve a misspelling.

Misspelled	MacLightning.rev
MacLightning.	**Analysis**
MacLightning	
MacWrite	MacLightning™ 2.0
Merriam	
Webster's	Words Checked: 738
PageMaker	Misspelled: 21
MacPain	Avg. Word Len: 4
Mac	Longest Word: 14
DA	
DA	
application's	
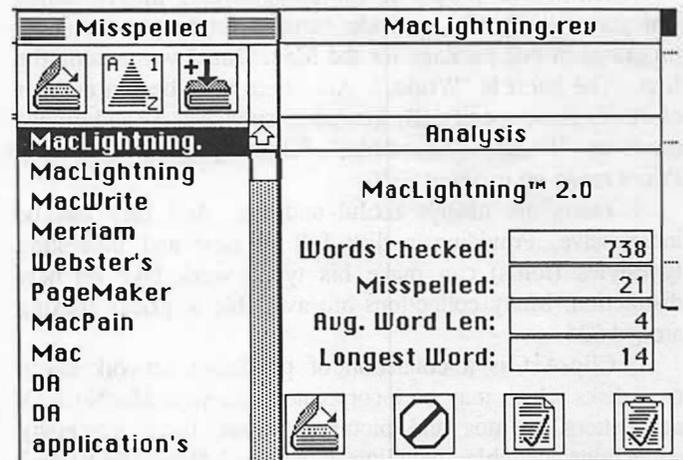
Lightning purports to offer "grammar checking". This is a misnomer. However, it does perform several useful checks when in the interactive mode. It locates words which follow periods and which are not capitalized and it finds capital letters in the middle of sentences. It identifies misplaced apostrophes and words typed twice in succession. Helpful, but not really grammar checking.

The manual is understandable and well organized. It has been expanded to over 80 pages. It contains all you need to install and run the program.

The dictionary window shows you Lightning's first choice for a match. You can select any other word on the initial page or any other by double-clicking on the page. Lightning offers a phonetic match. Clicking in the lower left asks Lightning

◊ **"Mousepad"** or similar cushion on which to move the Mac's mouse. ($8)

◊ **Dust covers** for the Mac, printer and keyboard (around $10 each)

◊ Box of **printer ribbons** (about $5 each)

◊ **Ribbon inker.** For the MacNovice who prints a lot and is tired of paying $6 for every new ribbon. The inker allows re-use of imagewriter ribbons. ($45)

◊ A **Cooling Fan** can help keep the Mac running better, especially if it's in use for many hours every day. The internal disk drive works better, and there's less chance of loss-of-data if the Mac is running cool. There are several fan models available now which combine with surge-protection, anti-static help, and even control switches to handle printers, modems and other "peripheral" devices.

Software

Of course, the MacNovice wish-list probably includes many software programs for her computer, and there's no point in listing the literally hundreds of programs now available for the Mac. But here are a some suggestions specifically geared to novice users:

◊ **Disk copying programs** such as "Copy II Mac" or "MacZap" ($20-$40) allow users to make backup copies of even their copy-blocked programs, to prevent accidental destruction of original disks while working with them.

◊ **Outline processors** such as "ThinkTank" or "More" or "Acta" help writers to easily reorganize their thoughts once they've been written into the Mac. These are excellent complements to word-processing programs such as "Mac-Write" or "Word." (prices range from $60 to $300)

◊ **All-in-one** programs (in computerese, they're called "integrated") usually provide several common computer programs in one package for the Mac. "Jazz" was among the first. The latest is "Works." And there have been a number of others more specifically geared to spreadsheets and graphs (such as "Excel," "Ensemble," "Crunch," and "Quartet"). Prices range up to about $350.

◊ **Fonts** are always useful and fun. And they can be inexpensive. Providing a disk full of new and interesting typestyles (fonts) can make his typed work take on new distinction. Many collections are available at prices starting around $25.

◊ **Clip-Art** is a collection of pre-drawn artwork saved onto disks which may be incorporated into your MacNovice's newsletters, memos and pictures. Again, there are many collections available, including "Click Art," "Mac The Knife," "Mac Art Dept.," and "Mac the Ripper." (about $35)

◊ **Drawing software** such as "MacDraw" or "Mac-Draft" offers your novice a new kind of graphics capability. The computer helps create objects and allows them to be moved, resized and otherwise tinkered-with more easily than in MacPaint. (around $200)

◊ **Desktop publishing** software is the Mac's latest rage. These programs allow even MacNovices to create terrific-looking newsletters, mixing text and pictures, and writing in columns (unlike MacWrite). "MacPublisher" (at about $200) is the top-of-the-line. "ReadySetGo" is a less expensive and less complicated (but less capable) publishing program.

◊ **Spelling checkers** are a good thought for someone who uses the Mac for writing. These programs review a document created in the computer... pointing out "suspicious" spellings and suggesting corrections. There are about a dozen on the market, of varying quality, ranging from about $45 to $100.

◊ **Disk labelers** offer your MacNovice an easy way to organize the growing collection of floppy disks on the desk. Some of these programs are very flexible, allowing for small pictures (icons) on labels. Most also perform some cataloging of files on disks. "myDiskLabeler" (about $45) is one example.

◊ **Educational** programs for adults and children make excellent gifts. There are typing-tutors, speed-reading programs, manual-dexterity games, dietary programs, math drills, astronomy packages, language tutors and even programs to teach novices how to program computers! (wide range of prices under $75)

◊ **Games/Entertainment.** These are probably the easiest gifts to find. There are so many games now available for the Mac that a list is almost impossible to keep current. There are "text adventures" (so-called "interactive fiction" involving the reader in difficult puzzles), video-arcade-style games, several "flight" simulators (including some which simulate spaceflight and one which puts you in command of a World War II submarine), wall street simulations, chess and other "board games," card games (with real graphic "cards" on the screen), casino games, word games, and more. Prices are almost always under $50.

◊ **Music composition** programs are available if your novice is a musician. She can create her own compositions, use the Mac to "play" others' creations, and even create complex synthesized compositions using a hardware "keyboard" like the ones used by modern rock bands. (prices range from $50 to $500.)

"TeleComputing"

If your MacNovice uses his Macintosh to communicate with other computer hobbyists along telephone lines... or would _like_ to enter the world of telecomputing, here are a few ideas:

◊ **Modem** (the device which allows computers to "talk" over phone lines. Quality improvements and competition have brought good modems under $200 this year.

◊ **Gift subscription** to Compuserve, Genie, the Source, or Dow Jones News Service. A subscription enables your MacNovice to "join" one of these telecomputing networks, linking him with thousands of other computer hobbyists, and with important information services including wall street stock tickers, airline reservation systems... even an always-updated complete encyclopedia! (Around $20- $30)

◊ **Communications software.** This is one of those gifts you'll have to approve in advance with your MacNovice. There are many good programs available which allow the Mac to "talk" through a modem. But your MacNovice may have a special preference. Programs such as "Red Ryder,"($40) "MicroPhone,"($75) "MacTerminal,"($100) "In Touch,"($150) and "Smartcom II"($150) are some of the outstanding products available.

The Gold-Plated Gift

The following items are not for the timid. They're gifts every MacNovice would love to receive, but most can't afford. If you inherit a fortune, or want to put all your love into one

MacNovice Column

by Ralph J. Begleiter

MacNovice Gift Ideas

'Tis the time of year again to discover those "perfect" holiday gift ideas to fit your friends and your budget. And if there's a MacNovice on your gift list this year, there's an enormous selection of ideas from which to choose. In fact, the selection in 1986 is many times greater than it was just a year ago, because of the Mac's boom in homes and businesses.

True, home computing is an expensive hobby, but there's a Mac-related gift to fit every budget this year. And if you use your Mac in the office, the selection is ever greater. The following won't pretend to be an exhaustive list, but one designed for those who have relatively new Macintosh owners on their gift lists. Paging through any of the half dozen Mac-related magazines will yield plenty of advertising. This list is intended to suggest gifts which would be welcomed by almost any MacNovice.

One cautionary note: before buying anything for a Macintosh user, be sure you know what kind of system he's using. Some hardware and software items are incompatible with the early 128K Macs. Others are good only for the newest MacPlus. Be sure to check whether your gift will work with your novice's system!

First Steps

◊ If your MacNovice is still using an original 128K Macintosh, the smallest of the available Mac's, the gift most certain to please is a **memory upgrade** to 512K or larger. Prices on these upgrades have plummeted in the past year. I t is now possible to reliably upgrade from 128K to 512K for less than $200. A memory upgrade allows your MacNovice to use computer programs which are much more sophisticated and much more useful... but which simply don't fit on the smallest Mac.

If your MacNovice owns a 512K Mac, a memory upgrade is also available, but at considerably more money. Merely upgrading from 512K to 1 megabyte is not as useful as upgrading to a MacPlus (which involves other changes besides memory improvement)... and that's a lot more expensive.

You can buy a "gift certificate" for the upgrade at a dealer.. or you could "sneak" your MacNovice's computer out for just a few hours, since many dealers now offer upgrades which take a mere 30-minutes to install.

◊ After a memory upgrade, the next most welcome gift to a MacNovice would almost certainly be an **external disk drive**. Here, too, prices have dropped remarkably, and quality has improved. If your MacNovice is using any Mac other than a MacPlus, then a standard **400K, single-sided external drive** is the way to go. This gift will be entirely compatible with everything your MacNovice already owns. There will be no software problems, and it'll work fine even with just a 128K Macintosh. Prices for 400K drives are well below $200, and good-quality used disk drives are flooding the market at $150 or less from owners who've upgraded to the MacPlus. Check the classifieds. Check your user-group publication.
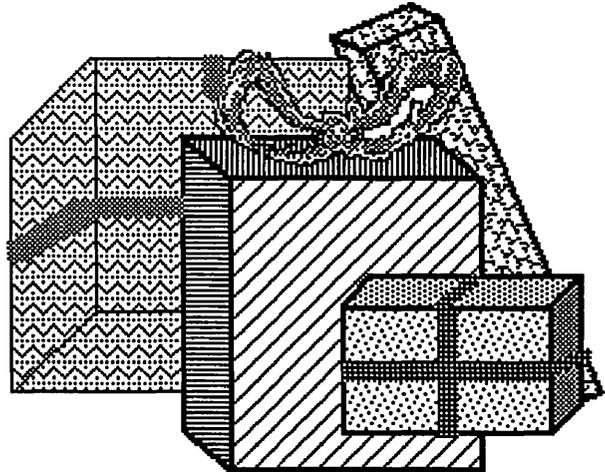
If your MacNovice is a MacPlus owner, then an external disk drive should be the new **800K double-sided model**. Because they're new, however, expect to pay a bit more. There are some 800K drives available now for around $200.

Adding an external disk drive to your MacNovice's computer system will allow faster access to a larger number of files, and much less "disk-swapping" (exchanging disks in the built-in disk drive). This is not just a convenience item, but a major improvement in productivity and enjoyment. It's an outstanding gift which your MacNovice will well appreciate.

Next Steps

◊ One gift item your MacNovice might not buy herself is a **tilt-and-turn stand** for the Mac. You've seen her rub her neck with stiffness after a long Mac session. That's because it's important to adjust the screen and the keyboard frequently during computer use, to keep muscles moving and prevent fatigue. There are several Macintosh stands available now, including Ergotron's "MacTilt" (around $75) or Kensington's "Tilt/Swivel" (less than $25).

◊ If your MacNovice's computer system doesn't have a **power surge protector** yet, that's an excellent gift idea. It's one of those things you'll never notice... until it's too late! These devices prevent occasional electricity surges from destroying a computer's insides. Basic models are available from around $35. Even with longer extension cords and more comprehensive suppression systems, they may be had for less than $75.

◊ A simple way to clean up your computer enthusiast's desk is to give a **floppy-disk storage box**. There are literally dozens of styles available, ranging from portable, cloth-bound versions which hold six to twelve disks safely on a trip... to plastic boxes... to elaborately crafted solid oak desktop models holding nearly 100 disks. These range in price from a mere $8 to much more.

"Stuffers" & Other Gifts

◊ Box of 10 floppy disks. (400K around $20; 800K around $30)   contd.

ROMs. If you don't have an FKEY 0 installed, and if you push and hold Cmd-Shift-0 (calling for the FKEY) long enough, the last menu item without a key-equivalent will be called.

Q: How can I network Macs and VAXes together?

A: Alisa Systems has just announced their product that puts VAX/VMS on AppleTalk. Call (818) 792-9474 for information.

Q: Help! I get bombs when running some of my Desk Accessories.

A: There is a serious bug in DA Installer+ (Quick and Dirty Utilities Volume #1). If you've used it, then you should use ResEdit (WAP Mac Disk 21) to correct the problem. Open System, then open resource type MENU. For each of the menu resources, do a "Get Info" and make sure that the "Purgable" box is unchecked.

Q: Help! When writing my own programs, I get frequent bombs. Then, when rebooting, there is a delay while the hard disk (my HD20) is verified for integrity.

A: Andy Peterman and Steve Brecher suggest that if you end up in a debugger (such as Macsbug), you can manually Eject the HD-20. Enter:

```
    SM  CCCC  41EA FFF0 A017 4E70
    G   CCCC
```

where CCCC is an arbitrarily chosen address in the application heap.

Q: On the Mac+, when I push the Interrupt button on the Programmer's Switch, I get a blank window, except for a ">". What does it mean?

A: That's a mini-debugger, which implements a few of the Macsbug commands (such as SM and G, above). Typing "G" (followed by a Return) will resume the program in progress.

Q: Where can I get technical information on Mac Programming?

A: All support provided by Apple for programmers (for both the Mac and the // line) is being consolidated through the "Apple Programmers and Developers Association", run by the A.P.P.L.E.-Co-op. Call (206) 251-6548 for information. Or, send $20 membership fee to APDA, 290 Southwest 43rd Street, Renton, WA 98055. In return, you will get "free" a copy of Scott Knaster's *How to Write Macintosh Software*, and the right to order both Apple and third-party developers' tools, sometimes at discount. For example, while Apple dealers will have an exclusive right to sell MPW, the Macintosh Programmers Workshop, ADPA will sell an "almost final" beta version of the package for much less than the dealers will, and then will sell the updates, even for those who purchased the package at dealers.

Q: Where is the best place to get MacPascal?

A: The people who wrote Apple MacPascal have come out with another product under their own brand name.

Lightspeed Pascal, from Think Technologies, is said to do everything MacPascal does, plus it's a compiler (instead of an interpreter). It's available from the usual discount houses for less than MacPascal. Further, the rumor mill (and the ads, this time) say that Turbo Pascal will be out in November. Combined with TML Pascal and MPW Pascal, there are as many good Pascal choices for the Mac now as there were C choices a year ago.

Q: When will Micah's memory expansion product be available?

A: That project has been shelved.

Q: What's with Micah?

A: There have been two important developments with the company, which had fallen into financial trouble. First, controlling interest was acquired by a firm that specializes in bailing out troubled companies. (They have some connection to the Computerland chain, too.) Secondly, as part of their strategy, they filed Chapter 11 for Micah. So, they may be down but not out.

Q: Using MicroPhone, why does it report "not enough room" when I try to download to a hard disk. There is plenty of room.

A: It's a bug. Software Ventures reports that the chance of its occurance drops if you (1) run MicroPhone off of a copy of the original floppy disk (with that version of System and Finder), and (2) not install Tempo.

Q: How do I use a Volksmodem with MacTerminal?

A: Manually type "ATV0" before using the Dial command, or else manually dial by typing ATDT<phone number>.

Q: I like WAP, but how does one find out about user groups in other parts of the country?

A: Apple maintains an 800 number which can match people to local user groups by zip code. It's 800-538-9696, ext. 500.

Q: Help! One key on my keyboard doesn't work.

A: I haven't taken the keyboard apart yet, but the simplest fix is reputed to be spraying the bad key switch with TV Tuner cleaner. If that doesn't work, and if you are an experienced solderer, you can buy an individual key switch from an Apple dealer for about $5.

Quickies: There is a reported conflict between HFS Backup (from PCPC) and JClock (WAP Mac disk 36). Do not use JClock in your hard disk System ... MacProject 1.1 and MacPascal 2.1 upgrades are available at your dealer. Bring in your original master disks as proof of purchase ... MDS 2.0 is available, send $25 and your original MDS disk 1 to Apple Computer, Inc., MDS 2.0 Upgrade, 467 Saratoga Avenue, Suite 621, San Jose, CA 95129 ... Inside Macintosh volume 4 is available at better computer and book stores ... Apple is shipping a new mouse design that, unlike the original design, can not be easily disassembled (don't try).

Finder) much faster than it otherwise would. (It is especially effective with the new ROMs.) While "the rest of us" will, over time, get the benefits of "supercharged" programs, proper use requires both the full documentation of Jumpstart and knowledge of the internal workings of the target application. It is not for general use, nor is it supposed to be available outside of normal developer channels (i.e., not on BBS systems).

Q: **The IBM PC world is excited about the new Intel 80386 chip. How does it compare to the Motorola 68020 chip?**

A: I don't have a scientific comparison, but the consensus seems to be that they are roughly comparable in capability. (The 68020 is used in the Levco Prodigy Mac add-on, many high-end engineering workstations, and is rumored for use in Apple brand products next year.) For those who want bragging rights, note that the 80386 sparks little interest beyond use in PCs, while the 68020 has a wider audience. Also, while the 80386 is the top-of-the-line Intel microprocessor, Motorola has announced the 68030, which will be much faster and more powerful. It will be out next year.

Q: **The upgraded version of Jazz says in the instructions, "to take advantage of HFS, you should copy your existing Jazz documents to disks on which you first installed the heirarchical file system." How do I do that?**

A: They must mean disks initialized as HFS (double sided) disks.

Q: **What has happened to support for Home (Mac) Accountant?**

A: The original authors of Home Accountant have introduced a follow-on product, called MacMoney, from a new company, called Survivor Software. (There's a hint there.) You can upgrade for a nominal charge. Call (213) 410-9527 for information.

Q: **What happened to support for Assimilation products?**

A: At the Q&A, someone said that Creighton Development, (714) 472-0488, has aquired the rights to some (or all) of their products.

Q: **I have an Assimilation track ball, and it's broken. Where can I get parts?**

A: Two WAP members have asked this. I forgot who you are. But Richard Cohen (946-0522) has offered his well used track ball for parts.

Q: **What's the latest on the "Open Mac"?**

A: For what it's worth, the rumor mill is now saying March 1987, not January. Tom Mackie, Princeton Mac User's Group, reports that at the University Consortium meeting, they were told that there are at least seven new CPUs in development (which would include the IIGS, now out). Also the first version of the AppleTalk filing protocol is done, which can handle Mac and MS-DOS files. The

second version will understand Apple // and Unix file systems as well.

Q: **What's the latest on Switcher?**

A: The release version of Switcher 5.0 (without the beta-test "B" designation) is now out. Version 5.0.1 is identical to it, except that the "Bundle Bit" is set, as it should be. (This Finder attribute, you can change for yourself with several popular utilities, such as FEdit, tells Finder that it can extract the icon from the file if it hasn't already done so.) Andy says that version 5.1 is in the works.

Q: **What's the latest on Servant?**

A: Version 0.79 was distributed "informally" at MacExpo in Boston. Though I haven't seen it, it reputedly has many known bugs. Andy does not want it widely distributed. (That means, no bulletin boards, please.) He feels that people might get rightfully upset when they find that it doesn't work well, and assume that the final version will be that way, too. It's also programmed to turn into a pumpkin on October 31.

Q: **What is the Radius external monitor?**

A: It's a Mac add-on that puts an 8 1/2"x11" screen on the side. The Radius screen is an extension of the Mac screen, and windows can be dragged back and forth between them. There are other external monitors that have recently been announced, such as MegaScreen and E-Machine, but I don't have comparitive information.

Q: **How can my program tell if the Radius monitor is installed?**

A: The Radius ROM has an "RA" at $C00008.

Q: **When I open an application in Finder, the disk that the application is on becomes the "Startup Disk". Is there a way to stop that, and to keep the same startup disk?**

A: The simplest way is to remove Finder and System from the disk the application is on. Where that isn't practical (as in the case of copy-blocked programs), Steve Brecher offers a patch for Finder 5.3 to prevent disk switching. In sector 2D, offset 10A (of Finder 5.3), change FF16 6730 to FF16 6030, and in sector 2E, offset 0A, change 7009 A260 6B1C to 7009 A260 601C. This patch may be useful if the Mac is in a public place, and there is a chance that unsuspecting people will try to run old (pre HFS) disks on it.

Q: **Help! When I enter Cmd-Shift-0 (used by Tempo and available for user-installed "FKEY"'s), I get a bomb.**

A: There is a program called "FONT-FKEY-DA Sampler" that does a very bad thing. (Its creator is "FKEY", producing an FKEY 0 resource in the Desktop file.) Remove this program from your disk, and then rebuild the Finder's Desktop file. (Hold down Option and Command when inserting the disk, or when you power-on the Mac in the case of a Hard Disk.)

Incidently, Bill Steinburg found a bug in the new
contd.

DEVELOPER'S VIEW... Ashton-Tate Developer's Conference
dBase Mac™, MacForth Plus™ and MacLightning™
by Jim Lanford

The day Apple demonstrated the IIGS, we showed the Radius Full Page Display™ and Ashton-Tate previewed dBase Mac at the September WAP meeting, and the day after we were in Los Angeles for a hands-on session with dBase Mac at the Ashton-Tate Developer's Conference.

dBase Mac.

dBase Mac is a well designed product. Since seats were limited for the official hands-on sessions, we only attended one session. However, in between conference sessions there were opportunities to have additional hands-on time with the new product, which we took advantage of.

I don't want to sound like a commercial, but I am very excited about the power and the ease of use which dBase Mac will put into the hands of the user. There are several areas in which this power is most noticeable.

• Object orientation: If you are familiar with MacDraw, you are familiar with objects. Everything in MacDraw is an object. For example, the text you type is an object, rectangles and other shapes are objects, and bitmaps from MacPaint are objects. This is why you are able to go back and select text for editing, or "move to front" a shape you just selected. Objects are a very powerful yet simple concept in computing. Computer languages can also be "object oriented". Smalltalk was one of the first. Now other languages such as Pascal, C, LISP, Forth and LOGO have versions that are object oriented.

dBase Mac is an object oriented data base. At the conference those developers familiar with MacDraw learned the fundamentals of dBase Mac more quickly than those who were not.

• Information hiding: dBase Mac takes a little longer to show and explain to developers because of its power. dBase Mac can read and write dBase III data files. It cannot run dBase III source code. What this really means is that it is a different data base. That might annoy dBase III developers, but it is a boon to Macintosh users. It was designed from the beginning with the Mac in mind.

Much of the traditional programming is eliminated through the use of Macintosh dialog boxes. When one choice is made by clicking a button or selecting an item from a pop up menu, then a lot of new information is presented in the rest of the window based on the earlier choice. This concept is called information hiding. It allows for many features and great flexibility while at the same time not overwhelming the new user or harried developer who has a simple problem to solve.

dBase Mac has a full procedural language which can be entered by mouse clicks in scroll boxes and pop up menus in a dialog box, typing in a text edit window, or some of both. The procedure can be checked for syntax errors before testing. Also since procedures are attached to objects and windows, debugging and program maintenance is quite easy.

MacForth Plus.

For those of you who have MacForth, contact Creative Solutions Inc. for your MacForth Plus upgrade. It provides a very nice development environment. The new features include more speed, standard text files for input (block files are still supported), local variables, built-in text editor, and, nicest of all, multi-tasking.

The text editor has an incremental compile capability similar to that of ExperLOGO. The programmer just drag-selects an area of source code to be compiled and hits the enter key. Another nice feature is that any output from an incremental compile goes directly into the current edit file. This provides an easy way to build tables, log output for debugging, etc.

This version of MacForth also includes snapshot and turnkey capabilities which used to be an expensive addition. This allows you to make compiled versions of your program to sell or give away without paying royalties.

MacForth Plus is the CSI Multi-Forth common kernel with Macintosh extensions. This same kernel is part of the Amiga Multi-Forth, Atari ST Multi-Forth, and the OS-9 Multi-Forth. All of the machine independent extensions are common to all versions.

MacLightning 2.0.

I received the MacLightning upgrade with the 80,000 word Merriam Webster dictionary. It is much better than earlier releases. It now works with PageMaker, ReadySetGo and many other programs that the first version did not work with. The manual states that it does not work with MacDraw and MacDraft and other programs which either do not allow desk accessories to work concurrently or with programs which use non-standard keyboard input.

dBase Mac: Ashton-Tate (213) 329-8000

MacForth Plus: Creative Solutions Inc.
   (800)-FORTH-OK

MacLightning: Target Software, Inc. (800)-MAC-LITE

Jim Lanford is the author of MacLabeler and architect of DigiBase, another software product for the Macintosh. He has implemented ground stations for Spartan 1 and other real-time 68020-based testing systems for various satellites. Jim is president of Micro Dynamics, Ltd., a D.C.-based consulting firm specializing in Mac software and training.

We need a volunteer to prepare a column each month on the best of the Macintosh items from the Telecommunications Systems (BBS). Call the office if you are interested.
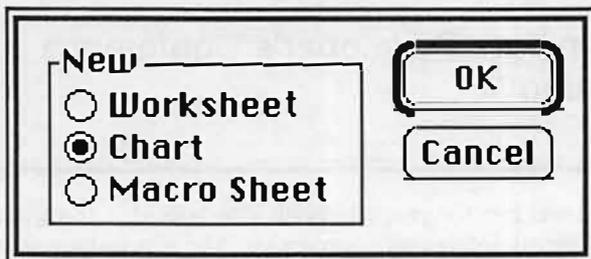
Figure 5

Figure 6 presents what your screen will look like: a blank chart window.
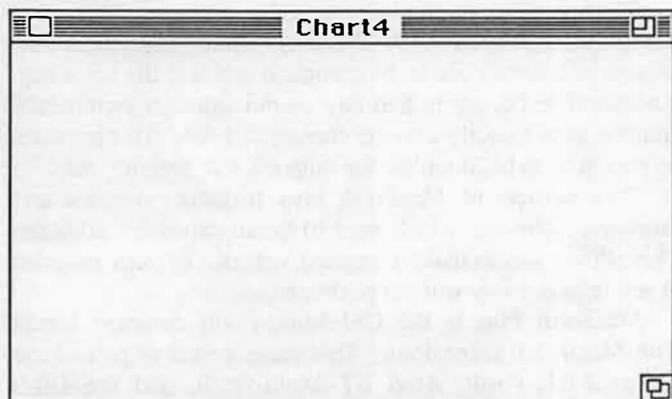
Figure 6

In order to get Excel to plot your data, you must select Paste Special from the Edit menu. Since the values of your data are organized in columns, you select Values in Columns. Check the box that says: Categories in First Column, since the years are located in the first column (see Figure 7).
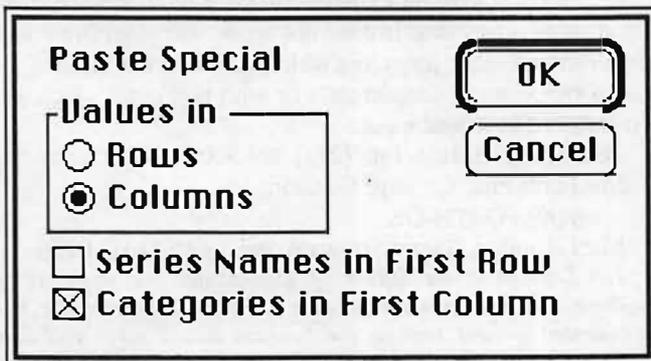
Figure 7

When you click OK, Excel plots the chart in Figure 8.
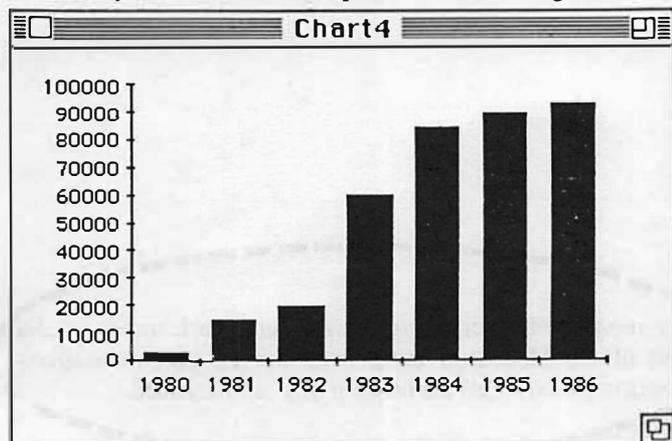
Figure 8

Now you are getting close to having the chart displayed as you want it. All that remains is cosmetic changes, such as adding a title to your chart and maybe changing the pattern of the bars. You can add a title by selecting Attach Text under the Chart menu and typing in the text. Fonts, point size and style can be changed by selecting Text under the Format menu. Finally, the pattern of the bars can be modified by clicking on a bar and then choosing Patterns under the Format menu. If you want all of the bars to have the same new pattern, be sure to check the box that says Apply to All. Figure 9 presents the final results.
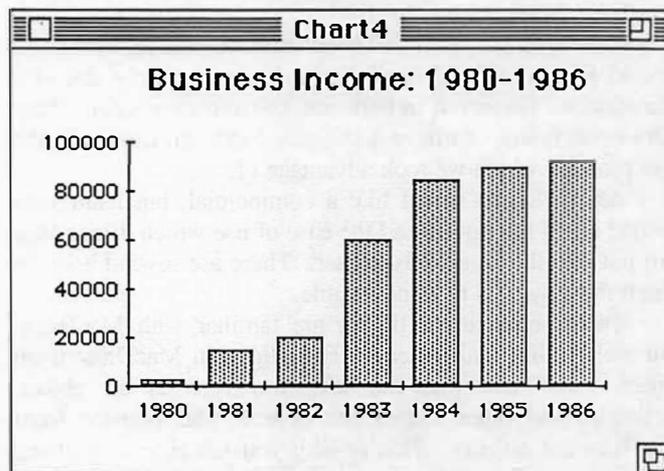
Figure 9

Audri Lanford is CEO of Micro Dynamics, Ltd., a Washington, D.C.-based consulting firm specializing in Macintosh software development, consulting, and training.

TWO MORE EXCEL QUESTIONS ANSWERED
by Audri Gordon Lanford, Ph.D.

This month, Question 1 deals with a feature that I've felt that Excel should include but that I hadn't bothered to look for. The answer came from a student in one of my classes. Often it is useful to have a repeated character that fills up a cell (such as dashes at the bottom of a column of numbers to signify a total). The problem is that if you simply type the character to fill the cell, it won't automatically be repeated the correct number of times if you narrow or widen the column. Question 1 provides the solution, and shows how to add this feature to your macro sheet. Question 2 explains how to create a bar graph with years on the X-axis and a continuous variable on the Y-axis.

Question 1: How can you get Excel to repeat a character (such as dashes at the bottom of a column of numbers) to automatically fill a cell even if you narrow or widen the column?

The solution to this question is simple, but it lies in a place most people don't think to look: under the Format menu. For example, suppose you want to add the numbers in cells A1 to A5 below, and have the total displayed in cell A7.

Click on cell A6. Select Alignment under the Format menu and choose the Fill option. Then type a dash in cell A6 and hit the enter key. Dashes will fill the width of cell A6. Even if you widen column A, cell A6 will still be filled with dashes. See Figure 1 below.

	A
1	365
2	256
3	658
4	269
5	831
6	- - - - - - - - - -
7	2379

Figure 1

This alignment feature is so useful that you might want to add it to your macro sheet. The macro is only 3 lines long. The commands to do this are provided in cells A16 through A18 on my macro sheet. Figure 2 shows the macrocommands. Cell A16 names the macro and includes the letter that will be used to identify it.

Since OPTION-COMMAND-a will be used to fill the text, I have named this macro Align Fill: OpCmd a. The second line contains the command to actually accomplish the formatting: =ALIGN-MENT(5). The third line =RETURN() signifies the end of the macro.

16	Align Fill: OpCmd a
17	=ALIGNMENT(5)
18	=RETURN()

Figure 2

After you have typed in the macro information, you must define the macro by using the Define Name command under the Formula menu (Command L). Click on cell A16, and then type Command L. The Define Name dialog box will appear. The title in cell A16 will appear in the 'Name' box.

A16 will be displayed in the 'Refers to' box. In the 'Macro' box, click *Command* (since your macro is a Command macro) and type in *a* as the Option Command key (since OPTION-COMMAND-a will be your keyboard shortcut for Align Fill), and then click OK.

This macro will work with any Excel worksheet, as long as you have this macro sheet open when you work with Excel. More details on creating macros of this type can be found in my July 1986 WAP article.

Question 2: How do you create a bar graph with years on the X-axis and business income on the Y-axis?

Let's say that you want to graph the data presented in Figure 3.

	A	B
1	1980	3000
2	1981	15000
3	1982	20000
4	1983	60000
5	1984	85000
6	1985	90000
7		

Figure 3

The problem that you encounter is that if you simply select cells A1 through B7, choose New from the File menu and select the Chart option, your graph looks like Figure 4.
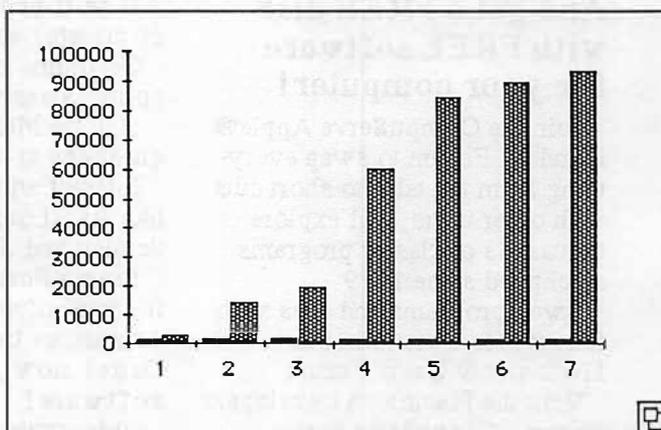
Figure 4

Excel is labelling your data points 1 to 7 and treating the years as if they are a second variable. This is not the way you want your graph to look. The way to get around this problem is to select cells A1 through B7 and then choose Copy from the Edit menu. Select New from the File menu and then **double** click on the Chart option (see Figure 5).

contd.

had to complete two steps. First, we had to decide which normal curve (that is, what mean and standard deviation) and then we had to write a simple macro which provides the cumulative percentages for the normal. Step one was easy in as much as Excel offers both an AVERAGE function for computing the mean and a STDEV function to estimate the standard deviation of Lori's sample.

The second step was a little more difficult. Looking up an approximation to the cumulative normal function in a dusty statistics tome, we came up with an ugly looking expression which took several lines of a macro to generate. The function shown below, called NORMCDF, computes the area under a normal curve given a standardized normal, or Z, value.

	A
7	NORMCDF
8	=ARGUMENT("Z",1)
9	=1/(1+(0.2316419*ABS(Z)))
10	=A9*A9
11	=A10*A9
12	=A11*A9
13	=A12*A9
14	=0.31938153*A9
15	=-0.356563782*A10
16	=1.781477937*A11
17	=-1.821255978*A12
18	=1.330274429*A13
19	=EXP(-(Z*Z)/2)/2.5066232746
20	=A19*SUM(A14:A18)
21	=RETURN(IF(Z<=0,A20,1-A20))

To complete the picture, pun intended, we used Excel's SERIES option to generate a whole bunch of X values spaced across the range of the sample X's. You can see them in column I, ranging from 0.0000 to .1470 in steps of .0015. Next, we determined their Z value—you remember, the difference between the value and the sample mean, divided by the standard deviation. We then computed the cumulative normal curve for each Z value by calling up the NORMCDF macro. Using the array command:

$$\{=100*Stats!NORMCDF((X-AVERAGE(X))/STDEV(X))\}$$

we generated the Y values shown in column J. Stats is the name of the Macro sheet containing the NORMCDF macro. The last step was to superimpose the smoothed Y values on the sample scatterplot you saw earlier. Voila, a reasonably good fit!
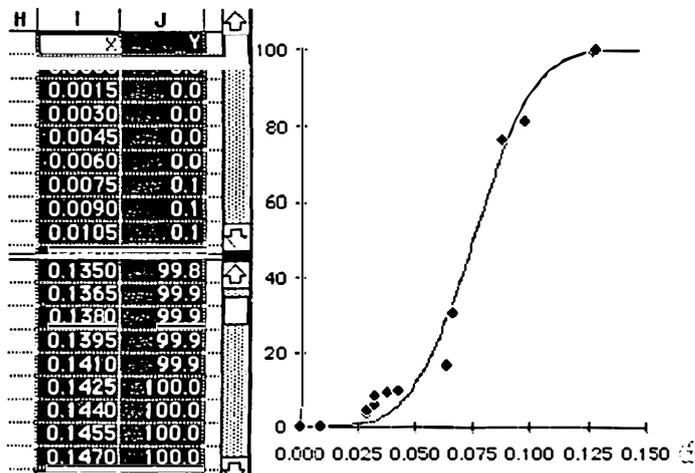
Apple's programming advice, the bugs are very likely to surface for the first time, when you are printing. NOTE TO PROGRAMMERS: See Scott Knaster's How to Write Macintosh™ Software (especially Chapters 2 and 3), which I reviewed last month, for the most readable and understandable version of the programming advice.

I am going to repeat the advice I gave two paragraphs ago. Save before you Print. Always. When I was writing my book, I lost the latest versions of five different chapters before I finally got myself trained to Save before Printing. So please believe me. The best protection you can get against losing your work through a System Error is to train yourself to Save before you Print.

Coming Attractions...

Last month I promised to provide a more complete report on Lightspeed Pascal. I still plan to do that. In addition, I'll provide a report on the Macintosh Programmer's Workshop (MPW)—the new programming environment from Apple that includes an assembler, Pascal, C, and MacApp™.

Rich Norling is coauthor of StatWorks™ and Cricket Graph, and is completing a new Macintosh application called Pict-O-Graph™. He wrote the book Using Macintosh BASIC, published by Osborne- McGraw/Hill. Rich is President of Language Systems Corp.
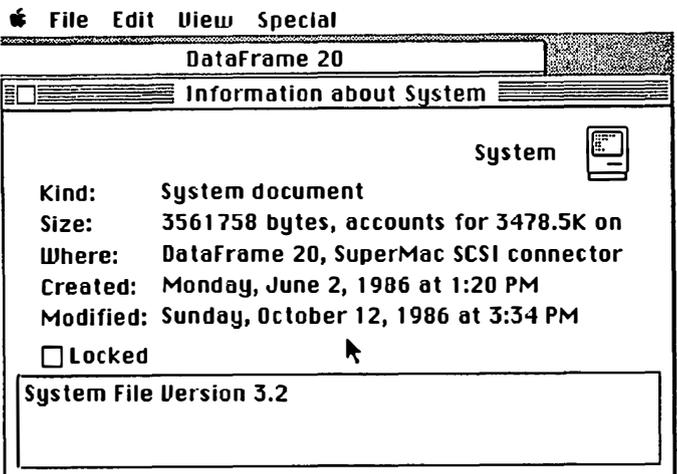
Can you top this?

We need a volunteer to prepare a column each month on the best of the Macintosh items from the Telecommunications Systems (BBS). Call the office if you are interested.

≡ Excelling pt 8.table ≡

B	C	D	E	F
10	30			
20	50			
30	70			
40	90			
50	110			
60	130			
70	150			
80	170			
90	190			
100	210			

process, is based upon the squared deviations of the observations about the regression line. Using a single Excel command, you can compute the MSE using the following command:

$$=SUM((Y.array-TREND(Y.array,X.array,X.array)^2))/(ROWS(Y.array)-2)$$

This command says, take the difference between each observed Y value and the value predicted by the regression and square it. Add up all these squared deviations. Divide this sum by n-2, the degrees of freedom for error. To get the sample size, n, we use the ROWS() function. It gives you a number equal to the number of rows in the selected area. Remember to enter this with the command-enter key combination. Notice the power of the array function. It doesn't matter how many Y values there are, Excel will sum all the squared deviations. Without array functions, you would have to create another column containing an intermediate result of the difference between the Y array and the predicted values.

	A	B
29	Mean Square=	7.5

How do we use the MSE to decide if our estimated slope is significant? That involves one more computation. The standard error of the estimated slope is the square root of the MSE divided by the sum of squares of the X's about their mean, $\sum(xi-xbar)^2$ where xbar is the mean of the x's. Again, Excel comes to our rescue and saves us from laborious calculations. We can compute this noxious looking formula with a quick flip of the wrist since it is just (n-1) times the variance of the X's and since Excel has a built in "variance" formula. The computation of the standard error of the slope is shown in the following:

B31	{=SQRT(MSE/(VAR(X.array)*(ROWS(X.array)-1)))}

≡ Excelling pt 8.table ≡

A	B	C	D	E	F	G
St.Error of m=	0.047					

This says, take the square root of the ratio of the MSE to the variance of the X's times their degrees of freedom (an awkward-looking but efficient way to get the required sum of squares of the X's about their mean). Now, we have an idea of how statistically significant our slope of two really is. This

standard error tells us by how much the estimated slope will vary if we repeatedly drew samples of ten pairs of numbers and computed repeated estimates of the slope. Specifically, we expect the estimated slope to be within .047 of the true slope about 68% of the time. A 95% confidence interval for the unknown slope would be 2 plus or minus two standard errors, which amount to about .10. While we don't think the "true" slope is exactly two as estimated, we are 95% confident it is between 1.9 and 2.1.

What happens if the X and Y values do not seem to fit along a straight line? Using Excel's scatterplot option, as we did earlier, you can examine the pairs of points and perhaps uncover a different functional form. If the relation between the X's and the logarithms of Y is that of a straight line, an easy to apply option presents itself. Using the LOGEST function, you can get the slope and intercept of the X vs. log Y line. In this case, the relation between X and Y is of the form:

$$Y = bc^{mx} \quad \text{equivalent to} \quad \log Y = \log b + mX$$

Expressed this way, LOGEST provides estimates of m and of log b. As an analog to the TREND function, the GROWTH function provides estimated values of the the Y's for given X's using this exponential growth model.

Still other relationships between variables can be estimated by some transformation of either the X's, the Y's or both. Often, by changing X or Y, we end up with a straight line, as with the exponential function. Squares, square roots and other powers may do the trick. If the function you need is provided by Excel or can be written into a function macro, you can still do a curve fit. In the next section we use a macro to provide a function not offered directly.

Other Relationships. Not all functions are or can be turned into straight line ones. Lori, who works at my office, was faced with a curve fit problem. She had cumulative data which described an "S curve" or ogive. It represented the percent of people above specified values. The percents started near zero and rose to 100%. You can see one example in this scatter plot:

X	Y
0.0000	0.0787
0.0087	0.1967
0.0283	3.8961
0.0286	5.0767
0.0317	6.3754
0.0322	8.9728
0.0375	9.9173
0.0421	9.9567
0.0630	16.9224
0.0659	30.7752
0.0864	76.2298
0.0970	81.2278
0.1269	99.6458
0.1276	100.0000
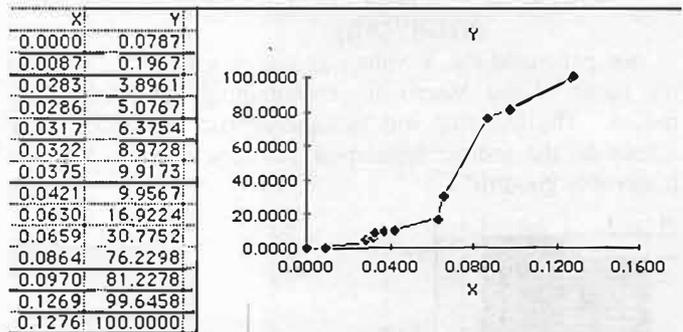
The X values range from a low of zero to high of .1276. The Y values increase from zero to 100%. We don't expect these points to describe a straight line. How to proceed? When dealing with cumulative percentages, one approach is to fit some kind of probability distribution, since these are curves which begin at zero and increase to 100%. Excel does not provide such options directly, but its powerful macro language lets us fill in the gap with our own function. We tried a normal distribution which seemed appropriate for the kind of X's Lori was facing.

To fit the cumulative distribution of a normal curve, we
contd.

EXCEL'ing ON YOUR MAC: Part 8
by David Morganstein

This month we'll talk about fitting lines to curves. First, let's talk about two of Excel's built-in curve fitting options, a straight line and a logarithmic curve. Next, we'll discuss fitting an "ogive" or S-curve using a function we'll write in a macro.

Built-in Options. Excel provides two curve fitting options, one where the data fit a straight line and one where the logarithms fit a straight line. The first model is usually written as:

$$y_i = mx_i + b + e_i \qquad i = 1, 2, ..., n$$

where y_i is the observed dependent variable, x_i is the observed independent variable, m is the unknown slope and b the unknown intercept. The e_i represents the error between the observed y and its predicted value. This type of model is very simple but represents a lot of real-life functional relationships. You probably can't use it to make a killing in the stock market, but it will do a good job predicting many things which fit a linear relation. (Excel does not offer a multiple linear model, that is, one with more than one kind of x variable.)

Excel offers two functions related to the simple linear regression model. For one, it will give you the best estimate of m, the slope, and b, the intercept. The LINEST function provides these two numbers. You provide a column of Y's and a column of X's and the LINEST function will give you two values back—the slope and the intercept estimates. If you need them, Excel can also provide estimated Y values for a set of specified X's. For this purpose, the TREND function is used. Here three inputs are needed: the same Y's and X's mentioned earlier plus the set of X's for which estimated values are needed. These second set of X's need have no relation to the first set. Let's see how these work.

Let's say you have the following Y's and X's on data describing how many hours it takes to produce a lot of parts of differing sizes. We want to use this sample to develop a prediction as to how long it will take to produce the product in the future.

Production Run	Lot Size	Man Hours
i	Xi	Yi
1	30	73
2	20	50
3	60	128
4	80	170
5	40	87
6	50	108
7	60	135
8	30	69
9	70	148
10	60	132
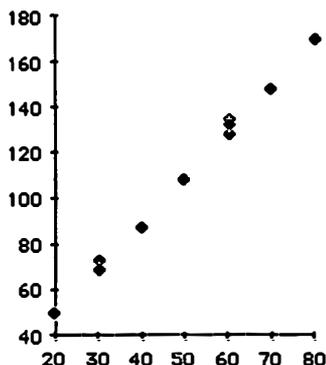
We have arrayed the data in a simple scatter plot which clearly suggests a straight line relation between production and the time needed to produce. Next, we will ask Excel for the slope and intercept of the line which best fits the data. To do this we select two cells, one to hold the slope and one the intercept and then enter the following formula:

=LINEST(Y-array, X-array)

Rather than hitting the return key alone, we must strike the return key while holding down the command key. This "command-return key" sequence is needed for entering "array" commands, a poweful option featured by Excel. Array commands say to Excel that some of the entries denote a collection of cells, not just individual cells. The Y-array and X-array names can be either series of cells, such as C1:C10 or they can be names created with the Define Names menu selection. The results of the LINEST command applied to our data are shown below:

B16		{=LINEST(Y.array,X.array)}

Excelling pt 8.tab

	A	B	C	D	E
13	9	70	148		
14	10	60	132		
15					
16		2	10		

We defined the names X.array and Y.array previously as the two columns of numbers in cells B7:B16 and C7:C16. Notice the curly brackets around the LINEST command. These were entered by Excel after the "command-enter key" sequence to remind us that Cells B16 and C16 contain array commands. Array commands are very powerful and can save a lot of intermediate calculations, as you will see in an example later.

LINEST gives us an estimated slope of 2 and an estimated y-intercept of 10. The slope is interpreted as saying that it takes about one hour to produce two units. Looking back at the scatter plot, we see that these are pretty reasonable estimates. The production rises at the rate of about 2 units for each additional hour of work.

If we want to estimate new values of production for specified values of hours worked, we can use the TREND function. In addition to the names of the Y and X arrays used to compute m and b, TREND needs the name of a third array containing the X values for which new estimated Y's are needed. In the following screen shot, you see a set of values in column B running from 10 to 100. We have named these Z.array. In column C, we have requested the TREND of these numbers by supplying the names Y.array, X.array and Z.array. Again, since this is an array function, it was entered using the command-enter key combination and the curly brackets surround the entry. Based upon a slope of two and an intercept of 10, we have can see that the predicted values are correct. In the first row, for example, two times ten plus ten is thirty.

Unfortunately, Excel does not provide any test of the statistical significance of these results. However, you can do this quickly using array operations. The mean square error (MSE) of the regression, an estimate of the variability of the

something in the software would cause a major error during normal operation, it should have been found and fixed before the product was shipped. System errors in commercial software, then, are most likely to occur when the software is put under some stress not tested by the software author or publisher.

SIDE COMMENT: In a perfect world software publishers would have the will and the ability to test for all possible errors, and there would be no software bugs. Unfortunately, even if the publishers were willing and had deep pockets to pay for exhaustive testing, it would still not be logically possible to find and eliminate all bugs from good Macintosh software, because it responds to events as they happen instead of leading the user by the nose through a predetermined series of events. I can design test strategies to find bugs in software that is reacting to random events, but I can't examine every possible condition under which the software might run the way I could for more old-fashioned software.

So what might cause extra stress on the software? Operating with less memory available than the software author expected; pushing the software's volume capacity with large data sets or large cuts and pastes; events or error conditions not anticipated by the software author; using a desk accessory that takes a large amount of memory or fails to follow Apple's guidelines for desk accessories; using the software with unusual hardware not anticipated by the software author.

Here are some examples of extra stress I have encountered. If I install MacWrite 4.5 in a 128K Switcher partition and try to open a 5-page document, MacWrite hangs in an infinite loop (it needed more memory and did not recover well when the extra memory wasn't there). A printer driver went into an infinite loop or generated a system error when you told it to print the document in Draft quality beginning with page 2 instead of page 1 (an event not anticipated by the driver's author). The first version of Microsoft BASIC on the Macintosh failed to save the entire program file to disk if you pressed a key while it was saving (another event not anticipated by the software's author).

Protecting Yourself from Software Stress

If you are using software in which you do not have total confidence, you can reduce the risk of losing your work by following one simple rule: just before you do something that could put extra stress on the software, Save your document.

This means Save your document just before cutting or pasting a large amount of data, opening a new document (if it's an application that allows more than one window open at once), opening a desk accessory, copying a picture or saving a PICT file, or printing (I'll explain in a minute why pictures and printing can be stressful).

It's a good idea to save your work every ten or fifteen minutes anyway, as protection against power outages. If you are using a Mac Plus, you could even turn off the RAM cache with the Control Panel if you want to make sure everything gets Saved to the disk immediately instead of being saved in the cache (be sure to reboot after using the Control Panel, because changes to the RAM cache do not take effect until the next time you reboot).

Look Out for the Big Picture

To QuickDraw, the low-level graphics routines that under-lie operation of the Macintosh, a "picture" is a log or list of commands that tell it how to redraw an exact copy of something it has drawn before. Pictures are usually condensed pretty well, but some things like bitmaps can make them grow large very quickly. Rotated text from applications like MacDraw and Cricket Graph can also make pictures large because a bitmap of the rotated text is inserted into the picture for the Imagewriter to use when printing.

Well, what's wrong with a big picture? Just one little teensy thing. When QuickDraw was written, the number of bytes in a picture was stored into an integer, which limited the maximum size of a picture to 32767 bytes. If a picture contains a lot of rotated text, or just a lot of complicated graphics, it can easily grow to exceed 32767 bytes in size. When this happens, a System Error or other type of symptom may result if you are using a 128K or 512K Macintosh.

Applications that handle graphics tend to draw pictures when you choose Print or send output to a plotter or other output device. They almost certainly draw pictures when you choose Copy Picture or another command that copies a picture to the Clipboard. And they also draw pictures when you use Save As... to save a file in the PICT format that MacDraw understands.

The 64K ROM that Apple Computer used in the 128K and 512K Macintosh does not check to see whether the size of a picture has grown beyond 32767 bytes. To make matters worse, the problems with large pictures were not discovered and made generally known to software developers until fairly recently. So it is likely that the graphics software you have does not check to see if a picture is getting too big. You can, however, make this one go away by upgrading your 128K or 512K Macintosh to the 512K Enhanced or a Macintosh Plus. The 128K ROMs that Apple uses in those machines handle large pictures quite well.

Why Does it Crash When I Try to Print?

In addition to the fact that applications (especially graphics applications) tend to draw pictures just before printing, there is another reason why printing is the time many applications are put under the most severe stress. In addition to your data, the code that draws your data for the printer, and any picture that may be generated, there also needs to be room in memory for the code in the printer driver and any additional resources it may require. If there is not room in memory for all these things at the same time, the program will crash.

The point here is that printing tends to be the time when memory management problems come home to roost. You can go along just fine in all other operations in an application, then try to print and—BAM—you crash. This is more likely to happen on a 128K Macintosh where there is limited memory to start with, or in a Switcher partition that you set too small, but side effects can happen even if there is plenty of memory available. The bottom line: always Save before you Print.

The Imagewriter driver has one code segment that is over 12,000 bytes in size, and the LaserWriter driver has one that contains over 15,000 bytes. The necessity of loading these large amounts of code without releasing a lot of other things that are already in the application heap can cause the memory manager to start moving things around. If the programmer of the application was not extremely careful to follow all of

VIEW FROM THE HILL: How to Cope With System Errors
by Rich Norling

This month's column takes a look behind the dreaded Macintosh System Error alert—which is probably better known as the "bomb" message. The information in this column should help you identify Macintosh applications that are subject to more than their share of System Errors, and adjust your use of those applications (if you must use them) to minimize loss of your work. Just in case you are one of the extremely lucky people who have never been visited by a System Error, here is what the dreaded alert box looks like:

```
 ☀💣   Sorry, a system error occurred.



(Restart)  (Resume)                      ID = 02
```
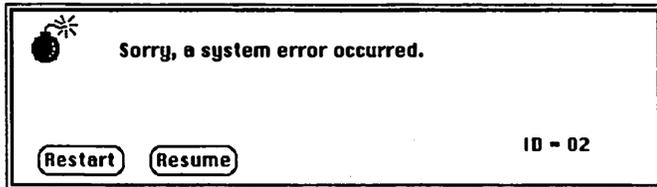
At least that is what it looks like if you are part way lucky. If your supply of luck ran out last Tuesday, the Resume button is dimmed and you have absolutely no choice except to click on Restart, destroying what's left of your work in the process.

The two-digit code after "ID =" indicates the exact type of error that was detected by the system software. Sometimes these codes help software experts find out what caused the system error. Other times, the thing that went wrong caused a long series of erroneous events before something finally led to an error that the system software could detect. In these latter cases, the actual ID number does not usually help track down the error.

The technical term for what has happened when the Macintosh presents the System Error message is a program "crash". Take the term "crash" literally. Assume that some part of the program code and possibly some part of your data have been destroyed before you see the System Error message. The damage a software crash can do to the data and program code you have stored in the machine is every bit as real as the damage an automobile crash can do to your person and property.

Look Out for Thunder and Lightning

The Macintosh's operating system tries to trap System Errors as soon as they happen, but sometimes that's just not possible. In the worst case the operating system does not trap the error at all, and you get what I call "thunder and lightning"—random crackling noises from the speaker, and odd-looking random designs drawn on the Macintosh screen. If this happens to you, turn your Macintosh OFF—right away! Do NOT linger to watch the pretty show.

"Thunder and lightning" has one cause—somehow, the 68000 chip that controls the Macintosh is trying to execute things that were never intended to be program instructions. As it runs about executing the numbers it finds stored in memory, it happens to hit some numbers that cause it to store things in the screen memory or the sound buffer. Once this starts to happen, the chances of recovering control and saving the work you have in the machine are nil. At this point all you can do is shut the machine down, and hope you do so before it happens to hit an "instruction" that makes it write something random to a disk, causing further destruction. So save the information you have on your disk by shutting down the Macintosh quickly (just turn the power switch off, that should do it).

Using the Resume Button

If the programmer of the application that crashed was kind enough to allow you to use the Resume button, do so. But remember that something has probably been damaged. So even if the program seems to behave almost normally after you have clicked the Resume button, the only thing you should do is save your open documents and Quit. Regard the Resume button as a last chance to save your data, not as a chance to resume your normal work.

There is a possibility that the copy of your document in the Macintosh's memory has been damaged, while the copy on your floppy disk or hard disk is fine. In that situation, of course, telling the software to save your document would write the damaged version to the disk on top of the undamaged version. You have to weigh the comparative risks. If the software's display of your data looks OK (scroll through it to see if it seems to be all there and undamaged), then it is probably safe to save it to disk. If you want to be very careful, you might use Save As... to save it under a new filename. That way, you will still have the previous version even if the newest version is damaged—you will have lost only your recent changes, not the entire file.

When you use the Resume button, you know there is a strong possibility that at least some of the software stored in the Macintosh's memory has been temporarily damaged. Perhaps I am being over-cautious because my introduction to computers came as the night operator of an early and somewhat quirky mainframe computer. But my advice is that after you save any files you should go ahead and Quit the program, Shut Down the Macintosh, turn off the power of the Macintosh, then turn the power back on and reboot. If you do that, you can be absolutely certain that you will be using fresh, undamaged copies of all the system and application software when you resume your work.

NOTE TO PROGRAMMERS: Be kind to the people who will use your software. You make the Resume button active by passing a pointer to your Resume procedure when you call InitDialogs. See the Dialog Manager chapter of Inside Macintosh for further details. The Resume procedure I use puts up an alert warning people to save their files, and then returns control to the user by calling the procedure that contains my main event loop.

When are Crashes Most Likely?

Is it possible to tell you when these unexpected crashes are most likely to happen? Well, within limits, yes. Most commercial software has at least been tested to make sure it works properly on the author's or the publisher's sample data. If

contd.

I thought a few notes on the State of the Mac in the UK would be of interest to you all in Pi. At last I feel the Mac has been accepted here by many business houses as a serious machine. It really has taken the MacPlus and the HD20 to do this, and the launch of Excel last autumn laid the foundations, and of course DeskTop Publishing is now accepted. The print industry here is much more particular about quality and a 300 dpi resolution was critisized by many. This could have been printers defending their traditional crafts. One UK blue chip company (Plessey) has been appointed an Apple Dealer, and is rumoured to be taking about 5000 Macs.

Accounting practices here are somewhat different from the US, and many of the existing Accounts program are just not suitable for use in the UK, so Apple (UK) has added Apple Accounting to its software library. This suite of Sales, Purchase and Nominal Ledgers was written originally for Lisa and has been extensively overhauled for the Macintosh. It needs the HD20 to run because each module takes about 400K. It is just possible to run it on the 800K drives. The cost is £395 per module and the Sales, Purchase and Nominal ledgers are bundled at £995. Stock Control and Invoicing are to be added either in May or June. Prospective Macintosh buyers may have been put off because there was no accounts software with Apple's own brand—now this gap has been plugged. There are, and have been for sometime now, cheaper alternatives such as Macputer 512 which will soon have Macputer Plus for the Macintosh Plus.

I have seen the preliminary samples of TOPLINE Accounting from Dublin programmers Mike O'Toole, Jim Murphy and their merry colleagues. This program follows the Mac interface superbly. Open an Invoice window, a list of customers and a list of stock—drag the customer (only his name of course!) and drop into the invoice, drag the item(s) and it's done in a flash. They call it Drag'n'paste. The cost has not yet been fixed; however I expect it will be about £400 for the Sales and Purchase ledgers. At this price they will sell a lot.

It is a long time now since all the System/Finder troubles of last summer. I obtained Finder 5.2 and System 3.1 with my LaserWriter Plus upgrade and then started the longest bomb session I have ever had with the Mac 38 system changes!! Since I installed System 3.2 and all its associated suite, I have never had any problems. My HD20 goes to the office with me during the day then sits under my 512K in the evening.

The HD20 came with me to MacWorld in Boston and then on down to Washington. Here it ran under Marty Milrod's Mac, when he topped me up with all the latest PD software, which has been added to the BASUG Library, (many thanks Marty). The trip to Boston was most enjoyable and it was great to meet so many distant friends. I really must say thank you to all you folks who showed me such great hospitality.

The HD20 has really slowed up after 9 months and I ran Fedit Plus to find out its fragmentation index. It was 0.14. So I borrowed a 20Mb disk at work that was empty and copied all the HD20's contents over onto the other disk. I then erased my disk and finally copied back the files one or two at a time. The index was 0.01 after this and the speed is much inproved. This is a recommended operation if you add and remove lots of files from your Hard Disk.

We have found a supply of genuine look-alike AppleTalk connectors—try the Belden catalog. They don't yet do real Apple Mini 8 connectors.

Reliability... I always thought that Apple quality was excellent. However, we have had 75% of the Imagewriter II's returned. Mainly the printheads seem to have a pin stuck. The other fault is the metal foil glued to the clear plastic guide in front of the head. The edges seem to fold back and cut the paper/platten roller. I notice that there is a newer version out now with some changes to the bail bar and some other minor physical differences, so maybe the feedback we dealers give has had an effect.

Have you Laser lovers tried out the PostScript Escape feature of the new Laser Drivers (3.1)? First create a font called PostScript Escape (the name must be correct). The font has blank characters no pixels wide and one high. (I have not tried it with no height yet.) When you have made the font, install it into the system with the Font/DA mover 3.2, then open MacWrite and write a short PostScript program. You can paste one in or just open an existing text file of such a program. Select all the text and set it to PostScript Escape. It will of course disappear off the screen. Then print to the LaserWriter. Your program will be executed. It does not work in PageMaker because PM uses a different Prep file. The other point to note is that the position of the print on the page is entirely dependent on where the PostScript origin is—not where the program listing is on the MacWrite page. I have tried this with MacDraw and it works just as well. I also thought about it in MacWrite headers but these only take five lines of text.

A kind friend sent me Danny Goodman's book **Hands On Excel**. Now this is the sort of book I like, full of hints tips and undocumented commands. Try Command N C C to open a chart!

My company has been showing the Mega Screen at the London PCW show and subsequently at a trade show in the North of England. As a result we have sold out of the first shipment! OK, there may be other big screens coming, even from Cupertino, but it really shows that here is something every serious Mac user would like!

Anyone visiting London from October 29th to November 1st must take time to visit the AppleWorld show at the Islington Business Centre. Apple UK is holding its own party showing all its computers including the Apple IIGS. Apple UK have never done anything like this before and we all wish them great success.

All the best from blighty!   ⑤

Figure 3.

Figure 4.

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computer gift, here are some ideas:

◊ **Hard-disk drive.** This is a computer gadget which replaces those small "floppy" disks all over your MacNovice's desk. A hard disk drive can hold as much as 50 floppies (some hold even more!). No more disk-swapping. Virtually endless storage of computer programs, files, letters, spreadsheets. Models are available for both the MacPlus and the lesser Macs. Prices range from about $600 to about $1000 for the most common models. The most common include 20-million bytes of storage space! Consult a reliable dealer before you buy.

◊ **MacPlus** computer. This is Apple's latest Macintosh. It has more than a million bytes of internal memory, a double-sided (800K) disk drive, improved internal software for faster computing, and a price tag of around $2000. Don't expect this to be the top-of-the-line for very long. Apple has a history of making its products obsolescent annually. The next version of the Mac is expected to appear after the holidays, early in 1987.

◊ **Laser printer.** For the perfectionist who desires printing quality almost as good as "typeset," there are several models of laser printers available for the Macintosh. They produce pictures, graphs and text impeccably, using truly professional typestyles and an almost-silent ink-jet system of printing. Priced around $5000. (This is an excellent "office" gift for a group of several Macintosh users.)

The Final Word

So there it is. "The Incompleat MacNovice Guide to Gifts." Now... copy these pages... and leave them in just the right place for your loved ones to "find."

Happy shopping!

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to try and find words that "sound-like" your misspelling. When I type "precent" Lightning initially located "precept" as a match. After asking for a phonetic match, I was greeted by a four word list headed by "percent", followed by "precept" and two others. I was impressed!

I must say, my assessment of version two rates higher than that of the first release. Lightning is fast in forming a list of words it does not recognize, and the method of correcting errors has been simplified. Target Software, Inc., 14206 S.W. 136th Street, Miami, FL 33186. Phone: 1-800- MAC-LITE.

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of computers a chance to discover that not all computers are cryptic and hard to comprehend without constantly looking at several manuals. These people are in turn encouraging others to take a look and see what they can do with the machines, and on and on. You can find people who have never used word processors using them and preaching to everyone else about their virtues; or you may see someone working with some graph data for a science lab; or perhaps someone formatting a paper or memo with ReadySetGo; or another student writing a program for her class in computer science. In short, the introduction of the Macs in Taylor and the completion of two dorm networks makes possible the more effective use of computers on campus for large numbers of students, for there are just not enough individual computers on campus to satisfy the needs of everyone.

It has taken some time for the micro to get established at Wooster, but once it got a foot in the door it managed to push it wide open. The reason for this is obvious: it makes the manipulation of data very easy. The computer is too useful and too versatile to be shut in a closet once it has been used by a few people. In the years to come, not knowing how to use a computer will prove to be a liability.

If you have any questions or comments, I can be reached at the following address: Kenneth Knight, Box c-2077, College of Wooster, Wooster OH 44691.

not found in MacPaint. The scrolling action is the smoothest I have seen in any Macintosh program. There is none of the hesitation or jerky motion of some programs. This ability to scroll the active window is another of the major differences between the two programs.

Another major improvement is the scrolling feature of the active window. I already mentioned the the entire contents of the active window can be scrolled by use of the scroll boxes, but there is another super scroll feature. You can use the "selection rectangle" to enclose just one object in the active window, and, if it is too big and extends beyond the boundary of the window, the window contents will scroll (the option key must be depressed) to allow selection of entire large objects. This is particularly important for clip art applications, where a page may contain many separate items of clip art, some of which are too big to fit in the boundary of the active window. If you begin to enclose the object with the selection rectangle and continue to pull it down around the object, the window contents will automatically scroll to facilitate surrounding the entire object. This function does not work with the "lasso."

This action also greatly improves editing with "fat bits." With MacPaint you could only add or delete pixels up to the border of the current active window. With Full Paint, the pencil or eraser can add or delete pixels in a straight line anywhere on the page. If you wish to remove one line of pixels in a horizontal or vertical direction, hold down the shift key, click on the first pixel of the row, and move the mouse in the desired direction. When the pencil or eraser gets to the edge of the active window, the window will continue to scroll in the desired direction. This feature eliminates the need to go to the "show page" command constantly and move the location of the active window. This is just one more reason to buy Full Paint.

The ability to choose fonts, point sizes and type styles is the same as in MacPaint. Each type style and alignment position can be activated from the keyboard or menu. The "goodies menu" contains the MacPaint features: fat bits, show page, edit pattern and brush mirrors, but also contains features not found in its predecessor. These include the ability to add a ruler and set the ruler units in inches, centimeters, pixel/ points and picas ala MacDraw. When the ruler is used, the user is presented with horizontal and vertical moving lines on each ruler for more exact placement of the cursor or for object orientation. This is a feature not found in MacDraw, but which was included in MacDraft. The "mouse spot" menu item presents a more accurate location for mouse movement and a "grid" aids in alignment of objects.

Menu choices under the "edit" pull-down menu include "invert, trace edges, rotate, flip horizontal and flip vertical." These choices are also found in MacPaint and become activated when the selection rectangle is placed around an object you wish to manipulate. A new command, "fill," fills any objected selected with the lasso or selection rectangle with the current pattern of choice. Only the "invert" and "fill" commands are active when the lasso is used. In addition to these standard choices, the "edit" menu also allows the user "free rotate, skew, distort and perspective" commands similar to those found in Click-Art Effects. When one of these choices is selected, four small boxes appear at the four corners

of the selection rectangle surrounding the object. By using the mouse and pointer to click on one of the boxes, the user can perform various artistic effects on the object.

Full Paint supports both the Imagewriter and LaserWriter printers and gives the user the option of 50, 100, 200 or 400% printouts in draft mode, but only 100% in final mode. The image of the object to be printed is shown on a reduced-size page and a scan line moves over the picture as it is being imaged on the printer.

I have included four screen dumps to illustrate some of the special features of Full Paint. Figure 1 illustrates four open windows and use of the "clean up windows" command; figure 2 is representative of the "stack windows" option. Figures 3 and 4 demonstrate use of the full-screen painting with and without the pallets and menu bar, respectively.

In conclusion, Full Paint offers several significant features over MacPaint. These include multiple open windows, scroll bars, scroll editing, special effects and full-screen editing. If that isn't enough to convince you to buy Full Paint, it lists for $99, which is significantly cheaper than MacPaint. Full Paint was originally released as copy protected, but this protection has since been removed. This appears to be a trend in the software industry. If you have one of the early version of Full Paint, you can make back-up copies with Copy II Mac using the "bit copy" option.

Is there anything else I would like to see added to Full Paint? Yes, I would like the lasso to function for scroll editing. As you can tell, I wouldn't change Full Paint very much.
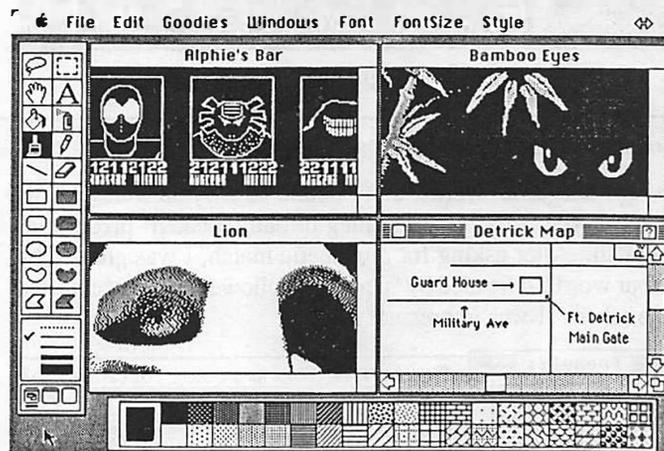
Figure 1.
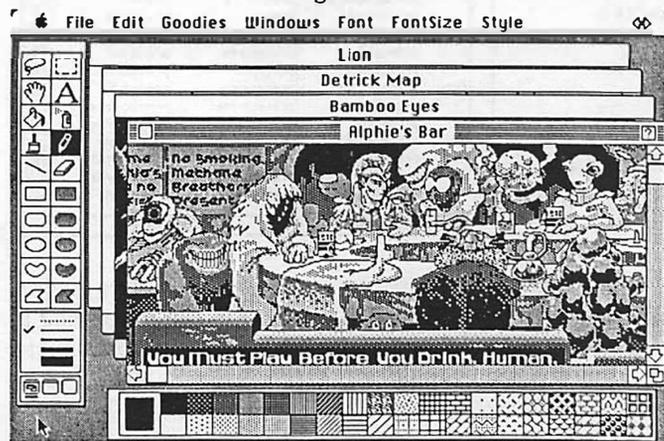
Figure 2.

contd.

WAP TUTORIAL REGISTRATION

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

( ) November 4 - **WELCOME TO THE WORLD OF APPLE**	- ( ) No Apple Beginning
( ) November 11 - **HOW TO USE YOUR APPLE SOFTWARE**	- ( ) Tutorials in December.
( ) November 18 - **POPULAR APPLICATIONS FOR YOUR APPLE**	- ( ) They will resume in January.

The fee for each tutorial is $10.00. You are urged to bring an Apple, monitor and disk drive. (Monitors are available for the 1st 5 registrants - call office.) Please note that WAP does not have equipment for you to use; if you do not bring your own, you will have to look over someone's shoulder.

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Macintosh: Tutorials for the beginners are given on the last two Monday evenings of the month at the office, from 7-10 PM. The fee for two tutorials is $30.00. An outline was given in the October Journal. You are strongly urged to bring your Macintosh. These tutorials fill up quickly - call the office to verify space before mailing in your registration.

( ) Monday, November 24 and December 1   (No Mac Beginning Tutorials on December 22 and 29)
( ) Monday, January 19 and 26

•••••••••••••••••••••••••••

Non-Regular Tutorials: The following tutorials are being offered in the next few months (at the office unless otherwise specified). See "WAP Fall Tutorials" by Robert C. Platt in the October Journal. The fee for these tutorials is $15 for each session within each tutorial ($20 each tutorial for non-members).

( ) **Postscript for Programmers - Ron Moore - Wednesday, November 5. 7:30 - 9:30 PM.** Fee $15, $20 non-mem.

( ) **Postscript Implementations on Macintosh - Wednesday, November 19. 7:30 - 9:30 PM.** Fee $15, $20 non-mem.

( ) **Pascal Programming - Saturdays, November 8, 22, December 6, 13. 9 - 12 Noon.** Fee $60 ($15 per session). For non-members, $80 ($20 per session).
Learn structured programming with Instant Pascal on the Apple II, or Macintosh Pascal on the Mac. No prior programming experience necessary.

( ) **Introduction to Microsoft Word - Rochelle Long & Leon Moore - Saturday, November 15, 1 - 3 PM. At USUHS.** Fee $15, $20 non-members.
From editing and formatting to more complex functions (divisions, footnotes, etc.). Demos with letter quality and LaserWriter printers. Bring your own Mac and Word Master Copy. Enrollment limited to 20.

( ) **Wordstar - Lee Raesly - Saturday, January 10, 1987. 9 - 12 Noon.** Fee $15, $20 non-members.
Master the most popular and powerful word processor available on Apple II - CP/M machines.

Please check the desired tutorials and return this form with fee(s) made payable to Washington Apple Pi, Ltd. to:

Washington Apple Pi, Ltd.
Attn. Tutorials
8227 Woodmont Avenue, Suite 201
Bethesda, MD 20814

Name _____

Daytime phone _____ Evening phone _____

Total Enclosed $ _____

WASHINGTON APPLE PI DISKETERIA MAIL ORDER FORM
Software for Creative Living

This form is only for ordering disks that you want mailed to you.
5 1/4" DISKETTES: - Members $ 5.00 each; Non-members $ 8.00 each, Plus $1.00 each postage up to a maximum of $ 5.00.
3 1/2" DISKETTES: - Members $ 6.00 each; Non-members $ 9.00 each, Plus $1.00 each postage up to a maximum of $ 5.00.
A $1.00 per disk discount on the above prices is offered for orders of 5 or more disks. Postage remains as above.

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( ) 43 IAC 29 Utilities H
( ) 44 Utilities I
( ) 45 Diversi-Copy ***
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( ) 47 Tic-Tac-Toe in French
( ) 48 Boot for l'Hote
( ) 49 l'Hote Story
( ) 50 l'Hote Quiz
( ) 51 French Poetry Tutorial
( ) 52 Apollinaire Biography
( ) 53 Albert Camus Interview
( ) 54 Tic-Tac-Toe in Spanish
( ) 55 Rafel-boot
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( ) 95 Sprdsht F-Coin Coll.
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( ) 102 Games A
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( ) 106 Science Engineering
( ) 107 Games B
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( ) 109 IAC 11(Applesoft Tutr)
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( ) 117 Picture Packer
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( ) 121 WAPABBS 1.1 Doc.**
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( ) 125 IAC 18 Misc.
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( ) 136 WAPABBS1.1Disk2**
( ) 137 IAC 21 Spreadsheet A

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( ) 301 PIG1:
( ) 302 PIG2:
( ) 303 PIG3: (PIG0:, PIG2:,
( ) 304 PIG4: PIG4:, and
( ) 305 PIG5: PIG11: are
( ) 306 PIG6: re-issues)
( ) 307 PIG7:
( ) 308 PIG8:
( ) 309 PIG9:
( ) 310 PIG10:
( ) 311 PIG11:
( ) 312 PIG12:
( ) 313 PIG13:Guerilla Guide
( ) 314 PIG14:

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( ) 403 Communications
( ) 404 Utilities 2
( ) 405 Utilities 3
( ) 406 ZCPR2 Install
( ) 407 ZCPR2 Documentation
( ) 408 ZCPR2 Utilities
( ) 409 Modem 730
( ) 410 Essential Utilities
( ) 411 Text Editor
( ) 412 Spreadsheet
( ) 413 MDM740(SSC&Com)
( ) 414 MDM740(7710&A-Cat)
( ) 415 Orig. 350 Pt. Adventure
( ) 416 Kermit Source Code
( ) 417 Kermit Documentation
( ) 418 Kermit Running Code

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( ) 1002 Basic Utility Volume 1
( ) 1003 Basic Utility Volume 2

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( ) 3 Fonts
( ) 4 MS-BASIC Pgms
( ) 5 Desk Accessories
( ) 6 Mac Paintings
( ) 7 Desk Calendar&MS-Basic
( ) 8 MacFORTH Programs
( ) 9 Not One Byte
( ) 10 Mostly BASIC
( ) 11 & ( ) 12 Fonts
( ) 13 RAM Disk&Altrd. Finder
( ) 14 Filevision Templates
( ) 15 Progammer's Playground
( ) 16 New Members Disk 1985
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( ) 17.2b " " " "
( ) 18 MusicWorks Collectn. I
( ) 19 Mock Accessories ***
( ) 20 MacPaintings II
( ) 21 Utilities I (ResEd)
( ) 22 Desk Tools
( ) 23 Fonts III
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( ) 51.1 Telecom II(no sys)***
( ) 52.1 Utilities V
( ) 53 Utilities VI
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( ) 61a& ( ) 61b Statview Demo
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CITY, STATE, ZIP _____ 8227 Woodmont Avenue, Suite 201 WAP Membership No. _____
Bethesda, MD 20814

think of them.

For this month, we are issuing revisions to two disks:

Mac Disk 48.2: Fonts V

(We have revised this disk by adding Font Display, version 4.5, and its documentation.) Princeton font (version 3.2L) is a marvelous font which allows you to easily do technical equations and all kinds of other neat stuff.

In the LW Princeton Folder:

Princ - This is the LaserWriter driver for Princeton. MUST BE USED WITH VERSION 3.1 OR GREATER OF THE LASERWRITER PRINTER DRIVER!

Princeton Fonts - These are the screen fonts for Princeton. Once installed, the Princeton documents print properly on an Imagewriter printer. These fonts permit pixel-by-pixel alignment of symbols for sharp Imagewriter or Laserwriter output.

show.off - Shows off the features of Princeton.

PF.keys - Documentation for Princeton.

Princ Table - This is a DA to display the option-key combinations for Princeton.

In the Font Display Folder:

Font Display 4.5 displays the characters in a font, using a number of different styles and sizes, that you can customize.

Font Display.doc - Doc. for Font Display 4.5.

In the Fonts Folder:

Japanese - A Japanese character set!

Giants 18 - A headline-type 3-D font.

Milan 24 - A sharp looking headline font.

Zodiac - This one displays the signs of the zodiac.

Mac Disk 52.1: Utils V

(We have updated XL Back to version 1.1 and added its documentation.)

In the System UtilsFolder:

Parameter RAM - Allows you to set the parameters stored in the PRAM (Parameter RAM), such as the double-click rate and the time.

Describe - Describes system and machine you are using.

MacID - Performs the same function as Describe.

In the Backup Utils Folder:

XL Back1.1 and its **Documentation** allow you to backup your XL's hard disk.

Hardsave - A backup program for your Mac's hard disk.

MacDump - A backup based on the UNIX utility dump. It will do nested incremental backups.

Some final notes. If any of you have written programs, utilities or templates for the Mac, would you please consider sending them to us in care of the office? We would like to be able to issue some Mac Disks containing original works done by our members. Please understand that Larry Halff will be making the final judgment on whether or not your product is to be used, so don't be too sensitive if your product is not used; templates for exotic or not-too-popular applications serve little use on a Mac Disk. Hope we hear from you.

We still need additional disk copiers. If you are willing to copy up to 100 disks per month please contact Dave Weikert at 926-4461. In addition, the disk librarian is seeking assistance in writing "Program Notes" for new disks. If you are interested in assisting in this, please call me at 464-2154. ⑤

INDEX TO ADVERTISERS

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Apple II Notes by Jim Little

First for this month is a revision of **Disk 130, Diversi-DOS™**. This early, but still useful disk access speedup program, is now version 4.1c. The new sections include an optional fast garbage collector. What's that, you ask—and for good reason. Applesoft strings are created and discarded, but not destroyed until space in memory runs out. Then by what can only be called an abysmally slow process, all deleted or superceded strings are removed. It is not unusual for a program to come to a halt for 5 to 15 minutes while each string reference is examined and removed if necessary. One example is the master catalog program on the new mem- bers disk. Alternate schemes have been created to reduce this wait, and ProDOS of course uses one of them. However this is one for Diversi-DOS. This is an optional command, and elim- inates the init command. A special symbol is used to start the garbage collection process. It is not an automatic equiv- alent to the fre(3) command. A program must use the com- mand as needed to clear the junk from memory. The other new option in this system is a RAMdisk. For the expanded memory cards, extended memory //e's, //c's etc.—won't work on a language card on a][+ though. This is a Share Ware pro- gram. If you have an old version of this disk, and have not reg- istered, send in the fee to DSR. You will get the new version and a license. It will probably be a later version than this one.

Disk 175, No Name yet, is from Ridgecrest Computer Group in California. First in the menu is an **equation solver.** Up to 10 equations in 10 unknowns. These equa- tions may be complex! If you don't know what this means when using this equation solver, just enter a "0" when the complex coeficient is called for on data entry. Second is a **shape table splicer** which appends one shape table file into another and then may be saved or plotted. Example files to use are included. A third program is **"Annotate hi-res screen with text"** Type messages and have them appear on a plot for example. Ease the labeling pains. Then dump to a printer or save the screen to a file. Next is a **catalog print- ing utility.** Print your catalog in one, two or three col- umns! Compressed print too, if your printer uses the same command string as the program. If not the start string may be changed so that it does. Check the color on your monitor with an **alignment and color adjustment** program. Finally, **graffiti from a spray can.** Shade and spatter the screen to oblivion. It is intended to be used with the Koala Pad™, but will work with other inputs including joysticks and paddles.

The only problem is what to call this assembly. Just "Misc. xx"? A free disketeria disk for the best title submitted on or before the December meeting.

A new set of disks for the **CP/M** crowd. **Kermit is** here. Source code on one disk, documents on another, and the running code on the third disk. In order, then, they will be **416, 417** and **418** on the CP/M list. Kermit is a file and data transfer protocol for crossing the barriers between computer systems. One use is to send or receive files from main frame machines. Edit off-line, then send the whole thing at full speed to the host computer. Or transfer some of the good stuff over to that three letter word machine. Send a binary file with an image on it to someone across the country with another Apple. Possibilites are there.

Query—does anyone out there have a public domain Kermit for either ProDOS or DOS 3.3? I would like both or either to add to the collection.

A **ProDOS version of "Comm-term"** is now disk /WAP808, courtesy of George Kinal, who wrote the same program for the DOS 3.3 system. This permits uploads (send files out to the other machine) and downloads (receive data or whatever from the files out there). It operates on either 300 or 1200 baud. Puts the received stuff into a file named by you or sends a designated file to the other machine. That's it. Plain vanilla, fair price. Start with this one and buy more if you need it later. Thanks George.

Mac Notes by Martin Milrod

Larry Halff, that clever fellow and our Disk Librarian, has created an innovation in our Mac Disk collection. Apple has recently reemphasized its copyright of Apple products such as those contained in its System Folder; we have been asked not to issue WAP Mac disks which include these Apple products. This request has the side benefit of saving a great deal of space on each disk so that we can fit more "goodies" on each disk. Larry has used a device, technically called an INIT, which permits a disk to "startup," enabling the user to read a screen with written instructions for a few seconds before the Mac shuts down and ejects your disk.

The INIT "notice" says that you must use another disk— one with a System and Finder on it, to startup the Mac and to then insert the Mac Disk. As most Mac Disks have some form of documentation or Program Notes contained within, you would be wise to have some form of word processor, such as MacWrite, on your startup disk so as to be able to read the text materials contained in the Mac Disk.

For our less experienced members, let me emphasize that you must have the "related" application (a self-starting pro- gram) in order to open its saved "document" version. For instance, a MacWrite saved document has an icon which resembles a sheet of paper with writing on it. In order to open it, you need something which recognizes this document. MacWrite 4.5 (the application which has an icon resembling a hand-in-a-diamond), of course, does. If you do not have the correct application to open a saved document version you will get the familiar and annoying dialog, "An application cannot be found for this document." (Yes, I know it's frustrating.)

Also in November you may expect another innovation in our Mac Disk Library. We will have new disk labels which we hope you'll like. One of our WAP members, Rick Kozloski (Ski), did the art work and we express our thanks and appreciation to Ski for his time and effort given to help others. The disk labels cost about three cents apiece and add, I hope, a touch of class to the disks. Let me know what you

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